

FLORA
BOREALI-AMERICANA;
OR, THE
BOTANY
OF THE
NORTHERN PARTS OF BRITISH AMERICA:

COMPILED PRINCIPALLY FROM

THE PLANTS COLLECTED BY DR RICHARDSON & MR DRUMMOND ON THE LATE NORTHERN
EXPEDITIONS, UNDER COMMAND OF CAPTAIN SIR JOHN FRANKLIN, R.N.

TO WHICH ARE ADDED

(BY PERMISSION OF THE HORTICULTURAL SOCIETY OF LONDON,)

THOSE OF MR DOUGLAS, FROM NORTH-WEST AMERICA, AND OF OTHER NATURALISTS;

BY

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ILLUSTRATED BY NUMEROUS PLATES.

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MDCCCL.

TO

SIR JOHN FRANKLIN, CAPTAIN R. N., F. R. S. &c. &c.

AND TO

JOHN RICHARDSON, M. D., F. R. & L. S. &c. &c.

UNDER WHOSE AUSPICES,

AS COMMANDER AND NATURALIST OF TWO SEPARATE EXPEDITIONS

TO

THE POLAR SEAS,

A GREAT PORTION OF THE MORE RARE AND INTERESTING PLANTS THAT ORNAMENT THIS
VOLUME WERE COLLECTED,

UNDER CIRCUMSTANCES OF SINGULAR DIFFICULTY, HARDSHIP, AND DANGER;

THE WORK,

THUS INDEBTED TO THEIR EFFORTS,

IS MOST RESPECTFULLY DEDICATED,

BY

THEIR AFFECTIONATE FRIEND,

AND OBLIGED SERVANT,

W. J. HOOKER.

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P R E F A C E.

CIRCUMSTANCES, over which the Author had no control, have delayed this publication to a most unexpectedly protracted period ; during which the materials, originally extensive, (though chiefly obtained by Dr Richardson, Mr Drummond, and the officers of Sir John Franklin's Expeditions, and by Mr Douglas,) have been so very much increased by the contributions of other travellers, that the two volumes, to which the Author has been limited by his Publishers, have not sufficed to include all the plants of these several valuable collections, nor full generic and specific characters of all such as have been introduced. This being the case, the Author has felt no hesitation in leaving out the whole of the *Cryptogamia*, with the exception of the *Ferns* and allied Orders, and also in omitting, towards the latter part of the work, the definitions of those species which are already well known, or accurately described in the several publications that treat of North American Botany. By adopting this plan, several additional collections, received while this work was in progress,* have been noticed in it, (except, of course, those species which belonged to the early Natural Orders,) and thus the *Flora Boreali-Americana* will be found to contain a more full and satisfactory account of the Botany of the British Possessions in North America, than could have been anticipated, considering the immense extent of territory here embraced.

* The Plants here alluded to are chiefly from North-West America, sent by the late Mr Douglas from his last journeys, by Mr Tolmie, and by the late Dr Gairdner.

With regard to the title "*Flora Boreali-Americana*; or the Botany of the Northern Parts of British North America," it was adopted in conformity with the titles of the other Natural History publications connected with Sir John Franklin's important Expeditions; but it will be at once seen, from a very slight inspection, that the work is neither a Flora of boreal America, in the sense given to that term by Michaux, as comprehending all the northern half of the New World, nor is it confined to the northern portions of British North America. It was thought right to take advantage of all that was known, and of all the discoveries to which the Author had access, of the vegetation of Canada, the most southern possessions of British North America, and also of the labours of Botanists on the Pacific side of North America (exclusive of California) and in Behring's Straits. This was the more desirable, as these labours had been performed mainly by British Naturalists, from the days of Newenham and Menzies, to those of Beechey and the officers attached to the Hudson's Bay Company's Factories, although their researches may have extended into the territories belonging to the Russian Empire, or been pursued within the yet undefined limits claimed by the United States, and bordering upon California.

This Flora, therefore, is intended to present the vegetation of all that portion of North America Proper, which, commencing with the extreme Arctic Islands, stretches south to the boundary, so far as it has been ascertained, of the United States and California.

That many Plants yet remain to be discovered in so vast a territory, there can exist no question. Such, however, has been the accuracy with which several districts have been explored, that little, likely, is unknown which regards the botany of the Arctic region, especially as its Flora is necessarily very limited by the shortness of the Summer season, and a great similarity prevails in the productions of those high latitudes, throughout Europe, Asia, and America. The same remark may apply to the almost equally inhospitable climes of Labrador, and even of Newfoundland. The more densely inhabited parts of Canada have produced many native Botanists, while the absence of any lofty mountains in its less visited (that is the Western) districts, renders it probable that our acquaint-

ance with Canadian vegetation is tolerably complete; still it is to be wished that the southern boundary, adjoining the State of Maine and the great Lakes Huron and Superior, were accurately searched, and it can hardly be doubted that this line of country would yield many plants not hitherto discovered in British North America, though known to exist in the United States under similar situations of latitude and of elevation above the level of the sea. Perhaps no part of the continental New World that owns the British sway, has been more strictly investigated than the great valleys of the Red River, Lake Winipeg, and the Saskatchewan, along with the vast country extending thence northward to the shores of the Arctic Sea; and this is mainly owing to Dr Richardson's two journeys through those regions, and to the long stay made by Mr Drummond on the Saskatchewan, whose course he followed up to the Rocky Mountains. The southern vegetation here is peculiarly interesting, for it has many plants in common with the Mississippi and Missouri. Between the territory above alluded to, that is, throughout the whole range of the Rocky Mountains, from the boundary of the United States in about lat. 48°, to their northern limit; including, as it does, mountains of from 15,000 to 16,000 feet high, and thence westward to near the shores of the Pacific Ocean, almost the whole is a *terra incognita* to the naturalist: for, with the exception of the usual route of the Hudson's Bay Traders, from the sources of the Saskatchewan to those of the Columbia, by way of "The Committee's Punch Bowl," and thence to the sea, scarcely any part of it has been investigated; and a more interesting field for the Botanist certainly does not exist in any portion of our North American provinces, as is proved by the researches already made there by Drummond and Douglas,* and by the later ones of Mr Nuttall; the latter gentleman, indeed, pushed his discoveries in a more southern range of that chain, within the limits of the United States.

* See the Journal of Mr Douglas, published in Hooker's *Companion to the Botanical Magazine*, vol. 2, and that of Mr Drummond, in the same author's *Botanical Miscellany*, vol. 1, p. 178.

Should the favourable reception of the *Flora Boreali-Americana* authorise such a step, and should the materials from this and other parts of our possessions comprised within the range of these volumes, accumulate sufficiently, and within a reasonable space of time, nothing would give the Author more pleasure than to add a third volume, which should include the whole of the *Cryptogamia* and the species discovered since the publication of what is now presented, together with remarks on the Geographical Distribution of the entire Flora of these regions.

W. J. HOOKER.

GLASGOW, May 1, 1840.

FLORA BOREALI-AMERICANA.

CL. I. DICOTYLEDONEÆ.

SUBCL. I. THALAMIFLORÆ. DC.

ORD. I. RANUNCULACEÆ. Juss. DC.

1. CLEMATIS.

Involutrum nullum aut calyciforme sub flore. *Sepala* 4-8, colorata. *Petala* nulla aut sepalis breviora. *Cariopsides* plurimæ in caudam sæpius barbato-plumosam productæ.—
Radices perennes. Folia exacte opposita. DC.

1. *C. Virginiana*; scandens, floribus paniculato-corymbosis divisis, foliis ternatis foliolis cordato-ovatis acuminatis sublobatis grosse serratis.—*Linn. Amen. Acad. v. 4. p. 275. Mich. Am. v. 1. p. 318. Pursh, Fl. Am. v. 2. p. 384. Bigel. Fl. Bost. ed. 2. p. 219. Elliott, Carol. v. 2. p. 44. De Cand. Prodr. v. 1. p. 4.*

Stamina sepalis breviora. In floribus femineis *filamenta* subulata abortiva adsunt, antheris minutis vacuis. *Folia* subtus pilosa, semper ternata, foliolis majusculis, sæpe duas vel trea uncias longis, in planta Douglasiana multo minoribus, vix unciam longis.

HAB. Grassy or shrubby banks of rivers, from the United States to lat. 55°, disappearing about the south end of Lake Winnipeg. *Drummond.* Banks of the Columbia. *Douglas.*—This has been long cultivated in England, where it proves a hardy plant, well adapted for covering walls and arbours. Its flowers are highly fragrant.

2. *C. Douglasii*; caule erecto simplici unifloro, flore nutante, foliis pilosis bi-tripinnatifidis, laciniis linearibus obtusiusculis. (TAB. I.)

Caulis herbaceus, pedalis, erectus, simplex, striatus, foliosus, parce pilosus, ad nodos lanuginosus, basi squamis membranaceis fuscis tectus. *Folia* opposita, inferiora etiam connata et subvaginata, quadripinnatifida, circumscriptione late ovata, e basi usque profunde bi-tripinnatifida, pilosa, ad diviuras segmentorum lanuginosa, segmenta primariis semper exacte oppositis, remotis, et fere petiolatis, reliqua alternis; omnibus linearibus, obtusiusculis; foliorum inferiorum latioribus, superiorum sensim angustioribus. *Rachis* gracilis, petiololum æmulans. *Pedunculus* terminalis, solitarius, tomentosus, uniflorus. *Flos* majusculus, cernuus, subcylindraceus, basi obtusus. *Sepala* 4 vel 5, æsequiunciam longa, coriaceo-membranacea, oblonga, obtusiuscula, erecta (quoad axin floræ), apice solummodo patentia, intus glabra intense purpurea, extus

pallidiora, laxe tomentosa. *Stamina* erecta, sepalis multo breviora: *Filamenta* filiformia: *Antheræ* lineares, flavæ. *Pistilla* staminum longitudine: *Styli* graciles, longi, valde sericeo-hirsuti.

HAB. On the west side of the Rocky Mountains, near the sources of the Columbia. *Douglas*.—This beautiful species of *Clematis* is quite unlike any hitherto described; and I am anxious it should bear the name of its zealous and meritorious discoverer. In general habit it accords with De Candolle's 5th Div. of "*Flammula*," (including *C. integrifolia*, *ochroleuca*, and *ovata*,) but in all the species of that groupe the leaves are simple, whereas here they are deeply divided, almost as in *Paeonia tenuifolia*. The primary divisions, indeed, might rather be called pinnate than pinnatifid, but the lowermost leaves, which are simply pinnatifid, with much broader segments than the rest, show their true nature. In the middle and uppermost leaves, the primary divisions, or pinnae, are in two opposite pairs; so close to the base of the rachis, and so much larger than the rest, that, at first sight, they give the appearance of verticillate leaves.

3. *C. verticillaris*; pedunculis unifloris, foliis quaternatim verticillatis ternatis foliolis cordato-acuminatis sublobatis integerrimis serratisque, petalis acutis.—*De Cand. Syst. Veget. v. 1. p. 166. Prodr. v. 1. p. 10.*—*Atragene Americana. Sims, in Bot. Mag. t. 887. Pursh, Fl. Am. v. 2. p. 384. Bigel. Fl. Bost. ed. 2. p. 219.*

β. foliolis obtuse serratis.—*C. obliqua. Douglas, MSS.*

Foliola lateralia semper obliqua, magis minusve obtuse serrata vel plerumque omnino integerrima, parce pilosa. *Pedunculus* e basi pedunculorum vetustorum egrediens, foliis duobus stipatus. *Flos* cernuus. *Scapula* magna, corollina, ovato-lanceolata, acuta, cærulea vel purpurea, extus magis minusve pilosa. *Petala* calyce duplo triplove breviora, linearia, quo interiora eo magis distincte antherifera.

HAB. In woods in the central districts, as far north as lat. 54°, ascending the elevated valleys on the eastern declivity of the Rocky Mountains in that latitude. *Dr. Richardson. Drummond.* At Cape Mendocina, on the N.W. coast, in lat. 40°: plentiful. *Douglas*.—Nearly allied to *Clematis* (*Atragene, Linn.*) *alpina*, but differing in its acute petals, and in the far smaller and never sharply serrated leaves. This beautiful plant does not appear to be found farther north than lat. 54°, nor south of Pennsylvania, on the east side. It is not included in Elliott's Sketch.

2. THALICTRUM.

Involucrum sub flore nullum. *Pet.* nulla. *Carpella* sicca in caudas non desinentia, nunc stipitata, nunc longitudinaliter striato-sulcata.—*Herbæ perennes*; *caulis annuus*; *flores corymbosi-paniculati aut subracemosi, herbacei, albi vel flavi.* DC.

1. *T. clavatum*; hermaphroditum, filamentis clavatis, antheris ellipticis muticis, carpellis inflatis stipitatis lævibus oblongis stylo longioribus, foliolis subrotundis crenatolobatis glabris subtus glaucis.—*De Cand. Syst. Veget. v. 1. p. 171. De Less. Ic. v. 1. t. 6. De Cand. Prodr. v. 1. p. 11.*

Tota planta glabra, pedalis ad sesquipedalem. *Caulis* nitidus, ramosus. *Folia* triternata, foliolis (nostris examplaribus) magnitudine *T. dioici*, et iis similibus, subtus valde glaucis. *Stipelle* nulla. *Panicula* subpauciflora, laxa, pedicellis longis. *Flores* erecti. *Stamina* pauca, brevia, perianthii longitudine. *Filamenta* superno insigniter dilatata. *Antheræ* breves, ellipticæ, muticæ. *Pistilla* 8-10 in singulo flore. *Germen* ovatum, stipitatum, gibbum, leve, demum inflatum, in stylo, germine $\frac{1}{4}$ brevior attenuatum.

HAB. Found only on Portage La Loche, a height of land composed of sandhills, lying in lat. 57°, and separating the waters flowing to Hudson's Bay from those falling into the Arctic Sea. *Dr. Richardson*.—This species of *Thalictrum*, which seems to have been found only in one spot by our American travellers, exactly accords with the figure of *T. clavatum*, in De Lessert's *Icones*, in every particular, except that the leaves in our plant are smaller, which may arise from accidental causes, and that its styles are rather shorter. Both my specimens and the individual figured by De Lessert, have perfect, not monœcious, flowers, as

described by De Candolle; and it would seem that Michaux's specimens (it does not appear in what part of America they were gathered,) are the authority both for De Lessert's figure and De Candolle's description. I have not seen ripe carpels, nor has De Lessert represented them. Is it not possible that the present may be a state of *T. dioicum*? (with which, in habit and foliage, the plant *entirely* agrees,) having pistils and stamens on the same flower, both of which are differently modified from what we find in the dioecious state.

2. *T. dioicum*; floribus dioicis, filamentis filiformibus, foliolis subrotundis crenatolobatis glabris subtus glaucis.—*Linn. Sp. Pl. p. 768. Pursh, Fl. Am. v. 2. p. 388. Bigel. Fl. Bost. ed. 2. p. 220. Elliott, Carol. v. 2. p. 50. De Less. Ic. v. 1. t. 8. De Cand. Prodr. v. 1. p. 12.*—*T. levigatum. Mich. Am. v. 1. p. 322.*

Caulis pedalis nunc bipedalis. *Folia* fere omnino ut in *T. clavato*, submolliora, membranacea. *Panicula* terminalis, magis minusve longa. *Stamina* numerosa, filamentis filiformibus, antheris linearibus mucronatis. *Germen* oblongo-ovatum, hinc intus planum, stylo stigmatique lineari duplo brevius. *Stigma* deciduum. *Fructus* semi-ovatus, sulcatus, stylo persistente acuminatus.

HAB. Grassy banks of rivers; most abundant in the central limestone districts, from Canada to the banks of the Mackenzie River, in lat. 67°. *Dr. Richardson.* Found also on the eastern base of the Rocky Mountains. *Drummond*; and on the banks of the Columbia. (*Mr. Garry.*) Not found on the barren grounds, nor on naked alpine situations.—An abundant plant, and, as far as I can judge from the numerous specimens in the different collections, very constant to its character. *Dr. Richardson's T. corynellum* in Frankl. 1st Journ. ed. 2. includes specimens of *T. dioicum* and *T. Cornuti* of this work: some of the former having been overlooked among his specimens.

3. *T. purpurascens*; "floribus dioicis monoicisve, filamentis filiformibus coloratis, foliorum segmentis suborbiculatis grosse dentatis glabris subtus glaucis, panicula contracta subaphylla." *DC.—Linn. Sp. Pl. p. 769. Pursh, Fl. Am. v. 2. p. 389. De Cand. Prodr. v. 1. p. 12.*

HAB. Canada. *Linn.*—This is probably only *T. dioicum*, with purplish flowers.

4. *T. Cornuti*; floribus plerumque dioicis, filamentis subclavatis, antheris ellipticis sublinearibusve, foliolis subrotundo-obovatis oblongisve trilobis subtus glaucis nervis vix prominentibus, carpellis ovato-oblongis, stigmatibus filiformi marginibus membranaceis. (TAB. II.)

α. antheris lineari-oblongis.—*T. Cornuti. Linn. Sp. Pl. p. 768. Pursh, Fl. Am. v. 2. p. 388.—T. revolutum. De Cand. Syst. Veget. v. 1. p. 173.? Prodr. v. 1. p. 12.? Elliott, Carol. v. 2. p. 49.—T. Canadense. "Cornuti, Canad. 186. t. 187."*

β. antheris ellipticis.—*T. pubescens. Pursh, Fl. Am. v. 2. p. 388. Nutt. N. Am. Gen. v. 2. p. 21.—T. corynellum. De Cand. Syst. Veget. v. 1. p. 172. Prodr. v. 1. p. 12. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*

Caulis 3-4-pedalis, ramosus. *Foliola* forma mire variant in iisdem exemplaribus, nunc ovata, nunc cordata, et non raro obovato-oblonga vel cuneata, majuscula, trilobata, lobis plerumque acutis; superne intense viridia, subtus pallidiora, glauca, glabra vel pubescentia. *Panicula* composita, foliosa. *Staminum filamenta* magis minusve elongata et clavata: *antheræ* ellipticæ, oblongæ vel lineari-oblongæ. *Pistilla* numerosa in singulo flore femineo: *germen* nigrum, oblongo-ovatum, subgibbosum; *stylus* breviusculus; *stigma* longum, lineare, margine utrinque membranaceum, dilatatum. *Fructum* maturum non vidi.

HAB. Banks of rivers as far north as lat. 56°, in woody districts the whole breadth of the continent, excluding the barren grounds and alpine tracts.—Variable as this plant assuredly is, it may be at once

distinguished from the species already described by its much larger size, stouter habit, darker colour, its narrower leaves, especially the upper ones, and the more acute and fewer lobes. The structure of the *Stigma* is, I think, different from its congeners: it is longer than the *Style*, with the sides or margins dilated into a brown membrane; the upper surface minutely papillose, as in its affinities. Linæus seems to have established this species upon the figure and description of *T. Cornuti*, and to have had no specimen in his herbarium; it is impossible, therefore, to say, with his very imperfect description alone to guide us, what particular plant is intended by that author; but the present seems to be what Pursh had in view for *T. Cornuti*, and it is as well to retain this as a specific name as to reduce it to a doubtful synonym, as De Candolle has done. I have been aided in the other synonyms by specimens from various American Botanists, and there cannot be a question that the North American *Thalictra* will bear to be still farther reduced. *T. carolinianum*, for example, of Bosc and De Candolle, is but a variety, with diœcious flowers, of *T. rugosum* of Ait. and Pursh, or rather is the genuine state of that plant. Let it be remarked, that with the exception of the very doubtful *T. ranunculinum* of Muhl. in Willd. Enum. and of that plant of dubious genus *T. anemonoides*, all the hitherto described species of N. American *Thalictra* are diœcious; or if otherwise, in all that have come under my observation, the stamens appear to be abortive. It is singular, too, that in another genus, *Saxifraga*, there is a species in N. America, (hereafter to be described,) which varies with perfect and polygamous flowers, and in which some of the states have *clavate* filaments to the stamens.

Tab. II. *T. Cornuti*, n. Fig. 1, Portion of a male plant; fig. 2, Portion of a female; fig. 3, Lower leaf; fig. 4, Pistil; fig. 5, Stamen; fig. 6, Head of pericarps; fig. 7, Single pericarp.—figs. 4, 5, 6, 7, magnified.

5. *T. anemonoides*; radice tuberosa, floribus umbellatis, foliis biternatis foliolis cordato-rotundatis trilobis, floralibus oppositis vel ternis, singulo trifoliolato.—*Mich. An.* v. 1. p. 322. *Juss. in Ann. du Mus.* v. 3. p. 249. t. 21. f. 2. *De Cand. Prodr.* v. 1. p. 15.—*Anemone thalictroides*. *Linn. Sp. Pl.* p. 763. *Pursh, Fl. Am.* v. 2. p. 387. *Bigel. Fl. Bos.* ed. 2. p. 223. *Curtis, Bot. Mag.* t. 866.

β. *Thalictrum caule unifloro, ex eodem puncto foliis quatuor simplicibus instructis.* Gronov. *Virg.* 62. (Linn.)

Habitus inter *Thalictrum* et *Anemonem*. Folia floralia plerumque opposita (nunc terna quaternave verticillata,) non simplicia, ut dicunt Linæus et Cl. Bigelow, sed, ut bene habet De Candolle, "petiolo ab ipsa basi tripartito et ideo segmentis petiolulatis, subverticillatis, ovatis, tridentatis (nunc integerrimis, II.) involucrum constituentibus." Sepala petaloidea, alba. Stamina pauca. Pericarpia 7-11, lineari-oblonga, breviter stipitata, sulcata: Stylus vix ullus: Stigma subsessile, capitatum.

HAB. Canada. *Linæus, Michaux.* (β.) *Kalm*: but I have never myself received specimens from any of the British Possessions in North America.—A plant of doubtful genus, agreeing, however, with *T. tuberosum* in general habit and fructification.

3. ANEMONE.

Involucrum 3-phyllum a flore distans, foliolis incis. *Calyx* petaloideus, 5-15 sepalus. *Petala* nulla. DC.

1. *A. patens*; molliter sericea, foliis serotinis tripartitis ternatisve, segmentis cuneatis trifidis incis. lobis lineari-lanceolatis, involucro lineari-multifido, flore erecto, sepalis 5-6, aristis longis barbatis.—*Linn. Sp. Pl.* p. 759. *Gmel. Siber.* v. 4. p. 195. *De Cand. Prodr.* v. 1. p. 16.—(β. ochroleuca.) *Sims, in Bot. Mag.* t. 1994.—*Clematis hirsutissima*. *Pursh, Fl. Am.* v. 2. p. 285.—*Anemone ludoviciana*. *Nutt. N. Am. Fl.* v. 2. p. 26.—*A. Nuttalliana*. *De Cand. Prodr.* v. 1. p. 17. *Nutt. in Journ. of Acad. of Nat. Sc. of*

Philad. v. 5. p. 158. t. 8. (A. Nuttallii,) excellent. *Rich. in Frankl. 1st. Journ. ed. 2. App. p. 21.*

HAB. Profusely in the eastern prairie district; and, more scattered, in the central limestone tracts from lat. 45° to 67° on the Mackenzie. *Dr. Richardson.* Valleys in the Rocky Mountains. *Drummond. Douglas.*—There is no difference whatever between this American plant and the *A. patens* which I possess from the Russian Empire, gathered by Dr. Goldbach, and from Silesia on the borders of Poland, by Professor Treviranus. Both are liable to vary in the breadth of the segments of their leaves, and in the colour of their flowers. Mostly, however, these are purple. The pale yellow-flowered variety from Siberia, is cultivated in England; and the fresh juice of that kind, Gmelin tells us, is employed by the inhabitants of Irkutsk to cure deafness, and newly gathered leaves for pain in the head, as vesicatories. The plant affects sandy soils, and its blossoms appear among the earliest of the season. The young buds are eaten by the Marmots, inhabitants of the plains of N. America.—*A. Halleri* comes too near to this species. Its flowers I have often gathered in Switzerland before the leaves have appeared; but since, in *both*, the flowers continue a long time, they and the leaves are sometimes gathered in perfection together. I possess specimens from Moscow, in which the former year's leaves are present with the vernal flower; quite dead, indeed, and brown, but perfect in form and shape.

2. *A. alpina*; subsericeo-villosa, foliis longe petiolatis biternatim pinnatifidis, foliolis laciniatis laciniis linearibus acutis involucralibus conformibus, flore erecto, sepalis 6 patentibus, aristis longis barbatis.—*Linn. Sp. Pl. p. 760. Bot. Mag. t. 2007.*—(*a. major.*) *A. sulphurea. Linn. Mant. p. 78.*—*A. apiifolia. Willd. Sp. Pl. v. 2. p. 9.*

HAB. Eastern declivity of the Rocky Mountains, lat. 52° to 55°. *Drummond.*—Hitherto unnoticed as a native of America. Mr. Drummond's specimens have the flowers white, with a purplish tinge at the base, and accord with the var. *a. major* of De Cand. *Stems* from six inches to a foot and a half high. *Heads* of pericarps very large. *Awns* long, very silky.

3. *A. parviflora*; foliis tripartitis, lobis cuneatis trifidis crenatisque obtusis, involucralibus sessilibus subconformibus longioribus angustioribusque, sepalis 6 ovalibus.—*Michx. Am. v. 1. p. 319. De Cand. Prodr. v. 1. p. 19. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*—*A. cuneifolia. Juss. Ann. du Mus. v. 3. t. 21. f. 3. Pursh, Fl. Am. v. 2. p. 386.*—*A. tenella. Herb. Banks. (non Purshii.)—A. borealis. Rich. in Frankl. 1st Journ. ed. 2. App. p. 22.*

HAB. Eastern primitive district, central limestone tract, barren grounds, and Rocky Mountains, from lat. 45° to the Arctic Sea, lat. 70°. *Dr. Richardson. Drummond. Labrador. Pursh. Morrison.*—Very variable in size; the sub-Arctic and Labrador specimens are scarcely more than from two to four inches high; those from Slave River a foot high, with smaller flowers in proportion. These, indeed, seem to be the chief differences between the *A. parviflora* and Dr. Richardson's *A. borealis*. But the Second Expedition has enriched the collection with a series of specimens which show that they gradually merge the one into the other. Richardson's description is excellent. The root is fibrous, but the fibres proceed from an elongated and often procumbent and creeping woody trunk, not at all agreeing with the subdivision in which De Candolle has placed the species. The flowers are white, with a blue tinge at the base of the petals, especially in a young state. *Heads* of pericarps rounded, very compact, clothed with a great deal of silky tomentum, which especially arises from the base of the seed-vessels, and is easily separated. *Styles* subulate, naked.

4. *A. Baldensis*; foliis glabratis subcarnosis ternatim partitis segmentis tripartito-laciniatis, laciniis linearibus obtusis, involucralibus breviter petiolatis conformibus, petiolis

scapoque villosis, flore solitario, sepalis 6-8 patentibus obtusis extus subpilosis.—*Linn. Mant. p. 78. De Cand. Prodr. v. 1. p. 19. Sturm, Deutschl. Fl. cum. Ic.—A. fragifera. Jacq. Ic. v. 1. t. 103.*

HAB. Arid places on the eastern summits of the Rocky Mountains, lat. 52° to 55°. *Drummond*.—This is again another discovery which goes to prove how much the arctic and alpine vegetation of North America assimilates with that of Europe. The specimens are in every particular the same as my German and Piedmontese ones; or if there be any difference worthy of notice, it is that the leaves are not so fully expanded at the time of the perfection of the flower as in those of the old world. The flowers are strongly tinged with blue in most instances. *Root* fusiform.

5. *A. nemorosa*; foliis ternatis foliolis integris vel intermedio 3-fido lateralibus bipartitis inciso-dentatis acutis, involucribus petiolatis conformibus, sepalis 4-6 ellipticis.

α. involucri foliolis subintegris.—*A. nemorosa*, *Linn. Sp. Pl. p. 762. Mich. Am. v. 1. p. 319. Pursh, Fl. Am. v. 2. p. 387. Smith, Engl. Bot. t. 355. Elliott, Carol. v. 2. p. 53. Bigel. Fl. Bost. ed. 2. p. 222. De Cand. Prodr. v. 1. p. 20.—A. Fischeriana. De Cand. Prodr. v. 1. p. 20. (sive Spreng.)—A. lancifolia. Pursh, Fl. Am. v. 2. p. 386.?*

β. DC. involucri foliolis lateralibus bipartitis, et ita folium 5-foliolatum.—*A. quinquefolia. Linn. Sp. Pl. p. 762.*

HAB. Canada, and thence to the south end of Lake Winipeg; not seen to the northward of lat. 53°. *Dr. Richardson*. Country eastward of the Rocky Mountains. *Drummond*. Westward of the Rocky Mountains. *Douglas*.—Flowers white, varying to purple, as in Europe; but the sepals are more constantly 5, and the leaves though occasionally as broad as with us, are usually narrower and disposed to be more compound.

6. *A. deltoidea*; parce hirsuta, foliis ternatis foliolis (involucribusque sessilibus) rhomboideis integris trifidisve inciso-serratis acutis, sepalis 5-6 obovatis. (TAB. III. A.)

Folia radicalia, longe petiolata, ternata, foliolia late-ovatis subdeltoideis, integris, trifidisque. *Scapus* erectus, gracilis, 8-10 pollicaris, parce pilosus, supra medium involucreatus. *Involucreum* e foliis tribus sesqui-bi-uncialibus, rhomboideis, acutis vel acuminatis, subtus margineque subpilosis, sessilibus, indivisis, subtrifidisve basi integerrimis vel inciso-serratis. *Flos* solitarius, majusculus. *Sepala* alba, ovalia vel obovata, obtuse patentia, glabriuscula. *Stamina* numerosa, sepalis multo breviora. *Pistilla* ovata in stylo breviusculo acuminata, basi lanata.

HAB. In thick shady woods of the Columbia, near its confluence with the sea. *Douglas. Scouler*.—I have only seen leaves of this species since the plate was engraved, upon *Dr. Scouler's* specimens. The habit is that of *A. nemorosa*, but the involucre is very different from that and every other species with which I am acquainted. The flowers are as large as those of *A. Pennsylvania*.

7. *A. Richardsonsii*; subpilosa, foliis reniformibus 3-5 partitis, lobis subtrifidis acute dentatis, involucribus rotundato-cuneatis sessilibus trifidis dentatisque, sepalis 6 patentibus, carpellis compressis glabris, stylis longis deflexis uncinatis. (TAB. IV. A.)—*Hook. in Frankl. 1st Journ. ed. 2. App. p. 21.—A. ranunculoides, var. ? Rich. in Frankl. 1st Journ. ed. 1. App. p. 740.—A. arctica. Fischer, MSS. (sive specim. ejus.)*

Capitulum carpellorum ratione floris majusculum, depressum. *Carpella* numerosa, oblongo-ovata, stylo longissimo, fulvo, deflexo terminata, cujus apex extrema (siccitate precipue) sursum curvata, uncinata.

HAB. Eastern primitive district, shores of Hudson's Bay; barren ground, Rocky Mountains, from lat. 55°

to 69°, in wet mossy ground. *Dr. Richardson. Drummond. Unalashka*, and throughout all Siberia. (*Dr. Fischer*).—Numerous specimens of this very pretty species of *Anemone*, gathered during the second Arctic Journey, both by Dr. Richardson and Mr. Drummond, have confirmed the opinion I had formerly expressed, that it is totally distinct from any previously described. Dr. Richardson's description is very excellent, but he had not, during the first journey, seen the ripe fruit, which is highly curious. The numerous long slender styles, all bent downwards, have the appearance of a very coarse and shaggy head of hair. If the extremities of these styles be examined with a microscope, they will be found to be rolled upwards at their very points, and thus uncinated in a dry state. When moist, the apex is only slightly curved.

TAB. IV. A. *Figs. 1, 2, 3, A. Richardsoni: nat. size; fig. 4, Pistil; fig. 5, Stamen; fig. 6, Pericarp:—magnified.*

8. *A. Virginiana*; foliis ternatim partitis, segmentis ovato-lanceolatis trifidis inciso-serratis, involucri involucellorumque petiolatis conformibus, sepalis 5 ellipticis subcoriaceis extus sericeis, capitulo oblongo lanato.—*Linn. Sp. Pl. p. 761. Mich. Am. v. 1. p. 320. Pursh, Fl. Am. v. 2. p. 388. Elliott, Carol. v. 2. p. 54. Bigel. Fl. Bost. ed. 2. p. 223. De Cand. Prodr. v. 1. p. 21.*

Caulis bi-tripedalis, superna in pedunculis divisus, pilis brevibus, sericeis, appressis, magis minusve vestitus. *Folia* ampla; *radicalia* longe petiolata, omnia pulcherrime reticulatum venosa. *Pedunculi* elongati, 3 vel 4 ab eodem puncto, ubi involucrum trifoliatum, foliis radicalibus conforme, petiolatum: pedunculus centralis nudus, laterales bifoliosi. *Flores* parvi. *Sepala* acuta, subcoriacea, pallide flavo-viridia, nunc purpurascens, extus sericea. *Capitula* pericarpium oblonga, nunc fere cylindracea, (raro, in speciminibus ab amicis. *Boott, tereti-globosa.*) *Cariopides* numerosissimæ, densissime compactæ, subrotundæ, compressæ, basi densissime lanatæ, stylis acuminatis rectiusculis terminatæ.

HAB. Central limestone tract, and eastern prairie lands, as far north as lat. 55°, spreading more widely in Canada than to the northward; on rich banks of rivers. *Dr. Richardson. Drummond.*

TAB. IV. B. *Fig. 1, Pistil; fig. 2, Head of Pericarp:—magnified.*

9. *A. multifida*; pilosa, foliis ternatim divisus, segmentis cuneatis tripartitis laciniatis, laciniis linearibus acutis, involucri involucellorumque breve petiolatis conformibus, sepalis 5-8 subcoriaceis ellipticis extus sericeis.—*Poir. in Encycl. Meth. Suppl. v. 1. p. 364. De Less. Ic. v. 1. t. 16. De Cand. Prodr. v. 1. p. 21.—A. Hudsoniana. Herb. Banks. Rich. in Frankl. 1st Journ. ed. 2. App. p. 22.*

β. caule unifloro.—*A. multifida, γ. uniflora. De Cand. Prodr. v. 1. p. 21. De Less. Ic. v. 1. t. 17.*

γ. flore sanguineo.—*A. sanguinea. Pursh, in Herb. Lamb.—A. Hudsoniana, β. sanguinea. Rich. in Frankl. 1st Journ. ed. 2. App. p. 22.*

HAB. Gulf of the St. Lawrence. *Goldie.* From the shores of Hudson's Bay to the western declivity of the Rocky Mountains, and from the United States to near the shores of the Arctic Sea: common. *Dr. Richardson. Drummond.* West side of the Rocky Mountains, near the sources of the Columbia. *Douglas.*—Variable in size and in the number of peduncles arising from each stem, from 1 to 3, and agreeing with the figures of De Lessert (from plants gathered in the Straits of Magellan) in every particular, except that in those the segments of the leaves are shorter in proportion to the breadth; so that their single-flowered variety has very much the appearance of a large state of *A. Baldensis*. Heads of pericarp, as in that species, roundish-oval, woolly. *Flower* white, yellow, purple, and deep red.

The species has a very extended range, from the mouth of the St. Lawrence to the sources of the Columbia, west of the Rocky Mountains. It was found at Conception in Chili, during Capt. Beechey's Expedition, at the Straits of Magellan, and Dr. Gillies has gathered it on the Andes of Chili.

10. *A. Pennsylvania*; subpilosa, foliis tripartitis segmentis bipartitis trifidisve, laciniis lanceolatis inciso-serratis, involucralibus involucellisve sessilibus conformibus, sepalis 5 ellipticis obtusis, pericarpis compressis marginatis stylo longo apice recto vel uncinato attenuatis. (TAB. III. B.)—*Linn. Mant. p. 247. Pursh, Fl. Am. v. 2. p. 387. De Cand. Prodr. v. 1. p. 21. Rich. in Frankl. 1st Journ. ed. 2. App. p. 22.—A. aconitifolia. Mich. Am. v. 1. p. 320.—A. dichotoma. Linn. Amæn. Acad. v. 1. p. 155. Gmel. Fl. Sibir. v. 4. p. 197. "Linn. Fil. decad. 29. t. 15." Pursh, Fl. Am. v. 2. p. 387. De Cand. Prodr. v. 1. p. 21.*

Radix subrepens, flexuosa, lignosa, parce fibrosa. Tota planta pilosa, in caule et petiolis pilis patentibus. Folia radicalia longe petiolata, ampla: *Involucrum* illis forma et magnitudine simile. *Involucella* multoties minor. Flos magnus, albus: *Sepala* membranacea, extus sericeo-pubeacea. *Stamina* numerosa. *Fructus* rotundatus, magis minusve pilosus vel etiam glaber: *Stylus* persistens, pericarpis multo longior, rectus vel ad apicem uncinatus; statu juniore brevis et semper uncinatus.

HAB. In woody and prairie tracts by the banks of rivers from Hudson's Bay to the Pacific, and from the United States to near the mouth of Mackenzie's River; not found in the barren grounds. *Dr. Richardson. Drummond. Douglas.*—It is singular that no figure, that I am aware of, should yet have been given (except the one referred to in the "*Decades*" of the younger Linnæus,) of this very common and handsome American plant. De Candolle says that the *A. dichotoma* of Europe is similar to the *Pennsylvanica*, but more slender. My specimens from Dahuria, sent by Dr. Fischer, entirely accord with the American ones: and the *dichotoma* of Pursh, I suspect, is exactly the same. That author, indeed, says, "It is smaller than *Pennsylvanica*, and has a tinge of red;" neither of which marks are at all likely to be constant.

Although named *Pennsylvanica* by Linnæus, he only gives Canada as a station for it. And notwithstanding that Michaux speaks of it as an inhabitant of the New England States, and Pursh of Pennsylvania, I have never received it from my correspondents in these countries, and am inclined to consider it rare, except in the more northern parts of America. It does not find a place in Elliott's Sketch, nor in Dr. Bigelow's Flora of the Environs of Boston.

11. *A. narcissiflora*; hirsuta, foliis palmatim partitis, segmentis cuneatis inciso-multifidis, involucralibus subconformibus sessilibus, floribus umbellatis.—*Linn. Sp. Pl. p. 763. Gmel. Fl. Sibir. v. 4. p. 200. Pursh, Fl. Am. v. 2. p. 387. Bot. Mag. t. 1120. De Cand. Prodr. v. 1. p. 23.—A. umbellata. Willd. Sp. Pl. v. 2. p. 1284.? De Less. Ic. v. 1. t. 18.?* (ubi figura differt solummodo involucris simplicioribus.)

HAB. Canada, and North-West America. *Pursh.* I have never seen Canadian specimens, but I possess the plant gathered by Mr. Menzies on the north-west coast of America, where it extends, according to *Dr. Fischer*, as far as Unalashka. Kotzebue's Sound. *Lay and Collie in Captain Beechey's Collection.*—These N. W. American specimens are clothed with long, copious, and beautifully silky hairs, according with De Candolle's var. ζ . *villosissima* from Unalashka. But I possess individuals gathered on the Altaic Mountains equally shaggy; and others from different parts of Europe in various states of hairiness. The specimens in Captain Beechey's herbarium are very small, and have only one flower to each plant.

4. HEPATICA.

Involucrum 3-foliatum, flori approximatum, 1-florum, calyciforme; foliis integris. *Sepala* petaloidea, 6-9, duplici triplicive serie disposita. *Stamina* et *ovaria* plurima. *Carpella* ccaudata.—*Scapi plurimi, radicales, 1-flori. DC.*

1. *H. triloba*; foliis late cordatis trilobis, lobis cordatis.—*Anemone Hepatica. Spreng. Syst. Veget. v. 2. p. 660. Mich. Am. v. 1. p. 319. Elliott, Carol. v. 2. p. 56.—H. Ameri-*

cana. *Nutt. N. Am. Fl. v. 2. p. 20.*—Anemone Hepatica. *Linn. Sp. Pl. p. 758. Curt. Bot. Mag. t. 10.*

α. foliorum lobis acutiusculis.—H. triloba. *Chaix in Vill. Delph. v. 1. p. 336. De Cand. Prodr. v. 1. p. 22.*

β. foliorum segmentis acutis.—H. acutiloba. *De Cand. Prodr. v. 1. p. 22.*—Anemone triloba. var. β. acuta. *Bigel. Fl. Bost. ed. 2. p. 222. Pursh, Fl. Am. v. 2. p. 391.*

γ. foliorum lobis obtusis.—H. Americana. *Ker in Bot. Reg. t. 387. De Cand. Prodr. v. 1. p. 22.*—H. triloba, β. *De Cand. Syst. Veget. v. 1. p. 216.*—H. triloba, α. *Pursh, Fl. Am. v. 2. p. 391. Bigel. Fl. Bost. ed. 2. p. 222.*

HAB. In woods, in the central limestone tracts, from Canada to lat. 52°. Mr. Drummond found it as far north as lat. 55°, in the secluded alpine vallies on the eastern declivity of the Rocky Mountain ridge. *Dr. Richardson.* The varieties grow indiscriminately.—A plant varying much in the lobes of its leaves, rounded, obtuse, oval, or acute, as Michaux has justly remarked. In the young state it is clothed with long, and on the petioles and scapes, spreading, silky hair. There can be no question of the identity of the American and European individuals. *Dr. Boott* has gathered a var. near Boston, United States, with a five-lobed leaf.

5. HYDRASTIS. *Linn.*

Cal. 3-sepalus, sepalis ovatis. *Pet.* nulla. *Stamina* ovariaque plurima. *Cariopsides* baccatæ, plurimæ in capitulum aggregatæ, stylo terminatæ, 1-loculares, 1-2 spermæ. *Semina* ovoidea, lævigata. *DC.*

1. *H. canadensis.*—*Linn. Sp. Pl. p. 784. Mich. Am. v. 1. p. 317. Pursh, Fl. Am. v. 2. p. 389. Elliott, Carol. v. 2. p. 55. De Cand. Prodr. v. 1. p. 23.*—*Warneria.* "*Mill. Ic. 2. p. 190. t. 285.*"

HAB. Canada; in water. *Linn.* According to Pursh, and other American Botanists, in shady woods on fertile soil, and among rocks, in the Alleghany tract of mountains. *Michaux.*—We learn from Michaux, that this plant seems confined to the Alleghany chain; and, following its course, extends from Canada to Carolina. It is probably rare, for none of our recent travellers have seen it in Canada, nor have I ever received a specimen. *De Candolle*, who describes the plant from dried specimens, says that the root (which is bitter, pungent, and tonic, yielding a beautiful yellow dye, whence the name *Yellow-Root*), consists of intensely yellow fleshy tubercles. The stem is herbaceous, simple, single-flowered, bearing two or three leaves, the two lower ones petiolated, the upper one nearly sessile, all of them 3-5 partite, the lobes coarsely toothed, acute. *Flowers* white, purplish, terminal, pedunculated. *Fruit* fleshy, red, like that of a *Rubus*, to the herbaceous species of which, *Nuttall* compares the habit of the whole plant.

6. ADONIS. *Dill.*

Cal. 5-sepalus, adpressus, sepalis interdum basi solutis. *Pet.* 5-15, ungue nudo. *Stam.* plurima, ad basin gonophori inserta. *Ovaria* plurima. *Cariopsides* plurimæ, monospermæ, secus gonophorum spicatæ, ovatæ, stylo brevi subaccreto acuminatæ. *Embryo* ovatus, cotyledonibus subdistantibus.—*Folia caulina* pinnato-partita, lobis multifidis. *DC.*

1. *A. autumnalis*; calyce glabro, petalis 6-8 concavo-conniventibus calyce vix majoribus, carpellis subreticulatis in capitulum ovatum aggregatis stylo brevissimo coronatis, caule ramoso.—*Linn. Sp. Pl. p. 771. Smith in Engl. Bot. t. 308.*

HAB. Cape Charles, Labrador. *Captain Robinson*, July, 1820.—The specimen gathered in Labrador was given to me, with several other very interesting plants from that country, by the late Mr. Morrison. It is undoubtedly the same as the European plant, but scarcely exceeding two inches in height. It is possible that the seeds may have been brought to Labrador by the Missionaries; but as I have no means of ascertaining this point, I think it safer to introduce the plant as a doubtful native of N. America, than to omit it altogether.

7. RANUNCULUS. *Linn.*

Cal. 5-sepalus, sepalis basi non solutis, deciduis, intus basi squamula foveolari nectarifera instructa. *Stam.* ovariaque plurima. *Cariopsides* ovatæ, subcompressæ, in mucronem aut cornu semine vix longius desinentes, læves, striatæ aut tuberculatæ, in capitulum globosum cylindraceumve dispositæ. *DC.*

SECT. I. BATRACHIUM. *Pericarpia transverse rugoso-striata. Petala alba, ungue flavo, fovea nectarifera notato. DC.*

1. *R. aquatilis*; caule fluitante, foliis submersis capillaceo-multifidis, emersis tripartitis, lobis cuneiformibus apice dentatis, petalis obovatis calyce majoribus. *DC. Prodr. v. 1. p. 27.*

α. *heterophyllus*; foliis emersis tripartitis. *DC.—R. aquatilis. Linn. Sp. Pl. p. 781. Smith in Engl. Bot. t. 101. Pursh, Fl. Am. v. 2. p. 395. De Cand. Syst. Veget. v. 1. p. 234.*

β. *capillaceus*; foliis petiolatis, omnibus immersis, in laciniis filiformes tenues dissectis. *DC.—R. pantothrix. Brot.—Elliott, Carol. v. 2. p. 56.—R. fluviatilis. Willd. Sp. Pl. v. 2. p. 1933. CEd. Fl. Dan. t. 376. Bigel. Fl. Bost. ed. 2. p. 227.*

γ. *cæspitosus*; foliis petiolatis, omnibus emersis, circumscriptione suborbiculatis in laciniis divergentes rigidulas dissectis, petiolis basi late vaginato-auriculatis. *DC.—R. aquatilis, var. β. Schkuhr, Bot. Handb. v. 2. t. 152.*

δ. *stagnatilis*; foliis sessilibus, omnibus immersis, capillaceo-multifidis circinnatis, laciniis abbreviatis, vaginis obsolete auriculatis carpellisque acutiusculis glabriusculis. *DC.—R. stagnatilis. "Waltr. Sched. 285."*

HAB. In water, in the eastern, central, and prairie districts, from the United States to near the Arctic Sea, lat. 68°. *Dr. Richardson. Drummond.*—In all the specimens gathered during the Land Arctic Expedition, the floating leaves are wanting. The var. γ., as De Candolle observes, grows short and tufted, having its naturally submerged leaves (left by the evaporation of the water,) capillaceo-multifid, and more rigid than as if constantly under water. The figure in Schkuhr admirably represents this kind of leaf. Var. δ. *stagnatilis* is remarkable for its distantly-placed leaves, having an almost orbicular circumscription.

SECT. II. HECATONIA. *Carpella lævia, ovato-subrotunda, in capitulum subrotundum digesta. Radix fibrosa. DC.*

2. *R. Pallasii*; caule repente fistuloso, foliis omnibus petiolatis ovalibus obovatisve cuneatis tripartitis, calyce trisepalo, floribus octopetalis, seminum capitulo spherico, carpellis crassis ovatis glabris rostellatis.—*Schlecht. Animadv. Bot. Sect. 1. p. 15. t. 2. Spreng. Syst. Veget. v. 2. p. 649.*

HAB. On the western shores of extreme Arctic America, beyond Behring's Straits, namely, in the Bays

of Eschscholts and Good Hope; and in the little island of St. George, to the north of the Aleutian Isles. *Chamisso*.—Schlechtendal observes that this plant is like none of the species of *Ranunculus* belonging to this section, and that it is allied to *Ficaria* in its triphylous calyx, and in having more than five petals; but so distinct from all, that it might form a separate genus, were it not for the presence of its nectariferous pore.

3. *R. Flammula*; foliis glabris linearibus lanceolatis subovatisve subintegris, caule declinato plus minusve radicante, pedunculis oppositifoliis, carpellis lævibus.

α. *major*; caule altiore, basi solummodo decumbente radicante, foliis lanceolatis ovatisve inferioribus petiolatis serratis.—*R. Flammula*. *Linn. Sp. Pl. p. 772. Mich. Am. v. 1. p. 321. Pursh, Fl. Am. v. 2. p. 391. Bigel. Fl. Bost. ed. 2. p. 224. Rich. in Frankl. 1st Journ. ed. 2. App. p. 22. De Cand. Prodr. v. 1. p. 32.*

β. *intermedia*; caule repente gracili, foliis anguste lanceolatis superioribus linearibus integerrimis.

γ. *filiformis*; caule longe repente filiformi, foliis remotis linearibus integerrimis.—*R. reptans*. *Linn. Sp. Pl. p. 723. Fl. Lapp. p. 236. t. 3. f. 5. De Cand. Prodr. v. 1. p. 32.*—*R. filiformis*. *Mich. Am. v. 1. p. 320. Pursh, Fl. Am. v. 2. p. 392. Bigel. Fl. Bost. ed. 2. p. 224.*

HAB. α. Canada. *Mr. Goldie*. β and γ. On the gravelly banks of rivers from Canada to lat. 69°. *Dr. Richardson. Drummond. Newfoundland. Mr. Morrison*.—Nothing is more evident than that there exists in Europe, as well as in N. America, a series of varieties, from the small slender creeping *R. reptans* of *Linn.* with linear entire leaves, as figured in the *Fl. Lapp.* of the illustrious Swede, (precisely the *R. filiformis* of *Michaux*.) to the nearly erect, broadly lanceolate, generally serrated-leaved, common appearance of *R. Flammula*. In the more northern parts of British N. America, indeed, the slender creeping varieties are the most common, (as in the alpine parts of Scotland, upon the stony margins of lakes.) I have only received α. from *Mr. Goldie*, gathered in the southern parts of the Canadian possessions. Farther south, in Pennsylvania and Virginia, it appears, according to *Pursh*, to be the only kind found. It is singular that *Dr. Bigelow* should consider it to be introduced in the environs of Boston, where γ. likewise grows, and varying as he says, with oval and lanceolate leaves, which latter would bring it to var. α. It does not appear that any of the varieties are found on the Rocky Mountains, nor to the westward of them. The carpels in all are roundish, sub-compressed, glabrous, and free from hair, terminated by a short, recurved mucro.

4. *R. Cymbalaria*; stolonifera, foliis radicalibus ovato-cordatis petiolatis obtusis grosse cuneatis glabris, scapo uni-trifloro, petalis oblongis calycem æquantibus, carpellis striatis in capitulum (plerumque) congestis.—*Pursh, Fl. Am. v. 2. p. 392. Bigel. Fl. Bost. ed. 2. p. 225. De Cand. Prodr. v. 1. p. 33. Rich. in Frankl. 1st Journ. ed. 2. App. p. 23.*—*R. salsuginosus*. "*Pall. Iter, v. 3. p. 213,*" (according to *Schlechtendal*, because *Pallas* quotes *Amman*.) but not of *De Cand.*?—*R. repens*, flore in caule singulari, foliis varie sectis. *Amm. Ruth. p. 81. t. 13. f. 2.*

β. *alpina*; minor, foliis apice tridentatis, scapo unifloro.—*R. halophilus. Schlecht. Animadv. Bot. Sect. 1. p. 23. t. 4. f. 1.?*

HAB. Common in moist shady places, from Canada to near the Arctic Sea, lat. 68°, and from Hudson's Bay to the summits of the Rocky Mountains. *Dr. Richardson. Goldie. Douglas. Drummond. Morrison.*—A very singular plant, first detected by *Pursh* near the salt works of Onondago, New York. *Dr. Torrey* has

* *Pursh* considers the synonym of this author, I know not upon what authority, to belong to *R. pusillus*.

sent it to me from Long Island, and Dr. Boott from near Salem, Massachusetts, which is perhaps its farthest limit south. Amman's figures, from Siberian specimens, are admirably characteristic of our plant, which scarcely varies but in its greater or less size, and in the greater or lesser number of teeth to each leaf. But his and Gmelin's synonym are quoted by Smith, in Rees' Cyclopædia, under *R. saluginosus*; and, certainly, according to Jacquin's figure of *saluginosus*, in *Hort. Vindob.* v. 3. t. 31, (sub. nom. *R. ruthenicus*), it is very closely allied to our *Cymbalaria*. His whole plant is indeed larger, the leaves 3 or 5-toothed at the extremity, and the heads of capsules are globose. The general habit is similar in both; the flowers alike in structure; the carpels are in both distinctly marked with longitudinal elevated lines. The blossoms of ours are about one-third of an inch in diameter. Pursh cannot, therefore, be deemed correct when he says that those of *saluginosus* of Pallas in Herb. Lamb. "are ten times as large."

Again, the more alpine state of our plant, such as it is found by Mr. Drummond upon the Rocky Mountains, (that is, smaller, with rarely more than 3 large teeth at the extremity of the oblong leaves, and with never more than one flower upon the scape,) approaches so near to the *R. halophilus* of Schlechtendal from Siberia, that I can hardly persuade myself that the two plants are distinct. The latter differs, as it appears to me, only in the more cuneate form of its foliage, for as to the teeth, they vary from 3 to 5, which numbers are frequent upon the smaller leaves of the larger variety. Our plant, too, has much affinity with *R. tridentatus* and *nubigenus* of Humboldt; and these, with *R. flagelliformis* of Smith, in Rees' Cyclopædia, seem to form a small and very distinctly marked family. Smith justly compares the runners to those of the garden strawberry.

5. *R. rhomboideus*; pubescenti-hirsuta, foliis radicalibus rhomboideis integris serratis, caulibus palmatis, floralibus profunde laciniatis, calyce patente piloso.—*Goldie in Edin. Phil. Journ.* v. 6. p. 329. t. 11. f. 1. *Rich. in Frankl. 1st. Journ. ed. 2. App. p. 23.*—*R. ovalifolius. Pursh in Herb. Lamb.* (fide Richardson.)

HAB. Lake Simcoe, Upper Canada. *Goldie*. In the central limestone and prairie districts, from Canada to lat. 57°. Common in the western parts of Canada. *Dr. Richardson*.—This species seems to be very constant to its character, nor have I found the slightest variation in any of the root-leaves. The heads of fructifications are rounded. *Carpels* roundish, slightly compressed, glabrous, and smooth, with an extremely short and very imperfect, more or less curved style or mucro.

6. *R. glaberrimus*; foliis omnibus petiolatis, radicalibus subrotundis integerrimis vel grosse tridentatis, caulibus subcuneatis trifidis, calyce patente petalis dimidio brevioribus, fructibus globosis. (TAB. V. A.)

Radix fasciculato-fibrosa. *Tota planta* hirsutie destituta. *Caulis* erectus, subsperithameus, superne uni-biflorus. *Folia* omnia (nisi supernum quod subsessile,) petiolata, subnuculenta: *radicalia* subrotunda, integra, atque omnino integerrima vel apice dentibus tribus grossis obtusis: *caulina* cuneata, fere ad medium trifidum: *segmentis* lanceolatis, obtusis, integris. *Pedunculus* et *calyx* etiam glaberrimi. *Sepala* ovalia, concava, patentia, non reflexa, corolla duplo breviora. *Petala* 5, ovalia, flava. *Fructus*, vix maturus, globosus.

HAB. Common on the mountains around the Kettle Falls, and on the Rocky Mountains, near the limits of perpetual snow. *Douglas*.—This differs from all its congeners by its entirely glabrous stem, leaves, and calyx, by its entire or only 3-toothed, rounded, radical leaves, and by the petiolated, never more than trifid, cauline ones. The whole plant has a succulent appearance, and turns almost black in drying. I have seen it in no collection but that of the indefatigable Douglas.

7. *R. affinis*; foliis radicalibus (plerumque) pedato-multifidis petiolatis, caulibus subsessilibus digitatis, lobis omnium linearibus, caule erecto 1-2 (multi) floro cum calycibus ovarisque (an semper?) pubescentibus, fructibus oblongo-cylindraceis, acheniis rostro recurvo. *Br.* (TAB. VI. A.)

α. petalis calyce duplo majoribus.—*R. affinis*. *Br. in Parry's 1st Voy. App. p. cclxv. Rich. in Frankl. 1st Journ. ed. 2. App. p. 23. Hook. in Parry's 2d Voy. App. p. 384.*—*R. arcticus*. *Rich. in Frankl. 1st Journ. ed. 1. App. p. 741.*

β. petalis calyce subbrevioribus vel nullis, foliisque inferioribus minus profunde divisis.

γ. foliis radicalibus exterioribus rotundatis subintegris.

HAB. Universally spread from Canada to the Arctic Sea, and from long. 93° to the western declivity of the Rocky Mountains, and probably it crosses the whole continent. Cape Mulgrave, in N. W. America. (*Lay and Collie in Captain Beechey's Voyage.*) β. γ. Melville Island, (*Parry*), and shores of the Arctic Sea, between long. 107° and 159°. *Dr. Richardson. Captain Sir J. Franklin. Captain Back. Drummond.*—I feel quite at a loss to determine whether this should be kept distinct from the *R. auricomus* of Europe or not. All the specimens from our arctic travellers quite agree with the character of *R. affinis*, and with the plant which I have received from Melville Island, through the favour of Mr. Sabine, except that the carpels are not always hairy, and the root-leaves in my β. are sometimes almost entire. Yet I must acknowledge that all these coincide with *R. auricomus*, were it not that the pericarps are collected into an oblong head; and this character seems invariable. The lower leaves, except in my var. γ. (which scarcely differs from some of the states of *ovalis* but in its oblong fruit,) are pedato-partite, or multifid, yet with a certain degree of regularity. There are 3 or 5 more or less deep and cuneate segments, and these again are usually trifid; the segments broadly oblong or lanceolate. Upwards on the stem, the leaves become more deeply cut into many long, nearly equal, linear segments. The greater number are quite glabrous, except in the upper part of the pedicels and calyx; but in the var. β. the whole plant is often pubescent or even hoary. I have not myself seen any specimen of the true *R. auricomus* from N. America; but it is said to be a native of the United States.

TAB. VI. A. *R. affinis*, α. and β. *Fig. 1*, Head of pericarps; *fig. 2*, Side view of a pericarp; *fig. 3*, Front view of do.—*magnified*.

8. *R. ovalis*; pubescens, foliis radicalibus cordatis basi truncatis ovalibusque integris rarissime fissis crenatis, caulinis subsessilibus digitatis lobis omnium linearibus, caule erecto multifloro, calyce pubescente corallam æquante, fructibus globosis. (**TAB. VI. B.**)—*Rafin. in Journ. de Bot. 1814. p. 268? De Cand. Prodr. v. 1. p. 43?*

*Tota planta pubescens. Radix fasciculatim fibrosa. Folia radicalia, longe, potiolata, petiolis vaginantibus, cordata, basi truncata vel sæpe fere exacte ovalia, nunc, sed rarissimo, profunde trifida vel etiam palmato-pedatifida, marginæ, superno præcipue, crenata: caulina ad basin ramorum seu pedunculorum subsessilia, profunde palmatim multifida. Flores mediocres, flavi. Calyx membranaceus, subcoloratus, patens, demum reflexus. Corolla calyce paulo brevior. Petala ovalia. Fructus exacte globosus. Cariosides omnino ut in *R. affini*.*

HAB. Alpine prairies among the Rocky Mountains, and about Carlton House, lat. 52° to 55°. *Dr. Richardson. Drummond.*—Allied to *R. rhomboideus*, but of a stouter habit, more hoary aspect, with the leaves arising from the root far more cordate, and occasionally deeply cleft. This species is not at variance with the short character given in *Journ. de Bot. of Rafinesque's R. ovalis*, except that he states the cauline leaves to be lanceolate; by which he means, perhaps, that the segments are so.

TAB. VI. B. *Fig. 1*, Head of pericarps; *fig. 2*, Single pericarp:—*magnified*.

9. *R. brevicaulis*; pubescens, foliis radicalibus omnibus cordato-ovalibus integris, caulinis crenatis palmato-multifidis, caule erecto multifloro foliis multo brevioribus, fructibus globosis, petalis 6. (**TAB. VII. A.**)

HAB. Shores of Lake Huron. *Dr. Richardson. Drummond.*—Mode of growth and general aspect of *R. parnassiaefolius*; the leaves being of nearly the same shape, undivided, on long petioles, so that they rise much above the very short stem and flowers. The foliage, too, is very large in proportion to the size of the plant; yet when we come to compare this species with the preceding one, we shall find that there are many essential characters in common, and that it is probably only a variety of it. There are several specimens, however, in the collection, and there is no variation among them.

10. *R. cardiophyllus*; pubescenti-hirsutus, foliis radicalibus rotundato-cordatis basi sub-profunde emarginatis integris multifidisque, caulinis palmato-multifidis laciniis linearibus inciso-crenatis, calyce patente corolla dimidio brevior, fructibus oblongis. (TAB. V. B. Fig. 1, Pericarp:—*magnified*.)

Tota planta magis minusve pubescenti-hirsuta. Caulis fere pedalis, erectus, strictus, subrobustus. Folia radicalia 3 vel 4, longe petiolata, rotundato-cordata, basi subprofunde emarginata, integra, crenata vel multipartita, laciniis linearibus subintegris; caulina fere sessilia, multipartita. Flores majusculi, aurei. Calyx membranaceus, subcoloratus, patens, corolla duplo brevior. Petala late ovalia, concava, obtusissima. Fructus oblongus. Cariopsides numerosæ, subrotundæ, parvæ, compressæ, stylo uncinato longiusculo terminatæ.

HAB. From Canada to lat. 55°. In the central prairie and limestone districts. *Dr. Richardson. Drummond.* Alpine prairies in the Rocky Mountains. *Drummond.*—Of all this tribe, the present individual is the tallest, stoutest, and has the largest flower. Its radical leaves are more deeply emarginate at the base than any other; yet I dare not positively pronounce it a good species. It may be considered as holding nearly the same relationship with *R. ovalis*, as *R. affinis* does with *auricomus*.

I have more than once, and that in unison with the ideas of my valued friend Mr. Arnott, had the intention of describing the whole of the last four species as different states of *R. auricomus*: but I felt that I should make myself better understood, and create less confusion, by considering them species, or, if the reader please, subspecies, than by enumerating them as varieties. When seen growing by Mr. Drummond, in their respective localities, they appeared to him to be truly distinct; but, at the same time, there are gradations which seem to unite the whole. They all agree in general habit, in the fasciculate-fibrous roots, erect stems, deeply divided cauline leaves or bractes, in the somewhat coloured thin membranaceous erecto-patent, at length reflexed sepals, and in the shape and structure of the carpels: they vary in the divided or entire root-leaves, in the comparative lengths of the petals, and in the rounded or elongated heads of fruit.

To some of these species or varieties, the *R. casubicus* approaches very nearly; but it has a more straggling habit, and the root-leaves are more reniform, the heads of capsules rounded, or nearly so, and with fewer carpels. Many of these are probably included in the numerous varieties of *R. auricomus* of Schlechtendal, who considers it certain that the *R. casubicus* should be united with that plant. One other plant of this groupe yet remains to be described, namely the

11. *R. abortivus*; foliis radicalibus cordato-subreniformibus late ovatisve obtusis crenatis integris vel trisectis, caulinis plerumque tripartitis segmentis linearilanceolatis integris vel incisis, calyce colorato reflexo, fructus capitulo oblongo rotundato.

α. petalis linearibus calyce vix longioribus.—*R. abortivus. Linn.—Pursh, Fl. Am. v. 2. p. 392. Bigel, Fl. Bost. ed. 2. p. 225. Elliott, Carol. v. 2. p. 58. De Cand. Prodr. v. 1. p. 34. Schlecht. Animadv. Sect. 2. p. 10.—R. nitidus. Walt. Fl. Carol. p. 159; (according to De Cand., though Elliott refers that to *R. sceleratus*;) not of Muhl. and Elliott. Pursh, Fl. Am. v. 2. p. 392.*

β. petalis calyce pilosiusculo duplo longioribus.

HAB. α. and β. Canada; and to lat. 57°: central limestone and prairie districts, and eastern declivities

of the Rocky Mountains. *Dr. Richardson, Drummond, Mrs. Percival, Mr. Todd, Newfoundland, Mr. Cormack.*—Allied to some states of *R. affinis*, and *R. ovalis*; or, as Schlechtendal well observes, "inter *R. auricomum* and *R. sceleratum* media, ab utroque autem toto cœlo diversa." It is distinguished from the foregoing species by its more delicate and membranaceous texture, by the constantly reflexed calyx, the smaller and narrower petals of a pale yellow colour. Heads of pericarpa globose, or but slightly elongated. Carpels almost entirely glabrous, tipped with a very short style or mucro—a very imperfect one indeed, as described by De Candolle. From the United States, especially from the neighbourhood of Boston, I possess specimens whose germens have a long and a stout recurved mucro, yet in other respects precisely according with our British North American *R. abortivus*.

12. *R. sceleratus*; foliis glabris petiolatis tripartitis, radicalibus lobis trilobatis obtuse subincisis, caulinis lobis oblongo-linearibus integris, floralibus oblongis, calyce reflexo glabro, carpellis minimis in capitulum oblongum dispositis. *Linn.—Engl. Bot. t. 681. Pursh, Fl. Am. v. 2. p. 392. Elliott, Carol. v. 2. p. 59. Bigel. Fl. Bost. ed. 2. p. 225. De Cand. Prodr. v. 1. p. 34.—Hecatonia palustris. Lour. Coch. p. 371. De Cand. Syst. Veget. v. 1. p. 227.*

HAB. Flooded gravelly banks of rivers, from Canada to lat. 67°. *Dr. Richardson, Douglas, Drummond.*—Almost entirely glabrous. Schlechtendal indeed mentions a pubescent variety. The species is constant in the form of its radical leaves, cut and divided in a regular manner, in the very leafy stem, the small pale flower, in the oblong compact head of numerous very small rounded carpels, which have scarcely any style, and are furnished with a distinct margin along the back.

13. *R. Purshii*; fluitans, caule elongato, foliis submersis capillaceo-multifidis, emersis reniformibus 3-5-partitis, lobis varie sectis, sepalis reflexis corolla duplo brevioribus, fructu subgloboseo, stylo recto ensiformi. (TAB. VII. B.)

α. foliis omnibus capillaceo-multifidis, flore majore, caule fistuloso.—*R. multifidus. Pursh, Fl. Am. v. 2. p. 736. Bigel. Fl. Bost. ed. 2. p. 228. De Cand. Prodr. v. 1. p. 34.—R. fluviatilis. Bigel. Fl. Bost. ed. 1. p. 139. (nec aliorum.)*

β. foliis submersis capillaceo-multifidis, natantibus reniformibus palmato-multifidis. (TAB. VII. B. Fig. 1.)

γ. repens, foliis inferioribus lineari-multipartitis, superioribus reniformibus palmato-multifidis. (TAB. VII. B. Fig. 2.)—*R. Purshii, α.—Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*

δ. repens, foliis omnibus reniformi-rotundatis palmato-tri-quinquefidis. (TAB. VII. B. Fig. 3.)—*R. Purshii, β. Rich. l. c.—R. Gmelini. De Cand. Prodr. v. 1. p. 35. (excl. syn. Schlecht.)—R. Langsdorffii. De Cand. Prodr. v. 1. p. 34.—Ranunculus foliis duplicato-trifidis, caulibus filiformibus declinatis. Gmel. Fl. Sib. v. 4. t. 83. B.*

HAB. Common throughout the eastern and prairie districts, from Canada to near the Arctic Sea; never observed floating in deep water, but sometimes spreading over the surfaces of sphagnous bogs, more generally creeping on mud in very sheltered pools of water, in shady places. β. and γ. Lakes and marshes about Slave Lake, Cumberland House Fort. *Dr. Richardson*; and to the Rocky Mountains. *Drummond*. δ. Bear Lake. *Dr. Richardson*. Bay of Eschscholtz, on the western shore of extreme Arctic America. *Chamisso*.—This aquatic plant has a very similar habit with *R. aquatilis*, and, like it, varies exceedingly in the length of the stems and shape of its leaves, according to its situation in deep or shallow water, in more or less flowing streams, and on the almost dry mud, &c. I possess a series of specimens from the *R. multifidus* of Pursh, (a name that is however pre-occupied by a plant of Forskall,) which is a more southern plant, 2 feet long, thicker in its fistulose stem than a goose-quill, and clothed with none but long capillaceous multi-fid leaves,

to our last mentioned var. which is only 3 or 4 inches in length, with an almost orbicular circumscription to the leaves, having all multifid and linear segments and small solitary flowers, and which seems to be exactly the *R. Langsdorffii** of De Caudolle. Intermediate states possess the natant broad foliage, similar to what is so common on the *R. aquatilis*. Sometimes there is a little pubescence on the stem and leaves. Richardson has well described my varieties γ . and δ . and particularly noticed the remarkable character of the style. Mr. Brown's *R. inundatus*, from New Holland, appears to be allied to this.

TAB. VII. Fig. 1, *R. Purshii*, β ; fig. 2, var. γ ; fig. 3, var. δ : nat. size; fig. 4, Petal; fig. 5, Side view, and fig. 6, Back view of a pistil; fig. 7, Head of pericarps; fig. 8, Single pericarp:—magnified.

14. *R. lapponicus*; foliis glabris, radicalibus longe petiolatis tripartitis lobis dilatatis obtusis grosse dentatis, scapo nunc unifoliato unifloro foliis longiore, calyce 3-sepalo reflexo.—*Linn. Fl. Lapp. t. 3. f. 4. Rich. in Frankl. 1st Journ. cd. 2. App. p. 23. De Cand. Prodr. v. 1. p. 35. Hook. in Parry's 3d Voy. App. p. 121.*

HAB. Mossy woods in the eastern and central districts, and from lat. 50° to the Arctic Sea. *Dr. Richardson*. Mountain swamps; eastern declivity of the Rocky Mountains, lat. 52° to 57°. *Drummond*. Whale Islands in the Arctic Sea. *Lieut. Ross*.—A rare plant; being very alpine or very arctic. The lower part of the stem is filiform, and creeps much under ground, throwing out long, white, fibrous radicles. The scape is sometimes furnished with a single leaf, and this is remarkably the case with the specimens from the coast; and it is so figured by Reichenbach. The calyx consists of 3 sepals, and the corolla of 6 (Schlechtendal says 8) spatulate petals; hence it is allied to the genus *Ficaria*, and, like it, it bears gemmæ or little bulbs. Heads roundish, of few carpels, which are margined. Styles as long as the capsules, flattened at the base, and recurved.

15. *R. hyperboreus*; foliis glabris petiolatis trifidis lobis ovali-oblongis divaricatis, lateralibus subbifidis, medio integro, vaginis basi biauriculatis, caule filiformi repente.—*Rotb. in Act. Hafn. 10. p. 458. t. 4. f. 16. Schlecht. Animadv. Sect. 2. p. 12. De Cand. Prodr. v. 1. p. 35. Brown in Parry's 1st Voy. App. p. cclxiii. Cook. in Parry's 2d Voy. App. p. 4; in Parry's 3d Voy. App. p. 29.—R. Gmelini. Schlecht. Animadv. Sect. 2. p. 35. (non De Cand.)—Ranunculus foliis subrotundis trilobis integerrimis, caule repente. *Gmel. Fl. Sib. v. 4. p. 204. t. 83. B. c.**

HAB. Marshes in the Rocky Mountains; lat. 52° to 57°. *Drummond*. Arctic Islands. *Capt. Sir E. Parry. Edwards*. Bay of Eschscholtz, and of Schischmaref. *Chamisso*.—Whole plant quite glabrous in the American specimens, hairy in those of Sweden, which I have received from the late Professor C. Smith. Stems creeping. Heads of gemmæ globose, compact. Each *carlopsis* or *carpel* is distinctly margined on the back, and tipped with a very short inconspicuous mucro.

16. *R. pygmaeus*; foliis glabris 3-5 fidis, radicalibus petiolatis, caulino sessili, caule 1-floro, calyce glabro petalis longiore subreflexo, carpellis subrotundis stylo adunco brevi

* Whilst writing this paragraph, I had the pleasure to receive a letter from Mr. Arnott, dated St. Petersburg, who assures me, that on referring to Gmelin's Herbarium, in the Museum of the Academy of that city, he finds the plant which corresponds with Tab. 83. B. of the "Flora Sibirica" to be truly our *R. Purshii*, and, he believes, certainly the *Langsdorffii* of De Caudolle. It is equally the *R. Gmelini* of De Caudolle, whose only authority is the figure of Gmelin, which he cites. But it is not the *R. Gmelini* of Schlechtendal's *Animadv.* p. 35, for which he refers to *Gmel. t. 83. b. f. e.* (though, from a misprint, it is made 836.) not 83. B. That plant again, (*Gmel. 83. b. f. c.*) Mr. Arnott assures me, is *R. hyperboreus*; and Eschscholtz's plant, likewise quoted, which I possess in my Herbarium, is the same species, *hyperboreus*. *R. Gmelini*, therefore, no longer exists as a species.

mucronatis.—*Wahl. Fl. Lapp. p. 157. t. 8. f. 1. Pursh, Fl. Am. v. 2. p. 393. De Cand. Prodr. v. 1. p. 35. Reichenb. Ic. Bot. t. 2. f. 3, 4, 5. Rich. in Frankl. 1st Journ. ed. 2. App. p. 23. Schlecht. Animadv. Sect. 2. p. 12.*—*R. caule unifloro, &c. var. γ. pygmæus. Linn. Fl. Lapp. p. 187. t. 3. f. 3.*

HAB. Moist grassy places, on the high parts of the Rocky Mountains, in lat. 55°. *Drummond.* Arctic Sea coast, between long. 170° and 140°. *Dr. Richardson.* About Behring's Straits on Chamisso's Island, and on that of St. Lawrence. *Chamisso.*—*Stem* erect, never creeping. *Plant* glabrous. Heads of carpels oblong. *Pericarpis* subglobose, not margined at the back; by which character and the erect mode of growth it may be known from its affinity, *R. hyperboreus.* From *R. nivalis* it is distinguished by its much smaller size, laxer habit, and especially by the minute, inconspicuous flowers.

17. *R. Sabini*; foliis radicalibus elongato-petiolatis tripartitis, lobis ellipticis lateralibus semi-bifidis, caulibus sessilibus tripartitis linearibus, calycibus hirsutis petala retusa subæquantibus. *Brown in Parry's 1st Voy. App. p. cclxiv.*

HAB. Melville Island. *Parry.* Shores of the Arctic Sea, between Mackenzie River and the Coppermine River. *Dr. Richardson.*—I find amongst Dr. Richardson's specimens of *R. pygmæus*, a few individuals of a larger size than the rest, having hairy calyces and larger petals, nearly equalling the sepals in length, and which quite agree with Mr. Brown's *R. Sabini*. They seem indeed almost to form a connecting link between *R. pygmæus* and *R. nivalis*.

18. *R. nivalis*; foliis radicalibus elongato-petiolatis dilatatis lobatis, lobis subovatis, caulibus subsessilibus palmatis, caule erecto sub-unifloro, petalis obovatis integerrimis longioribus calyce hirsutissimo, stylis rectiusculis ovaria glabra æquantibus. *Br.*

α. folia radicalia reniformia alte lobata, lobo medio cuneato-obovato basi angustiore. *Br.*—*R. nivalis. Linn. Sp. Pl. p. 778. Wahl. Fl. Lapp. p. 156. t. 8. f. 3. Schlecht. Animadv. Sect. 2. p. 14. De Cand. Prodr. v. 1. p. 35. Brown in Parry's 1st Voy. App. p. cclxiv. Rich. in Frankl. 1st Journ. App. ed. 2. p. 24.*—*R. caule unifloro, &c. Linn. Fl. Lapp. p. 187. t. 3. f. 2.*

β. folia radicalia basi cuneata vix ad medium lobata, lobo medio semiovato basi latiore, petala orbiculato-obovata calyce hirsutissimo sesquialongiora. *Br.*—*R. nivalis, β. Wahl. Fl. Lapp. p. 157. (excl. syn. Mart. Spitzb.) Brown in Parry's 1st Voy. App. p. cclxiv. De Cand. Prodr. v. 1. p. 35.*—*R. sulphureus. "Soland. in Phipps' Voy. p. 202." De Cand. Syst. Veget. v. 1. p. 274. (excl. syn. Mart. Spitzb., Laxmannii, Willdenovii, et Smithii: fide Br.) Rich. in Frankl. 1st Journ. ed. 1. p. 742. Schlecht. Animadv. Sect. 2. p. 15.*—*R. primus. "Mart. Spitzb. t. 6. f. c."*

γ. folia radicalia basi subcuneata v. transverse alte lobata, lobo medio cuneato-obovato basi angustiore. *Br.*—*R. nivalis, γ. Brown in Parry's 1st Voy. App. p. cclxiv.*

HAB. Lofty parts of the Rocky Mountain chain, lat. 55°. *Drummond.* Copper Mountains and Arctic Sea coast, in muddy pools which become dry during summer, long. 110°. *Dr. Richardson.* Arctic coast, near the termination of the Rocky Mountains, long. 140°. *Captain Sir J. Franklin. Captain Back.* Behring's Straits. *Chamisso.* Kotzebue's Sound. *Lay and Collic in Beechey's Voyage.*—This plant is remarkable for the variable form of its root-leaves, and Mr. Drummond made the remark, which is confirmed by all the numerous specimens collected by him in the Rocky Mountains, that this may be at once discriminated from *R. Eschscholtzii*, by these leaves never rising with the flower, and being only fully expanded after the flowers

are in perfection.* The two are very nearly allied in habit; but *R. nivalis* may always be known by the deep brown and very numerous long hairs which clothe its calyx and peduncle. My specimens of *R. frigidus*, given me by Mr. Prescott, from the Altaic Mountains, scarcely differ from this species, especially the var. β . The leaves are wedge-shaped, crenato-lobate; the petals more or less obtusely emarginate at the extremity, and the nerves are more frequently anastomosing than in *R. nivalis*. But again, one of my Spitzbergen specimens has notched petals, and I fear the peculiarity of the nervation of the petals is not constant. Hence, I should be much inclined to unite them.

19. *R. Eschscholtzii*; foliis ciliatis radicalibus petiolatis, partitionibus lobatis, caule subbifloro, calyce hirsuto petalis brevioribus, carpellis oblique ovatis stylo ipsis brevioribus terminatis. *Schlecht. Animadv. Sect. 2. p. 16. De Cand. Prodr. v. 1. p. 35.*

α . petalis minimis vel abortivis.

HAB. Islands of Unalaska and St. George, N. W. America. *Chamisso*. Near the regions of perpetual snow, on the borders of streams upon the Rocky Mountains, lat. 52° to 56°. *Drummond*.—Schlechtendal has admirably described this species; and his figure differs in nothing from the greater number of our Rocky Mountain specimens, except in being larger and more luxuriant in all its parts. The var. β . above mentioned is indeed as large as the specimens in Schlechtendal's figure, but the petals are abortive. The author of the "Animadversiones" observes that it differs from *R. nivalis* in all the leaves being constantly ciliated, (so they are in our *R. nivalis*,) in those of the root being always tripartite, with the divisions constantly lobed, in the calyx always sparingly clothed with fulvous hairs, and the carpels having the styles shorter than themselves. Mr. Drummond's specimens are all in flower. I have not seen the fruit.

20. *R. pedatifidus*; foliis subpuberulis, radicalibus petiolatis palmatis pedatisve in lobos lineares integros partitis, scapo subnudo erecto uni-bifloro, calyce patente subvillosa. (TAB. VIII. B.)—*Smith in Rees' Cycl. De Cand. Prodr. v. 1. p. 36. Schlecht. Animadv. Sect. 2. p. 18.*

Species quasi media inter *R. nivalem* vel *Eschscholtzii* et specimina parva *R. affinis*! sed ut mihi videtur, omnino distincta. *Radix* e fibris crassinis, subsimplicibus vel solummodo fibrillosis, fasciculatis. *Folia* subciliata et parce pilosa, precipue sub lente; *radicalia* longe petiolata, petiolo basi vaginato, membranaceo, nitido, pallido, pedatim divisa, segmentis palmatis, laciniis lineari-oblongis, obtusiusculis. *Caulis* vel *scapus* plerumque unifolius, digitalis in nostris exemplaribus, folio sessili palmatis profundo diviso, superne, vel *pedunculus*, hirsutus. *Flos* terminalis, solitarius, mediocris. *Sepala* ovalia, valde concava, patentia, extus pilosa, pilis albidis nitidis. *Petala* 5, ovalia, calycem paulo longiora, flava. *Germine* in capitulum subrotundum congesta, ovata, styli paulo brevioribus recurvatis attenuata.

HAB. Barren summits of the Rocky Mountains, on the eastern side of the ridge, lat. 52° to 55°. *Drummond*.—This plant has been well described by Sir James E. Smith, from Siberian specimens, and by Schlechtendal from those gathered by Chamisso, in the Bay of St. Lawrence, on the coast of Kamtschatka. Our plants are from three to four inches in height, offering no variation in the numerous specimens gathered by Mr. Drummond. The species is allied on the one hand to *R. nivalis*, *Eschscholtzii*, and, I may even add, to *R. Sabini*, but differing in the constantly pedatifid leaves; and, on the other hand, I possess some single-flowered specimens of *R. affinis*, which show a great affinity with it. Ripe fruit I have not seen.

TAB. VIII. B. *R. pedatifidus*. Fig. 1, Pistils:—*magnified*.

21. *R. acris*; adpresse hirsutus vel subglaber, foliis 3-5 partitis segmentis profunde

* This, indeed, does not hold good with the arctic specimens, most of which have their connate leaves at the same time with the flowers.

trifidis laciniatis, laciniis lanceolatis acutis summis linearibus, caule multifloro, pedunculis teretibus, calyce patente villosa, carpellis suborbiculatis compressis stylo brevi recurvato terminatis.—*Linn.*—*Smith in Engl. Bot. t. 632. Pursh, Fl. Am. v. 2. p. 394. Bigel. Fl. Bost. ed. 2. p. 226. Schlecht. Animadv. Sect. 2. p. 21. De Cand. Prodr. v. 1. p. 36.*

HAB. Banks of rivers in the central limestone district, and eastern primitive range, from Canada to lat. 58°. *Drummond.*—A very variable plant, generally clothed with silky appressed hairs, and on which some excellent remarks are given in Schlechtendal's "Animadversiones."

22. *R. repens*; foliis ternatis, foliolis plerumque petiolatis trifidis, segmentis cuneatis incisis, sarmentis radicantibus, calyce adpresso, carpellis stylo breviusculo recto.—*Linn.*—*Pursh, Fl. Am. v. 2. p. 394. Smith in Engl. Bot. t. 516. Bigel. Fl. Bost. ed. 2. p. 227. De Cand. Prodr. v. 1. p. 38.*

HAB. Quebec. *Mrs. Shepherd.*

23. *R. hispidus*; caule erecto ramoso petiolisque patentim pilosissimis, foliis longe petiolatis ternatis supremis subsessilibus, foliolis trifidis incisis laciniis lanceolatis apice callosis, calyce hispidus demum reflexo, capitulis globosis, carpellis orbiculatis, stylo breviusculo recto acuminatis.—*Mich. Am. v. 1. p. 321. Pursh, Fl. Am. v. 2. p. 395. De Cand. Prodr. v. 1. p. 39.*

Radix, ut in omnibus fere hujusce sectionis, fasciculato-fibrosa. *Caulis* erectus, palmaris ad pedalem, erectus, ramosus, superne precipue pilis patentibus, hispidissimus. *Folia inferiora, caulina, et radicalia* precipue, petiolata, superiora subsessilia, ternata; foliolis fere omnibus sublonge petiolatis obovatis basi attenuatis, trifidis vel tripartitis, laciniis lato-lanceolatis incisis, apicibus acutis, callosis, nonnunquam distincte, et fere albidis. *Petiolis* hispidi, rarissime glabriusculi, pilis, ut in caule, patentibus. *Pedunculi* plurimi, pilis erectiusculis hispidi. *Calycis sepala* ovalia, parce pilosa, demum reflexa. *Petala* calyce vix dimidio longiora, ovalia, breve unguiculata, flava, venosa. *Pistilla* ovata, stylo vix apice recurvato attenuata. *Capitulum* fructus globosum. *Carpella* majuscula, orbicularia, compressa, distincte marginata, sub lente pulcherrime impresso-punctata, stylo brevi rectiusculo terminata.—Variet petalis calycem longitudine æquantibus.

HAB. Banks of rivers from Canada to near the mouth of the Mackenzie River, lat. 67°; and from the shores of Hudson's Bay to the Pacific. *Dr. Richardson. Drummond. Scouler. Douglas.*—This seems to be a very little known plant, and one that is by no means, in any publication, correctly defined. Schlechtendal has, I think, confounded it with *R. fascicularis* of Muhlenberg, a very different species. Its nearest affinity is unquestionably to *R. Pennsylvanicus*, the *R. Canadensis* of Jacquin; but that has oblong heads of fruit, and a still shorter style.

24. *R. Pennsylvanicus*; caule erecto ramoso petiolisque patentim hispido-pilosis, foliis longe petiolatis ternatis supremis subsessilibus, foliolis trifidis incisis laciniis lanceolatis, calyce patentissimo demum reflexo petalis parvis longiore, capitulis oblongis stylo brevissimo.—*Linn. Suppl. p. 272. Pursh, Fl. Am. v. 2. p. 392. De Cand. Prodr. v. 1. p. 40. Bigel. Fl. Bost. ed. 2. p. 227.*—*R. Canadensis. Jacq. Misc. v. 2. p. 343. Ic. Rar. v. 1. t. 165.*

HAB. Found with the last mentioned species, and it is equally diffused, but generally prefers the exposed moist gravelly spots.—There can be no mistaking this plant, which is admirably figured by Jacquin. How it is to be distinguished from *R. hispidus*, I have noticed under the preceding species; but, except in the fruit and flower, it must be confessed that the two are very closely allied. Carpels dotted in both.

25. *R. nitidus*; glabriusculus, foliis radicalibus longissime petiolatis ternatis, foliolis petiolatis profunde trifidis tripartitisve, segmentis lato-lanceolatis trifidis incisissimis, caulinis supremis sublinearibus integris trifidisve, calyce patente demum reflexo subhirsuto, capitulo subrotundo, carpellis orbicularibus compressis marginatis breviter mucronatis.—*Muhl. Cat.* (non *Walter.*) *Elliott, Carol. v. 2. p. 61.*—*R. septentrionalis. Pursh, Fl. Am. v. 2. p. 395.*?—*R. Carolinianus. De Cand. Syst. Veget. v. 1. p. 292, Prodr. v. 1. p. 40.*

HAB. Abundant on the lower fertile plains of the Columbia, where it attains the height of from $1\frac{1}{2}$ to $2\frac{1}{2}$ feet, extending to the mountain valleys, where it is of humbler growth. *Douglas. Canada. Mrs. Percival.*—Allied to *R. hispidus* and *R. Pennsylvanicus*: but almost quite glabrous in all its parts, and the leaves are of a remarkably thin and membranaceous texture. I have compared it with the *R. nitidus* of Mr. Elliott, whose specimens are from Georgia, and I find it to be in every particular the same. Mr. C. S. Parker finds it on the Ohio; so that, in all probability, it is a general plant in North America.

26. *R. recurvatus*; caule erecto folioso petiolisque patentim villosis, foliis omnibus petiolatis 3-partitis, segmentis ovatis acutis incisissimis, sepalis patentibus demum reflexis pilosis, petalis ellipticis plerumque abortivis, carpellis stylo uncinato.—*Poiret, Encyc. 6. p. 123. Pursh, Fl. Am. v. 2. p. 394. De Cand. Prodr. v. 1. p. 39. De Less. Ic. v. 1. t. 41.* (excellent.) *Schlecht. Animadv. Sect. 2. p. 28.*

β. Nelsonii, foliorum lobis approximatis, pedicellis adpresse pilosis folii longitudinis.—*De Cand. Prodr. v. 1. p. 40.*

γ. caule foliisque glabriusculis.

HAB. Labrador. *Herb. Banks.* Mouth of the Columbia, *Douglas, Scouler*; near the source of that river, and on the eastern declivity of the Rocky Mountains, lat. 52° to 55° , in woods and shady places. *Drummond. β. Unalashka. Nelson. γ. Mountain woods, north of the Smoking River. Drummond. Canada. Todd.*—Flowers, generally, as figured by De Lessert, with abortive petals. Mr. Douglas's specimens from the North-West coast have the petals thrice as long as the calyx. The style varies in length, but is always recurved. The carpels compressed, margined, minutely dotted. The leaves, stems, and petioles very variable in hairiness. Peduncles, too, sometimes very short, so that the flowers are hid among the foliage; at other times much elongated.

27. *R. fuscicularis*; appresso-pilosus, caule subramoso brevi, foliis longe petiolatis ternatis quinato-pinnatisve, segmentis oblongo-obovatis cuneatisve pinnatifido-lobatis, calyce patente villosis petalis duplo brevioribus, capitulis rotundatis, carpellis subrotundis compressis, stylo subaeque longo recurvato. (TAB. VIII. B.)—*Muhl. in Bigel. Fl. Bost. ed. 2. p. 226. De Cand. Prodr. v. 1. p. 411. Schlecht. Animadv. Sect. 2. p. 31.*

α. magis hirsutus.

HAB. Canada, to the south end of Lake Winipeg. *Cleghorn. Dr. Richardson. Drummond.*—A very distinct species, in habit most allied to *R. bulbosus*, especially in the leaves being much more compound than is usual in this genus. Root densely fasciculated, throwing up from its crown many leaves and stems, the latter scarcely exceeding the former in length, and both pubescent or pilose, with appressed hairs. In some of Dr. Torrey's specimens from New York, the outermost leaves are simply 3-lobed; in Dr. Boott's plants, from near Boston, the very outermost of the radical leaves are ternate, with obovate and somewhat incised leaflets; but in most instances these leaflets are again deeply divided, the middle always much petiolate, and itself often ternately divided, so that the whole leaf is pinnate, with four lateral and one terminal (always petiolated) leaflets, and these variously cut, and divided; those of the stem are generally situated on long petioles. The petals are as variable as the leaves, obovate, oval, and oblongo-elliptical,

mostly 5, but sometimes 6 or 7. Carpels large, collected into a globose head, roundish, or inclining to obovate, compressed, quite glabrous, marginated, the margin tapering upwards into a recurved filiform style, flat, broad, and membranous at the base, about equal in length with the carpel.

Dr. Bigelow, or Muhlenberg in Bigelow's Flora of Boston, is the authority for *R. fascicularis*; and our Canadian specimens in every particular agree with those I have received from Dr. Bigelow and Dr. Boott, from Boston. Schlechtendal appears to have seen quite another plant in Willdenow's Herbarium, under this name, which he has figured in his "Animadversiones," and our specimens of the following species so entirely agree with it, that I have ventured to consider them the same.

28. *R. Schlechtendalii*; patente-pilosus, caule subramoso brevi, foliis longe petiolatis cordato-reniformibus tripartitis, lobis obovatis trifidis laciniatisve, sepalis pilosis patentibus demum reflexis corolla brevioribus, stylo germinibus subæque longo.—*R. fascicularis*. *Schlecht. Animadv. Sect. 2. p. 30. t. 2.*

Radix fasciculatim fibrosa. *Caules* spithamæi, 2, 3, vel 4 ex eadem radice, superne ramosi, parce foliosi, pilosi, pilis patentibus, versus basin etiam reflexi. *Folia* subhirsuta, ciliata, omnia petiolata, mollia; *radicalia* petiolis longissimis; *omnia* (nisi in summitate caulis, ubi lanceolata trifida vel subintegra,) cordata vel reniformia, tripartita, segmentis obovatis, lateralibus bilobis, lobis bi-trifidis, intermedio trifido, laciniis acutis. *Flores* majusculi. *Sepala* membranacea, patentia, demum reflexa, petalis breviora. *Petala* obovata, lineata. *Fructus* non vidi, sed pistillorum *stylus* longiusculus, subcurvatus.

HAB. Eastern declivity of the Rocky Mountains, between lat. 52° and 55°, in rich soils: plentiful. *Drummond*.—This plant agrees in every particular, as far as I can judge without fruit, with the description and figure above quoted of Schlechtendal's *R. fascicularis*, except that his figure represents a slenderer plant, and one of the leaves has the middle lobe petiolated, and the calyx not reflexed. The rest of the foliage, the flowers, the patent hairs, the fasciculated root, and whole habit entirely correspond.—The species likewise approaches in habit luxuriant states of *R. Eschscholtzii*, but the leaves and stalks of *R. Schlechtendalii* are always hairy, and its calyx is never clothed with fulvous hairs.

29. *R. bulbosus*; foliis longe petiolatis ternatis quinato-pinnatisve, foliolis tri-quinquepartitis, laciniis trifidis vel incis, caule erecto basi bulboso, calyce reflexo, petalis obcordatis brevioribus.—*Linn. Sp. Pl. p. 778. Pursh, Fl. Am. v. 2. p. 398. Engl. Bot. t. 15. De Cand. Prodr. v. 1. p. 41.*

HAB. Canada. *Lady Dalhousie. Newfoundland. Mr. Morrison.*

30. *R. orthorhynchus*; appresso-pilosus, caule erecto gracili superne ramoso et subfolioso, foliis radicalibus petiolatis ternatis, foliolis lineari-multifidis apicibus albo-callosis, calyce reflexo, stylo carpellis longiore recto stricto. (TAB. IX.)

Radix fasciculatim fibrosa, fibris crassis, descendentes. *Tota planta* pilis sparsis, arcte appressis, rigidis tecta. *Caulis* pedalis ad sesquipedalem, erectus, gracilis, superne dichotome ramosus, ad divisiones ramorum foliosus, ceteroquin nudus. *Folia* plerumque radicalia, sublonge petiolata, circumscriptione ovata, ternatim-pinnatifida, foliolis in laciniis plurimis, linearibus, acutis, apicibus callosis, pinnatifidis partitis: *Caulina* sessilia, laciniis magis angusta. *Pedunculi* graciles, elongati. *Calyx* sepalis ovalibus reflexis, corolla duplo brevioribus. *Petala* ovalia, flava, majuscula. *Capitula* subrotunda, laxa. *Carpella* late semi-ovata, compressa, miute punctata, marginata, stylo vel rostro carpellis longiore, recto, stricto, sensim attenuata.

HAB. Not unfrequent on the low points of land near rivers, in North-West America. *Douglas*.—This most distinct and interesting species of *Ranunculus* is remarkable for the deeply cleft segments of its leaves, and their linear lobes, which rather resemble those of some species of *Anemone*, or of *Papaver nudicaule*, than any of the North American kinds of *Ranunculus*.

TAB. IX. *R. orthorhynchus*. Fig. 1, Capsule:—magnified.

8. CALTHA. Linn.

Cal. coloratus, 5-sepalus, sepalis suborbiculatis, petaloideis. *Petala* 0. *Stam.* plurima. *Ovaria* 5-10. *Capsula* 5-10, compressæ, patentes, 1-loculares, polyspermæ.—*Herbæ perennes, glaberrimæ. DC.*

1. *C. palustris*; caule erecto, foliis orbiculato-cordatis reniformibusve crenatis, lobis obtusis, sepalis 5-6 ovalibus.—*Linn.—Mich. Am. v. 1. p. 324. Pursh, Fl. Am. v. 2. p. 390. Bigel. Fl. Bost. ed. 2. p. 221. Rich. in Frankl. 1st Journ. ed. 2. p. 24.*

HAB. Throughout Canada, in the plains; frequent. Labrador. *Mr. Morrison.* Columbia. *Dr. Scouler.*

2. *C. asarifolia*; caule suberecto unifloro, foliis cordato-reniformibus crenatis, sinu obtusis, sepalis 6-7 ovalibus.—*De Cand. Syst. Veget. v. 1. p. 309, Prodr. v. 1. p. 45.*

HAB. Unalashka, and the Aleutian Isles. *Herb. Banks.*—Too near, I fear, to the *C. palustris*, which is avowedly a very variable plant.

3. *C. biflora*; caule unifolio bifloro, foliis radicalibus petiolatis reniformibus crenatis, sinu latissimo, sepalis oblongis.—*De Cand. Syst. Veget. v. 1. p. 310, Prodr. v. 1. p. 45.*

HAB. Banks' Isles, on the North-West coast of America. *Menzies.*—I have seen no specimens which exactly accord with this, but it seems to me too nearly allied to the following species.

4. *C. leptosepala*; caule erecto plerumque unifloro, foliis longe petiolatis cordatis crenatis, sepalis 8-10 oblongis. (TAB. X.)—*De Cand. Syst. Veget. v. 1. p. 310, Prodr. v. 1. p. 45.*

Radix fasciculata, e fibris numerosis, crassiusculis, longis, descendentibus. *Caules* palmares vel spithamei, erecti. *Folia* pauca, 4-5, plerumque omnia radicalis, cordato-rotundata, tenui-membranacea, sinu acutiusculo, margine, apice præcipue, obsolete crenata: *Caulina* nulla vel solitaria, radicalibus similia sed minora. *Petiolii* 2-3 uncias longi, basi membranaceo-vaginata. *Flores* solitarii, vel sæpissime bini in singulo caule. *Sepala* 8-10, elliptico-oblonga, alba, extus subcærulea, siccitate sordido-lutea, reticulatim nervosa. *Stamina* numerosa, pistillis longiora. *Pistilla* 8-10, erecta: *Germen* oblongum: *Stylo* subnullo: *Stigmate* obtuso recurvo.

HAB. North-West coast of America. *Menzies.* Alpine swamps in the Rocky Mountains, between lat. 52° and 55°. *Drummond.*

TAB. X. Fig. 1, 2, *Caltha leptosepala*:—*nat. size*; fig. 3, Petal; fig. 4, Stamen; fig. 5, Pistils; fig. 6, Single pistil:—*magnified.*

5. *C. natans*; caule procumbente natante, foliis cordato-reniformibus crenatis, lobis subapproximatis postice obsolete crenatis antice dentatis, sepalis ovalibus, capsulis rostro recto. *DC.*—" *Pall. It. ed. min. 3. p. 248.*" *Gmel. Fl. Sib. v. 4. p. 192. t. 82.*

HAB. Creeping on the surface of deep sphagnous bogs, in the woody central districts from Canada to lat. 60°; rare. *Dr. Richardson. Drummond.*—Flowers of nearly a pure white, according to Dr. Richardson, and less than half the size of *C. palustris*. The specimens of this in the Herbarium are very imperfect, and I must confess that it appears to me an obscure species; indeed the greater number of species in this genus are but imperfectly characterized.

6. *C. arctica*; caule repente, foliis reniformibus crenato-repandis obtusis, folliculis (12-16) imbricatis, stigmate persistente adnato apice recurvo, antheris linearibus viginti pluribus.—*Brown in Parry's 1st Voy. App. p. cclxv.*

"Affinitate *C. radicans* accedit; figura foliorum et caule repente convenit cum *C. nantante*, quæ facile distinguenda pistillis stamina longitudine et numero superantibus, in capitulum sphericum dense congestis, stigmatibus rectis simplicibus subsessilibus, antheris ovalibus, floribus albis foliisque aliquoties minoribus, et facie diversissima." *Br.*

HAB. Coast of the Arctic Sea, long. 107° to 150°. *Dr. Richardson. Captain Sir John Franklin and Captain Back. Melville Islands. Captain Sir Edward Parry.*

9. TROLLIUS. *Linn.*

Cal. coloratus, 5-10-15 sepalus, sepalis deciduis, petaloideis. *Pet.* 5-20, parva, basin versus perforata, 1-labiata. *Stamina* ovariaque plurima. *Capsulæ* plurimæ, sessiles, subcylindraceæ, polyspermæ.

1. *T. americanus*; sepalis 5-10 patentibus obtusis, petalis 10-15 staminibus brevioribus. —" *Muhl. Cat. 54.*" *De Cand. Prodr. v. 1. p. 46. Bot. Mag. t. 1988.*—*T. laxus. Salisb. in Tr. Linn. Soc. v. 8. p. 303. Pursh, Fl. Am. v. 2. p. 391. Bigel. Fl. Bost. p. 224.*

HAB. Alpine rivulets on the eastern declivity of the Rocky Mountains, between lat. 52° and 55°. *Drummond.*—This, as all the other species of *Trollius*, is glabrous, erect, and perennial, with both radical and cauline leaves petiolate and palmate, the segments multifid. The flowers are terminal. The sepals (petals of *Linn.*) so spreading, that the species ill deserves the generic appellation of *Globe Flower*; usually in the wild state about five in number; but in cultivation ten are sometimes observable. *De Candolle* describes them of a yellow colour, and the *Bot. Mag.* represents them of a pale sulphur, tinged with red externally. In the specimens found in the Rocky Mountains, *Drummond* affirms the blossoms to be white. The petals (nectaries of *Linn.*) are shorter than the stamens, and from ten to fifteen in number, which character principally distinguishes this from the closely allied species *T. patulus*, in which the petals are from one to five. In *T. asiaticus*, the sepals are also somewhat patent, but the petals are much longer than the stamens.

10. COPTIS. *Salisb.*

Cal. 5-6-sepalus, sepalis coloratis, petaloideis, deciduis. *Pet.* parva, cucullata. *Stam.* 20-25. *Capsulæ* 6-10, longe stipitatæ, substellatæ, membranacæ, ovato-oblongæ, stylo acuminatæ, 4-6 spermæ. *DC.*

1. *C. trifolia*; foliis 3-foliolatis, foliolis cuneato-rotundatis lobatis mucronato-crenatis, scapo unifloro.—*Salisb. in Tr. Linn. Soc. v. 8. p. 305. Pursh, Fl. Am. v. 2. p. 390. De Cand. Prodr. v. 1. p. 47. Rich. in Frankl. 1st Journ. ed. 2. p. 25.*—*Helleborus trifolius. Linn. Amæn. v. 2. p. 355. t. 4. f. 18. Mich. Am. v. 1. p. 325.*

HAB. Canada, and thence to lat. 58°, in dry, sandy, and mossy places. Labrador. *Mr. Morrison.*—The roots afford an agreeable stomachic bitter infusion, and are used by the natives to dye yellow. *Richardson.*

2. *C. asplenifolia*; foliis biternatis, foliolis pinnatifidis acutissime serratis, scapo bifloro, capsulis brevi-acuminatis. (TAB. XI.)—*Salisb. in Tr. of Linn. Soc. v. 8. p. 306. Pursh, Fl. Am. v. 2. p. 391. De Cand. Prodr. v. 1. p. 47.*—*Thalictrum japonicum. Thunb. in Tr. Linn. Soc. v. 2. p. 377. De Cand. Syst. Veget. v. 1. p. 187.*—*Didynamista salviæ similis. Thunb. Fl. Jap. p. 364.*

Radix horizontalis, crassiuscula, ramosa, ramis subfasciculatis, ubique radículas fibrosas proferens, superne squamosa. *Folia* pauca, 3-6, radicalia, longe petiolata, glaberrima, nitida, biternata; foliis subunciam longis, subpinnatifido-incisis, acutissime serratis. *Scapus* foliis brevior, demum valde elongatus, erectus,

striatus, glaber, superne bifidus, biflorus. *Bractea setacea*, plerumque ad basin pedicellorum. *Flores* parvi, albi. *Calycis sepalis* 5, lineari-lanceolata, glabra, reflexa. *Petala* 5, longissima, angusta, filiformia, medium versus dilatata, et ibi concava, cucullata. *Stamina* subdecem. *Filamenta* breviuscula, flexuosa. *Anthera* subglobosa, compressa, connectivo lato, loculis subreniformibus opposita. *Pistilla* 8-10, sessilia: *Germe* oblongum, curvatum, stylo attenuatum: *Stigma* lineare, recurvum, papillosum. *Capsula* 6-10, longe stipitata, stipitibus subpubescentibus, oblongo-ovate, styli basi brevi persistente acuminata, membranacea, inflata, supra planis, binervis, nervo centrali duplici, nervis lateralibus non ad apicem attingentibus, inferne gibbosa, nervo medio longitudinali; superne ad apicem rima longitudinali dehiscentes, polysperma. *Semina* receptaculis suturalibus, parte superiore capsulae inserta, pendentes, 8-10, oblongae, fuscae.

HAB. North-West coast of America. *Menzies*. *Douglas*. Observatory Inlet. *Scouler*.—There can be no question of the correctness of Mr Salisbury in referring this curious plant to the genus *Coptis*. It has altogether the same habit, and its fruit is equally elevated upon long stalks. The shape of the fruit in both species is, indeed, not unlike that of *Buxbaumia aphylla*. In the present individual, however, there are, besides the superior sutural double nerve, and the lower dorsal one, two lateral nerves, not reaching to the point, and they constitute the margin of the upper or plane surface. The flowers are very different in the two; the calyx in *C. asplenoides* being much smaller than in *C. trifolia*, and always reflexed. The petals are exceedingly long and slender, very different in shape and texture from those of the other species.

TAB. XI. *Fig. 1*, Plant in flower; *fig. 2*, Plant in fruit:—*nat. size*; *fig. 3*, Single flower; *fig. 4*, Anther; *fig. 5*, Pistil; *figs. 6, 7*, Capsules; *fig. 8*, Section of a capsule:—*magnified*.

11. AQUILEGIA. Linn.

Cal. 5—sepalus, deciduus, colorato-petaloideus. *Petala* 5, superne hiantia, bilabiata, labio exteriori magno plano, interiore minimo, deorsum producta in calcaria totidem cava, apice callosa inter sepala exserta. *Ovaria* 5. *Capsulae* totidem, erectae, polyspermae, stylis acuminatae. *DC.*

1. *A. brevistyla*; subpubescens, calcaribus incurvis limbo brevioribus, stylis brevibus inclusis, staminibus corolla subbrevioribus.—*A. vulgaris*? *Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*

Caulis foliaque fere omnino ut in *A. vulgare*. *Flores* duplo minores, caerulei, plerumque pubescentes. *Calycis sepalis* ovato-lanceolata. *Petalorum* Calcar apice solummodo incurvum, clavatum, limbo brevius. *Stamina* corolla subbreviora, exteriora basi membrana aucta, interiora omnino membranacea, lineari-oblonga, acuta, antheris destituta. *Pistilla* 5. *Germina* lineari-cylindracea, pubescentia, in stylis apice leniter recurvis sensim attenuata, staminibus brevioribus. *Capsulae* 5, unciam longae, stylo brevi vix duas lineas longo terminate.

HAB. Western parts of Canada. *Drummond*. As far north as Bear Lake. *Dr. Richardson*.—Well distinguished from *A. vulgaris*, which is its nearest affinity, by the smaller flowers and much shorter styles; and from the *A. caerulea* of Dr. Torrey, in his account of Plants from the Rocky Mountains, by its shorter spurs to the corolla, which are curved at the apex. It was detected by Dr. Richardson during the first Expedition, and doubtfully referred to *A. vulgaris*.

2. *A. canadensis*; glabra, calcaribus rectis limbo longioribus, staminibus exsertis, stylis setaceis longitudine staminum.—*Linn.*—*Pursh, Fl. Am. v. 2. p. 372.* *Bigel. Fl. Bost. ed. 2. p. 219.* *De Cand. Prodr. v. 1. p. 50.* *Curt. Bot. Mag. t. 246.* *Elliott, Carol. v. 2. p. 20.*

β. hybrida; calcaribus apice incurvis, stylis brevioribus, floribus plerumque purpureis.

HAB. Throughout Canada, from Hudson's Bay to the Rocky Mountains. Abundant at the mouth of the Columbia, especially about Fort Vancouver. *Douglas*. *Scouler*. *β.* Among the Rocky Mountains, between lat. 52° and 55°. *Drummond*.—The stem, which is branched upwards, and the leaves, are quite glabrous,

Flores parvi,
irma, medium
sa. Anthera
ilia: Germen
 6-10, longe
 membranaceae,
 cibus, inferne
 ma. *Semina*

ere can be no
ptis. It has
 fruit in both
 r, there are,
 eching to the
 erent in the
 The petals
 scies.

4. Anther;

ata, labio
 lem cava,
 na, stylis

brevibus
 Journ. ed.

ubescens,
 o brevius.
 ri-oblonga,
 er recurvis
 eas longo

Well dis-
 er styles;
 its shorter
 the first

is, stylis
 st. ed. 2.
 20.

pureis.
 th of the
 between
 glabrous,

glaucous; the radical leaves biternate, leaflets rotundato-crenate, three-lobed, the segments generally bifid and obtuse; those of the stem gradually becoming more simple upward, at length only trifid. Flowers externally of a bright red colour, more or less yellow at the extremities of the petals. The spur is liable to some variation in its relative length and thickness. As the *A. hybrida* of Sims (Bot. Mag. t. 1221,) is justly considered to be the offspring of *A. vulgaria* and *A. canadensis*, so is the present of *A. brevistyla* and *canadensis*; partaking, however, more of the nature of the latter in the general shape and large size of the flower and comparative length of the spur, and showing its affinity with the former in its pubescent leaves and stem, and in the colour of its inflorescence.

12. DELPHINIUM. Linn.

Cal. deciduus, petaloideus, irregularis, sepalo nempe superiore in calcar deorsum producto. Petala 4; 2 superiora basi in appendicibus intra calcar contentis producta. DC.

1. *D. exaltatum*; petiolis basi non dilatatis, foliis ultra medium 3-5-7 fidis, lobis cuneiformibus 3-fidis laciniatisve acuminatis, racemo stricto, calcare recto longitudine calycis.—*Ait. Hort. Kew. ed. 1. v. 2. p. 244. Pursh, Fl. Am. v. 2. p. 371. De Cand. Prodr. v. 1. p. 54. Elliott, Carol. v. 2. p. 19.—D. tridactylum. Mich. Am. v. 1. p. 314.—D. urceolatum. Jacq. Coll. v. 1. p. 153. Ic. Rar. v. 1. t. 101.—D. intermedium? Ait. Hort. Kew. ed. 1. v. 2. p. 243.—D. alpinum. Waldst. et Kit. v. 3. t. 246.*

HAB. Rocky Mountains, between lat. 52° and 56°. *Drummond.*—I think the above synonyms may with safety be referred to this species. The plant varies sometimes with white flowers, according to Mr. Drummond.

2. *D. simplex*; petiolis basi dilatatis, foliis 3-partitis profunde laciniatis laciniis linearibus cauleque pubescentibus, racemo stricto subsimplici, petalis barbatis, calcare limbo longiore recto.—*Douglas, MSS.*

Caulis erectus, 3-pedalis et ultra, vix ramosus, pubescens. Folia valde pubescentia, tripartito-multifida, laciniis linearibus acutis, foliorum superiorum angustioribus. Petiolus 2-3 uncias longus, basi dilatatus, membranaceus, siccitate sulcatus. Racemus longus, strictus, erectus, rachi pedicellisque velutino-pubescentibus. Flores intense cœrulei. Sepala extus dorso linea longitudinali pilosa. Calcar longum, rectum, subulatum, pubescens, sepalis duplo longius.

HAB. On the subalpine range, west of the Rocky Mountains, near the Columbia; plentiful. *Douglas.*—Allied to *D. azureum, Mich.*, but that has the leaves glabrous, the spikes shorter, and the flowers with a much smaller spur, which is curved upwards.

3. *D. Menziesii*; petiolis basi vix dilatatis, foliis 5-partitis, lobis trifidis linearibus integris, bracteis 3-fidis, radice grumosa.—*De Cand. Syst. Veget. v. 1. p. 355, Prodr. v. 1. p. 54. Bot. Reg. t. 1192.—D. tuberosum. Menz. MSS.*

HAB. North-West coast of America. *Menzies. Kotzebue's Sound. Capt. Beechey's Collection.* Common under the shade of solitary pine trees, at Puget Sound, the Columbia River, and in California. *Douglas.*—M. De Candolle well observes how nearly this species approaches to *D. pentagynum*, a native of the South of Spain and North of Africa; scarcely differing but in its tuberous roots. To me also it appears to resemble too much the *D. tricornis*.

13. ACONITUM. Linn.

Cal. petaloideus, irregularis, deciduus vel marcescens, sepalo nempe superiore concavo, cassidæformi. Petala 2 superiora (cuculli, nectaria,) longe unguiculata, apice in saccum expansa, sub galea recondita.—Folia palmatisecta. DC.

1. *A. Napellus*; floribus dense spicatis vel laxè paniculatis, galea semicirculari raro naviculari, sacco cucullorum subconico, calcare brevi crasso inclinato, alis staminum cuspidatis vel evanescentibus, foliorum lobis cuneatis pinnatisectis, ovariis 3 raro 5 glabris vel pilosis. DC.—Linn. Sp. Pl. p. 751. Seringe, Mus. Helv. 1. p. 162. t. 15. f. 41, 42, 50. De Cand. Prodr. v. 1. p. 62.

β. delphinifolium. *A. delphinifolium*, α. americanum. De Cand. Syst. Veget. v. 1. p. 380. Reichenb. Monogr. Acon. t. 9. f. 1, 2, 3. Fjerd. Illustr. t. 42.

HAB. β. Sledge Island, on the North-West coast of America. Nelson. Menzies. About Behring's Straits, as far north as lat. 66° 13'. Chamisso. Cape Mulgrave and Kotzebue's Sound. Capt. Beechey's Collection. Moist mountain prairies, in the Rocky Mountains, between lat. 52° and 56°. Drummond.—This is one of the innumerable varieties mentioned by M. Seringe in De Candolle's *Prodromus*, and which are figured by Reichenbach as so many distinct species. Our plant from the Rocky Mountains is certainly identical with that found by Nelson in Sledge Island, and is principally distinguished by the raceme of flowers being more lax and flaccid than in the common states of *A. Napellus*. *A. Chamissonianum* and *A. semigaleatum* of Reichenbach, do not seem to differ from this state of the plant, which in some points approaches closely to *A. biflorum* of Fischer, in which, however, the upper part or bag of the nectary or entellus is very different, being large, round, very obtuse, and without a spur.

2. *A. nasutum*; nectariis erectis, calcare arcuato, galea conica prona, rostro demisso, racemis subpaniculatis, foliorum laciniis latiusculis. Spreng.—Fischer, MSS. Reichenb. Illustr. Ac. t. 9, 10.—A. Cammarum. "Bieb. Fl. Taur. Cauc. v. 2. p. 15, v. 3. p. 373."—A. Fischeri. Reichenb. Illustr. Ac. t. 22.

HAB. Near the source of the Wallawallah River, a branch of the Columbia, which rises in the Blue Mountains of North-West America. Douglas.—The figures above referred to are very characteristic of Mr. Douglas's plant, especially the *A. Fischeri* of Reichenbach. This species is found in Kamtschatka, as well as in Siberia and the South of Europe.

14. ACTEÆ. Linn.

Cal. deciduus, 4-sepalus. *Petala* 4. *Carpella* polysperma.

1. *A. cimicifuga*; ovariis 4 subsessilibus villosissimis, racemis paniculatis, foliis ternatis biternatisve sectis, segmentis ovato-lanceolatis inciso-dentatis, carpellis siccis dehiscentibus. DC.—Linn. Amœn. v. 2. p. 354. De Cand. Prodr. v. 1. p. 64.—Cimicifuga foetida. Linn. Syst. Nat. ed. 12. p. 659. Pursh, Fl. Am. v. 2. p. 373. Gmel. Sib. v. 4. t. 70.

HAB. On the North-West coast of America. Pursh.—I have seen no American specimen of this plant, which is very common in Siberia, where its fetid smell has recommended it, as the name implies, for driving away bugs.

2. *A. palmata*; ovariis 12-15 in capitulum subtrotundum collectis, racemis dichotome subpaniculatis, foliis palmatifidis, carpellis siccis dehiscentibus.—De Cand. Syst. Veget. v. 1. p. 383, Prodr. v. 1. p. 64.—Cimicifuga palmata. Mich. Am. v. 1. p. 316. Pursh, Fl. Am. v. 2. p. 373. Elliott, Carol. v. 2. p. 17. Bot. Mag. t. 1630.

HAB. North-West coast of America. Menzies in Herb. nostr.—Stem two or three feet high, with few and distant palmated and serrated leaves, upper ones sessile. Flowers almost corymbose. In habit and in its simple leaves, very different from the other species of the genus, and Nuttall doubts if it may not prove a distinct genus.

3. *A. racemosa*; monogyna, racemis compositis longissimis, carpellis siccis dehiscentibus, foliis biternatis foliolis inciso-serratis.—*Linn. Sp. Pl. p. 722. De Cand. Prodr. v. 1. p. 64.*—*Cimicifuga racemosa. Bart. Phil. v. 2. p. 12. Elliott, Carol. v. 2. p. 16.*—*Cimicifuga serpentaria. Pursh, Fl. Am. v. 2. p. 372.*

HAB. Canada. *Pursh.*—Remarkable for its tall, erect raceme of white flowers. Smell disagreeable. *Pursh* says it is commonly known by the name of *Black Snake-Root*.

4. *A. rubra*; monogyna, racemo simplici hemisphærico, petalis staminibus brevioribus acutis, pedicellis fructus baccati indehiscentis gracilibus.—*Willd. Enum. p. 560. Bigel. Fl. Bost. ed. 2. p. 211.*—*A. brachypetala. De Cand. Prodr. v. 1. p. 65. (excl. var. 2.) Rich. in Frankl. 1st Journ. ed. 2. p. 21.*—*A. americana, ̢. baccis rubris. Pursh, Fl. Am. v. 2. p. 367.*—*A. spicata, ̢. rubra. Mich. Am. v. 1. p. 308.*

HAB. Canada: from Hudson's Bay to the Rocky Mountains, as far north as lat. 60°, in woods. *Dr. Todd. Dr. Richardson. Drummond.*—Distinguished by its roundish or almost hemispherical head of flowers, short petals, and slender pedicels. "Known by the name of *Red Co-hosh*, and considered by the natives as a valuable medicine." *Pursh.*

5. *A. alba*; monogyna, racemo simplici oblongo, petalis stamina æquantibus truncatis, pedicellis fructus baccati indehiscentis insigniter incrassatis.—*Bigel. Fl. Bost. ed. 2. p. 211.*—*A. brachypetala, ̢. De Cand. Prodr. v. 1. p. 65.*—*A. americana, ̢. baccis niveis. Pursh, Fl. Am. v. 2. p. 366.*—*A. spicata, ̢. alba. Mich. Am. v. 1. p. 308.*—*A. pachypoda. Elliott, Carol. v. 2. p. 15.*

HAB. Canada. *Mich.* About Lake Huron. *Dr. Todd.*—Well distinguished as a species, first by *Dr. Bigelow*, then by *Mr. Elliott*, from *A. rubra*. The pedicels are remarkably thickened, as large as the peduncle. The berries milk-white, tipped with red, smaller than in the last species, about 8-seeded, on short red pedicels. *Dr. Bigelow* justly observes that the foliage of these two is exactly similar to that of our European *A. spicata*, with which *Michaux* confounded them. I possess beautiful specimens of both the American species gathered by *Dr. Boott* near Boston, U. S.

15. PÆONIA. *Linn.*

Cal. 5-sepalus, foliaceus, inæqualis. Pet. 5-10, suborbiculata. Stam. plurima. Discus carnosus, ovaria cingens. Carpella 2-5, grossa, stigmatibus bilamellatis crassis instructa, in folliculos capsulares conversa. Semina subglobosa, nitida.—*Radices fasciculatæ; folia caulina biternatim secta; flores ampli, albi aut purpurascetes. DC.*

1. *P. Brownii*; herbacea, carpellis 5 glaberrimis erectis, foliis utrinque glabris biternatis, foliolis ternatim divisim pinnatifidisve laciniatis, laciniis oblongis foliorum inferiorum præcipue obtusis.—*Douglas, MSS.*

Caulis erectus, ramosus, striatus, herbaceus. *Folia* alterna, sublonge petiolata, biternata: inferiora, foliolis circumscriptione, late cuneatis vel flabelliformibus in petiolo gracili sublongo attenuatis, utrinque glaberrimis, trifidis tripartitisve, segmentis bi-trifidis laciniis ultimis oblongis, obtusis: superiora sensim minorâ, foliolis magis angustioribus, pinnatifidis, segmentis magis minusve laciniatis, laciniis omnibus lanceolatis, acutis, minime attenuatis. *Calyx* valde inæqualis, sepalis ovalibus, exteriore simillimo sed minore. *Corolla* (inexpansa) purpureo-rubra. *Carpella* 5, erecta, glaberrima, oblonga, vix apice recurva.

HAB. Near the confines of perpetual snow, on the subalpine range of "Mount Hood," North-West America. 1826. *Fl. June, July. D. Douglas.*

ORD. II. MENISPERMACEÆ. *Juss. DC.*1. MENISPERMUM. *Linn.*

Sepala et *Petala* ordine quaternario bi-seu triseriaria. ♂ *Stam.* 16-20. ♀ *Ovaria* 2-4. *Drupæ* baccatæ, subtrotundo-reniformes, 1-sperma. — Frutices scandentes. *DC.*

1. *M. canadense*; foliis subpeltatis glabriusculis cordatis obtuse angulatis mucronatis, racemis compositis, petalis 8. — *Linn. Sp. Pl.* p. 1408. *Mich. Am.* v. 2. p. 241. *Pursh, Fl. Am.* v. 2. p. 370. *Elliott, Carol.* v. 2. p. 715. *Bot. Mag.* t. 1910. *De Cand. Prodr.* v. 1. p. 102.

HAB. Canada. *Mich.* — Variable in the angles of the leaves.

ORD. III. BERBERIDÆ. *Vent. DC.*1. BERBERIS. *Linn.*

Sepala 6, squamis 3 extus stipata. *Petala* 6, intus biglandulosa. *Stam.* edentula (vel dentibus 2 instructa.) *Bacca* 2-3-sperma. *Semina* 2, rarius 3 ad basin lateraliter inserta, erecta, oblonga, testa crustacea, albumine carnoso, cotyledonibus foliaceis ellipticis, radícula longa, apice capitellata. — Frutices foliis primariis abortivis et in spinam sæpius mutatis, secundariis in axillis fasciculatis. Flores in omnibus flavi. *DC.*

* *foliis simplicibus.*

1. *B. vulgaris*; spinis tripartitis, foliis simplicibus obovatis basi attenuatis ciliato-serratis, racemis multifloris pendulis, petalis integris. — *Linn. Sp. Pl.* p. 472. *Engl. Bot.* t. 49. *De Cand. Prodr.* v. 1. p. 105. *Bigel. Fl. Bost. ed.* 2. p. 128. *Mich. Am.* v. 1. p. 205. — *B. canadensis. Mill.* — *Pursh, Fl. Am.* v. 1. p. 219. *De Cand. Prodr.* v. 1. p. 106.

HAB. Canada. Newfoundland. *Mr. Morrison.* — On comparing specimens from Boston, given to me by Dr. Boott, and others from Newfoundland, gathered by Mr. Morrison, with our European plant, I cannot find the slightest grounds for separating them, even into varieties. The same incorrect idea, too, prevails in the United States as in Europe, respecting the injurious effect of the *Barberry* upon the wheat which grows in its neighbourhood.

* * *foliis impari-pinnatis.* (MAHONIA. *Nutt. DC.*)

2. *B. pinnata*; foliis 3-6-jugis, jugo inferiore a petioli basi distante, foliolis ovato-lanceolatis subdistantibus spinuloso-dentatis uninerviis, racemis erectis, filamentis bidentatis.

α. foliolis sinuato-dentatis undulatis, dentibus paucis. — *B. pinnata.* "Lagas. *Elench. Hort. Madr.* 1803. p. 6." *Humb. et Kunth, Nov. Gen.* v. 5. t. 434. *Don in Bot. Reg.* t. 702. — *B. fascicularis. Bot. Mag.* t. 2396. — *Mahonia fascicularis. De Cand. Prodr.* v. 1. p. 108. *De Less. Ic.* v. 2. t. 3.

β. foliolis obscure dentatis planis subtus glaucis, dentibus numerosis.

HAB. α. Nootka. *Nelson.* β. Junction of the Portage River with the Columbia. *Drummond.* — This species is probably liable to much variation in its foliage. The plants figured in the Botanical Magazine and Register are considerably different in this respect, and that represented by Humboldt has the leaves with more numerous and shorter teeth than either, hence approaching nearer to my var. β., of which the foliage

in a dry state, is of a pale but bright green above, glaucous beneath, and perfectly plane; the teeth frequently reduced to cilia. If I am correct in referring this to *B. pinnata*, (and there is but one specimen in fructification in the collection,) its berries are oval, deep blue. Called by Lewis' Company's people, *Mountain Holly*.

3. *B. Aquifolium*; foliis bi-trijugis, jugo inferiore a petioli basi distante, foliolis ovatis approximatis spinuloso-dentatis basi cordatis uninerviis, racemis erectis confertis, filamentis bidentatis.—*Pursh, Fl. Am. v. 1. p. 219. t. 4.*—*Mahonia Aquifolium. Nutt. Gen. v. 1. p. 212. De Cand. Prodr. v. 1. p. 108.*—*B. repens. Bot. Reg. t. 1176.*

HAB. On the Great Rapida of the Columbia River, among rocks in rich vegetable soil. *M. Lewis*. Common along the coast of the Pacific, from lat. 40° to 49°, and throughout the open woody parts of the Columbia, from its confluence with the sea to its source among the Mountains in lat. 52°, long. 116°. *Douglas, Menzies, Scouler*.—An elegant shrub, 3-6 feet high, and growing most luxuriantly in light sandy soil by the banks of rivers. Berry purple, globular, 2-5-seeded; one or two on the raceme generally abortive, and smaller than the others. Nearly allied to the last, but with broader, more cordate, more rigid, and more waved leaflets, much more crowded upon the rachis. Both have a single nerve, or mid-rib, with several lateral nerves proceeding diagonally from the sides, and these are united by reticulated veins.

4. *B. nervosa*; foliis elongatis 5-6 jugis, jugo inferiore a petiolo distante, foliolis ovato-acuminatis remotis spinoso-dentatis 3-5 nerviis, racemis elongatis, filamentis 2 dentatis.—*Pursh, Fl. Am. v. 1. p. 219. t. 5.* (excl. fig. florum, quæ ad *B. Aquifolium* pertinet.)—*Mahonia nervosa. Nutt.*—*De Cand. Prodr. v. 1. p. 108.*—*M. glutacea. De Cand. Prodr. v. 1. p. 109.*

HAB. First discovered by *Mr. Menzies*, at the mouth of the Columbia. Fort Vancouver. *Scouler*. Common in shady pine forests on the coast of the Pacific, having the same range, from north to south, as *B. Aquifolium*, but it is not found east of the woody country that skirts the coast. *D. Douglas*.—This is well distinguished from both the preceding species by the 3 or 5 nerves springing nearly parallel with each other from the base of the leaflet, which, moreover, altogether wants the close network-like veining of the others. The leaves, too, are much longer, as well as the racemes; and the flowers much larger. Berries deep blue. Bractes, at the base of the peduncles, several, large, convolute, pungent. I retain the name of *nervosa*, in preference to *glutacea*, because it is the oldest and most expressive appellation, notwithstanding that *Pursh* in his plate has figured the flowers of *B. Aquifolium* with the leaves of *nervosa*, thus leading *De Candolle* into the mistake of supposing that his *B. glutacea* was a species distinct from it. The genus *Mahonia* cannot be retained. The teeth of the filaments, which were supposed mainly to characterise it, I have shown to exist equally in *B. heterophylla*, (see *Exotic Flora, t. 14.*); and the glands are present on the petals. Even the simple-leaved species, as they are called, have the leaves jointed upon the footstalk, like the leaf of the Orange, and such a leaf, as is well known, is but a pinnated one, reduced to its most simple state.

2. LEONTICE. Linn.

Sepala 6, extus nuda. *Petala* 6, intus basi squamulam gerentia. *Capsula* vesicaria, 2-4 sperma. *Semina* in fundo capsulæ inserta, globosa.—*Herbæ radice tuberosa, foliis varie sectis, calycibus sæpe coloratis. DC.*

(Div. CAULOPHYLLUM. *Mich.*—*Caps. viz inflata, per maturitatem demum rupta. Semina ideo exserta, interdum baccata. Folium caulinum unicum, sub racemo situm, petiolo ab ipsa basi 3-partito, ramulis tribus, segmenta 3-5 gerentibus. DC.*)

1. *L. thalictroides*; folio caulino solitario, petiolo e basi fere tripartito, segmentis obovatis apice grosse incisus acuminatis.—*Linn. Sp. Pl. p. 448. De Cand. Prodr. v. 1. p. 110.*

—Caulophyllum thalictroides. *Mich. Am. v. 1. p. 205. t. 21. Pursh, Fl. Am. v. 1. p. 218. Elliott, Carol. v. 1. p. 411.*

HAB. Throughout Canada.—Whole plant turns almost black in drying. Berries deep blue, globose, contracted below into a long stipitate base. These are called by the Indians, according to Pursh, *Co-hosh*: and the plant is esteemed medicinal.

3. ACHLYS.

Cal. nulla. *Cor.* nulla. *Flores* nudi, in spicam densam dispositi. *Stam.* plurima. *Antheræ* didymæ, globosæ, subuniloculares, bilabiatae. *Stigma* dilatatum, hinc concavum.

1. *A. triphylla.* (TAB. XII.)—*De. Cand. Syst. Veget. v. 2. p. 35, Prodr. v. 1. p. 112.*—*Leontice triphylla. Smith in Rees' Cycl.*

Radix perennis, oblique descendens, subrepens. *Folia* duo, tria, vel plurima ex eadem radice; omnia radicalia, longissime petiolata, ternata; *foliola* magna, flabelliformia, sessilia, valde inæqualia, lateribus integerrimis, margine superiore grosse sinuato-dentata, dentibus vel lobis obtusis, membranacea, viridia, radiato-nervosa, nervis ramosis, venisque minutis, sub lente visis, pulcherrime reticulatim connexis. *Petiolus* sesquipedalis, etiam bipedalis, glaber, nitidus, basi imbricatim squamosus, squamis late ovatis, obtusis, membranaceis, striatis, fuscis. *Scapus* folio longior, erectus, gracilis, nitidus, omnino aphyllus. *Spica* terminalis, cylindraceo-filiformis, erecta. *Flores* ad basin spicæ remotiores, reliqui densissime approximati, omnino nudi. *Cal.* 0. *Cor.* 0: neque *bractea* neque *perianthium*. *Stamina* numerosa, hypogyna. *Filamenta* filiformia, flexuosa, pistillo longiora: *Antheræ* globosæ, didymæ, loculis dorso distinctis, facie superna connectivo nullo, subuniloculares, in labia 2, transversim, a basi sursum dehiscentes, flavæ, lobis bilobis. *Pistillum*: *Germen* ovatum, glabrum, uniloculare, 1-ovulatum, ovulo globoso, in fundo loculi affixo, erecto. *Stylus* nullus. *Stigma* incrassatum, hinc perforatum vel concavum.

HAB. North-West coast of America. *Mr. Menzies.* In shady pine woods, among moss; common near the shores of the Pacific, about the mouth of the Columbia. *Douglas, Scouler.* Fort Vancouver. (*Mr. Garry.*)—What De Candolle took for petals, in examining this plant, in Sir James E. Smith's Herbarium, I presume must have been stamens, from which the anthers had fallen; for, after the strictest examination, both of young and more advanced flowers, I can find no trace of a floral covering. Sir James E. Smith showed much judgment in referring this plant to *Leontice*, from which it scarcely differs in the flowers, except in there being no floral covering. The structure of the *anthers* is the same in the two, and hence I have removed it from the *Podophylleæ* of De Cand. to the *Berberideæ*, whose stamens have their anthers opening by means of valves. *Jeffersonia*, too, placed by De Candolle in *Podophylleæ*, has equally the cells of the anthera valvular.

TAB. XII. *Fig. 1,* Single flower; *fig. 2,* Back view of a stamen; *fig. 3,* Front view of do.; *fig. 4,* Stamen, with the anther bursting; *fig. 5,* Pistil; *fig. 6,* The same, with the germen cut open to show the ovule:—*magnified.*

4. EPIMEDIUM. Linn.

Sepala 6–8, extus sensim minorâ. *Petala* 4–6, intus appendice discolore aucta. *Cap-sula* siliculæformis, polysperma. *Semina* oblique transversim inserta.—*Herbæ radicibus perennibus, foliis petiolatis multisectis.*

1. *E. hexandrum*; foliis radicalibus bi-triternatis, foliolis cordatis obtuse quinquelobis subpilosis, floribus hexandris, scapo aphylo. (TAB. XIII.)—Caulophyllum gracile. *Douglas, MSS.*

Radix, ut videtur, subrepens, basi incrassata, squamosa, squamis fuscis. *Folia* omnia radicalia, longe petiolata, bi-triternata. *Foliola* sublonge petiolata, cordata, inæqualia, terminali solummodo æquali, obtuse

Hydropeletis.

tri-quinqueloba, tenuis, membranacea, pallide viridia, margine nervisque sub lente pilosa, integerrima, sed subsinuoso-undata, nervosa, ad basin non raro tri-quinquenervia. *Scapus* solitarius, vel duo ex eadem radice, subpedalis, erectus, gracilis, simplex, omnino glaber, apice florifer. *Flores* in racemum laxum dispositi, pedicellis basi minute bracteatis, uni-binnialibus, recurvibus, simplicibus vel furcatis, uno vel duo, raro tres ex eodem puncto, apice incrassatis clavatis. *Calyx*: *Sepala* 8, exteriora parva, interiora sensim majora; omnia ovalia, concava, pallida, membranacea, tenuissima, ante florescentiam decidua. *Petala* 6, insigulter reflexa, oblongo-obovata, apice cucullata, alba, intus appendice spatulata valde concava, flava aucta. *Stamina* 6, recta, petalis opposita: *Filamenta* linearia, plana, extus minute glandulosa: *Antheræ* longe mucronate, loculis lateralibus, valvulis dehiscentibus. *Pistillum*: *Germen* vel *ovarium* oblongum, glandulosum, glandulis rufis, *stilo* subaeque longo attenuatum: *Stigma* capitatum, ad apicem perforatum, subobliquum. *Ovula* unilateralia, in duas lineas imbricatas parallelas approximatas oblique inserta.

HAB. North-West coast of America. *Mr. Menzies*. Common in shady pine woods at Fort Vancouver on the Columbia, Puget Sound, and North California. *Douglas. Scouler*.—This interesting plant has too long lain undescribed in our Herbaria, having been discovered by Mr. Menzies during the Voyage of Discovery of Captain Vancouver. It has again been gathered by Mr. Douglas and Dr. Scouler, and, as far as I know, by no other Botanists. Notwithstanding that the number of the parts of the flower differs from that of our European *Epimedium alpinum*, yet, in all that is essential as regards genus, there is the most perfect accordance. The appendages, or nectaries, to the petals, are much longer and less inflated. Probably some of the smaller *sepalis* would be considered by De Candolle as bractee, for he looks upon the two outer ones in *E. alpinum* as such, but they have all the same insertion, and gradually pass from the smaller into the larger size of the innermost ones.

TAB. XIII. *Fig. 1, 1*, Plant, *nat. size*; *fig. 2*, Bud; *fig. 3*, Flower; *fig. 4*, Stamen; *fig. 5*, Pistil; *fig. 6*, do.; *fig. 7*, The same, with the germen laid open to show the ovules; *fig. 8*, Ovule:—*magnified*.

ORD. IV. PODOPHYLLEÆ. DC.

TRIB. I. PODOPHYLLEÆ VERÆ. DC.

1. PODOPHYLLUM. Linn.

Cal. 3-sepalus. *Petala* 6-9. *Stam.* 12-18. *Ovarium* 1, ovatum. *Stigma* sessile, peltatum. *Bacca* subcarnosa, 1-locularis, indehiscens. *Semina* plurima, placentæ laterali unice carnosæ latæ adfixa.—Herba perennis, foliis peltato-lobatis oppositis, floribus solitariis albis, habitu *Meconopsisidis*. DC.

1. *P. peltatum*; caule erecto bifolio unifloro, fructibus ovatis.—*Linn. Sp. Pl.* p. 723. *Mich. Am. v. 1.* p. 309. *Pursh, Fl. Am. v. 2.* p. 366. *Bigel. Fl. Bost. ed. 2.* p. 215. *Elliott, Carol. v. 2.* p. 14. *Bot. Mag. t. 1819.* *De Cand. Prodr. v. 1.* p. 111.

HAB. Near Montreal. *Mrs. Percival. Mr. Cleghorn.* Lake Huron. *Dr. Todd*.—This plant flowers very early in the year, in March and April, and the fruit ripens in May, whence the name of *May-apple*, given to it by the settlers in North America. The root is medicinal, and employed in lieu of Jalap.

TRIB. II. HYDROPELTIDÆ. DC.

2. HYDROPELTIS. Mich.

Cal. 3-4 sepalus. *Petala* 3-4. *Stam.* 18-36. *Ovaria* 6-18. *Semina* intra pericarpium pendulum, ovato-globosum.—Herba aquatica, undique gelatina viscosissima lubrica, radicibus fibrosis humo adfixa. DC.

1. *H. purpurea*.—*Mich. Am. v. 1. p. 323. t. 29. Bot. Mag. t. 1147. Bigel. Fl. Bost. ed. 2. p. 222. De Cand. Prodr. v. 1. p. 112.*—*Brasenia peltata. Pursh, Fl. Am. v. 2. p. 389.*

HAB. Lakes and pools of water in Upper Canada. *Dr. Richardson, Drummond.*—Remarkable for a viscid gelatine with which the whole plant is covered. *Stems* long, terete, branched. *Leaves* oval, peltate, coriaceous, deeply tinged with purple, as are the stems and flowers. *Peduncles* solitary, each springing from the side of a petiole.—The younger Richard refers this genus and *Cabomba* to the *Monocotyledones*.

ORD. V. NYMPHÆACEÆ. DC.

1. NYMPHÆA.

Sepala ad basin tori. *Petala staminaque* cum toro *carpella* tegente longe adnata, et *bacca* ideo quasi semi-infera cicatrisata.—*Flores amplii, albi, rosei, rubri aut cærulei, nunquam lutei. DC.*

1. *N. odorata*; foliis cordatis integerrimis subtus nervis venisque prominentibus, stigmate 16–20 radiato, radiis erectis apice inflexis. *DC.—Ait. Hort. Kew. ed. 1. v. 2. p. 227. Bot. Mag. t. 819. Pursh, Fl. Am. v. 2. p. 369. Bigel. Fl. Bost. ed. 2. p. 218. Elliott, Carol. v. 2. p. 7. De Cand. Prodr. v. 1. p. 116.—N. alba, Mich. Am. v. 1. p. 311.*

HAB. Pools and sluggish streams, Canada. Abundant about Quebec. Upper Canada. *Dr. Richardson, Drummond. Newfoundland. Mr. Morrison.*—As beautiful and as frequent in N. America as our *N. alba* is in Europe. It varies much in the size of its flowers, and I fear the following, though made a species by De Candolle, is only a variety of it.

2. *N. minor*; foliis cordatis integerrimis, subtus nervis venisque prominentibus, pedunculis petiolisque pilosiusculis.—*De Cand. Prodr. v. 1. p. 116.—N. odorata, s. Pursh, Fl. Am. v. 2. p. 369. Bot. Mag. t. 1652.*

HAB. Canada. *Pursh.*

2. NUPHAR.

Sepala, petala staminaque ad basin tori inserta et ideo *bacca* quasi supera lævis.—*Herbæ aquaticæ; flores lutei. DC.*

1. *N. lutea*; calyce 5-sepalo, stigmate integro 16–20 radiato profunde umbilicato, foliis ovali-cordatis, lobis approximatis, petiolis triquetris acutangulis. *DC.—Smith, Prodr. Fl. Græc. v. 1. p. 381. Pursh, Fl. Am. v. 2. p. 369. De Cand. Prodr. v. 1. p. 116. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*

HAB. Found during the first Journey of *Capt. Sir J. Franklin*, in the wooded country, between lat. 54° and 64°. *Dr. Richardson.*

2. *N. Kalmiana*; calyce 5-sepalo, stigmate dentato 8–10 radiato, foliis cordatis, lobis approximatis, petiolis subteretibus.—*Ait. Hort. Kew. ed. 2. v. 3. p. 295. Pursh, Fl. Am. v. 2. p. 369. Bigel. Fl. Bost. ed. 2. p. 217.—N. Kalmiana. Sims in Bot. Mag. t. 1243.—N. lutea, s. Kalmiana. Mich. Am. v. 1. p. 311.*

HAB. Lakes and ponds throughout Canada. Newfoundland. *Mr. Morrison.*—Whether or not this species is really distinct from the *N. pumila* of Europe, I cannot say. The difference, if any be constant, exists in

the stigma, which, besides being deeper cut in *N. Kalmiana* at the margins, has fewer rays, and these rays are green upon a brown ground. I have represented the pistil of both species in the plate of *N. pumila*, in *Flora Londinensis, New Series*.

3. *N. advena*; calyce 6-sepalo, petalis plurimis staminibus brevioribus, pericarpio sulcato, foliis erectis cordatis.—*Ait. Hort. Kew. ed. 2. v. 3. p. 295. Pursh, Fl. Am. v. 2. p. 369. De Cand. Prodr. v. 1. p. 116. Bigel. Fl. Bost. ed. 2. p. 216. Elliott, Carol. v. 2. p. 8.—Nymphæa advena. Ait. Hort. Kew. ed. 1. v. 2. p. 226. Mich. Am. v. 1. p. 311.*

HAB. Throughout Canada, and as far north as English River, lat. 55° to 56°. *Dr. Richardson*. In lakes and still pools.—*Dr. Graham* and myself have long observed that the *N. advena*, as cultivated in our gardens, has the leaves sometimes floating, sometimes rising above the water. This circumstance depends probably on the vigour of the foliage. Professor Bigelow says, that in northern latitudes, where the roots can only exist in deep water, the leaves float; in southern, where they can live in shallow water, the leaves are always erect.

ORD. VI. SARRACENIÆ. *De la Pylaie.*

CHAR. ORD. Cal. 5-sepalus, persistens; *sepalis* basi concavis, extus involucri triphyllæ etiam persistente stipatus. *Cor.* pentapetala; *petalis* basi contractis, unguiculatis. *Stamina* numerosa, hypogyna, arcte posita, compacta. *Filamenta* breviuscula: *Anthera* dorso affixæ, oblongæ, biloculares, facie superiore e basi sursum vix ad apicem dehiscentes. *Pistillum* unicum, sessile: *Germen* magnum, globosum, longitudinaliter 5-sulcatum: *Stylus* columnaris: *Stigma* maximum, convexum, foliaceum, peltatum, 5-angulatum. *Capsula* globosa, stylo stigmatæque persistente coronata, quinqueloba, quinquelocularis, polysperma, quinquevalvis, valvis loculicidis. *Receptacula* 5, singulum in singulo loculo, ex axi centrali progrediens: semina numerosissima tecta. *Semina* parva, minute tuberculata. *Albumen* copiosum. *Embryo* ad basin seminis versus, cylindricus. *Radicula* ad hilum spectans.

Herba paludosa. Radix fibrosa. Folia omnia radicalia, tubulosa, ad apicem appendiculata, appendice subcassidiformi. Scapus uniflorus. Flos magnus, nutans, viridis, flavus, vel atropurpureus.

1. SARRACENIA. Linn.

Character eadem ac Ordinis.

1. *S. purpurea*; foliis ascendentibus sursum arcuatis, tubo inflato gibbo, ala latissima, appendice lato-cordata erecta.—*Linn. Sp. Pl. p. 728. Mich. Am. v. 1. p. 340. Pursh, Fl. Am. v. 2. p. 367. Sims in Bot. Mag. t. 849. Bigel. Fl. Bost. ed. 2. p. 213. Elliott, Carol. v. 2. p. 10. De la Pylaie in Ann. de la Soc. Linn. v. 6. p. 388. t. 13.*

HAB. Swampy places about Quebec. *Mrs. Percival*. Lake Huron. *Dr. Todd*. Probably common throughout Canada, and as far north as Bear Lake. *Dr. Richardson*. *Drummond*. Newfoundland. *Mr. Morrison*. *M. de la Pylaie*. *Mr. Cormack*.—This curious plant is so well known, even in the gardens of this country, to need any specific description here. But no one, that I am aware of, has ventured upon referring the genus to its place in the Natural method, except *M. de la Pylaie*, in the volume of the *Actes de la Soc. Linnéenne*, of Paris, above quoted. It had often been suggested that its nearest allies were the *Nymphaeaceæ* and the *Papaveraceæ*, in which opinion I quite accord; and hence I have placed the

order between the two, from both of which, however, it is separated by very striking marks of distinction. The structure of the whole flower is indeed most singular, but no part of it so much so as the great peltate foliaceous stigma. In the present species I have examined the seeds with much attention: they are ovate, pale reddish brown, minutely tuberculated, having a sharp keel on their under side, inserted by their narrowest point, upon a large club-shaped, or, rather, an oblong and stipitate receptacle, which stands out from the central column or axis, into the middle of each cell. The albumen is waxy, but granulated. At its base, near the hilum, and with its radicle pointing to the hilum, is a small entirely immersed Embryo, cylindrical, cleft at one extremity into two cotyledons, notwithstanding that De la Pylale did not perceive them. The valves of the capsule open from above, between the cells, whose dissepiments are attached to the centre of each valve and separate from the central axis or column.

ORD. VII. PAPAVERACEÆ. Juss.

1. PAPAVER. Linn.

Sepala 2, convexa, decidua. *Petala* 4. *Stam.* plurima. *Stylus* 0. *Stigmata* 4-20, radiantia, sessilia, super discum ovarium coronantem. *Capsula* obovata, 1-locularis, e carpellis 4-20 in thalami productione membranacea inclusis constans, sub stigmatum corona valvulis brevibus dehiscens. *Placentæ* intervalvulares, intus in dissepimenta incompleta productæ.—Herbæ perennes, succo albo fetæ. Pedunculi ante florescentiam apice inflexi. DC.

1. *P. nudicaule*; capsula hispida obovato-oblonga, sepalis setosis, scapis nudis, foliis pinnatifidis, segmentis oblongo-lanceolatis incisus acutis.—*Linn. Sp. Pl.* p. 725. *Pursh, Fl. Am. v. 2.* p. 366. *Sims in Bot. Mag. t. 1693.* *Hook. in Fl. Lond. N. S. t. 214.*

HAB. Barren grounds of North America, from lat. 64° to the Arctic Sea, in lat. 69°. *Dr. Richardson.* Everywhere upon the shores of that sea, throughout the whole breadth of N. America, and in the islands. *Parry. Franklin. Back. Lay and Collie in Beechey's Collection.* Labrador. *Mr. Morrison.* Upon the Rocky Mountains, at a great elevation, between lat. 52° and 55°. *Drummond.*

2. ESCHSCHOLTZIA. Chamisso.

Receptaculum dilatatum, hypocrateriforme, limbo expanso integro. *Cal.* mitræformis, deciduus. *Cor.* 4-petala, unguibus fauci receptaculi insertis, staminiferis. *Caps.* siliquiformis, bivalvis. *Semina* marginibus valvarum affixa.

1. *E. californica*.—*Cham. in Horæ Phys. Berol. p. 74. t. 15. De Cand. Prodr. v. 3. p. 344.* *Lindl. in Bot. Reg. t. 1168.* *Hook. in Bot. Mag. t. 2887.* *Cham. et Schlecht. in Linnæa, v. 1. p. 554.*

HAB. North-West coast of America. *Menzies.* On the same coast, on the dry sandy banks of streams, in the plains of the River Multnomah, in N. lat. 43°, and southward to the Spanish Possessions.—This, which was, long after its discovery by Mr. Menzies, found by the Russian Expedition under Kotzebue, and described by the Naturalists of that voyage, is now become in a few short years, since the journey of Mr. Douglas in 1824-7, one of the most common and most beautiful ornaments to our gardens. *Leaves* very glaucous, tripinnatifid, the segments linear. *Flowers* large, yellow, not much unlike those of *Glaucium luteum*, with a deep orange spot at the base of each petal. *Stigmata* 4, two longer than the other two. *Seeds* globose, almost black, wrinkled, attached to a rather long seed-stalk.

3. SANGUINARIA. Linn.

Petala 8-12. *Stamina* 24. *Stigmata* 2. *Capsula* oblonga, bivalvis, ventricosa, valvis

deciduis, placentis 2, persistentibus.—Herba Boreali-Americana succo sanguineo fusa, foliis longius basi cuneatis, panicula laxiore, cernua.

1. *S. canadensis*.—Linn. *Sp. Pl.* p. 723. Curt. in *Bot. Mag.* t. 162. Pursh, *Fl. Am.* v. 2. p. 366. Bigel. *Fl. Bost.* ed. 2. p. 214. Elliott, *Carol.* v. 2. p. 13.

HAB. Throughout Canada.—Root a powerful emetic, yielding when bruised a bright orange-coloured fluid, whence called *Blood-wort*. Flower at first embosomed in the young convolute leaf, large, white, and appearing very early in the season. Long after the inflorescence, the reniform or cordate, lobed, and veiny leaves continue to grow.

ORD. VIII. FUMARIACEÆ. DC.

1. DIELYTRA. (DICYLTRA. DC.)

Petala 4, 2 exteriora basi æqualiter calcarata, aut gibbosa. *Siliqua* bivalvis, polysperma.—Herbæ perennes. Flores racemosi, albi aut purpurascetes. DC.

1. *D. cucullaria*; calcaribus 2 rectis divaricatis acutiusculis, scapo nudo, racemo simplici.—*De Cand. Prodr.* v. 1. p. 125.—*Fumaria cucullaria*. Linn. *Sp. Pl.* p. 983. Mich. *Am.* v. 2. p. 51. Pursh, *Fl. Am.* v. 2. p. 462. Sims in *Bot. Mag.* t. 1127.—*Corydalis cucullaria*. Pers.—Bigel. *Fl. Bost.* ed. 2. p. 263.

HAB. Throughout Canada; and common on the subalpine regions of the Blue Mountains, in open woody places, North-West America.—Professor De Candolle makes a variety of this plant with divaricated spurs; but in all my specimens the spurs are divaricated when the flowers are fully expanded. Aptly called in America *Dutchman's Breeches*.

2. *D. formosa*; calcaribus 2 brevibus subincurvis obtusis, scapo nudo, racemo subcomposito, stigmatibus biangulato.—*De Cand. Prodr.* v. 1. p. 125. Elliott, *Carol.* v. 2. p. 177.—*Fumaria formosa*. Andr. *Bot. Repos.* t. 393. Sims in *Bot. Mag.* t. 1355.—*Corydalis formosa*. Pursh, *Fl. Am.* p. 462.

HAB. Nootka Sound. Mr. Menzies. Canada. Pursh.

3. *D. eximia*; calcaribus 2 brevibus subincurvis obtusis, scapo nudo, racemo subcomposito, stigmatibus quadrangulato.—*De Cand. Prodr.* v. 1. p. 126. *Bot. Reg.* t. 50.

β. foliorum laciniis angustis linearibus.—*Corydalis canadensis*. Goldie in *Edin. Phil. Journ.* 1822. p. 330. *De Cand. Prodr.* v. 1. p. 126.

HAB. Nootka Sound, in Banks. Herb. (See Ker in *Bot. Reg.*) β. Canada. Mr. Goldie.—Closely allied as this species is to *D. formosa*, I believe the difference in the stigma will be found constant. *Corydalis canadensis*, which has the flowers white, I am now inclined to consider as a variety of this plant, with the segments of the leaves very narrow.

4. *D. tenuifolia*; calcaribus 2 brevissimis obtusis, scapo nudo uni-trifloro, pedicellis calyce brevioribus, foliis multifidis, lobulis linearibus.—*De Cand. Prodr.* v. 1. p. 126. *De Less. Ic.* v. 2. t. 9. f. 2.—*Corydalis tenuifolia*. Pursh, *Fl. Am.* v. 2. p. 402.

HAB. On the North-West coast of America. Pursh.—A small plant, with proportionably very large flowers. May not Pursh be mistaken in considering this an American species? He describes it from Pallas' plant in the Lambertian Herbarium; and Pallas' plant, according to De Candolle and De Lessert, is from Kamtschatka.

5. *D. lachenaliaefolia*; calcaribus 2 brevissimis obtusissimis, scapo nudo 3-4 floro, pedicellis calyce longioribus, foliis multifidis, lobis linearibus acutissimis.—*De Cand. Prodr. v. 1. p. 126. Cham. et Schlecht. in Linnæa.*—*Fumaria peregrina.* “*Rudolph. in Mém. de l’Acad. de Petersb. v. 1. p. 379. t. 19.*”—*F. tenuifolia.* “*Ledebour, in Mém. de l’Acad. de Petersb. 5. 1815. p. 550. n. 37.*”—*F. cucullaria.* “*Pall. in Herb. Willd.*”

HAB. Islands off the extremo North-West coast of America, in Behring’s Straits. *Pallas. (v. Linnæa, v. 1. p. 557.)*—I have seen no specimens of this plant, nor have I an opportunity of consulting the figure of Rudolph, in the Transactions of the Academy of St. Petersburg. It appears to me that this and *D. tenuifolia* are perhaps too nearly allied to *D. formosa* or *D. eximia*.

2. ADLUMIA. *Rafin.*

Petala 4, in corollam monopetalam basi bigibbosam fungosam persistentem coalita. Siliqua bivalvis, polysperma.—*Herba glauca, et petiolis cirrhosis scandens. DC.*

1. *A. cirrhosa.*—*Rafin. in Desv. Journ. Bot. 1809. p. 169. De Cand. Prodr. v. 1. p. 126.*—*Corydalis fungosa. Vent. Choix, t. 19. Pursh, Fl. Am. v. 2. p. 463. Bigel. Fl. Bost. ed. 2. p. 263.*—*Fumaria fungosa. Willd.*—*F. recta. Mich. Am. v. 2. p. 51.*

HAB. On the borders of Canada. *Mich.* In beech woods. *Pursh.*

3. CORYDALIS. *DC.*

Petala 4, unicum basi calcaratum. Capsula bivalvis, compressa, polysperma.—*Herbæ glabra, sæpe glauca. DC.*

* *Radice tuberosa vel subnigrosa, caule simplici, foliis caulinis paucis alternis.*

1. *C. Scouleri*; folio subsolitario racemo subsimplici longiore tri-quadrifido, foliolis oblique ovalibus oblongisve decurrentibus integris lobatisque, bracteis oblongis pedicello longioribus. (TAB. XIII.)—*C. pæoniaefolia. De Cand. Prodr. v. 1. p. 128. Gmel. Sib. v. 4. t. 33.?*

Radix crassa, subnigrosa, tortuosa, collo squamoso. Folia perpaucâ, 1 vel pluriâ radicalia, 1 vel 2 caulina. Folium caulium inferius maximum, pedale, 3 et non raro 4-pinnatum, ubique glabrum, siccitate nigricans: Pinnis primariis in rachi communi gracili remotis, secundariis etiam distantibus, ultimis vel pinnulis magis approximatis, oblique ovalibus, tenuibus, membranaceis, subtus glaucis, obtusis, basi angustatis decurrentibus, integris, vel iterum magis minusve lobatis partitisve, lobis integerrimis. Folium radicale et caulium superius magis simplicia, multoties minora. Flores pendentes, rosei, unciam ad sesquinciâ longi, in racemum luxum terminalem folio brevioribus, dispositi. Bractee parvæ, oblongæ, glabræ, pedicello longiores. Pedicellus brevissimus, demum post anthesin insigniter decurvus. Cal. 2-sepalus, sepalis parvis, ovatis, appressis, membranaceis. Calcar longe attenuatum, petalis duplo longius, rectum, apice obtusum. Petalum superius acutum, apice recurvum, inferius versus basin subtus gibbosum, apice subtus acute carinatum. Petala lateralia ovalia, concava, unguiculata, dorso carinata, apice subapiculata, et ibi coherentia. Stam.: Filamenta 2, basi dilatata, apice antheras tres gerentia. Germen oblongum; stylus filiformis, germine brevior; stigma capitatum; capitulo apiculato. Capsula immatura deflexa. Semina lateralia, in duas series disposita.

HAB. In dark shady woods of North-West America; plentiful near the confluence of the Columbia with the sea. *Scouler. Douglas.*—This fine species of *Corydalis* has much affinity with *C. pæoniaefolia*, Gmel. Sib. t. 33, (a native of Siberia, but, according to Chamisso, extending its range to the borders of America,) especially in its large woody root, in the general appearance of the flowers, and in the obliquely oval leaflets. But in that species the leaves are much less compound, their alternate divisions larger, the raceme is more compound, and, above all, the pedicels are greatly longer than in our plant, both in a state of flower and fruit.

TAB. XIII. Fig. 1, Flower; fig. 2, Inner and lateral petals; fig. 3, Stamens and pistil; fig. 4, Young fruit:—magnified.

2. *C. pauciflora*; caule simplici exsquamato, foliis caulinis 2–3 infra medium biternatim sectis, segmentis tripartitis, lobis obovatis, bracteis ovatis acutis, racemo conferto paucifloro.—*Pers. Syn. v. 2. p. 269. De Cand. Prodr. v. 1. p. 127. Cham. et Schlecht. in Linnæa, v. 1. p. 560. De Less. Ic. v. 2. t. 9. f. A.*—*Fumaria pauciflora. Steph. in Willd. Sp. Pl. v. 3. p. 861.*—*F. altaica. "Ledeb. in Mém. de l'Acad. de Petersb. v. 5. p. 551."*

HAB. Island of St. Lawrence, in Behring's Straits. *Chamisso.*

* * *Radice fibrosa, caule ramoso, foliis caulinis plurimis alternis. DC.*

3. *C. aurea*; caule diffuso, foliis bipinnatis glaucis, pinnulis pinnatifidis incisisque, segmentis oblongis acutis, bracteis lineari-lanceolatis acuminatis subinciso-denticulatis pedicello longioribus, siliquis teretibus torulosis.—*Willd. Enum. p. 740. Pursh, Fl. Am. v. 2. p. 463. Elliott, Carol. v. 2. p. 178.*—*Fumaria aurea. Curt. in Bot. Mag. t. 66.*

HAB. Throughout Canada to lat. 64°, (*Dr. Richardson*;) in the woody country; extending as far as the Rocky Mountains. *Drummond.*

4. *C. glauca*; caule erecto, foliis bipinnatis glaucis, pinnulis subpinnatifidis, segmentis cuneatis incisis, bracteis oblongis acutis pedicello brevioribus, siliquis linearibus planis vix torulosis.—*Pursh, Fl. Am. v. 2. p. 403. De Cand. Prodr. v. 1. p. 128. Bigel. Fl. Bost. ed. 2. p. 262.*—*Fumaria glauca. Curt. in Bot. Mag. t. 179.*—*F. sempervirens. Linn. Sp. Pl. p. 984.*

HAB. Throughout Canada, as far as lat. 64°. *Dr. Richardson.*

4. FUMARIA. Linn.

Petalum unicum basi gibbum aut calcaratum. Caryopsis indehiscens, 1-sperma, stylo post anthesin deciduo, mutica. DC.

1. *F. officinalis*; sepalis ovato-lanceolatis acutis acute dentatis capsulæ globosæ retusæ vel subcordatæ vix longitudine, bracteis pedicello fructifero bis terve brevioribus.—*Arnott, MSS.*

β. diffusa vel scandens, foliorum segmentis latis glaucis. *Arnott.*—*F. media. De Cand. Prodr. v. 1. p. 130.*—*F. officinalis? Pursh, Fl. Am. v. 2. p. 463.*

HAB. β. Canada, near Quebec. *Mrs. Percival, Newfoundland. Mr. Morrison.*—This variety is often taken for the *F. capreolata*, from which I believe it is really distinct; and I quite agree with my friend Mr. Arnott in uniting it with *F. officinalis*, of which it seems a luxuriant variety.

ORD. IX. CRUCIFERÆ. Juss.

Subord. I. PLEURORHIZÆ (o=). *Cotyledones plana, accumbentes. Radicula lateralis. Semina compressa. DC.*

TRIB. I. ARABIDÆ; seu Pleurorhizæ Siliquosæ. *Siliqua dehiscens, septo lineari seminibus plus minus latiore. Semina ovalia, compressa, sæpe marginata. Cotyledones plana, accumbentes, septo parallela. DC.*

1. CHEIRANTHUS. *Br.*

Siliqua teres aut compressa. *Stigma* bilobum aut capitatum. *Cal.* basi bisaccatus. *Semina* 1-serialia, ovata, compressa (0=). *DC.*

* *Floribus flavis.*

1. *C. capitatus*; subasper, foliis lineari-lanceolatis magis minusve dentatis vel integris basi longe attenuatis cauleque pube bipartita arctissime appressa strigosis, floribus (majusculis) dense corymbosis, "siliquis pedicello triplo longioribus."—*Douglas, MSS.*—*C. asper. Schlecht. et Cham. in Linnæa, v. 1. p. 14.*

Radix, ut videtur, annuus. *Caulis* basi ascendens et ramosus, demum erectus, pedalis et ultra, acute angulatus, tactu subcaber, pube bipartita subanesens. *Folia* remotiuscula, 3-5-pollicaria, patentia, lineari-lanceolata, magis minusve dentata vel integerrima, basi in petiolum longe attenuata, pube bipartita, arctissime appressa, strigosa: *suprema* magis angusta, minus basi attenuata. *Flores* majusculi, in capitulum duas uncias latum dense racemosi, flavi. *Pedicelli* 5-6 lineas longi, appresse pilosi. *Calyx* etiam simili modo pilosus, sepalis linearibus, 2 basi axocatis. *Petala* limbo ovato, ungue sepalis longiore. *Germina* lineare, rectum. *Stylus* crassiusculus, lineam longus. *Stigma* mediocre, capitatum, bilobum, lobis rotundatis. *Siliqua* nostris exemplaribus absunt: sed, *Chamissonis* fide, "15 circiter lin. longæ, lineam late, compressæ; plurimis ovulis abortu haud perfectis, pauca modo aderant semina in quoque loculo; valvule medio nervo extus prominente a basi ad apicem sunt notata. *Stylus* siliquam terminans, brevis, vix semilineares, crassus, stigmatè capitato, indistincte bilobe. *Semina* lineam longum, compressum; *cotyledones* accumbentes."

HAB. Common on rocky places of the Columbia, near the sea; and at Puget Sound. *Douglas. Chamisso* found it on the coast of California.—I regret that I do not possess the fruit of this plant; but there can be no question of the accuracy of Chamisso and Schlechtendal, who assure us that the cotyledons are *accumbent*. It must therefore be separated from *Erysimum*, with the species of which, and especially with *E. lanceolatum*, as is well observed, it bears a very close affinity. It is quite a different plant from the *Erysimum asperum*, De Cand., the *Cheiranthus asper* of Nuttall, and which is also supposed to be the *Erysimum lanceolatum* of Pursh; but I know not upon what authority. I am indebted for specimens to M. de Chamisso, which agree in every respect with those from Mr. Douglas; both are remarkable for the great attenuation of the base of the leaves. It has been found by no other of our North American travellers; but is now cultivated in the gardens of the Horticultural Society, from seeds sent by Mr. Douglas from the Columbia.

** *Floribus purpureis.*

2. *C.?* *Pallasii*; foliis lanceolato-linearibus attenuatis repando-dentatis glabriusculis, caule simplici erecto tereti. *DC.*—*Pursh, Fl. Am. v. 2. p. 136. De Cand. Prodr. v. 1. p. 136.*

HAB. On the North-West coast of America. *Pallas in Herb. Lambert. (ex Pursh.)*—"Flowers dark red, the size of *Cheiranthus Cheiri*." *Pursh.* "Flores fere *Mathiola incana*. Siliqua teretiuscula, stigmatè parvo subcapitato." *DC.*—This seems to agree in some particulars with *Cheiranthus pygmaeus, DC.*, which has *incumbent cotyledons*, and is therefore removed to the NOTORHIZÆ.

2. NASTURTIUM. *Br.*

Siliqua teretiuscula, abbreviata aut declinata. *Stigma* subbilobum. *Calyx* basi æqualis, patens. *Semina* parva, irregulariter biserialia, immarginata (0=). *DC.*

SECT. I. CARDAMINUM. *Pet. alba, calyces majores. Siliqua teretiuscula. Glandulæ 4 ad basin staminum. Semina reticulato-rugosa, cotyled. oblique incumbentibus. (Andrz. in litt.) An genus proprium? DC.*

1. *N. officinale*; foliis pinnatis, pinnis subcordatis repandis, superioribus pinnatifidis, segmentis angustis.—*Br. in Hort. Kew. ed. 2. v. 4. p. 110. De Cand. Prodr. v. 1. p. 137. Cham. et Schlecht. in Linnæa, v. 1. p. 15.—Sisymbrium Nasturtium. Linn. Sp. Pl. p. 916. Engl. Bot. t. 855. Pursh, Fl. Am. v. 2. p. 440. Elliott, Carol. v. 2. p. 145.*

HAB. Island of St. Paul, on the North-West coast of America. *Chamisso. Common on the North-West coast, about the mouth of the Columbia. Douglas. Scouler.*

2. *N. palustre*; foliis pinnatilobatis auriculis amplexicaulibus ciliatis, lobis confluentibus dentatis glabris, radice fusiformi, petalis calycem æquantibus siliquis utrinque obtusis subturgidis.—*De Cand. Prodr. v. 1. p. 137. Rich. in Frankl. 1st Journ. ed. 2. App. p. 25.—N. terrestre. Br. in Hort. Kew. ed. 2. v. 4. p. 110.—Sisymbrium terrestre. Engl. Bot. t. 1747. Pursh, Fl. Am. v. 2. p. 441. Elliott, Carol. v. 2. p. 145.*

HAB. Throughout Canada, and to the shores of the Arctic Sea, by the sides of streams, and in inundated places, North-West coast of America. *Dr. Richardson. Drummond. De Fucas' Straits and Nootka Sound. Scouler. Bay of Eschscholtz. Chamisso.*

3. *N. amphibium*; foliis oblongo-lanceolatis lyrato-pinnatifidis serratisve, radice fibrosa, petalis calyce majoribus, siliculis ellipsoideis stylo mucronatis.—*Br. in Hort. Kew. ed. 2. v. 4. p. 110. De Cand. Prodr. v. 1. p. 138.—Sisymbrium amphibium. Linn. Sp. Pl. p. 917. Engl. Bot. t. 1840. Pursh, Fl. Am. v. 2. p. 440. Bigel. Fl. Bost. ed. 2. p. 253. Elliott, Carol. v. 2. p. 146.*

HAB. In watery places; Canada. About Montreal. *Mfr. Cleghorn. Lake Huron. Dr. Todd.*

4. *N. natans*; foliis emersis lanceolatis integris serratis, immersis bi-tripinnatifidis laciniis capillaceis, siliculis obovato-globosis, styli longitudine.—*De Cand. Prodr. v. 1. p. 139. De Less. Ic. v. 2. t. 15.—Myagrum natans. "Patr. Herb."—Cochlearia natans. Ledeb. in litt.*

HAB. In water; Canada. About Montreal. *Cleghorn. Goldie. Dr. Holmes. (ex Herb. Greville.)—Remarkable for its long submerged stems, bearing leaves of which the lower ones are as finely divided as those of Ranunculus aquatilis: the middle leaves are often pinnatifid, with narrow and more or less divided, or deeply serrated segments: the entirely emerged leaves are lanceolate, undivided, serrated. Pouches rather obovate than ellipsoid, with a slender style equal to them in length. Flowers very pale yellow, almost white. This has been cultivated in the Aquarium of the Edinburgh Botanic Garden by Dr. Graham.*

3. BARBAREA. *Br.*

Siliqua tetragono-anceps, valvis apice muticis, concavo-carinatis. *Calyx* basi æqualis. *DC.*

1. *B. vulgaris*; foliis inferioribus lyratis, lobo terminali subrotundo, superioribus obovatis dentatis pinnatifidisve, siliqua tetragona lineari stylo acuminata.—*Br. in Hort. Kew. ed. 2. v. 4. p. 109. De Cand. Prodr. v. 1. p. 140. Cham. et Schlecht. in Linnæa, v. 1. p. 16.—Erysimum Barbarea. Linn. Sp. Pl. p. 922. Engl. Bot. t. 443.*

HAB. Island of Unalaska. *Chamisso. Mouth of the Columbia. Douglas. Scouler.—The upper leaves are liable to vary; and the best character between this and the following species is to be found in the pods, which here are scarcely more than inch long, tetragonal, tapering into a slender style about two inches long.*

2. *B. præcox*; foliis inferioribus lyratis, lobo terminali obovato, superioribus pinnatifidis, lobis lineari-oblongis, siliqua lineari-elongata compressa ancipiti, stylo perbrevis in-crassato.—*Br. in Hort. Kew. ed. 2. v. 4. p. 109. De Cand. Prodr. v. 1. p. 140. Rich. in*

Frankl. 1st Journ. ed. 2. App. p. 25. Cham. et Schlecht. in Linnæa, v. 1. p. 15.—*Erysimum præcox*. Engl. Bot. t. 1129.

HAB. Banks of rivers; abundant from Canada to lat. 68°. Drummond. Dr. Richardson.—Pods 2-3 inches long, linear, compressed, with a dorsal nerve to the valve. *Stigma* short, nearly as broad as the valve.

4. TURRITIS. Linn.

Siliqua linearis; valvis planis. *Semina* in quoque loculo biserialia.—Flores albidæ vel purpureo-roseæ.

1. *T. glabra*; erecta, foliis radicalibus petiolatis dentatis pilis ramosis pubescentibus, superioribus lato-lanceolatis sagittatis glabris semiamplexicaulibus glaucis, siliquis anguste linearibus erectis strictis, petalis vix calyce longioribus.—Linn. Sp. Pl. p. 930. Engl. Bot. t. 777. De Cand. Prodr. v. 1. p. 142. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26.

HAB. Hudson's Bay to the Rocky Mountains, and as far north as lat. 64°. Dr. Richardson. Drummond.—Two or three feet high, often much branched. Leaves 4-6 inches long, broadly lanceolate, with two blunt points at the base pointing downwards; hence they are sagittate, entirely glabrous, and mostly quite entire. Flowers small, pale sulphur-colour. Pods 4 inches long, very slender. Style short, stigma two-lobed, seeds in two series.

2. *T. mollis*; erecta, foliis inferioribus spatulatis sinuato-dentatis, superioribus lanceolato-sagittatis integerrimis, omnibus caule erecto ramoso pedicellisque pilis numerosis patentibus molliter hirsutis, siliquis linearibus elongatis erectis strictis.

Radix annua, subfusiformis, ramosa. *Caulis* erectus, superne ramulos plurimos proferens, molliter hirsutus. *Folia radicalia* patentia, spatulata, petiolata, obtusa, grosse sinuato-dentata: *caulina* lanceolato-sagittata, basi semiamplexicaulia, obtusa, integerrima, pubescenti-hirsuta, pilis ramosis stellatisque. *Flores* albi, dense capitato-corymbosi. *Pedicelli* fructus longiusculi, pilosi, pilis patentibus. *Calyx* etiam pilosus. *Petala* cuneata, calyce subduplo longiora. *Siliqua*, vix mature, anguste lineares, unciam et ultra longæ, rectæ vel leviter curvate. *Stylus* perbrevis, angustatus. *Stigma* minutum, obscure bilobum. *Semina* biserialia.

HAB. Shores of the Arctic Sea, between long. 107° and 130°. Dr. Richardson.—A foot and more high; stem stout. Habit of some states of *Arabis hirsuta*, but the seeds are unquestionably in two rows, and the whole plant is clothed with soft hairs, rather short on the leaves, much longer on the petioles, stem, branches, and pedicels. This plant exists only in Dr. Richardson's collection from the shores of the Arctic Sea. It is perhaps allied to *T. hispida* of DC. (*Arabis andicola* of Humb. et Kunth): but that plant has the leaves rough with floccose down, and is an inhabitant of the Andes of Quito.

3. *T. stricta*; erecta, glabra, foliis lanceolatis, radicalibus petiolatis dentatis, caulinis sagittatis semi-amplexicaulibus subdentatis, floribus siliquisque linearibus elongatis erectis strictis.—Graham in Edin. New Phil. Journ. July, 1829. p. 7.

Habitus precedentis, sed gracilior. *Radix* annuus. *Caulis* 1-plures ex eadem radice, erectæ, glabræ. *Folia* omnia (ut et tota planta) glaberrima, nisi quandoque in parte inferiore foliorum radicalium et petiolis, ubi obscure pilosa et ciliata. *Flores* albi. *Petala* obovata, emarginata, calyce duplo longiora. *Siliqua* 2-3 uncias longa, sublato-linearis, stylo brevi, valvis multo angustiore. *Stigma* vix incrassatum, minutum, obscure bilobum.

HAB. Prairies of the Rocky Mountains, between lat. 52° and 56°. Drummond. About Fort Vancouver on the Columbia. Douglas.—Flowers pure white, erect as well as the fruit.

4. *T. patula*; erecta, foliis lanceolatis, radicalibus petiolatis dentatis, caulinis sagittatis

semi-amplexicaulibus glabris subdentatis, floribus siliquisque linearibus elongatis patentissimis.—*Graham in Edin. New Phil. Journ. July, 1829. p. 7. (not Ehrh. nor Willd.)*

α. foliis radicalibus parce pubescentibus.

β. foliis radicalibus pubescenti-incanis subintegrissimis.

Facies *T. stricta*; differt insigniter, etiam in cultu, floribus siliquisque patentissimis. Flores majusculi, pulcherrime purpureo-rosei.

HAB. α. From Canada to lat. 68°, and from Hudson's Bay to the Rocky Mountains. *Dr. Richardson. Drummond*; and even to Fort Vancouver on the Columbia. *Douglas. Scouler*. β. Highest summits of the Rocky Mountains. *Drummond*.—Pods long, curved. Professor Horasmann has sent me the var. β. from Greenland.

5. *T. retrofracta*; erecta, incano-pubescentibus vel glaber, foliis lanceolatis, radicalibus petiolatis dentatis, caulinis sagittatis semi-amplexicaulibus glabris subdentatis, floribus cernuis, siliquis linearibus elongatis pedicellisque retrofractis.—*Arabis retrofracta. Graham in Edin. New Phil. Journ. July, 1829. p. 1.*

HAB. Hudson's Bay to the Rocky Mountains; and from Canada to lat. 68°; at the Mackenzie River. *Dr. Richardson. Drummond*.—This is at once distinguishable from the two preceding species, which are its near allies, by the deflexed flowers, (which are mostly pure white, or with a faint purplish tinge,) and by the retrofracted pedicels and pods. The seeds are in two rows, or series, in a young state, and are then quite pendent; afterwards, by their enlargement, they lie more horizontally in the cell, and form but one series, as *Dr. Graham* remarks: but it would be better to abolish one of the two genera, than, by putting this into *Arabis*, to separate it from *T. stricta* and *T. patula*, with which it is so closely and so naturally allied.

6. *T.?* *diffusa*; glaberrima, glauca, caulibus ramosis diffusis, foliis radicalibus spathulatis subintegrissimis, caulinis sagittatis vix dentatis, siliquis linearibus patentibus pedicello duplo longioribus.

Radix parva, subfusiformis, ut videtur, annua. *Caules* plurimi ex eadem radice, diffusi, glabri, ramosi, subspithamei. *Folia radicalia* plurima, in rosulam expansa, parva, spathulata, subintegerrima, petiolo longiusculo: *caulina* majora, subunciam longa, oblonga vel lanceolata, basi dilatata, sagittata, apice obtusa, margine integerrima, vel, hic illic, dente instructa, glaberrima, glauco-viridia. *Flores* parvi. *Calyx* glaber, sepalis ovalibus, equalibus, pedicello glaberrimo triplo brevioribus. *Petala* calyce dimidio longiora, alba, obovata, unguiculata. *Siliquæ* vix unciam longæ, patentes, lineares, obtusæ, *stigmatæ* parvo subsessili terminatæ, nondum maturæ *semina* seu *ovula* in duas lineas disposita, exhibentes.

HAB. Shores of the Arctic Sea. *Dr. Richardson*.—This may probably prove an *Arabis*; but in the scarcely mature seed-vessels two rows of ovules are evident, which, however, may, as in *T. retrofracta*, when ripe, arrange themselves in one series. But whether an *Arabis* or a *Turritis*, I know of no species with which it can be confounded. It is probably scarce, as few specimens exist in the collection, and those only in *Dr. Richardson's* portion of it.

5. ARABIS. Linn.

Siliqua linearis; valvis planis medio uninerviis. *Semina* in quoque loculo 1-serialia, ovalia aut orbicularia, compressa. *Cotyledones* planæ. (o=.) *Flores* albi, aut rarius rosei. *DC.*

* *Semina immarginata, seu parva ala membranacea cincta. DC.*

1. *A. alpina*; subdiffusa, ramosa, foliis pluri-dentatis pube ramosa villosis lanceolatis acutis, radicalibus subpetiolatis, caulinis cordato-amplexicaulibus, pedicellis calyce

glabriusculo longioribus.—*Linn. Sp. Pl. p. 928. Curt. in Bot. Mag. t. 226. Pursh, Fl. Am. v. 2. p. 427. De Cand. Prodr. v. 1. p. 142.*

HAB. In Labrador. *Colmaster. Mr. Morrison.*—This plant, so abundant on the southern European Alps, I believe grows no where else in America than in the above-mentioned habitat. I have specimens from Greenland, given me by Professor Hornemann.

2. *A. hirsuta*; erecta, foliis dentatis (fere omnibus) pube ramosa hirsutis, radicalibus ovato-oblongis petiolatis, caulinis ovalibus lanceolato-sagittatisve, siliquis numerosis erectis strictis.—*Scop. Carn. ed. 2. n. 835. De Cand. Prodr. v. 1. p. 144. Cham. et Schlecht. in Linnæa, v. 1. p. 15.—Turrilis hirsuta. Linn. Sp. Pl. p. 930. Engl. Bot. t. 587.—T. ovata. Pursh, Fl. Am. v. 2. p. 438.—T. sagittata. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. De Cand. Prodr. v. 1. p. 143. ? especially var. *γ. ovata.**

HAB. Island of Unalaska. *Chamisso.* From Hudson's Bay to the Rocky Mountains, and at the Columbia River, on the North-West coast; and from Canada to lat. 68°. *Dr. Richardson. Drummond. Douglas. Scouler.*—This plant varies much in its stem-leaves, which are more or less oval and oblong, elliptical or lanceolate, or sagittate, pubescent or quite glabrous. It is remarkable for its numerous, erect, shining, very strait pods. I do not see how *A. sagittata* is to be distinguished from it. My European specimens, under that name, quite agree with the British, and with my American *A. hirsuta*.

3. *A. stricta*; foliis radicalibus oblongis basi attenuatis sublyrato-pinnatifidis pilis ramosis hispida, caulinis paucis lanceolatis basi subattenuatis, petalis oblongis erectis obtusis calyce glabro duplo longioribus, siliquis elongatis erectis.—*Huds. Angl. p. 292. Engl. Bot. t. 614. Pursh, Fl. Am. v. 2. p. 437. De Cand. Prodr. v. 1. p. 144.*

HAB. Labrador. *Colmaster*; in *Herb. Dicks. (Pursh.)*—I have never seen American specimens of this.

4. *A. petraea*; caulibus erectiusculis vel diffusis glabris, foliis radicalibus sublanceolato-oblongis petiolatis integris dentatis vel lyrato-pinnatifidis, caulinis lanceolatis subpetiolatis integris dentatisve, petalis obovatis unguiculatis, siliquis erecto-patentibus.—*Lam. Dict. v. 1. p. 221. De Cand. Prodr. v. 1. p. 145. Cham. et Schlecht. in Linnæa, v. 1. p. 15.—Arabis lyrata. Linn. Sp. Pl. p. 929. Pursh, Fl. Am. v. 2. p. 437. De Cand. Prodr. v. 1. p. 146. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26.—Cardamine hastulata. Engl. Bot. t. 469.—C. petraea. Lightf. Scot. p. 347. t. 15. Linn. Sp. Pl. p. 913.*

HAB. Throughout Canada, extending westward to the Rocky Mountains, between lat. 55° and 56°, and to the islands of the Polar Sea. *Goldie. Dr. Richardson. Drummond. Parry. &c. Unalaska. Chamisso.*—Authentic specimens of *Arabis lyrata*, from Dr. Schweinitz and Professor Torrey, and from Dr. Richardson, I have compared with our European *A. petraea*, and find them to be in all respects the same. The plant is doubtless liable to much variation, being sometimes, indeed generally, quite glabrous; at other times the root-leaves and base of the stem are hispid with branching hairs. The pods are mostly nearly erect, but sometimes almost patent; generally scarcely an inch long, at other times full two inches long; mostly with an inconspicuous style, at other times with a very apparent one. Flowers white or lilac. It comes exceedingly near to some states of *A. arenosa*; and I fear cannot specifically be distinguished from it.

5. *A. ambigua*; foliis subglabris, radicalibus sinuato-lyratis, mediis oblongo-ovalibus dentatis, summis oblongo-linearibus integris, caule subsimplici, siliquis erectiusculis.—*De Cand. Prodr. v. 1. p. 146.*

α. foliis glabris, caule basi hispido. DC.—Cham. et Schlecht. in Linnæa, v. 1. p. 16.

HAB. β . Sandy and grassy places, on the shores of the Island of Unalashka. *Chamisso*.—My specimens of this plant, communicated by Dr. Fischer from Unalashka, seem to differ in no respect from *A. petraea*.

* * *Semina marginata, seu ala membranacea lata cincta.* DC.

6. *A. lævigata*; erecta, glabra, glauca, foliis radicalibus obovatis petiolatis sinuato-dentatis, caulinis linearibus sessilibus integerrimis, siliquis erectis, seminibus marginatis.—*De Cand. Prodr. v. 1. p. 147.*—*Turritis lævigata. Willd. Sp. Pl. v. 3. p. 543. Pursh, Fl. Am. v. 2. p. 438.*

HAB. About Lake Huron. *Dr. Todd*.—A foot high. *Pedicels* 3-4 lines long. *Siliqua* quite erect, 1½ to 2 inches long, linear, plane, tapering at the extremity into a very short style.

7. *A. canadensis*; erecta, glabra, foliis lanceolatis remote dentato-serratis sessilibus, siliquis linearibus falcatis pendulis, seminibus lato-alatis.—*Linn. Sp. Pl. p. 920. De Cand. Prodr. v. 1. p. 147. Elliott, Carol. v. 2. p. 148.*—*A. falcata. Mich. Am. v. 2. p. 31. Pursh, Fl. Am. v. 2. p. 437.*

HAB. Canada. *Michaux*.—In size, in habit, and in the general form of its pods, resembling our European *Arabis Turrita*. 1-2 feet high. *Seeds* with a broad wing. This differs from *A. pendula* of Linn. and *De Candolle* in wanting the auricles at the base of the leaves, and in the smooth not hispid stem.

6. MACROPODIUM. *Br.*

Siliqua linearis, pedicellata, valvis planis medio uninerviis. *Semina* orbiculata, compresso-plana, ala brevissima cincta. (o=.) DC.

1. *M. laciniata*; foliis omnibus petiolatis laciniato-pinnatifidis, floribus pedicellatis, petalis angustis linearibus.—*Hook. in Bot. Misc. v. 1. p. 341. t. 68.*

Annua. *Caulis* herbaceus, erectus, ramosus, glaber, 2-3-pedalis et ultra. *Rami* alterni, erecto-patentes. *Folia radicealia*, æque ac *caulina*, digitalia, oblongo-lanceolata, acuta, glabra, basi in petiolum longum gracilem decurrentia, sinuato-dentata pinnatifidaque, laciniis patentibus, linearibus, integerrimis vel subdentatis: *summa* subintegra. *Racemus* terminalis, elongatus, erectus, strictus, dense multiflorus. *Pedicelli* horizontales, 2 lineas longi, glabri. *Calyx: sepala* 4, oblonga, basi lata, erecta, membranacea, pallida. *Petala* 4, calyce triplo longiora, patentia, linearia, alba. *Stamina* 6, 2 parum breviora, calyce duplo longiora. *Filamenta* oedentula. *Anthera* dorso prope basin affixæ, lineares, siccitare recuæ, plumbeæ. *Glandula* ad basin staminum 4, majuscula. *Germen* gracile, lineare, brevi-pedicellatum. *Stylus* brevis, stigmatè parvo capitato terminatum.

HAB. Common on dry rocks about Wallawallah, and at Priest's Rapid on the Columbia. *Douglas*.—No ripe fruit of this fine plant exists in the collection; but its whole habit, its inflorescence, its calyx, petals, anthers, and, above all, the pedicellated germen, indicate this to be a second species of the genus *Macropodium*, of which only one was known before, the *Cardamine nivalis* of Pallas, on which Mr. Brown founded the genus. Excellent specimens of the latter I possess, through the kindness of Dr. Fischer and Professor Ledebour, from the Altai. It differs from the American plant in its perennial root, its shorter simple stems, not exceeding a foot in height, its sessile flowers, shorter and more obovate petals, and shorter anthers, and in the much thicker and shorter germen, with a longer pedicel, and a less divided stigma. This pedicellated germen gives the plant very much the appearance of a *Cleome*, whence it was marked, according to De Candolle, *Cleome nivalis* in Vahl's Herbarium.

7. CARDAMINE. *Linn.*

Siliqua linearis, valvis planis enerviis sæpe elastice dissilientibus. *Semina* ovata, immarginata, funiculi umbilicales tenues. DC.

* *foliis omnibus indivisis.*

1. *C. rotundifolia*; pubescenti-hirsuta demum glabra, caule erecto flexuoso, foliis subcarnosis angulato-dentatis, radicalibus longe petiolatis rotundato-cordatis, sinu angusto, caulinis ovatis, inferioribus petiolatis superioribus sessilibus, radice fibroso-tuberosa.—*Mich. Fl. Am. v. 2. p. 30. Pursh, Fl. Am. v. 2. p. 439. De Cand. Prodr. v. 1. p. 149.*—*Arabis rhomboidea. Pers. Syn. Pl. v. 2. p. 204.*—*Cardamine rhomboidea. De Cand. Prodr. v. 1. p. 149.*—*Arabis tuberosa. Pers. Syn. Pl. v. 2. p. 204. (fide De Cand.)*

HAB. Rocky Mountains, between lat. 52° and 57°, and thence to Hudson's Bay, in the same latitude. *Drummond.*—My valued friend Dr. Boott has ascertained that the *Arabis rhomboidea* of Pers. is the same as the *Cardamine rotundifolia* of Mich.; a much more appropriate name. Our plant differs somewhat from the United States specimens, in having fewer leaves on the lower part of the stem, in the upper leaves being somewhat broader, and in the pubescence of the foliage, and especially of the stems; but these characters depend perhaps upon age and situation. The flowers, too, are large, the petals rose-coloured. The shape of these petals in both is nearly cuneate.

2. *C. bellidifolia*; foliis glabris erectiusculis crassiusculis, radicalibus petiolatis ovatis integris, caulinis paucis integris aut subtrilobis, siliquis erectis, stigmatibus sessilibus.—*Linn. Sp. Pl. p. 913. De Cand. Prodr. v. 1. p. 150. Engl. Bot. t. 2355. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. Cham. et Schlecht. in Linnaea, v. 1. p. 19.*

HAB. Summits of the Rocky Mountains, lat. 52°. *Drummond.* Throughout Arctic America, sparingly. *Dr. Richardson. Captain Sir John Franklin. Captain Back. Captain Sir E. Parry.* Islands of Unalashka and St. Lawrence. *Chamisso.*—Varying much in the length of the peduncles, sometimes shorter than the leaves, sometimes twice as long. Very nearly allied to this, if not the same, is *C. lenensis*, *Andra.* sent me by Professor Ledebour.

* * *foliis ternatis pinnatisve.*

3. *C. purpurea*; glabriuscula, foliis radicalibus caulinoque trifoliolatis quinatisve foliolis lateralibus ovali-rotundatis acutis, terminali cordato-rotundato 3-dentato, bractea ad basin pedicello inferiori cuneato tridentato sessili, petalis (læte purpureis) reticulatim venosis.—*Cham. et Schlecht. in Linnaea, v. 1. p. 20.*

Radix repens, gracilis, fibrosa. *Folia*, (ut et *caulis* erectus, digitalis,) hic illic parce pilosa, *radicalia* plurima, *caulinum* unicum, omnia sublonge petiolata, trifoliolata vel rarius quinata; foliolis lateralibus oppositis vel alternis, subdecurrentibus, ovali-rotundatis, acutis, terminali cordato-rotundato, 3-dentato, vel subtrilobo, dentibus acutis. *Flores* in racemo laxo, subdecem. *Petoli* 5-6 lineas longi, patentes, glaberrimi, inferiora bractea foliacea, sessili, cuneata, tridentata instructa. *Calyx* glaber, sepalis erecto-patentibus oblongis, glaberrimis. *Petala* late obovata, unguiculata, intense purpureo-rosea, pulcherrime (sub lente) reticulatim venosa, sepalis duplo triplove longiora.

HAB. Islands of St. Lawrence. *Chamisso.* Cape Lisburne, at the northern entrance of Kotzebue's Sound. *Lay and Collie in Captain Beechey's Collection.*—Only one specimen of this very beautiful *Cardamine* exists in our collection. It is distinguished at once by the 3 (5 in *Chamisso's* plant) roundish leaflets of each leaf, and the deep purple-coloured and reticulated petals, in which latter particulars I know of no species that comes near it.

4. *C. angulata*; foliis omnibus petiolatis ternatis rarius quinato-pinnatis, radicalium subrotundis, caulinarum ovatis lanceolatisve angulato vel inciso-lobatis glabris.—*Hook. in Bot. Misc. v. 1. p. 343. t. 69.*

Radix longe repens, fibrosa, perennis. *Caulis* erectus, simplex, pedalis ad sesquipedalem, herbaceus, glaber,

viridis, folioens. Folia omnia petiolata, glaberrima, membranacea, ternata, rarius quinato-pinnata; foliis radicalium subrotundis vel cordatis, caulinorum ovatis vel lanceolatis: omnibus acuminatis, angulato-vel inciso-lobatis, basi acutis vel acuminatis, angulis vel lobis dentibusve obtusiusculis, lateralibus non raro petiolulatis, alternis vel oppositis, terminali plerumque majore. Flores majusculi, in corymbis terminalibus axillaribusque dispositi. Pedicelli graciles, 2-4 lineas longi, glabri. Petala obovata, unguiculata, sepalis plusquam duplo longiora, pallide rosea.

HAB. Banks of the Columbia. *Scouler. Douglas.*—Somewhat allied, especially in habit, to *C. macrophylla*, (*Gmel. Sib. v. 3. t. 62.*) which differs in having smaller leaflets, from 5-7 on each leaf, and which are distinctly, and with considerable regularity, serrated; whereas, in our *C. angulata*, there are few and distant angular teeth and segments. I have seen it only in Mr. Douglas and Dr. Scouler's collections, who observe that it is not uncommon about Fort Vancouver, on the Columbia.

5. *C. pratensis*; foliis pinnatis, foliolis radicalium plerumque subrotundis, caulinorum linearibus lanceolatisve integris, stylo brevissimo vix siliqua tenuiore, stigmatate capitato.—*Linn. Sp. Pl. p. 915. Pursh, Fl. Am. v. 2. p. 440. Engl. Bot. t. 776. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. De Cand. Prodr. v. 1. p. 151.*

β. *angustifolia*; foliorum radicalium foliolis lanceolatis basi attenuatis subintegris.

HAB. Hudson's Bay. (*Herb. Banks.*) *Drummond.* Throughout Arctic America. *Dr. Richardson.* Behring's Straits. *Chamisso.* β. Igloodik, and others of the islands in the Arctic Sea. *Capt. Sir E. Parry.*

6. *C. hirsuta*; foliis pinnatis, foliolis radicalium petiolulatis plerumque rotundatis, caulinorum lanceolatis subpetiolulatis dentatis integerrimisque, petalis (parvis) oblongo-cuneatis, stigmatate minuto subsessili.—*Linn. Sp. Pl. p. 915. Engl. Bot. t. 492. De Cand. Prodr. v. 1. p. 152. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. Cham. et Schlecht. in Linnæa, v. 1. p. 20.—C. parviflora? Linn. Sp. Pl. p. 919. De Cand. Prodr. v. 1. p. 152. Gmel. Sib. v. 3. t. 64.—C. pennsylvanica. Muhl. Cat. p. 60. De Cand. Prodr. v. 1. p. 151. Pursh, Fl. Am. v. 2. p. 440. Elliott, Carol. v. 2. p. 144.—C. virginica. Linn. Sp. Pl. p. 915. Mich. An. v. 2. p. 29.—C. sylvatica. Linn.?—De Cand. Prodr. v. 1. p. 152.*

HAB. From Canada to the Rocky Mountains, and to the shores of the Arctic Sea. *Drummond. Dr. Richardson.* Unalaska. *Chamisso.* Columbia. *Scouler.*—Those who have been in the habit of observing *C. hirsuta*, as it grows with us, in different soils and situations, and at different seasons of the year, are well aware how liable it is to vary in size and ramification, in the direction of its stems, in the breadth and length and toothing of the leaflets, and somewhat too in the size of its flower. Even the style is more or less distinct, sometimes quite obsolete. The same states occur in North America, whence have arisen the *C. virginica* and *C. pennsylvanica*; this latter being eaten in Charleston, South Carolina, Mr. Elliott tells us, like the garden Cress, as is our *C. hirsuta*. My specimens of them quite correspond with our European states of the plant. I have placed a mark of doubt against the *C. parviflora* of Linn., because Sir James E. Smith says it is clearly a distinct species; yet he refers to Gmelin's *Fl. Sibirica*, v. 3. t. 64, which perfectly accords with many of my American and English specimens, such as are but varieties of *C. hirsuta*. The species is probably very extensively distributed over the globe. I have it from Nepal and from Chile.* It exists, too, in Persia.

7. *C. digitata*; foliis digitatim-pinnatis, pinnis sessilibus linearibus integerrimis, stylo brevi vix siliqua tenuiore, stigmatate capitato.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. De Cand. Prodr. v. 1. p. 153. Cham. et Schlecht. in Linnæa, v. 1. p. 19.*

* Probably the *C. fasciata* of Chamisso and Schlechtendal in Linnæa, v. 1. p. 21.

"Herba glaberrima. Folia digitatim-pinnata; inferiora petiolo longo gracili, pinnisque 7 approximatis: superiora brevius petiolata, pinnis paulo remotioribus; summum subsessile, pinnis 3 aut 5; pinnis omnibus sessilibus conformibus. Caulis dodrantalis, simplex, basi repens, ascendens, superne erectus, subflexuosus. Racemi erecti, multiflori. Pedicelli siliquis longiores, patentes. Flores fere magnitudine *Card. pratensis*. Calyx flavescens. Petala obovata, calyce duplo longiora, alba vel purpureo tincta. Stylus crassiusculus, lineare, longus, stigmatibus capitato. Siliques juniores breviusculas; maturas non vidi."—Richardson.

HAB. Arctic America, from the East to the West coast. Dr. Richardson.—To the above excellent description, made by Dr. Richardson from recent specimens during the First Expedition, I have nothing to add, (since the perfect fructification has not even now been detected,) except that the root is creeping and destitute of tubers, in which particulars it differs from *Dentaria heterophylla*, a plant in other respects very nearly allied to it. This species has been found by Chamisso in the Gulf of St. Lawrence, on the Asiatic side of Behring's Straits.

8. *C. Menziesii*; pube stellata canescens, foliis pinnatisectis, segmentis bipinnatifidis, laciniis parvis acutis, siliquis pedicelli longitudine.—*De Cand. Prodr. v. 1. p. 153.*

HAB. North-West coast of America. Mr. Menzies.—An species *Brachylobi Sisymbriæ*? DC.

8. DENTARIA. *Lim.*

Siliqua lanceolata, valvis planis, enerviis, sæpe elastice dissilientibus, placentis non alatis. Funiculi dilatati. Semina ovata, immarginata, 1-serialia. DC.

1. *D. laciniata*; foliis tribus verticillatis breviter petiolatis tripartitis, lobis segmentisve linearibus integris grosse serratis laciniatisve.—*Muhl. Cat. n. 60. Pursh, Fl. Am. v. 2. p. 438. De Cand. Prodr. v. 1. p. 155. Bigel. Fl. Bost. ed. 2. p. 254. Elliott, Carol. v. 2. p. 142.*—D. concatenata. *Mich. Am. v. 1. p. 30.*

HAB. Pentanguishene, lat. 48°. Dr. Richardson. Drummond.—Flowers large, of a pale rose colour, or almost white.

2. *D. diphylla*; foliis caulinis 2 alternis ternatis, foliolis ovato-lanceolatis grosse serratis laciniatisve.—*Mich. Am. v. 2. p. 30. Pursh, Fl. Am. v. 2. p. 438. De Cand. Prodr. v. 1. p. 155. Sims in Bot. Mag. t. 1465. Elliott, Carol. v. 2. p. 142.*

HAB. Canada. About Quebec. Mrs. Percival. Lake Huron. Dr. Todd.—Flowers rather smaller than in the preceding.

3. *D. tenuifolia*; foliis caulinis breviter petiolatis alternis ternatis vel pinnatis 5-natis, foliolis linearibus acutis integerrimis, radice tuberculosa fibrosa.—"*Ledeb. Mém. de l'Acad. de Petersb. 5. 1815. p. 547.*" *De Cand. Prodr. v. 1. p. 156.*—D. tenella. *Pursh, Fl. Am. v. 2. p. 439. De Cand. Prodr. v. 1. p. 155.*—D. trifida. *Lam. Ill. t. 562. f. 2. Gmel. Sib. v. 3. p. 272. t. 65.*

HAB. Banks of the Columbia. (*Herb. Lewis.*) Mr. Menzies.—Mr. Menzies' specimens agree precisely with my Siberian ones from Dr. Fischer and Professor Ledebour. They scarcely differ from Dr. Richardson's *Cardamine digitata*, except in the tubercled root, and in having fewer leaflets; and that plant should probably be referred to *Dentaria*, a genus, indeed, which Mr. Brown only considers as a section of *Cardamine*.

9. PARRYA. *Br. (Neuroloma. Andr. and De Cand.)*

Siliqua lato-linearis, valvis magis minusve distincte venosis, planis. Semina subbiseriata, testæ epidermide laxo, late marginata. Funiculi umbilicales superne septo adnati. Stigmatibus lobi approximati.

1. *P. macrocarpa*; siliquis lato-linearibus, antheris linearibus, foliis lato-lanceolatis inciso-dentatis. (TAB. XV.)—*Br. in Parry's 1st Voy. App. p. cclxx. Cham. et Schlecht. in Linnaea, v. 1. p. 18.*—*Neuroloma arabidiflorum. De Cand. Prodr. v. 1. p. 156; et Hesperis arabidiflora. De Cand. Syst. Veget. v. 2. p. 454.*—*Neuroloma nudicaule. De Cand. Prodr. v. 1. p. 156; et Arabis nudicaulis. De Cand. Syst. Veget. v. 2. p. 240.*—*Neuroloma scapigerum? De Cand. Prodr. v. 1. p. 156; et Hesperis scapigera? De Cand. Syst. Veget. v. 2. p. 454.*—*Cheiranthus scapiger? Adams, "Mem. Soc. Nat. Scrut. p. 112. n. 18."*—*Cardamine articulata. Pursh, Fl. Am. v. 2. p. 433.*

α. *aspera*, piloso-glandulosa.—*Arabis, caule nudo. Linn. Amæn. Acad. v. 2. p. 358. t. 4. f. 20.*—*Arabis grandiflora. Willd. Sp. Pl.*—*Neuroloma arabidiflorum. β. De Cand.*

β. *glabra*, tota glaberrima.—*Neuroloma arabidiflorum. α. De Cand. (excluding the syn., which belongs to var. α.)*

Herba pubescenti-glandulosa in α., in β. glabra. Radix fusiformis, descendens, radiculosa. Folia fere omnino radicalia, crassiuscula, digitalis et ultra, erecta, lato-lanceolata, acuta, in petiolum longum basi attenuata, margine sinuato-vel inciso-dentata, rarissime subintegra. Scapus florens foliis paulo longior, fructiferus duplo longior, erectus, teres. Flores magni, speciosi, corymbosi. Pedicelli glabri in α., in β. glanduloso-pubescentes, graciles, calycem excedentes. Calyx; sepalis oblongis, erectis, concavis, duobus basi gibbosis. Petala pulcherrime purpureo-rosea, calyce duplo longiora, limbo patente lato obovato, venoso, retuso, basi in unguem attenuato. Stamina unguibus petalorum sublongiora; filamenta subulata; Antheræ oblongo-lineares. Glandula ad basin filamentorum 4. Pistillum: Germen lato-lanceolatum, in stylum perbreve attenuatum: Stigma lobis brevibus erectis approximatis. Siliqua 2 uncias longa, 2 lineas lata, sublonge racemose, erectæ, subcurvatae, lato-lineares, inter semina subconstrictæ, paululum torulose, plano-compresse, in α. scabra, in β. glabræ. Valvæ planæ, marginatæ, dorso medio uninerves, venosæ, venis nonnunquam obscuræ. Semina plurima, vix biserialia, hic illic abortientia, pendentia, compressa, testæ epidermide laxo, vix corrugato, ala lata, membranacea, alba formante. Cotyledones accumbentes. Funiculus umbilicalis subulatus, in partem, septo adnatus.

HAB. Found during the Second Land Arctic Expedition, and then only by *Capt. Sir J. Franklin* and *Capt. Back*, to the west of the Mackenzie River. Frequent on the shores of Kotzebue's Sound, and the adjacent coast. *Lay and Collie in Capt. Beechey's Collection.* Island of St. Lawrence. *Chamisso.*—This is a noble species of a beautiful and well marked genus, worthy of bearing the name which Mr. Brown has applied to it, in compliment to an officer of the most distinguished merit, who has, in every voyage, particularly to the Arctic regions, by his own exertions, and by those of his officers, contributed mainly to our present accurate knowledge of the botany of those countries; and whose friendship to myself I am here proud to acknowledge. *Capt. Sir John Franklin* only met with the plant in flower. *Capt. Beechey's* collection contains many fine specimens in fruit, from which the figure of that state is represented in this work.

TAB. XV. A. Flowering state of the var. β. *glabra*; B. Fructified state of the var. α. *scabra*: natural size.

Fig. 1, Sepal of the calyx; fig. 2, Petal; fig. 3, Stamen; fig. 4, Pistil; fig. 5, Style and stigma; fig. 6, Siliqua; fig. 7, Seed; fig. 8, Seed deprived of the epidermis of the testa; fig. 9, Embryo:—more or less magnified.

2. *P. arctica*; siliquis lineari-oblongis, antheris ovalibus, foliis (fere omnibus) integerrimis, pedunculis glaberrimis.—*Br. in Parry's 1st Voy. App. p. cclxix. t. B. Hook. in Parry's 2d Voy. App. p. 388.*

HAB. On the eastern Arctic islands. *Captain Sir Edward Parry. Captain Sabine. Captain Ross.* Shores of the continent of Arctic America, eastward of the Mackenzie River. *Dr. Richardson.*—As the *P. macro-*

carpa is confined to the westward of the Mackenzie River, so is the present plant to the eastward of it, and both inhabit the shores of the sea. Mr. Brown's admirable description of this species, in the place above quoted, and the splendid figure of Mr. Bauer in illustration of the characters of the genus, leave nothing to be desired. If I am correct in referring the three *Neurotomata* of M. De Candolle to *P. macrocarpa*, we have as yet but two species of the genus *Parrya* described; but a third, and a more singular one than either of the present, has lately been sent to me from the Altai by Professor Ledebour, under the name of *P. exscapa*, *MSS.* The pedicels almost appear to spring at once from the top of the root, and by the number and size of their flowers to conceal the leaves, as do the pods, which are more than 4 inches long and 3 lines broad. The seeds, however, are scarcely margined, and the *funiculus umbilicalis*, or *seed-stalk*, is wholly fixed to the marginal receptacle.

TRIB. II. ALYSSINÆ; seu Pleurorhizæ Latiseptæ. DC.

Silicula longitudinaliter dehiscens, septo lato ovali membranaceo, valvis planis aut concavis. *Semina* compressa, sæpe marginata. *Cotyledones* planæ, accumbentes (o=), septo parallelæ. DC.

10. VESICARIA. Lam.

Silicula globosa, valvis membranaceis inflatis. DC.

1. *V. Ludoviciana*; stellatim tomentosa, incana, foliis lineari-spathulatis sub integris calyce æquali, siliculis globosis pubescentibus, stylo gracillimo breviori.—*De Cand. Prodr. v. 1. p. 159.*—*Alyssum Ludovicianum. Nutt. Gen. v. 2. p. 63.*—*V. globosa? Desv. Journ. Bot. 3. p. 184.* (according to the description.) *De Cand. Prodr. v. 1. p. 159.*—*Myagrum argenteum. Pursh, Fl. Am. v. 2. p. 434.*

HAB. Cultivated in the garden of the Horticultural Society of London, from seeds sent from North-West America by *Mr. Douglas*; but the exact station is not mentioned, and it does not occur in the Herbarium.—It quite agrees with my specimens gathered by Bradbury on the hills of the Missouri; and is best distinguished by the length and slenderness of its style from the following species.

2. *V. arctica*; stellatim tomentosa, incana, foliis radicalibus spathulatis reliquis sub-linearibus integerrimis, calyce æquali, siliculis globosis stylo crassiusculo longioribus.

α. floribus majoribus, siliculis glabris.—*V. arctica. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. De Cand. Prodr. v. 1. p. 159.*—*Alyssum arcticum. Fi. Dan. t. 1520.*

β. floribus minoribus, siliculis pubescentibus.—*V. arctica. Hook. in Bot. Mag. t. 2882.*—*V. arenosa. Rich. in Frankl. 1st Journ. ed. 2. App. p. 26. De Cand. Prodr. v. 1. p. 160.*

HAB. α. Mostly confined to the Arctic shores and islands, eastward of the Mackenzie River, while an intermediate state (that is, with the siliculae slightly pubescent,) is found on the summit of a hill 700 feet high, at Bear Lake River. *Dr. Richardson.* β. Hills and dry prairies at Carlton House. *Dr. Richardson.* Upon the Rocky Mountains. *Drummond.* I have received it, gathered in Canada by *Mr. Goldie*, but without any particular station being given.—Numerous specimens in different states, and cultivation in our gardens, have satisfied *Dr. Richardson* that *Vesicaria arenosa* should rather be considered a var. of, than a distinct species from, *V. arctica*. My own opinion quite coincides with his, and hence I am led to unite them; nor can I distinguish from *V. arctica*, specimens I have in my Herbarium, gathered in the plains of Mendoza and hills about Cordova, South America, by *Dr. Gillies* and *Mr. Cruickshanks*. In these specimens, the leaves are sometimes sinuato-dentate, which again brings the plant near the European *V. sinuata*. All seem to vary with erect and prostrate stems, and with those stems more or less leafy.

3. *V. didymocarpa*; stellatim tomentosa incana, foliis radicalibus late obovato-spathulatis reliquis lanceolatis subintegris, calyce æquali, siliculis magnis inflatis didymis. (TAB. XVI.)

Radix perennis, fusiformis, longe descendens, inferne subfibrosa: superne, ad collum, caules plurimos diffusos, non raro prostratos, proferens. Hi caules (at et tota planta, nisi corolla staminaque,) pilis vel squamulis stellatis numerosissimis incaui, simplicibus, digitem longi. *Folia radicalia* numerosa, patentia, duas fere tres uncias longa, late obovato-spathulata, obtusiuscula, inferne in petiolum attenuata: *caulina* lanceolata, obtusa, basi attenuata, integerrima, vel raro subsinuato-dentata. *Flores* speciosi, in corymbos terminales dispositi. *Calycis sepalis* oblonga, erecta, æqualia, obtusa. *Petalis* late flava, calyce duplo longiora, obovata, obtusa, basi in unguem attenuata. *Stamina* petalis breviora. *Antheræ* oblongæ. *Pistillum*: *Germen* subrotundum, didymum: *Stylus* longus, filiformis: *Stigma* truncato-capitatum. *Silicula* fere magnitudine *Nucis Avellanæ*, globosa, profunde didyma, stylo subæque longo terminata; lobis rotundatis, ad septum insigniter contracta. *Dissepimentum* lanceolatum. *Loculi* subhexaspermi. *Semina* subovalia, superne emarginata, fusca, immarginata. *Cotyledones* plano-convexæ, accumbentes.

HAB. Growing in deep sand upon the Rocky Mountains, between lat. 52° and 57°. *Drummond*. Abundant on the barren sandy plains of the Columbia, at Wallawallah and at the Kettle Falls. *Douglas*.—This is without exception the most singular and most beautiful of the genus *Vesicaria*, having broad leaves, clothed with the curious close stellated pubescence which seems to be almost characteristic of the genus, and large yellow flowers; and a seed-vessel with its two valves separated by so deep a sinus, that, were it not that the whole habit of the plant is completely that of a *Vesicaria*, it might almost form a generic character.

TAB. XVI. Plant:—*natural size*. Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen and pistil; fig. 4, Pistil; fig. 5, 6, Fruit:—*natural size*. Fig. 7, Do. with one of the valves removed at fig. 8; fig. 9, The same:—*magnified*. Fig. 10, Front view of the dissepiment, with the seeds; fig. 11, Seed; fig. 12, Transverse section of do.:—*magnified*.

11. ALYSSUM. DC. (*Alyssi* Sp. Linn.)

Silicula orbicularis aut elliptica, valvis planis aut centro convexis. *Semina* in quoque loculo 2-4, compressa, interdum ala membrumacea cincta. *Calyx* basi æqualis. *Petalis* integris. *Stamina* nonnulla dentata. DC.

1. *A. hyperboreum*; caulibus herbaceis cæspitosis, foliis ellipticis grosse et acute dentatis subhirsutis, siliculis ellipticis, staminibus majoribus dente auctibus. DC.—*Linn. Sp. Pl.* p. 910. *Willd. Sp. Pl.* v. 3. p. 463. *Pursh, Fl. Am.* v. 2. p. 434. *De Cand. Prodr.* v. 1. p. 164.—*Draba hyperborea. Desv.*—*Lunnria* foliis ellipticis incondite dentatis. *Krasch. Nov. Comm. Acad. Petrop.* 1. ann. 1750. p. 388. t. 15. f. 1.

HAB. In North America; *Krascheninnikof* in *Linn.*; and, according to *Pursh*, on the North-West coast.—I have seen no specimen of this plant, nor do I know in what part of North-West America it was discovered; probably in a high northern latitude, if we may judge from its name. *Krascheninnikof* appears to be the only author who has described it, and his work I have not the opportunity of seeing. *De Caudelle* attributes the discovery of this plant to *Steller*, who travelled in Siberia and Kamtschatka; but I am not aware that his researches extended to the American continent. Its flowers are said to be white.

2. *A. ? dentatum*; foliis radicalibus subbruncinato-dentatis lineari-lanceolatis, siliculis ellipticis pubescentibus. DC.—*Nutt. Gen. Am.* v. 2. p. 63. *De Cand. Prodr.* v. 1. p. 165.—*Draba arabizans. Pursh, Fl. Am.* v. 2. p. 434; not *Mich.* (according to *Nuttall*.)

HAB. Canada? *Pursh*; but *Pursh* has probably confounded the Canadian *Draba arabizans* of *Michaux* with the *Alyssum dentatum* of *Nutt.* which he found in Virginia; and hence it should probably be excluded

from the British American Flora.—The flowers of this are not known, and it may be considered doubtful if any true *Alyssum* is found in North America.

12. DRABA. Linn.

Silicula sessilis, ovalis aut oblonga, valvis planis convexisve. *Semina* plurima immarginata. *Calyx* æqualis. *Petala* integra. *Stamina* omnia edentula. DC.

* *Perennes*. *Scapi* plerumque aphylli.

1. *D. algida*; flaccida, scapis brevibus nudis patenti-pilosis, foliis oblongis planis calycibusque pilosis, piliis plerumque simplicibus, siliculis subcorymbosis ellipticis glabris, stylo perbrevis, (floribus flavis).—“*Adams in Herb. Fisch.*” *De Cand. Prodr.* v. 1. p. 167. *Cham. et Schlecht. in Linnæa*, v. 1. p. 21.

γ. *brachycarpa*, DC.; siliculis brevioribus. *De Cand. Prodr.* l. c.

δ. *breviscapa*; scapo foliis glabriusculis immerso.

HAB. Sea coast between the Mackenzie and Coppermine Rivers. *Dr. Richardson*. δ. In deep sand.—I have not had any opportunity of seeing authentic specimens of *D. algida*: but its characters agree with those of our present plant, and, according to De Candolle and Chamisso, it must be very nearly allied to *D. alpina*; so much so, that the latter author doubts if what he describes as the γ. *brachycarpa* be not a dwarf state of *alpina*. De Candolle says that it is known from that species and all the yellow-flowered ones, by its simple not branched hairs. In our plant, however, it must be confessed there are a few branched hairs mixed with the more abundant simple ones. The roots are long and slender, the lower part of the numerous, dichotomously divided branches shaggy with the remains of former years' leaves: the perfect leaves, as well as the stem, are soft and flaccid, oblongo-spathulate, hairy principally at the margin: the scapes scarcely twice the length of the leaves, even when bearing fruit, hairy or glabrous, as is the calyx, even on the same plant. *Pedicels* always glabrous. *Petals* twice the length of the calyx, obovate. *Capsules* elliptical or elliptic-oblong, shortly oval in γ., and sometimes also in α. *Style* short, but distinct. *Stigma* oblong, lobed. In δ. the flower is quite immersed among the leaves.

2. *D. alpina*; subrigida, scapis nudis pubescenti-hirsutis, foliis lanceolatis planis pilis plerumque ramosis, petalis calycem plusquam duplo longioribus (plerumque flavis) siliculis subcorymbosis oblongo-ellipticis, stylo brevi.—*Linn. Sp. Pl.* p. 896. *Fl. Dan.* f. 56. (foliis nimis latis.) *Wahl. Lapp.* v. 1. p. 173. t. 11. f. 4. (sed stigmatate brevior quam in nostr. exempl.) *Br. in Parry's 1st Voy. App.* p. 265. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 27. *Hook. in Parry's 2d Voy. App.* p. 385.

α. siliculis glabris. “*Herb. Linn.*” *Br. l. c.*

β. siliculis pilosis. *Br. l. c.*—*D. alpina*. *Br. Spitzb. Pl. in Scoresby's Arctic Reg.*

δ. floribus albis.

HAB. From lat. 60° on the Mountains, to the shores of the Arctic Sea, and on the islands adjacent, where it principally abounds, extending westward to Kotzebue's Sound, (*Captain Beechey's Collection*), and the Island of St. Lawrence, (*Chamisso*): found by all the Arctic Travellers. δ. Only on the sea shore, westward of the Mackenzie River. *Captain Sir J. Franklin* and *Captain Back*.—De Candolle says of this, that the flowers are smaller than those of *D. aizoides*. It is not so in our specimens; they are remarkable for their size and generally fine yellow colour, rarely white, or very pale yellow. The calyx, peduncle, and scape, are liable to vary in their degree of hairiness. This does not appear to grow farther south than lat. 60°, nor did Mr. Drummond or Mr. Douglas find it at the greatest elevation of the Rocky Mountains, where they crossed the chain. In that alpine and southern latitude, the species seems to be replaced by the following very closely allied one.

3. *D. glacialis*; scapo nudo stellatim pubescente vel glabro, foliis lineari-lanceolatis rigidis integris stellato-pubescentibus, petalis (flavis) calycem duplo longioribus, siliculis longe racemosis (an semper?) oblongo-ovatis, stylo brevi.—“*Adams, Mém. Soc. Nat. Mosq. 5. p. 106.*” *De Cand. Prodr. v. 1. p. 167.* *Graham in Edin. Phil. Journ. 1829. p. 183.*

- a. scapis pedicellis siliculisque glabris, floribus pallidis.
- β. scapis pedicellisque pubescentibus, siliculis glabris.
- γ. scapis pedicellis siliculisque valde pubescenti-hirsutis.
- δ. minor, scapis numerosis pedicellisque glabris, floribus pallidioribus.
- ε. minor, scapis pedicellisque glabris, floribus intense luteis.

HAB. Rocks on the loftiest of the Rocky Mountains, between lat. 52° and 57°. *Drummond*. Rare on the shores of the Arctic Sea. *Dr. Richardson*.—Closely allied, as De Candolle observes, to the two preceding species; differing from both in its longer, narrower, and more rigid leaves, which are clothed with short, and generally dense, stellated pubescence, and furnished, on the underside especially, with a strong and prominent midrib. In consequence of their firm texture, the former years' leaves remain attached at the base, when they lose their pubescence, becoming bleached and glossy, so as greatly to resemble *D. aizoides*, from which again this species differs by its pubescent, never ciliated, leaves, and far shorter, though yet very evident, style to the capsule.

4. *D. oligosperma*; scapo nudo subpubescente, foliis erectis rigidis subnitidis linearibus ciliatis versus apicem præcipue utrinque stellatim pubescentibus, petalis (albis) calycem pilosiusculum duplo excedentibus, siliculis pubescentibus longe racemosis ellipticis basi apiceque acutis 4–8 spermis, stylo sub $\frac{1}{2}$ breviora.

Radix perennis, tenuis, sublonge descendens, superne multiceps. *Caules* breves, unciam-2-uncias longi, ramosi, inferne foliorum vestigiorum vestigiis obsiti. *Folia* erecta, linearia, obtusiuscula, inferne subattenuata, rigida, nitida, utrinque eed versus apicem præcipue stellatim pubescentia, margine ciliata, pilis simplicibus vel ramosis. *Scapi* terminales, nudi vel raro versus basin unifoliati, rigidiusculi, digitales, pedicellique minute stellatim pubescentes. *Flores* etiam racemosi. *Calyx* glaber, vel parce pilosus, pilis patentibus. *Petala* alba, obovata, basi in unguem attenuata. *Pistillum*: *Germen* oblongum, utrinque attenuatum, *stylo* subtriplo brevior terminatum: *Stigma* integrum. *Silicula* in racemum laxum, duas uncias longæ, ellipticæ, planæ, utrinque acutæ, pube brevi sparsa tectæ, loculis 2-3, rarius 4-spermis. *Stylus* evidentissimus, *silicula* subquadraplo brevior, *stigmatibus* integro capitato. *Pedicelli* fructiferi siliculis paulo longiores.

HAB. Summit of a limestone hill, Mackenzie River, lat. 68°. *Dr. Richardson*.—Unwilling as I am to increase the number of species in this most difficult genus, I yet venture to do so in the case of the present individual, which was found in considerable abundance and perfection, though only in one spot, bearing both flowers and fruit. Although in the three preceding species, if such they may be called, De Candolle designates the style as *brevissimus*, it can only be so in reference to that of his preceding groupe, the *Aizopsis* family; for the style is assuredly much longer than in any of the following species with naked scapes. Now, in that particular, and in the rigid foliage and generally short stellated pubescence, it approaches *D. glacialis*, whilst its white flowers and general habit assimilate it with the *D. hirta* tribe. It is remarkable for having the lower pedicels of the raceme bearing fruit, whilst the upper ones have perfect flowers. The seeds are mostly two or three in each cell.

5. *D. pauciflora*; scapis aphyllis pedicellisque pilosis, foliis lanceolatis integerrimis pilis furcatis simplicibusque, petalis (flavis) spathulatis calycem hirsutum vix superantibus, ovarii glabris. *Br. in Parry's 1st Voy. App. p. cclxvi.* *Hook. in Parry's 2d Voy. App. p. 385.*

HAB. Melville Island. *Capt. Sabine*. Barrow River. *Capt. Sir E. Parry*. “Dubia species, *alpina*

proxima." *Br.*—What I have taken for this plant in Captain Parry's collection, is smaller than *D. alpina*, has fewer flowers upon the scape, and much smaller and narrower petals.

6. *D. micropetala*; scapis aphyllis pedicellisq̄ue pilosis, foliis lato-lanceolatis subvenosis integerrimis pilis furcatis simplicibusq̄ue, petalis (albis) anguste-spathulatis calycem pilosiusculum vix superantibus, siliculis ellipticis, stigmatē sessili emarginato.—*Hook. in Parry's 2d Voy. App. p. 385.*

β. minor.

HAB. Island of Igloodik. *Capt. Sir E. Parry.* β. Sea coast between the Coppermine and Mackenzie Rivers. *Dr. Richardson.*—This has the habit of *D. alpina*, but its flowers more nearly resemble those of *D. pauciflora*. They are, however, white, their petals smaller and still narrower than in the latter species, collected into a dense corymb, or almost head of flowers, which scarcely changes its appearance even when in fruit. *Dr. Richardson* gathered only two specimens of this, one in flower, which differs only from *Capt. Parry's* plant in its smaller size, and one in fruit. The *siliculae* are elliptical, purplish brown, glabrous, veiny, crowned (as is the germen) with the sessile and deeply notched stigma.

7. *D. muricella*; scapo nudo velutino, foliis oblongis integris pube stellata cæsiō-velutinis, siliculis oblongo-lanceolatis glabris. *DC.—Wahl. Lapp. p. 178. t. 11. f. 2. De Cand. Prodr. v. 1. p. 168. Brown in Ross's Voy. App. p. 193. Rich. in Frankl. 1st Journ. ed. 2. App. p. 27. Hook. in Parry's 2d Voy. App. p. 387.—D. nivalis. Liljab. (not Willd.)—Pursh, Fl. Am. v. 2. p. 433?*

HAB. Labrador. *Colmaster, (in Pursh.)* Arctic shores of America. *Ross. Parry.* Woody country between lat. 54° and 64°. *Dr. Richardson.*—I scarcely see how this may be discriminated from *D. nivalis* and *hirta*. *De Candolle* has placed it among the *Chrysodrabæ*, or those species which have yellow flowers; but he expressly says the blossoms are white, though his var. β. *cæsiā* has yellow ones.

8. *D. oblongata*; scapis nudis, pube floccosa subhirsutis, foliis cæspitosis oblongo-linearibus integris ciliatis velutinisq̄ue, siliculis elliptico-oblongis velutinis. *DC.—Brown in Ross's Voy. App. (without descr.) De Cand. Prodr. v. 1. p. 169.—D. hirta, var. 2. Hook. in Parry's 2d Voy. App. p. 386.*

HAB. Shores of Arctic America. *Ross.* Igloodik and Barrow River. *Parry.*—I have not seen this species, nor is it known to Botanists except by *De Candolle's* description. It seems very closely allied to *D. hirta*.

9. *D. corymbosa*; scapis nudis hispidulis, foliis dense cæspitosis oblongis basi attenuatis ciliatis subhispidisque, siliculis ellipticis corymbosis hispidulis. *DC.—Brown in Ross's Voy. App. — De Cand. Prodr. v. 1. p. 169.*

HAB. Shores of Arctic America. *Capt. Ross.*—This is mentioned by *Mr. Brown* as being extremely similar to *D. oblongata* and *rupestris*; and *De Candolle* says of it, "*D. oblongata et hirtæ affinis.*"

10. *D. hirta*; scapis puberulis, folia pauca plerumq̄ue dentata gerentibus, foliis radicalibus oblongis subintegris puberulis, siliculis oblongis pedicellisq̄ue glaberrimis, stylo subnullo.—*Linn. Sp. Pl. p. 897. Wahl. Lapp. p. 175. t. 11. f. 3. Hook. in Parry's 2d Voy. App. p. 385. (var. 1.) Rich. in Frankl. 1st Journ. ed. 2. p. 27.*

1. *siliquosa*, siliculis 9 lineas longis. *Cham. et Schlecht. in Linnæa, v. 1. p. 23.*

1. foliis glabriusculis, scapo omnino glabro.

HAB. Arctic and subarctic America, as well as upon the Rocky Mountains; frequent. 1. Unalaska. *Chamisso*. 2. Sea shores between the Coppermine and Mackenzie Rivers. *Dr. Richardson*.—A most variable plant, differing, as do the rest of the genus, in the length and breadth of the foliage, in the degree of pubescence, in the form of the siliculae, and in the absence or presence of leaves upon its stem; so that to me it appears, on the one hand, readily to pass into *D. rupestris* of Mr. Brown, which here (out of respect to such high authority,) I have ventured to keep distinct; while, on the other, it is difficult to distinguish it from some of the slender states of *D. incana*.

11. *D. rupestris*; scapo nudo vel unifoliato pubescente, foliis oblongo-spathulatis subhirsutis ciliatisque, siliculis oblongis pubescentibus vel glabris, stylo perbrevis, stigmatibus emarginato.

α. siliculis pubescentibus. *Br. in Hort. Kew. ed. 2. v. 3. p. 91. Hook. Fl. Scot. 1. p. 197. Cham. et Schlecht. in Linnæa, v. 1. p. 23. De Cand. Prodr. v. 1. p. 169.*—*D. hirta. Sm. in Engl. Bot. t. 1338. (not of Linn. nor of Fl. Dan.—Br.) Sm. in Engl. Fl. v. 3. p. 159.*—*D. hirta, β. alpicola. Wahl. Lapp. p. 175. t. 11. f. 1. Hook. Fl. Scot. 1. p. 197.*—*D. hirta, var. 4. Hook. in Parry's 2d. Voy. App. p. 386.*

β. siliculis glabris.

HAB. β. Rocky Mountains, in stony places, between lat. 52° and 57°. *Drummond*.—This species was founded by Mr. Brown, on specimens, I believe, from Ben Lawers, in Scotland; where I have gathered for many successive years in great abundance, and it assuredly varies in the pubescence being more or less dense, and more or less branched and stellated. The siliculae are generally pubescent; but sometimes, as is the pedicel, quite glabrous. The latter is the state of the Rocky Mountain plant, and it is probably identical with *A. nivalis* of Willdenow.

12. *D. lapponica*; scapis nudis glaberrimis, foliis lanceolatis integerrimis pilosiusculis, siliculis ovato-lanceolatis pedicellisque glaberrimis. *DC.—Willd. — De Cand. Prodr. v. 1. p. 169. Br. in Parry's 1st Voy. App. p. 266. Cham. et Schlecht. in Linnæa, v. 1. p. 22.*—*D. hirta, var. 3. Hook. in Parry's 2d Voy. App. p. 386.*—*D. androsacca. Wahl. Lapp. p. 174. t. 11. f. 5.*

HAB. Shores and islands of Arctic America. *Ross. Parry.*

13. *D. stellata*; scapis 1-phyllis pubescentibus, foliis ovali-oblongis pube stellata brevi tomentosis, pedicellis puberulis, siliculis oblongis. *DC.—Jacq. Hort. Vindob. p. 113. Obs. n. 54. t. 4. f. 3. De Cand. Prodr. v. 1. p. 169. Cham. et Schlecht. in Linnæa, v. 1. p. 22.*—*D. hirta. Jacq. Austr. t. 432.*

β. *hebecarpa*; siliculis undique velutino-pubescentibus. *DC.*

HAB. Unalaska. *Chamisso*. β. Arctic America. *Dr. Richardson*.—The figure referred to in *Jacquin's Flora Austriaca*, I have always conceived to be admirably characteristic of our Scottish *D. rupestris*, especially the upper figure. The var. β. is very hairy, and more disposed to be leafy on the stem than the *D. rupestris* of this country.

14. *D. laevipes*; scapis nudis monophyllisve pubescentibus, foliis ovatis pube stellata brevi tomentosis, siliculis elongato-linearibus pedicellisque glaberrimis. *De Cand. Syst. Nat. v. 2. p. 346. De Less. Ic. Sel. v. 2. t. 46. f. A. De Cand. Prodr. v. 1. p. 169.*

HAB. Rocky Mountains, between lat. 52° and 57°. *Drummond*.—A few specimens, well according with *De Candolle's* description and *De Lessert's* figure, are in Mr. *Drummond's* collection.

15. *D. crassifolia*; scapo nudo vel unifoliato, pedicellis calyceque glaberrimis, foliis lineari-spathulatis subcarnosis, pilis simplicibus ciliatis, petalis apice retusis calycem paulo superantibus.—*Graham in Edin. Phil. Journ.* 1829. p. 182.

α. petalis albis.

β. petalis pallide flavis.

Radix parva, gracilis, descendens, fibrosa, superne multiceps. *Folia* rosulata, fere omnino radicalia, vix unciam longa, lineari-spathulata, subcarnosa, pallide viridia, integerrima vel paucidentata, glabra, margine pilis simplicibus albis ciliata, basi non raro in petiolum longiusculum attenuata. *Scapi* 2, 3, nonnunquam 4 uncias longi, flexuosi vel curvati, aphylli, vel folium unicum lineare basin versus gerentes, glaberrimi. *Flores* laxe corymbosi, pauciflori. *Pedicelli* subcurvati vel flexuosi, demum patentissimi. *Calycis sepala* ovato-rotundata, glaberrima, viridia ad marginem pallidiora. *Petala* alba, in β, pallide flava, obovata, basi attenuata, apice retusa vel obtusissime emarginata. *Siliculae* glaberrime, elliptico-ovata. *Stigma* sessile, parvum.

HAB. Summits of the Rocky Mountains, between lat. 52° and 57°.—The small size of the whole plant, frequently not rising more than 2 inches above the surface of the soil, the absence of pubescence, its waving scapes and pedicels, and small flowers, would seem to constitute a distinct character: yet the larger specimens offer many points in common with the *D. glabella*. *Ph.* The general habit is that of *Erophila vulgaris*, but its petals are by no means bipartite, but simply notched.

* * *Caulis foliosus. Annuæ vel Biennes.*

16. *D. ? levigata*; caulibus foliosis simplicibus glabris strictis, foliis radicalibus et caulinis inferioribus petiolatis ovatis basi attenuatis carnosiusculis margine obsolete ciliatis, siliculis oblongo-lanceolatis, pedicellis brevibus quadruplo sextuplo longioribus glabris.—*Cham. et Schlecht. in Linnæa*, v. 1. p. 25.

HAB. Island of St. Lawrence. *Chamisso*.—Of this plant, with which I am wholly unacquainted, Chamisso and Schlechtendal say that it has a very peculiar habit in the absence of the radical tufts of leaves, the simple stem, and in its smoothness and fleshiness.

17. *D. glabella*; foliis radicalibus oblongo-spathulatis, caulinis 2-4 ovatis dentatis vel integris, omnibus caule pedicellisque læviter substellato-pubescentibus, petalis (albis) calyce glaberrimo plusquam duplo longioribus, siliculis—?—*Pursh, Fl. Am. v. 2. p. 434? Rich. in Frankl. 1st Journ. ed. 2. p. 27.*

HAB. Margins of alpine rivulets in the Rocky Mountains, between lat. 52° and 57°. *Drummond*; and north in the plains. *Dr. Richardson.* Hudson's Bay. *Pursh*.—This has more the habit of *D. crassifolia* than of the following; but it is three or four times the size, and has flowers as large as any in the genus. The siliculae I have not seen.

18. *D. confusa*; caule folioso subramoso pube stellata brevi velutino, foliis oblongis subdentatis, siliculis oblongis pubescentibus pedicello longioribus. *DC.*—"Ehrh. Beitr. 7. p. 155." *De Cand. Prodr. v. 1. p. 170.*

HAB. Rocky Mountains, from lat. 52°; and north in the plains, nearly to the mouth of the Mackenzie River. *Drummond. Richardson*.—This too is a very variable plant, in respect to the number of leaves on its stem, their shape and margin, (entire or toothed,) and the pubescence of the whole plant. It insensibly passes into the following species.

19. *D. incana*; caule folioso simplici vel ramoso pube stellata velutino, foliis ovatis dentatis, siliculis oblongis glabris vel pubescentibus contortis vel strictis.

aberrimis, foliis
calyce paulo

radicalis, vix
glabra, margine
2, 3, nonnunquam
glaberrimi.
Calycis sepala
obovata, basi
Stigma sessile,

size of the whole
of pubescence, its
; yet the larger
that of *Erophila*

radicalibus et
oleto ciliatis,
ous glabris.—

ainted, Chamisso
aves, the simple

dentatis vel
(albis) calyce
. 434? *Rich.*

Drummond; and
D. crassifolia
in the genus.

liis oblongis
Ehrh. Beitr. 7.

the Mackenzie
of leaves on its
It insensibly

foliis ovatis

α. caule erecto stricto.—*D. incana*, *Linn. Sp. Pl. p. 897. Engl. Bot. t. 388. Fl. Dan. t. 130. Pursh, Fl. Am. v. 2. p. 434.*—*D. contorta*, *Ehrh.—De Cand. Prodr. v. 1. p. 170.*

β. caule flexuoso.

HAB. α. Labrador. *Pursh, Mr. Morrison*. Bear Lake and the Mackenzie River. *Dr. Richardson*. β. North-West coast of America. *Mr. Menzies*. Islands of St. Lawrence and Unalashka. *Dr. Fischer*.—The more usual state of *D. incana*, such as we find it in the north of England and in Scotland, we have only from Labrador and about Bear Lake. The specimens from the N. W. coast, gathered by Mr. Menzies, will probably prove distinct, both from it and *D. confusa*; for their habit is very different. I possess the same plant from the stations above quoted, sent by Dr. Fischer, with the name "*D. borealis*. *DC.?*" This latter is a Kamtschadale plant, communicated by the same liberal Botanist to De Candolle, who, however, describes it as having only one leaf upon the stem, whereas the plant in question has several. I have seen no fruit.

20. *D. arabizans*; caule folioso subramoso subpuberulo, foliis lanceolatis acutis dentatis, siliculis linearibus glabris pedicello longioribus.—*Mich. Am. v. 2. p. 28. Pursh, Fl. Am. v. 2. p. 134.*

HAB. Lake Champlain. *Michaux*. Canada. *Pursh? Goldie?*—What I possess, under this name, gathered in the neighbourhood of Montreal by Mr. Goldie, is, I think, only *D. incana*, and I strongly suspect such to be the plant of Michaux. Pursh seems to have confounded Michaux's *D. arabizans* with the *Alyssum dentatum* of Nuttall, as already noticed.

21. *D. Unalashkiana*; caule folioso simplici pubescente, foliis ovato-oblongis integris pubescentibus, siliculis oblongis hirsutulis.—*De Cand. Syst. Veget. v. 2. p. 350, Prodr. v. 1. p. 170.*

HAB. Unalashka. *Dr. Fischer in De Cand.*—"Petala calyce duplo longiora, limbo obovato emarginato." *DC.*

22. *D. aurea*; pubescens, caule erecto folioso, foliis lanceolatis ovato-lanceolatisve acutis integris dentatisve, corymbis terminalibus axillaribusque, siliculis oblongo-lanceolatis pubescentibus pedicello triplo longioribus, petalis (flavis) emarginatis, stylo longiusculo. *Vahl.—Fl. Dan. t. 1460. De Cand. Prodr. v. 1. p. 170. Hook. in Bot. Mag. t. 2934.*

HAB. Alpine prairies of the Rocky Mountains. *Drummond*.—Well distinguished by its bright conspicuous yellow flowers and lateral pedunculated corymbs, springing from several of the upper leaves of the stem. One specimen in the collection has white flowers.

23. *D. lutea*; pubescens, caule ramoso folioso, foliis ovalibus caulinis lanceolatis dentatis, siliculis elliptico-oblongis glabris sub 30-spermis pedicello sub-triplo brevioribus, (floribus luteis).—"Gilib. *Fl. Lith. in Ust. del Op. 2. p. 357.*" *Nutt. Gen. Am. v. 2. p. 62. De Cand. Prodr. v. 1. p. 171.*

β. *longipes*. *DC.*—Pedicellis silicula 4-plo longioribus.—*D. gracilis*. *Graham in Edin. Phil. Journ. 1828. p. 172.*

HAB. Low grounds from lat. 56° to 66°; *Dr. Richardson; Drummond*; both α. and β.—It has been correctly observed that this differs from the following species only in its glabrous capsules.

24. *D. nemoralis*; pubescens, caule ramoso, foliis ovalibus caulinis lanceolatis dentatis, siliculis elliptico-oblongis pubescentibus sub 30-spermis pedicello sub-triplo brevioribus. *Ehrh.—De Cand. Prodr. v. 1. p. 171.*—*D. muralis*, β. *nemorosa*. *Linn. Sp. Pl. p. 897.*

- a. floribus luteis, petalis subintegris.
 A. floribus fere albis, petalis emarginatis.

HAB. a. About Lac la Pluie, and Rocky Mountains, (not found in the low grounds.) *Drummond*. A. North-West coast of America. *Douglas*.

25. *D. muralis*; pubescens, caule ramoso folioso, foliis late ovatis caulinis cordatis sub-amplexicaulibus profunde dentatis, siliculis elliptico-oblongis sub 16-spermis pedicello paulo brevioribus (floribus albis).—*Linn. Sp. Pl. p. 897. Engl. Bot. t. 192. De Cand. Prodr. v. 1. p. 171.*

HAB. About Montreal. *Mr. Cleghorn*.—Petals white, entire or sometimes notched upon the same plant.

Such is the best account I have been able to draw up of the individuals of this most difficult genus, *Draba*. It is to me most unsatisfactory; and all I can offer in its favour is, that, in general, the species of which it is composed have a peculiarity of aspect and growth, by which they are better distinguished than by the characters here laid down. But there are, among the European and Northern Asiatic species existing in my Herbarium, many of which I am quite at a loss to determine whether or not they are different from the North American ones.

13. EROPHILA. DC.

Silicula ovalis aut oblonga, valvis planis. *Semina* plurima, immarginata. *Cal.* æqualis. *Petala* bipartita. *Stam.* edentula.—*Herbæ annuæ, scapis nudis, floribus albis. DC.*

1. *E. vulgaris*; siliculis ellipticis pedicello brevioribus, scapis 5-15-floris.—*De Cand. Prodr. v. 1. p. 172.—Draba verna. Linn. Sp. Pl. p. 896. Engl. Bot. t. 586. Pursh, Fl. Am. v. 2. p. 433.*

HAB. Canada. *Pursh*.—I have not seen this in any collection from British America, and am unable to say whether the plant alluded to by Pursh be the common European state of *E. vulgaris*, or, as is more probable, the *E. americana* of DC., which only differs in its longer silicula, according to specimens sent to me from New York, by Dr. Torrey; and which that gentleman has ascertained to be *Draba hispida* of Muhlberg.

14. COCHLEARIA. Tourn.

Silicula sessilis, ovato-globosa aut oblonga, valvis ventricosis. *Semina* plurima, immarginata. *Cal.* æqualis, patens. *Pet.* integra. *Stam.* edentula.—*Flores albi. Folia sæpius carnosæ. DC.*

1. *C. oblongifolia*; siliculis subrotundis pedicello dimidio brevioribus, foliis caulinis oblongis integris (vel sinuato-dentatis) sessilibus, summis brevissime auriculatis.—*De Cand. Prodr. v. 1. p. 363. Cham. et Schlecht. in Linnæa, v. 1. p. 26.*

“Valde similis *Cochleariæ officinali*! Differe videtur: foliis caulinis basi magis angustatis, amplexicaulibus quidem, auriculis vero minus productis; floribus minoribus, siliculis stylo breviori apiculatis. An species? Ut congeneres variat habitu et statura.”—*Cham. et Schlecht.*

HAB. Islands of St. Lawrence and Unalashka. *Chamisso. Kotzebue's Sound. Lay and Collie in Capt. Beechey's Collection*.—I possess authentic specimens of this from Dr. Fischer, which confirm the observations above given.

2. *C. anglica*; siliculis elliptico-globosis venoso-reticulatis pedicello dimidio brevioribus, foliis radicalibus petiolatis ovatis integris, caulinis oblongis. DC.—*Linn. Sp. Pl.* p. 903. *Engl. Bot. t.* 552. *De Cand. Prodr. v. 1. p.* 364.

HAB. Shores of the Arctic Sea and islands adjacent, from east to west; Observatory Inlet. *Dr. Scouler*.—It is often difficult, especially in a dried state, to distinguish this from *C. officinalis*; nor do I think that the two species are generally well understood by Botanists. If the *Engl. Bot. fig. t.* 552, be the true *C. anglica*, our most frequent Arctic species is certainly that plant. The *siliculae* are broadly elliptical, the reticulations more or less apparent, the dissepiment sometimes fenestrate, as I find it to be in British individuals.

3. *C. fenestrata*; siliculis ellipticis ovalibusve, valvis subvenis, dissepimento elliptico-lanceolato, axi saepius fenestrato, foliis radicalibus cordatis integerrimis, caulinis spathulato-oblongis subdentatis.—*Brown in Ross's Voy. ed. 2. v. 2. p.* 133, *et in Parry's 1st Voy. App. p.* cclxvi. *De Cand. Prodr. v. 1. p.* 173.

HAB. Shores of the Arctic Sea; *Capt. Ross* and *Sir E. Parry*; and it is probably in the other collections; but I confess that I cannot satisfactorily distinguish it from *C. anglica*.

4. *C. officinalis*; siliculis ovato-globosis pedicello dimidio brevioribus, foliis radicalibus petiolatis cordatis, caulinis ovatis dentato-angulatis. DC.—*Linn. Sp. Pl.* p. 533. *Engl. Bot. t.* 551.

HAB. Arctic shores. Whale Fish Islands? *Capt. Sir E. Parry*. Coast to the westward of Mackenzie River. *Capt. Sir John Franklin* and *Capt. Back*.—One specimen in each of the above-mentioned voyagers' collections, seems to me to correspond in foliage with our European *C. officinalis*, taking the English Botany figure as the type of the species; but neither is in fruit.

5. *C. danica*; siliculis ellipsoideis pedicelli longitudine, foliis omnibus petiolatis deltoides. DC.—*Linn. Sp. Pl.* p. 903. *Engl. Bot. t.* 100. *Cham. et Schlecht. in Linnaea, v. 1. p.* 26.

HAB. Arctic shores. North Somerset. *Capt. Sir E. Parry*. Westward of the Mackenzie River. *Capt. Sir John Franklin* and *Capt. Back*.

6. *C. tridactylites*; siliculis ovato-globosis, foliis caulinis dentis unico utrinque grosse subtrilobatis. DC.—*Banks' Herb.*—*De Cand. Syst. v. 1. p.* 174.

HAB. Labrador; *Herb. Banks.*; according to De Candolle.

7. *C. spathulata*; stellatim pubescens, siliculis ellipsoideo-globosis, foliis spatulatis grosse dentatis acutis venosis.—*Schlecht. pat. in Herb. Willd.*—*De Cand. Prodr. v. 1. p.* 174. *Cham. et Schlecht. in Linnaea, v. 1. p.* 27.—*C. septentrionalis. De Cand. Prodr. v. 1. p.* 174. ("excl. syn. *Schlecht. pat. in Herb. Willd.*")—*Draba grandis. Longsdorff, MSS.*—*De Cand. Syst. v. 2. p.* 355. *De Less. Ic. v. 2. f.* 47.

HAB. Aleutian Islands of St. George and St. Paul, *t.* 56°, 57°. *Chamisso*.—Of this interesting plant I possess beautiful specimens, both from *Dr. Fischer* and from *Charisso*. The latter considers it as the only plant peculiar to the islands just mentioned, and has published an excellent description of it in the *Linnaea* above quoted. In a dried state, the large *siliculae* are generally pressed flat, whence arose the mistake of considering it a *Draba*. In habit and pubescence it is far removed from the preceding *Cochlearia*.

8. *C. aliquosa*; siliculis oblongo-lanceolatis stylo apiculatis pedicello dimidio breviori-

bus, foliis oblongis integris basi attenuatis pubescentibus. DC.—*Slecht. in Herb. Willd.*
—*De Cand. Syst. Veget. v. 2. p. 355. Ejusd. Prodr. v. 1. p. 174.*

HAB. Rocky mountains in Unalashka. (*Herb. Willd.*)—Chamisso, who did not find this plant in Unalashka, says of it, that it is very nearly allied to the preceding, differing only in the entire lanceolato-oblong leaves and longer *silicula*.

TRIB. III. THLASPIDÆ seu Pleurorrhizæ Angustiseptæ. *Silicula* dehiscens, septo angustissimo, valvis carinatis navicularibus. *Semina ovalia, interdum marginata. Cotyledones plana, accumbentes (o=), septo contrariae.*—*Tribus distinctissima, cum Lepidneis solum conferenda, sed distincta seminibus magis compressis et cotyledonibus accumbentibus.* DC.

15. THLASPI. Linn.

Silicula apice emarginata, valvis navicularibus dorso alatis, loculis 2-poly-spermis. *Petala* æqualia. *Cal.* basi æqualis.—*Flores albi.* DC.

1. *T. arvense*; foliis oblongis dentatis, caulibus erectis, siliculis obovato-orbiculatis pedicello brevioribus. DC.—*Linn. Sp. Pl. p. 901. Engl. Bot. t. 1659. Pursh, Fl. Am. v. 2. p. 435. De Cand. Prodr. v. 1. p. 175.*

HAB. Canada. *Mrs. Shepherd*; but not general in the country.

2. *T. montanum*; foliis subcarnosulis integris, radicalibus obovatis petiolatis, caulibus oblongis sagittato-amplexicaulibus, petalis calyce majoribus, siliculis obcordatis 4-spermis, stylo filiformi. DC.—*Linn. Sp. Pl. p. 902. De Cand. Prodr. v. 1. p. 176.*—(*T. præcox. Wulf. et T. alpinum. Jacq.*)

HAB. Shores of the Arctic Sea, to the westward of the Mackenzie River; *Capt. Sir John Franklin and Capt. Back.* One specimen was sent with *T. alpestre*, from Canada, by *Mrs. Percival*.

3. *T. cochleariforme*; foliis subcarnosulis, radicalibus petiolatis ovatis subdentatis, caulibus cordato-amplexicaulibus, petalis calyce majoribus, siliculis oblongis subemarginatis 8-spermis, stylo brevi filiformi.—*De Cand. Syst. Veget. v. 2. p. 381, Prodr. v. 1. p. 176. De Less. Ic. v. 2. t. 52.*

HAB. Common on the subalpine ridge of the Blue Mountains, and those of the Flat-head River, on the south branches of the Columbia. *Douglas.*—Except in the larger size of this plant, and in the more numerous seeds of the cells, it scarcely differs from the preceding.

4. *T. alpestre*; foliis integris vel obscure dentatis, radicalibus ovatis petiolatis, caulibus oblongis amplexicaulibus, petalis calyci subæqualibus, siliculis obcordatis 8-12-spermis, stylo filiformi. DC.—*Linn. Sp. Pl. p. 903. Engl. Bot. t. 81. De Cand. Prodr. v. 1. p. 176.*

HAB. Canada. *Mrs. Percival.*

16. HUTCHINSIA. Br.

Silicula elliptica, valvis navicularibus apteris, loculis 2-spermis, rarius polyspermis. *Cal.* æqualis. *Pet.* æqualia. DC.

H. calycina; cano-pubescentis, foliis plerumque radicalibus profunde pinnatifidis longe petiolatis, calycibus persistentibus, siliculis oblongis utrinque attenuatis stylo acuminatis. (TAB. XVII. f. B.)—*Desv. Journ. Bot. v. 3. p. 168. De Cand. Prodr. v. 1. p. 178.*—*Lepidium calycinum. Steph. in Willd. Sp. Pl. v. 3. p. 433.*

β. foliis inferioribus omnino integris.

Radix lignosa, subfusiformis, longissime descendens, hic illic fibrosa, superne divisa. *Caulis* brevis, vix digitalis, canescens. *Folia* plerumque radicalia, longa petiolata, profunde pinnatifida, fere pinnata, inferiora nonnunquam, in var. *β.* præcipue, integerrima, spatulata, incana, pubescenti-tomentosa, juniora præcipue, laciniis linearibus acutiusculis vel obtusis; *caulina* pauca, minora, laciniis paucioribus. *Flores* albi, suavisimi, dense corymbosi, pedicellos longitudine subequantes. *Calyx* brevis; *sepalis* lato-ovatis, valde concavis, albo-marginatis, dorso valde pilosis. *Petala* obovata, sublonge unguiculata, obscure nervosa. *Stamina* edentula. *Antheræ* subrotundæ. *Germen* oblongum, subhirsutum, superne stylo brevi attenuatum. *Stigma* parvum, capitatum. *Fructus* abest.

HAB. On the Rocky Mountains, between lat. 52° and 57°.—*β.* Cape Mulgrave in Behring's Straits. *Lay and Collie* in *Capt. Beechey's Collection*.—Our specimens from the Rocky Mountains agree in every particular with the Altai plant, which I have received from Dr. Fischer. Those from Cape Mulgrave have sometimes all the radical leaves, and occasionally some of the cauline ones, entire.

TRIB. IV. CAKILINEÆ seu Pleurorhizæ Lomentacæ. *Siliqua aut silicula transverse in articulos 1-2-loculares, 1-2-spermos secedens. Semina immarginata. Cotyledones planæ, accumbentes (o=), septo (dum adsit) parallelæ. DC.*

17. CAKILE. *Linn.*

Silicula biarticulata, compressa, articulo superiore ensiformi aut ovato. *Semina* in loculis solitaria, superioris erectum, inferioris pendulum. *DC.*

1. *C. edentula*; siliculæ articulo superiore ovato acuto edentulo.—*Bunias edentula*. *Bigel. Fl. Bost. ed. 1. (1814,) p. 157, ed. 2 p. 251.*—*Cakile ægyptiaca*. *Tussac, Fl. des Antilles. v. 1. p. 17. (fide De Cand.)*—*C. americana*. *Nutt. Gen. Am. (1818,) v. 2. p. 62. De Cand. Prodr. v. 1. p. 185.*—*Bunias maritima*. *Pursh, Fl. Am. v. 2. p. 434.*

HAB. Canada. *Pursh.* Strand of the sea coast, and also on the shores of the great northern lakes of the St. Lawrence. *Nuttall.*—First distinguished in North America by Professor Bigelow, whose name I therefore retain. I have never seen specimens. According to De Candolle, it extends to the West Indian Islands.

SUBORD. II. NOTORHIZÆE (o ||). *Cotyledones planæ, incumbentes. Radicula dorsalis, nempe medio dorso cotyledonum incumbens. Semina ovata. DC.*

TRIB. V. SISYMBRÆE seu Notorhizæe Siliquosæ. *Siliqua bilocularis, longitudinaliter dehiscens, valvis concavis carinatisve. Semina ovata aut oblonga, immarginata. Cotyledones planæ, incumbentes, septo contrariæ.—Tribus distinctissima ex characteribus spermicis, sed habitu ad Arabideas accedens. DC.*

18. HESPERIS. *Linn.*

Siliqua tertiuscula aut subtetragona (vel compressa). *Stigmata* duo, erecta, conniventia. *Cal. basi bisaccatus. Semina* subtriquetra. *Stamina* edentula. *DC.*

1. *H. matronalis*; pedicellis calycis longitudine, petalis obovatis, siliquis erectis torosis glabris margine non incrassatis, foliis ovato-lanceolatis dentatis, caule erecto subsimplici. *DC.—Linn. Sp. Pl. p. 927. (et H. inodora. Ejusd. et Engl. Bot. t. 731.) De Cand. Prodr. v. 1. p. 189.*

HAB. Shores of Lake Huron. *Dr. Todd.*

2. *H. pygmæa*; foliis lineari-lanceolatis basi attenuatis integris dentatisve, pube bipartita appressa, siliquis numerosis erectis compressis pubescentibus, caule erecto simplici. (TAB. XIX.)—*Cheiranthus pygmæus*. "Adams in Mem. Soc. Nat. Mosc. 5. p. 114." De Cand. Syst. Veget. v. 2. p. 187, Prodr. v. 1. p. 137.—C. Pallasii? Pursh, Fl. Am. v. 2. p. 436. De Cand. Prodr. v. 1. p. 136.

Radix annua, subfusiformis, parce fibrosa. *Planta* tota, (petalis staminibusque exceptis,) pube bipartita, arctissime appressa atque longitudinaliter disposita magis minusve tecta. *Caulis* solitarius, erectus, simplex, vix digitem longus, nisi fructiferus, ubi spithameus, paululum flexuosus, teres, subangulatus, purpureo-viridis, parce foliosus. *Folia* pleraque radicalia, que numerosissima, patentia, lineari-lanceolata, acuta vel acuminata, basi in petiolum longiusculum attenuata, integra, subdentata, nunc sinuato-dentata: *caulina* radicalibus similia sed minora. *Corymbus* multiflorus, demum, fructiferus, longe racemosus. *Pedicelli* calycis longitudine. *Calyx* erectus, sepalis linearibus obtusis, duobus basi saccatis. *Petalis* magna, purpurea, obovata, unguiculata, venosa. *Stamina* calyce paulo longiora. *Athera* lineares. *Pistillum*: *Germen* lineare, compressum: *Stylus* brevis: *Stigma* bilobum, lobis erecto-conniventibus, intus glandulosis, albidis. *Siliquæ* numerosæ, erectæ, vel erecto-falcate, lineari-ensiformes, compressæ, pallide purpureo-fuscæ, *stigmatæ*, nunc obscure bilobo, terminatæ. *Valvæ* fere omnino planæ, pubescentes, linea media longitudinali elevata notatæ, ad marginem æquales. *Semina* uniseriata, subovalia, pallide fusco-aurantiaca. *Podospermum* gracile. *Radicula* cotyledonibus paululum longior, dorsalis.

HAB. On the north-west shores of America, opposite Kamtschatka. *Herb. Pall.* Bear Lake, and thence to the shores of the Arctic Sea. *Dr. Richardson.* Cape Lisburne and Kotzebue's Sound. *Lay and Collie* in *Capt. Beechey's Collection*.—The place of growth of the *Cheiranthus Pallasii* of Pursh, so nearly corresponding with that of our plant from Captain Beechey's Collections, together with the description of De Candolle, taken from the original specimens in Mr. Lambert's Herbarium, give me great reason to believe that it is identical with that which I here figure and describe. Indeed, De Candolle's character is at variance only in one point, namely, where he speaks of the *siliquæ* as *teretiusculæ*, whereas ours are plane. I am assured by my excellent friend Mr. Prescott, that our plant is the same with the *Cheiranthus pygmæus* of Adams and De Candolle, and the description is characteristic; but when I came to examine the seeds, I found it necessary to remove it from *Cheiranthus* and the rest of the *Pleurorhizeæ*, and to place it among the *Notorhizeæ*, where I presume it will rank in the present genus, notwithstanding the very flattened nature of the *siliqua*. Its place should be near *Hesperis aprica* of Poiret and De Candolle, with which it agrees in general habit and size, differing in the narrower leaves, not hispid, but clothed with closely appressed, bipartite hairs, and in the more numerous and greater length of the seed-vessels. This species is probably scarcely found to the south of the arctic circle.

TAB. XIX. Fig. 1, Flowering plant, and fig. 2, Plant in fruit:—*natural size*. Fig. 3, 3, Leaves; fig. 4, Hair; fig. 5, Sepal; fig. 6, Petal; fig. 7, Stamens and pistil; fig. 8, Pistil; fig. 9, Siliqua:—*natural size*. Fig. 10, Seed; fig. 11, Section of do.:—all but figs. 1, 2, and 9, more or less magnified.

3. *H. Menziesii*; foliis spatulatis carnosiss, pube bipartita appressa, siliquis (junioribus) patentibus, caule brevissimo erecto simplici.

HAB. California. *Mr. Menzies*.—My specimens of this plant are imperfect; but it has a great similarity with the preceding, whence I am led to arrange it here. The *root* is very long, woody, branched, perennial. The *leaves* mostly radical, vastly broader than the preceding, and truly spatulate, somewhat fleshy; and, as are the *stem*, *pedicels*, and *calyx*, sparingly clothed with bipartite and appressed pubescence. *Flowers* rather larger than *H. pygmæa*; but from being ill dried, I am unable to say whether they are purple or not. Young *pods* much spreading. This has all the appearance of being a truly perennial plant.

19. SISYMBRIUM. *All.*

Siliqua teretiuscula, super torum sessilis. *Stigmata* 2, subdistincta aut in capitulum

pube bipar-
cto simplici.
5. p. 114."
Fl. Am. v.

connata. *Cal.* basi æqualis. *Semina* ovata aut oblonga. *Cotyledones* planæ, incumbentes, interdum obliquæ. *Stam.* edentula. *DC.*

* *Norta. Siliquæ teretes. Calyx patens. Semina oblonga. Flores flavi. Racemi ebracteati. DC.*

1. *S. junceum*; foliis glabris glaucis, inferioribus petiolatis runcinato-pinnatifidis, superioribus lineari-lanceolatis integris. *DC.*—*Bieb. Fl. Taur. Cauc. v. 2. p. 114. De Cand. Prodr. v. 1. p. 191. Cham. et Schlecht in Linnæa, v. 1. p. 28.*

HAB. At Priest's Rapid on the Columbia, among dry stones; rare. *Douglas.*

** *Velarum. Siliquæ subuliformes basi latiores, apice in stylum brevissimum desinentes, pedicello brevissimo post anthesin incrassato secus axin adpressæ. Flores flavi. DC.*

2. *S. officinale*; foliis runcinatis pilosis, caule piloso, siliquis rachi appressis subulatis. *DC.*—"Scop. Carn. ed. 2. n. 824." *Br. in Hort. Kew. ed. 2. v. 4. p. 111. De Cand. Prodr. v. 1. p. 191.*—*Erysimum officinale. Linn. Sp. Pl. p. 922. Pursh, Fl. Am. v. 2. p. 436. Engl. Bot. t. 735. Elliott, Carol. v. 2. p. 148.*

HAB. Canada. *Pursh.* Mouth of the Columbia. *Scouler.*

*** *Irio. Siliquæ teretes. Semina ovata, subtriquetra. Flores flavi. DC.*

3. *S. curvisiliqua*; erectum ramosum, foliis lanceolatis pinnatifidis acutis glabris basi sub-amplexicaulibus, segmentis lineari-lanceolatis patentibus, summis subintegris, racemo fructifero elongato, siliquis linearibus curvatis acuminatis, pedicello duplo longioribus.

Radix parva, annua. *Caulis* erectus, vix pedalis, superne præcipue, ramosus, sub lente, pilis minutissimis, sparsis scabriusculus. *Folia* 2, 3 uncias longa, lanceolata, acuta, glabra, pinnatifida, basi plerumque auriculata, semiamplexicaulia, lacinias patentibus, lineari-lanceolatis, acutis, integris; inferiora subpectinato-pinnatifida, superiora minora, basi subsagittata, reliqua subintegra. *Flores* parvi, corymbosi, flavi. *Calyx* patens. *Corolla* calyce longior. *Siliquæ* longe racemose, teretes, in stylo brevi acuminatæ, lineares, falcate, subunciam longæ, subturuloas. *Valvæ* levæ, glabræ. *Semina* biserialia.

HAB. Common on the North-West coast of America, lat. 47°, 48°, in sandy soils, near streams. *Douglas.*—This species belongs to De Candolle's 2d division of his section *Irio*, but that includes no one to which it can be referred. Its nearest ally is perhaps the *S. sinuatum* of *Nuttall's MSS.* (from the Arkansas,) which I possess from that gentleman, but without fruit. The leaves of it are in many respects similar to those of our plant, but the segments are more numerous and shorter, and the flowers are considerably longer.

4. *S. sophioides*; foliis bipinnatifidis, lobis ovatis lanceolatisve incisis, pedicellis (petalisque) calyce subbrevioribus, floribus siliquisque lineari-filiformibus falcatis umbellato-corymbosis. (*Tab. XX.*)—*Fischer, MSS.*—*S. Sophia. Cham. et Schlecht. in Linnæa, v. 1. p. 28.*—*S. Sophia, var.? Rich. in Frankl. 1st Journ. ed. 2. App. p. 27.*

Radix crassiuscula, descendens, annua. *Caulis* solitarius, pedalis ad bipedalem, erectus, flexuosus, ramosus, striatus, subnitidus, ut et folia juniora glanduloso-pubescentia. *Folia* plurima radicalia, pinnatifida, fere pinnata, pinna iterum pinnatifida ovatis lanceolatisque, juniora glanduloso-pubescentia, adulta glabra, suprema segmentis angustioribus. *Flores* in corymbis umbellatis, pedunculatis, subaphyllis, terminalibus axillaribusque. *Rachis* semper glanduloso-pubescentia. *Flores* parvi, densi, intense flavi. *Pedicelli* breves, graciles, plerumque glaberrimi. *Calyx* sepalis ovalibus, glabris, obtusis. *Petala* calyce vix paululum breviora, obovato-lanceolata. *Antheræ* subglobosæ. *Siliquæ* numerosæ, dense et ita compactæ, ut fere exacte in umbellam dispositæ videantur, non raro secundæ, biunciales et ultra, pedicello triplo longiores, paululum falcate, anguste lineares, teretes; stylo brevissimos, stigmatumque parvo capitato, terminatæ. *Valvæ* dorso

pube bipartita,
ctus, simplex,
us, purpureo-
ata, acuta vel
ata: caulina
us. *Pedicelli*
magna, pur-
tum: *Germen*
alosis, albidis.
ce, *stigmata*,
linali elevata
Podospermum

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medio uninervie. *Semina* uniseriata, ferruginea, oblonga, ad apicem attenuata. *Cotyledones* graciles, incumbentes.

HAB. York Factory in Hudson's Bay, to the shores of the Arctic sea, westward of the Mackenzie River. *Dr. Richardson; Drummond; Capt. Sir John Franklin; and Capt. Back.* Kotzebue's Sound and Bay of Eschscholtz in Behring's Straits. *Chamisso; Lay and Collie in Capt. Beechey's Collection.*—Numerous specimens from very different parts of the interior and extreme north and north-west coast of America, all agreeing in the same characters, have induced me to coincide with my friends Dr. Fischer and Dr. Richardson in considering this species distinct from our European *S. Sophia*, which has generally more divided leaves, more elongated corymbs or racemes, and shorter pods. I have not seen the true *S. Sophia* from any part of North America. The species so called by Pursh, Nuttall considers to be a new plant, allied to *S. album* of Siberia; while Elliott refers it to *S. canescens*. Our plant has much longer pods than any of the present division with bipinnatifid leaves, except *S. persicum*. Dr. Fischer's specimens of *S. sopheroides* from Kotzebue's Sound, are precisely the same as ours.

TAB. XX. Plant:—*natural size.* Fig. 1, Flower; fig. 2, Stamen; fig. 3, Petal; fig. 4, Pod; fig. 5, Seed; fig. 6, Embryo; fig. 7, Section of do.:—*magnified.*

5. *S. canescens*; cano-pubescent, foliis bipinnatifidis, lobis ovatis lanceolatisve obtusis dentatis, petalis calycem æquantibus, siliquis linearibus (brevibus) longe racemosis.

α. *major*; foliorum lobis angustioribus.—*S. canescens.* Nutt. *Gen. Am. v. 2. p. 68.?* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 27. Elliott, Carol. v. 2. p. 147. Torrey in Pl. of R. M. in Ann. of Lyc. N. Y. p. 166.*—Cardamine? *Menziesii.* *De Cand. Prodr. v. 1. p. 153?*

β. *minor*; foliorum lobis latioribus.

HAB. α. In the low grounds, from lat. 50° to 60°. *Dr. Richardson.* Plentiful about the Saskatchewan and Red Rivers. *Douglas.*—β. In the Rocky Mountains and about Fort Franklin, lat. 66°. *Drummond; Dr. Richardson.* California. *Mr. Menzies.*—I have referred to Nuttall, the original authority, indeed, for this species, with a mark of doubt; because on looking over Dr. Richardson's specimens, he was of opinion that they were distinct from his *canescens*. Nevertheless, his short character sufficiently accords with our plant, save that he describes the pods as clavate, which ours are, only in a slight degree, when the lower seeds in the cells are abortive, occasioning a corresponding contraction in that part of the seed-vessel. I am disposed to think the species has a very extensive range. If Nuttall's and Elliott's plants be the same, it is very common in Carolina and Georgia; and I possess specimens, which I can by no means distinguish from it, gathered near Rio Quinto, in the province of St. Louis, S. America, by Dr. Gillies.

6. *S. brachycarpum*; subglabrum, foliis bipinnatifidis, lobis lanceolatis obtusis integris vel pariter dentatis, petalis calyce majoribus, siliquis linearibus (brevibus).—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 27.*

HAB. From Canada to the Arctic Sea, and across the whole width of the Continent. *Dr. Richardson. Drummond.* Great Falls of the Columbia, in low moist soils. *Douglas.*—Habit of *S. Sophia*, but, as Dr. Richardson well observes, easily distinguished by its pods being twice as short, scarcely different from the preceding in that respect, from which again it is separated by its almost glabrous stems and leaves, and in having the petals, in general, but, I think, not always, longer than the calyx. I possess some specimens that I can with difficulty say to which they should be referred.

*** *Arabidopsis. Siliquæ lineares, compressæ, stigmatè sessili truncato. Flores albi (vel subrosæ) brevissime pedicellati. Pedicelli cbractati. DC.*

7. *S. humile*; incano-pubescent, perenne, caulibus diffusis, foliis integris vel sinuato-dentatis radicalibus spatulatis, caulinis lanceolatis basi attenuatis, siliquis linearibus

pedicello quintuplo longioribus tereti-torulosis pubescentibus.—*S. humile*. Ledebour, *MSS. ined.*

α. Ledeb.; foliis subintegris.

β. Ledeb.; foliis sinuato-dentatis subpinnatifidis.

Radix sublonge descendens, anguste fusiformis, perennis. *Caulis* rarius solitarii, sæpissime plurimi ex eadem radice, palmares, diffusi, nunc prostrati, simplices vel superne ramosi, pubescenti-hirsuti, non raro purpureo tincti. *Folia* omnia magis minusve pubescenti-incans, pube ramosa, versus basin pili immixta; in α. subintegra, in β. sinuato-dentata, etiam dentato-pinnatifida; radicalia oblongo-spathulata, obtusa; *caulina* lanceolata, etiam obtusa, rarius subacuta, basi in petiolum attenuata. *Flores* in corymbis parvis terminalibus, majusculi, albi vel pallide purpureo-rosei. *Pedicelli* calycem subsequentes. *Calyx* pubescenti-hirtus, pili ad apicem longioribus; *sepales* late ovatis, concavis, erectis. *Petala* calyce plusquam duplo longiora, unguiculata, limbo lato, patente, subretuso. *Pistillum*: *germen* cylindraceum, valde pubescens; *Stigma* subsessile, capitatum. *Siliqua* in racemis triuncialibus, pollicem longæ, subcurvate, lineares, teretes, torulosas, pubescentes, in acumen breve terminantæ. *Semina* uniserialia, ovalia, fusca. *Cotyledones* incumbentes.

Hau. α. Rocky Mountains, between lat. 52° and 57°. Drummond.—β. About the Mackenzie River, from lat. 60° to 68°. Dr. Richardson. Drummond.—This plant has so entirely the habit of some states of *Arabis petraea*, that, were it not for the more rounded and torulose pods, I should probably not have ventured to separate them. An examination of the seeds, however, soon convinced me that the plant must be far removed from the genus *Arabis*, as it now stands; and on comparing it with my specimens of *Sisymbrium humile*, communicated by Professor Ledebour, from the Altai, I find them in every respect to correspond; and the two varieties of our North American Travellers precisely agree with the α. and β. of that excellent Botanist.

S. S. arabidoides; annuum, foliis radicalibus lyrato-pinnatifidis subhirsutis, caulibus linearibus integerrimis cauleque erecto ramoso glaberrimis, siliquis erectis linearibus strictis pedicello duplo longioribus. (TAB. XXI.)—*Arabis lyrata*. Linn. *Sp. Pl.* p. 929. Pursh, *Fl. Am. v. 2. p. 437.* De Cand. *Prodr. v. 1. p. 146.* Rich. in *Frankl. 1st Journ. ed. 2. App. p. 26.*—(These syns. to be expunged from *A. petraea*, p. 42 of this work.)

Radix parva, annua, subfusiformis. *Caulis* erecti, spatulæ et ultra, solitarii, vel plurimi ex eadem radice, glabri, subglauci, flexuosi, ramosi. *Folia* radicalia unciam duas tres uncias longa, in rosulam expansa, lyrato-pinnatifida, lobis brevibus inferioribus acutis, parce pilosa. *Caulina* linearia, subunciam longa, integerrima, omnia magis minusve inferne in petiolum attenuata. *Pedicelli* floræ longitudine, glaberrimi. *Calyx* omnino glaber, foliolis ovatis. *Petala* oblongo-ovata, calyce plusquam duplo longiora, alba vel purpurascens. *Siliqua* sesquinciunciam fere ad duas uncias longa, pedicello duplo longior, erecta, stricta, anguste linearis, stylo brevi terminata. *Stigma* parvum, capitatum. *Semina* uniserialia, ovalia, rufo-fusca. *Cotyledones* incumbentes.

Hau. Common on the banks of rivers, from Canada to lat. 68°, and in dry or waste places. Dr. Richardson. —Numerous specimens of this plant are in Dr. Richardson's collection, with flowers and fruit. At first I had referred it to what I then considered a variety of *A. petraea*, the *A. lyrata* of Linn. In this opinion I feel almost sure I am correct, and hence I have adopted that synonym above. But the *cotyledons* are decidedly *incumbent*, and the root is *annual*. Besides these important characters, by which our plant may be known from *A. petraea*, I find its pods to be more upright, longer, and straighter, especially when perfect. In other respects, particularly in the form of its leaves, and the size and appearance of its flowers, the two are almost identical. Linnæus well observes of his *Arabis lyrata*, "Statura et habitus *A. thalianæ*, præter quod folia radicalia lyrata, glabra et flores majores." And *Arabis thaliana* is equally a *Sisymbrium* having *incumbent cotyledons*.—Whether or not the *Arabis ambigua* of De Candolle, and Chamisso, and

Schlechtendal should be referred hither, as I rather suspect, I do not possess sufficient materials to decide:—it is said to have a biennial root.

TAB. XXI. Plant:—*natural size*. Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen; fig. 4, Pod; fig. 5, Seed; fig. 6, Embryo; fig. 7, Section of the seed:—*magnified*.

20. ERYSIMUM. Linn.

Siliqua tetragona. *Calyx* clausus. *Cotyledones* planæ, oblongæ. DC.

* *Erysimastrum*. *Stylus brevis vix ullus*. *Siliqua tetragona*. *Calyx deciduus*. *Folia nec cordata, nec amplexicaulia*. *Flores distincte pedicellati*.

1. *E. cheiranthoides*; scabriusculum, pube minutissima tripartita, foliis lanceolatis subdenticulatis viridibus, siliquis erecto-patulis pedicello duplo longioribus, stigmate parvo.—*Linn. Sp. Pl.* p. 923. *Jacq. Austr.* v. 1. t. 23. *Pursh, Fl. Am.* v. 2. p. 436. *De Cand. Prodr.* v. 1. p. 198. *Rich. in Frankl. 1st Journ. ed.* 2. p. 27.

β. ramis elongatis folia multo minora gerentibus.

γ. caulibus simplicibus.

HAB. Throughout Canada, and in all the plains westward of the Rocky Mountains, to lat. 67° on the Mackenzie. North-West Coast, lat. 47°, 48°. *Douglas. Scouler*.—This plant is liable to much variation in its general appearance, depending probably mainly on age and situation. The first year's plant, for it appears to be biennial, would seem to have quite simple stems. In the more usual state, it is much branched, the branches rather short, and bearing leaves not much smaller than those of the stem: whereas, in my var. β., the branches are virgate, and clothed with small narrow leaves.

2. *E. lanceolatum*; pube bipartita appressa ubique incanum asperum, caule subsimplici, foliis lineari-lanceolatis inferioribus plerumque dentatis, unguibus calyce longioribus, siliquis longis erectis, stigmate emarginato.—*Br. in Hort. Kew. ed.* 2. v. 4. p. 116. *De Cand. Prodr.* v. 1. p. 199. *Cham. et Schlecht. in Linnæa*, v. 1. p. 29.—*Cheiranthus erysimoides*. *Linn.*—*Jacq. Austr.* v. 1. t. 74.—an *E. virgatum*? *Roth.*—*De Cand.*

HAB. From Canada to the shores of the Arctic Sea, and to the Pacific.—This entirely agrees with my European specimens of *E. lanceolatum*, and also with the figure above quoted in Jacquin; but the leaves are not generally so hoary, nor are the flowers quite so large. Its narrow, more pubescent leaves, shorter pods, and large flowers distinguish this from the simple stemmed varieties of the preceding; its smaller flowers, less hoary foliage, and upright and shorter pods from the following. *Cotyledons* certainly incumbent.

3. *E. (potius Cheiranthus) asperum*; pube bipartita appressa ubique incanum asperum, caule simplici, foliis lineari-lanceolatis integris, radicalibus runcinato-dentatis, unguibus calyce longioribus, siliquis longis patentibus, stigmate bilobo. (TAB. XXII.)—*De Cand. Prodr.* v. 1. p. 199.—*Cheiranthus asper*. *Nutt. Gen. Am.* v. 2. p. 69. (non *Cham.*) *Torrey in Pl. of R. M. Ann. of Lyc. of N. Y.* p. 166.

HAB. About Carlton House on the Saskatchewan, lat. 65°. *Dr. Richardson*. Barren grounds of the Columbia, from the Great Falls upwards. *Douglas*.—This is a very handsome species, with flowers, as Mr. Nuttall observes, of a bright yellow colour, resembling those of *Cheiranthus Cheiri*, and almost equally fragrant. The pods are three inches long, patent, wavy before they are quite ripe. The great size of the petals, and longer and spreading pods distinguish this from *E. lanceolatum*, to which, in other respects, it is very similar. It seems to have been originally detected by Mr. Bradbury on the banks of the Missouri, at a distance of 1100 miles from its mouth.—I possess that traveller's original specimens, named by Mr. Nuttall,

is to decide:—

Pod; *fig. 5*,. *Folia nec*

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which precisely accord with these from Carlton House and the Columbia. Dr. Torrey says that the plant is very bitter, particularly the root, and is used as a medicine by the Indians of the Platte. Of the present plant I regret not to have perfect fruit. The seeds in the fully formed, but yet unripe pods, have the embryo not conduplicate, but curved, and the curvature is directed towards the margins of the cotyledons, hence the latter are *accumbent*. Thus will this plant, together with many others, have to be removed from the division of the order in which they are placed, on account of the supposed structure of the embryo. Daily experience proves that primary divisions taken from this character, are neither convenient in practice nor do they guide us to a natural arrangement.

21. CAMELINA. *Crantz.*

Silicula obovata aut subglobosa, valvulis ventricosis cum styli parte dehiscentibus, loculis polyspermis. *Stylus* filiformis. *Semina* oblonga, immarginata. *DC.*

1. *C. barbareaefolia*; siliculis globosis, foliis oblongis pinnatifidis basi obtuse auriculatis, caule basi villosa.—*De Cand. Syst. Veget. v. 2. p. 517, Prodr. v. 1. p. 201. De Less. Ic. Sel. v. 2. t. 70. Cham. et Schlecht. in Linnæa, v. 1. p. 29.*

HAB. In the Bay of Eschscholtz. *Chamisso.*

22. BRAYA. *Sternb. et Hoppe.*

Siliqua brevis, teres, torulosa, stylo terminata, valvis subsemicylindraceis. *Stigma* planiusculum. *Dissepimentum* medio fissum. *Semina* quoque loculo subsex. *Calyx* basi æqualis, sepalis erectis.—*Perennes, radice crassa longe descendente. Folia pleræque radicalia, angusta. Scapi breves nunc foliosi. Flores parvi, corymbosi, purpureo-albi.*

1. *B. alpina*; foliis glabris, scapo parce folioso, racemis fructiferis capitatis.

α. europæa; stylo brevissimo.—*B. alpina. Sternb. et Hoppe in Bot. Geselsch. Reg. v. 1. p. 66. t. 1. Hook. Ex. Fl. v. 1. t. 121. De Less. Ic. v. 2. t. 22.*

β. americana; stylo longiusculo gracili.

HAB. β. Alpine rivulets among the Rocky Mountains, between lat. 52° and 57°.—The few specimens of this in Mr. Drummond's collection are in an excellent state of fructification, and they differ in no respect from the European plant in my possession from the Carinthian Alps, except in the greater length of the style, which, indeed, is very striking. I have already noticed, in the Exotic Flora, that the genus had been hitherto referred to the *Pleurorhiza*, whereas, its cotyledons are decidedly *incumbent*. So short, too, is the seed-vessel, that it has almost as great a claim to be ranged with the *Siliculosæ* as the *Siliquosæ*. In habit, it accords with *Parrya, Eutrema*, and especially with the following genus, *Platypetalum* of Brown.

2. *B. glabella*; foliis glabris, scapo plerumque folioso, racemis fructiferis laxis elongatis.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 25. De Cand. Prodr. v. 1. p. 141.*

HAB. Arctic America; on the Copper Mountains; and principally on the shores of the sea between the Mackenzie and Coppermine Rivers. *Dr. Richardson.*—Excellent specimens of this, brought home by Dr. Richardson from the Second Arctic Land Expedition, quite confirm the distinguishing characters given by that gentleman in his Botanical Appendix. He adds, in the margin of his own copy, from notes taken on the spot, that the "scape is sometimes hairy, with bifurcated pubescence, and that the flowers are white, with a slight and partial tinge of purple."

3. *B. ? pilosa*; foliis pilosis, scapo aphylo, racemis demum elongatis. (TAB. XVII.)

Radix perennis, fusiformis, lignosa, longe in terram descendens, et versus apicem ramosa, superne ad collum divisa, et plurimas rosulas foliorum sustinens. *Folia* omnia radicalia, patentia, densa, lineari-lanceo-

lata; obtusa, inferne paululum attenuata, utriusque marginis pilosa, pilis plerumque simplicibus. Scapi plurimi ex eadem radice, vix digitem longi, pubescentes, omnino aphylli. Flores majusculi, albi, fragrantissimi, primum in corymbum compactum dispositi, demum racemosi. Pedicelli breves, vix calyce longiores. Sepala late ovata, concava, aequalia, margine glabro, membranaceo, dorso pubescente. Petala calyce duplo longiora; ungue angusto calyce breviora, lamina fere orbiculari, subretusa. Stamina calycem vix longitudine excedentia. Antheræ breves, subrotundæ. Germen fere exacte ovale, dense pubescenti-pilosum, biloculare, valvis valde convexis, stylo subdimidio brevioro terminatum. Stigma dilatatum, obscure bilobum. Semina sen ovula sub-8, quoque loculo biserialia.

HAB. Found only on the sandy shores of the Arctic Sea, at the mouth of the Mackenzie River, lat. 70°. *Dr. Richardson.*—It is much to be regretted that so interesting a plant as the present, found only in one spot, and that not likely to be again visited by men of science, should be wanting in the very part of the fructification by which alone its genus can be satisfactorily determined. In habit it agrees almost equally well with *Platypetalum* as with *Braya*; but the flowers are larger and far more showy than either, while the germen, and, I may add, the remains (a dissepiment) of a former year's capsule, agrees in its comparative length and breadth better with the former than with the latter: but the valves of the germen are remarkably convex, and the style is more than half its length; so that, in all probability, it ought to constitute a new genus. *Dr. Richardson* compares the smell of the blossoms to that of *Lilac*.

TAB. XVII. A. Plant:—*natural size.* Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen; fig. 4, Germen; fig. 5, More advanced germen; fig. 6, The same, with the valve (fig. 7) removed, to show the ovules, or young seeds; fig. 8, Leaf:—*more or less magnified.*

23. PLATYPETALUM. Br.

Silicula ovalis, polysperma, valvis convexis. Stylus brevissimus. Calyx subpatens. Petalorum lamina dilatata. Cotyledones incumbentes. Br.

1. *P. purpurascens*; stigmatibus bilobis patentibus, stylo manifesto, scapis nudis unifoliisque pubescentibus, siliculis glabriusculis. (TAB. XXIII.)—*Br. in Parry's 1st Voy. App. p. cclxvii.*—*Braya arctica. Hook. in Parry's 2d Voy. App. p. 387.*

HAB. Arctic shores and islands of America. *Capt. Ross, Parry, Sabine; Dr. Richardson*; extending even to Spitzbergen, at Hecla Cove. (*Capt. Parry.*)—So completely has this the habit of *Braya*, that, without the perfect fruit, it is scarcely possible to distinguish it. *Mr. Brown* has admirably described it, both generically and specifically, and there remains nothing for me but give a figure, which I have done, in part from Melville Island specimens, gathered by Captain James Ross, and in part from *Dr. Richardson's*, which are generally larger, and have the fruit more oblong in most instances, as seen at C, and fig. 6.

TAB. XXIII. A, B, et C. Plants:—*natural size.* Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen; fig. 4, Germen; fig. 5, 6, Capsules; fig. 7, Seed; fig. 8, Section of seed; fig. 9, Embryo:—*magnified.*

2. *P. dubium*; stigmatibus indiviso subsessilibus, siliculis scapisque pubescentibus.—*Br. in Parry's 1st Voy. App. p. cclxvii.*

HAB. Melville Island. *Capt. Sabine.*—"Floribus ignotis, dubie generis planta, cujus exemplaria tria in Herb. D. Sabine exstant. *Cotyledones* certe incumbentes et lineares, basibus tamen cruris radicularum embryonicis vix occupantibus." *Br.*

24. EUTREMA. Br.

Siliqua (abbreviata) anceps, valvis carinatis, dissepimento (nonnunquam) incompleto. Cotyledones incumbentes.—(Herba habitu omnino *Brayæ* et *Platypetalis*, quibus maxime affine genus, distinguendum facile siliqua anceps, dissepimento incompleto, et seminum favi-culis. *Br.*)

1. *E. Edwardsii*; siliculis lanceolatis, dissepimento oblitterato, foliis ovato-lanceolatis longe petiolatis.—*Br. in Parry's 1st Voy. App. p. cclxvii. t. A. Hook. in Parry's 2d Voy. App. p. 388.*

HAB. Arctic Sea-shore and Islands: first found in Melville Island by *Mr. Edwards* and other officers of Captain *Ross's* Expedition. Coast, eastward of the Coppermine River. *Dr. Richardson*.—The admirable description and the inimitable figures of this plant, given by *Mr. Brown* in the Appendix to Captain *Parry's* First Voyage, leave nothing for me to notice, save that the fructified specimens sometimes attain, if they do not exceed, a foot in length.

2. *E. arenicola*; siliculis lato-linearibus, dissepimento completo, foliis obovato-spathulatis. (TAB. XXIV.)—*Richardson's MSS.*

Radix perennis, fusiformis, inferne fibrosa, superius sæpe multicaulis. *Caulis* plerumque breves, sed non raro innovationibus elongati, ad apicem dense foliati. *Folia* in rosulam expansa, obovata, longe petiolata, subcarinosa, glabra, integerrima vel parce deutata, viridia vel purpurascens, petiolis subunciam longis, basi dilatatis, membranaceis. *Scapi* digitales, foliosi, foliis subsessilibus obovatis, plerumque integerrimis. *Flores* in corymbo parvo dispositi. *Calyx* e foliolis 4, basi æqualibus, erectis, late ovalibus, obtusis, glaberrimis, subviridi-purpureis. *Corolla*: *Petala* obovata in petiolum attenuata, alba, calyce duplo longiora. *Stamina* 6. *Filamenta* filiformia, alba: *Antheræ* parve, subrotundæ, didymæ, flavæ. *Siliquæ* abbreviatæ, seu *siliculæ* 6-8 lineas longæ, in racemum dispositæ, pedicello vix duplo longiores, brevissime stipitatæ, lato-lineares, ancipiti-subcompressæ, viridi-fuscæ, stigmatæ subcapitato fere sessili terminatæ. *Valvæ* sub lente obscure reticulatim venosæ, dorso carinatæ, uninerves. *Dissepimentum* completum, membranaceum, album, nonnunquam (non semper) linea media obscura longitudinali notatum. *Semina* numerosa, 16-20 singulo loculo, subovalia, pallide rufæ-fuscæ, immarginatæ. *Podospermum* breve, gracile. *Embryo* luteus. *Cotyledones* plano-compressæ, paululum canaliculatæ, incumbentes.

HAB. Deep sand upon the shores of Arctic America, between long. 107° and 150°. *Dr. Richardson. Capt. Sir John Franklin and Capt. Back*.—This has so entirely the habit of *Eutrema Edwardsii*, that, notwithstanding the absence of *Mr. Brown's* most essential character of that genus, namely the incomplete dissepiment, I cannot hesitate about referring it there. From its place of growth, in deep and moving sand, the stems, which are naturally short, present a singular appearance. In the specimen here figured, for example, the stems are remarkably elongated, and exhibit innovations of four years' growth; each year's shoots having been covered with sand, the succeeding shoots were elongated that the leaves and flower-stalks might rise to the surface. The stalks which produce flowers I consider to be *scapes*, because, though bearing several leaves, they die down to the root-stems annually.

TAB. XXIV. Plant:—*naturæ* size. *Fig. 1*, Flower; *fig. 2*, Petal; *fig. 3*, Stamens; *fig. 4*, Pistil; *fig. 5*, Siliqua; *fig. 6*, Section of do.; *fig. 7*, Do. with a valve removed; *fig. 8*, Section of a valve; *fig. 9*, Seed; *fig. 10*, Embryo; *fig. 11*, Section of the embryo:—*magnified*.

25. OREAS. *Cham. et Schlecht.*

Cal. basi æqualis, laxis. *Pet.* integra, unguiculata, æqualia. *Filamenta* æqualia, edentula. *Stylus* brevissimus, stigmatæ capitato. *Silicula* lanceolata, compressa, unilocularis, septo nullo, valvis planiusculis, nervo medio notatis. *Semina* plura, ovoidea, funiculis umbilicibus elongatis e supera parte nervi placentarii dependentia, cotyledonibus incumbibus. *Cham. et Schlecht.*

1. *O. involucrata*.—*Cham. et Schlecht. in Linnæa, v. 1. p. 29. t. 30.*

"*Herba* parva, alpina, perennis, habitu *Cardamines bellidifoliæ*. *Folia* radicalia, petiolata, glabra, caulina nulla; *bractææ* sub pedicellis confertæ, involuorum mentientes. *Flores* brevissime racemosi, brac-

teati, pedicellati, albi, interdum atro-purpureo-reticulati.—Genus satis distinctum, defectu dissepimenti, funiculis elongatis, glandularum absentia, staminibus subæqualibus. Affine *Eutremati* R. Brown, at uti nobis videtur, satis ab illo recedens.”

HAB. Among loose stones, on the high alpine mountains of the Island of Unalaska. *Chamisso*.

26. PLATYSPERMUM. *Nov. Gen.*

Silicula ovalis, dorso compressa, plana, stigmatè sessili. *Semina* pauca, latissime marginata. *Cotyledones* incumbentes.—Herbæ *parvæ, annuæ*. *Folia radicalia*. *Scapi numerosi, uniflori*.

1. *P. scapigerum*. (TAB. XVIII. B.)

Radix annua, parva, subfusiformis, parce fibrosa. *Folia* omnia radicalia, patentia, subruccinato-pinnatifida, lobis plerumque acutis, inferne sensim minoribus, in petiolum attenuata, subcarnosa, glabra. *Scapi* plurimi ex eadem radice, digitales, erecti, simplices, glaberrimi, semper uniflori. *Flos* parvus, erectus. *Cal.* e sepalis quatuor ovalibus, concavis, glabris. *Petala* oblongo-ovovata, alba, vix unguiculata, calyce paulo longiora. *Stam.* 4, tetradynamia: *Filamenta* filiformia, edentula: *Antheræ* parvæ, subrotundatæ, flavæ. *Pistillum*: *Germen* ellipticum, tereti-compressum, stigmatè bilobo terminatum. *Silicula* exacto ovalis, aequalis, plano-compressa, bilocularis; dissepimento completo; loculis subtetraspermis. *Semina* (vix matura) subrotunda, parva, margine membranaceo, albo, latissimo cincta. *Podospermum* longiusculum, gracile. *Embryo*: *Cotyledones* plano-convexæ, incumbentes.

HAB. Moist rocks and in shallow soil at the Great Falls of the Columbia. *Douglas*. Fl. March, April.—This highly interesting plant cannot be compared with any genus with which I am acquainted. The general appearance of its *silicula* is indeed similar to that of *Draba*; but the seeds and embryo are widely different, while the single-flowered scapes are, as far as I know, an anomaly among Cruciferous plants.

TAB. XVIII. B. Plant:—natural size. Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen; fig. 4, Pistil; fig. 5, Silicula; fig. 6, Do. with a valve partially removed; fig. 7, Seed; fig. 8, Embryo:—magnified.

TRIB. VI. LEPIDINEÆ, seu Notorhizæ Angustiseptæ. *Silicula septo angustissimo, valvis carinatis aut valde concavis*. *Semina in loculis solitaria aut pauca, ovata, immarginata*. *Cotyledones planæ incumbentes (nisi in Lepidiis quibusdam,) septo parallele*. DC.

27. LEPIDIUM. *Linn.*

Silicula ovata aut subcordata, valvis carinatis aut rarius ventricosis, dehiscentibus, loculis 1-spermis. *Semina* subtriquetra aut compressa. (*Cotyledones* nonnunquam accumbentes.)—Flores albi. DC.

1. *L. ruderale*; floribus diandris apetalis, foliis radicalibus caulinis pinnatifidis incisive rameis linearibus integerrimis, siliculis (parvis) lato-ovalibus emarginatis patentibus, cotyledonibus incumbentibus.—*Linn. Sp. Pl.* p. 898. *Engl. Bot. t.* 1595. *De Cand. Prodr. v.* 1. p. 205. *Rich. in Franhl. 1st Journ. ed. 2. App.* p. 27.

HAB. From Hudson's Bay to the Pacific, and from lat. 50° to 68°; in waste places. *Dr. Richardson; Drummond; Scouler; Douglas*.—The leaves, even the lower ones, are more incised than pinnatifid, in which respect alone they differ from the *Engl. Bot.* figure, and from that in *Fl. Dan. t.* 184. *Stems* upright, a foot high, much branched. *Petals* none. *Silicule* small. *Cotyledons* decidedly incumbent.

2. *L. Menziesii*; floribus diandris apetalis, foliis radicalibus bipinnatifidis, caulinis rameisque plurimis pinnatifidis, supremis linearibus integerrimis.

α. foliis radicalibus hispidis. *De Cand. Syst. Veget. v. 2. p. 539, Prodr. v. 1. p. 205.*

β. foliis radicalibus pubescentibus.

HAB. α. California. *Mr. Menzies*. β. Upon the eastern declivity of the Rocky Mountains, lat. 52°, 56°. *Drummond*.—This has the pinnatifid stem-leaves of the British *L. ruderale*; but the radical leaves are bipinnatifid, and in α. remarkably hispid. De Candolle assimilates it to *L. virginicum*, which again leads me to think that he has confounded that plant with the more frequent *runderale*, to which the present is, I fear, too closely allied. *Cotyledons* decidedly *incumbent*.

3. *L. virginicum*; floribus 2-3-andris tetrapetalis, foliis caulinis lineari-lanceolatis inciso-serratis, siliculis ovali-orbicularibus (majusculis) emarginatis patentibus, cotyledonibus accumbentibus. *Linn. Sp. Pl. p. 900. Mich. Am. v. 2. p. 27. Pursh, Fl. Am. v. 2. p. 435. Elliott, Carol. v. 2. p. 140.*—*L. Iberis. Schkuhr, Handb. v. 2. t. 180.*

HAB. Canada?—I have not, it must be confessed, any British American specimens of this plant: nor can I aver that it is a native of that country: but as I possess it from the New England States, I can scarcely doubt but it exists in Upper Canada. All that I have yet received from Canada, as *L. virginicum*, prove, however, to be *L. ruderale*; to which, indeed, this plant bears so close a resemblance, that, without an examination of the embryo, they can scarcely be distinguished. In the present species, the *cotyledons* are truly *accumbent*, as represented by Schkuhr. Hence De Candolle has probably confounded the *L. ruderale* with it, for he describes the *cotyledons* as *incumbent*. The flowers are extremely small, and bear petals. The *siliculae* are larger, and perhaps more nearly orbicular, and the plant is less profusely branched.

28. CAPSELLA. Vent.

Silicula triangularis basi cuneata, valvis navicularibus apteris, loculis polyspermis. *Cotyledones* incumbentes.

1. *C. Bursa-Pastoris*.—"Mærch, Meth. 271." *De Cand. Prodr. v. 1. p. 177.*—Thlaspi Bursa-Pastoris. *Pursh, Fl. Am. v. 2. p. 435. Elliott, Carol. v. 2. p. 141. Engl. Bot. t. 1485.*

HAB. Frequent to the eastward of the Rocky Mountains, extending as far north as the Great Bear Lake, or nearly to the Arctic Circle. *Dr. Richardson; Drummond; Douglas. Newfoundland. Mr. Cormack.*

TRIB. VII. ISATIDÆ, seu Notorhizæ Nucamentacæ. *Silicula* valvis indistinctis aut indehiscentibus carinatis, septo evanido, 1-locularis, 1-sperma. *Semina* ovato-oblonga. *Cotyledones* planæ, incumbentes, septo (si adesset) verosimiliter parallelæ. DC.

29. THYSANOCARPUS. Nov. Gen.

Silicula obovata, planò-convexa, undique latissime marginato-alata, apice emarginata, unilocularis, evalvis, monosperma. *Semen* late obovatum, pendulum. *Radícula* insertionem dorsalis, obliqua et ad margines cotyledonum applicata.—Flores parvi, albi, racemosi. *Siliculae* pendulae.—Genus Tauscheriæ affinis. An vere distinctum?

1. *T. curvipes*. (TAB. XVIII. A.)

Radix parva, annua, subsuisiformis. *Caulis* solitarius, plerumque ramosus, erectus, 6-8-pollicaris ad pedalem, parce foliosus, inferne subpilosus. *Folia* plerumque radicalia, patentia, duas uncias longa, pinnatifida, hirsuto-scabra, laciniis brevibus, obtusis, basi attenuata. *Caulina* remota, lineari-oblonga, basi latiora, subsagittata, superiora sensim minora. *Flores* racemosi, parvi, ramos terminantes. *Pedicelli* floribus paululum longiores, graciles, glaberrimi, patentes, demum, fructiferi, insigniter deflexi et elongati. *Calyx*: *sepala* squalia, ovalia, convexa, glabra, erecto-patula. *Petala* minuta, lineari-oblonga, basi attenuata, integra, alba, sepalis breviora. *Stamina* 6, tetradyname: *Filamenta* filiformia, edentula: *Antheræ* subglobosæ. *Germen*

brevisimo stipitatum, obovatum, plano-compressum, lato-marginatum, alatum, apice emarginatum, stylo subæquo longo, demum, ut videtur, deciduo terminatum. *Stigma* obtusum, parvum. *Silicula* dependens, forma et structura fere omnino germinis, sed estylosa, convexo-plana, utrinque subreticulata, vix uninervis, unilocularis, ovalis. *Semen* solitarium, paulo infra apicem, sublateraliter insertum, pendens, lato-obovatum, compressum, fuscum. *Embryo* flavus. *Cotyledones* suborbiculate, plano-convexæ: *Radicula* subæquo longa, insertione evidentissime dorsalis, sed obliqua et versus margines cotyledonum incumbens.

HAB. On moist ground, near the Great Falls of the Columbia. *Fl.* April, May. *Douglas*.—I long hesitated whether or not I should unite this interesting plant with the genus *Tauscheria* of Dr. Fischer, with which it sufficiently accords in habit, and, in many respects, in the singular structure of the seed-vessel. In both the species of *Tauscheria*, however, of which I have excellent specimens from Dr. Fischer and Professor Ledebour, the *silicula* is truly cymbiform, the margin is curved inwards, and the extremity, instead of being broad and notched, as in *Thysanocarpus*, is narrow and elongated into a beak, like the narrow prow of a vessel. Its perfect embryo I have not been able to examine: but in our plant, this has always its radicle inserted at the back of one of the cotyledons, and then inclines obliquely, so that the greater part of its length is applied to the edge or margin of the cotyledons. In the figure here given, the seed did not occupy the whole of the cavity of the cell, as was the case with more fully ripe capsules, given to me by Mr. Douglas after the plate was engraved, and which, I believe, were produced by plants cultivated in the Garden of the Horticultural Society.

TAB. XVIII. A. *Thysanocarpus curvipes*: and a fructified extremity of a plant:—*natural size.* *Fig. 1*, Flower; *fig. 2*, Stamens; *fig. 3*, Sepal; *fig. 4*, Petal; *fig. 5*, Side view of a germen; *fig. 6*, Front view of do.; *fig. 7*, *Silicula*; *fig. 8*, The same, cut through transversely; *fig. 9*, *Silicula*, from which a portion is removed to show the situation of the seed; *fig. 10*, Embryo, showing the insertion and direction of the radicle; *fig. 11*, Section of do.; *fig. 12*, Embryo, seen from the opposite side:—more or less magnified.

ORD. X. CAPPARIDEÆ. *Juss.*

TRIB. I. CLEOMEÆ. *Fructus vere capsularis, valvis submembranaceis dehiscentibus.—Herbæ aut suffrutices, foliis sæpe compositis, pube sæpe glandulosa. DC.*

1. CLEOME. *Link.*

Cal. 4-sepalus, patens (vel erectus) subæqualis. *Petal.* 4. *Torus* subhemisphæricus. *Stam.* 6, rarius 4. *Siliqua* dehiscentis, in calyce stipitata aut sessilis. *DC.*

1. *C. lutea*; herbacea glabriuscula, toro parvo, thecaphoro elongato, foliis quinquefoliolatis, foliolis lanceolatis acutis, siliqua lanceolata stylo acuminata glabra stipitis longitudine. (TAB. XXV.)

Radix parva, descendens, annua vix fibrosa. *Caulis* erectus, spithameus vel etiam pedalis, erectus, teres, foliosus, simplex vel ramosus, glaber. *Rami* erecto-patentes. *Folia* longo petiolata, quinquefoliolata; foliolis unciam sesquiunciam longis, lanceolatis, acutis, nunquam mucronatis, inferne in petiolum brevissimum attenuatis, glabris vel pilis minutis sparsis pubescentibus. *Petioli* foliis plerumque longior, gracilis, glaber. *Folia floralia*, vel *bractea*, integra, lanceolata, brevis petiolata. *Flores* in corymbum terminalem dispositi, intense lutei vel flavi. *Pedicelli* unciam sesquiunciam longi, gracillimi. *Calyx* parvus 4-sepalus, æqualis, sepalis anguste lanceolatis, acuminatis, fere subulatis, membranaceis, erectis. *Corolla*: *Petala* 4, inæqualia, calyce duplo longiora, oblongo-obovata vix unguiculata. *Torus* parvus, subhemisphæricus. *Stamina* 6, quorum, ut videtur, 2 constantè longiora, antheris parvis oblongis curvatis, 4 breviora, antheris longis linearibus mucronatis, flavis. *Thecaphorum* gracile, elongatum, petalis longius, germine 3-plo longius. *Germen* oblongo-cylindraceum, viride, glabrum. *Stylus* gracilis, filiformis, germine duplo brevius, viride. *Stigma* obtusum, vix capitatum. *Siliqua* dehiscentis, 6-8 lineas longa, lanceolata, teres, stylo persistente

marginatum, stylo
Siliqua depen-
dubreticulata, vix
sertum, pendens,
avexæ: Radicula
m incumbens.

Douglas.—I long
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al size. Fig. 1,
g. 6, Front view
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iscentibus.—
DC.

nisphæricus.

is quinque-
abra stipitis

edalis, erectus,
quinquefolio-
in petiolulum
umque longior,
orymbum ter-
Calyx parvus
tis. Corolla:
bhemisphæri-
breviora, an-
germine 3-plo
duplo brevius,
lo persistente

terminata, longe stipitata. Thecaphorum e toro minuto calyce corollaeque persistentibus tecto. Semina numerosa, plurima abortiva, obovata, subreniformia, dependentia, fusca.

HAB. Common in North-West America; on the banks of the Columbia; and in the valleys of the Blue Mountains, sparingly; and as far as to the Rocky Mountains. Fl. June to August. Douglas.—This is quite a distinct species from any Cleome hitherto described, and remarkable, in the dried state at least, for the deep yellow colour of its petals, which are almost sessile. The leaflets are small, quinate, very similar to those of some of the smaller species of Lupinus. This plant has been cultivated in the Gardens of the Horticultural Society at Chiswick.

TAB. XXV. Cleome lutea:—natural size. Fig. 1, Flower; fig. 2, Petal; fig. 3, Longer stamen; fig. 4, Shorter do.; fig. 5, Pistil, with its stalk or thecaphorum; fig. 6, Pod, with its thecaphorum arising from the torus, and surrounded by the persistent floral coverings; fig. 7, Pod, opened; fig. 8, Seed; fig. 9, Flower-bud;—more or less magnified.

2. POLANISIA. Rafn.

Cal. 4-sepalus, patens. Pet. 4. Stam. 8–32. Torus parvus. Siliqua in calyce sessilis aut vix stipitata, stylo distincto terminata.—Herba habitu Cleomis (DC.)

1. *P. graveolens*; glanduloso-pilosa, foliis trifoliolatis, foliolis oblongo-ellipticis, staminibus sub-11, siliquis late linearilanceolatis muricato-glandulosis. "Rafn. Journ. Phys. aout, 1819. p. 98." De Cand. Prodr. v. 2. p. 242.—Cleome dodecandra. Mich. Am. v. 2. p. 32. Pursh, Fl. Am. v. 2. p. 441. Bigel. Fl. Bost. ed. 2. p. 254. (not Linn.)

Annua. Radix parva, subfusiformi-fibrosa. Caulis spithameus et ultra, erectus, flexuosus, ramosus, ut et fere tota planta magis minusve glanduloso-pilosa, subviscosus, fetidus. Rami erecto-patentes. Folia petiolata, trifoliolata, foliolis unciam sesquinciunciam longis, oblongo-ellipticis, integerrimis, basi attenuatis: Petioli glandulosi, folio vix longiores. Folia suprema vel bractea, simplicia, lanceolata, breve petiolata. Flores terminales, numerosae, corymboso-racemosa. Pedicelli unciam longi, graciles, pubescentes. Cal. e foliolis 4, subpatentibus, æqualibus, oblongo-lanceolatis, acutis, purpureis, dorso glanduloso. Petala pallide sulphurea, fere albidia, calyce duplo longiora, longe unguiculata, ungue exserto, limbo late ovato, profunde emarginato. Stam. undecim, sursum curvata, petalis paululum longiora, basi solummodo monadelphæ, hinc uniglandulosa, glandula majuscula, subtetragona, carnea. Filamenta filiformis, purpurea, glabra. Anthera oblongæ, flavæ, biloculares, siccate curvate. Pistillum: Germen lineare. Stylo filiformi, purpureo, duplo longius, pubescenti-glandulosum. Fructus: Siliqua sesquinciunciam fere ad duas uncias longa, linearilanceolata, acuta, teres, inferne in stipite brevi attenuata, ubique pilis vel aculeis brevibus, mollibus, glanduloso-viscidis tecta, stylo demum deciduo terminata, unilocularis. Semina numerosa, fusca.

HAB. Lake Champlain. Dr. Bigelow. About Montreal. Mr. Cleghorn.—This very pretty species, rendered particularly elegant by the purple hue of its calyx and the pale sulphur colour of its notched petals, does not seem to be by any means general even in the United States. I have received it only from my friend Dr. Torrey, who gathered it at West Point, near New York, and Mr. Nuttall states it to be an inhabitant of the sandy shores of Lake Erie, and the margins of the Mississippi and the Missouri. Dr. Bigelow gives it as an inhabitant of Lake Champlain, which station I have here introduced, from a persuasion that it must grow on the Canadian as well as on the opposite side of the Lake, since I possess specimens from near Montreal, which is quite in its vicinity.

ORD. XI. CISTINÆ. Juss.

1. HELIANTHEMUM. Tourn.

Cal. 3-sepalus, sepalis æqualibus, vel 5-sepalus, sepalis duplici serie dispositis, 2 externis sæpe minoribus, raro majoribus. Pet. 5, sæpe apice irregulariter denticulata.

Stigma capitatum. *Stylus* nunc subnullus, nunc rectus, nunc obliquus, nunc basi flexus. *Ovarium* triquetrum. *Capsula* 3-valvis, valvis medio septi aut seminiferis. *Semina* angulata, glabra. *Albumen* farinosum. *Embryo* uncinato-inflexus, DC.

1. *H. canadense*; (Sect. *Lecheoides*;) exstipulata, caule erecto vel ascendente suffruticoso ramoso pubescente, foliis oblongis pubescenti-hirsutis subtus incano-tomentosis margine revolutis, calycibus hirsutis, staminibus sub-20, floribus serotinis apetalis capsulisque reliquis 5-plo minoribus.—*Mich. Am. v. 1. p. 308. Pursh, Fl. Am. v. 2. p. 263. Sweet, Cistin. t. 21. De Cand. Prodr. v. 1. p. 269.*—*Cistus canadensis. Willd.—Bigel. Fl. Bost. ed. 2. p. 47.*—*Lechea major. Linn. Aman. Acad. v. 3. p. 11.* (excl. fig.) according to Smith.

HAB. Canada. *Michaux.*—Few persons on seeing an early shoot of this, with its few terminal flowers, having large hairy calyces, ample yellow petals, and capsules half-an-inch broad, would take it for the same plant as it appears at an after period, throwing out many branches from above, these again bearing leafy racemes, with numerous axillary small flowers and shortly downy calyces, without petals, and capsules not larger than a moderately sized pin's head. Yet such is the case, and the plant then looks so much like a *Lechea*, that it has probably been described as such: indeed, certainly so, according to Smith, by Linnaeus. Sometimes the whole plant bears only such small flowers; at other times, as in specimens given me by Dr. Boott, from the neighbourhood of Boston, the lower part has a few large lateral capsules, while all the branches above produce the small ones in question. Dr. Bigelow observes of this plant, that at the beginning of frosts the bark cracks and rolls backwards, at which time the fragments are found connected by a mass of fibrous, icy crystals, and Mr. Eaton, in his useful Manual of Botany, remarks, that at the foot of the Pine-rock, New-Haven, in November and December, 1816, he has seen hundreds of these plants sending out broad, thin, curved ice crystals, about an inch in breadth, from near the roots. These were melted away by day, and renewed every morning, for more than twenty days in succession.

2. LECHEA. *Linn.*

Cal. 3-sepalus, bracteis sepalisve duobus exterioribus stipatus. *Pet.* 3, lanceolata. *Stam.* 3-12, sæpius numero ternaria. *Ovarium* 1, subtrigonum. *Stigmata* 3, vix distincta. *Capsula* 3-valvis, valvis medio septi aut nerviferis; *semina* septo nervove adfixa, paucissima, sæpius 8; *albumen* carnosum. *Embryo* dorsalis rectiusculus, radícula infera, cotyledonibus ovato-oblongis.—*Herbæ boreali-Americane incomptæ, floribus numerosis, parvis, ramis infimis a floriferis sæpe diversis.*

1. *L. villosa*; ramis radicalibus prostratis villosis, foliis oblongo-lanceolatis mucronatis pilosis, panicula brevi foliosa, floribus fasciculato-fibrosis secundis brevissime pedicellatis, caule erecto.—*Elliott, Carol. v. 1. p. 184. De Cand. Prodr. v. 1. p. 285.*—*L. major. Mich. Am. v. 1. p. 76.* (non *Linn.*) *Pursh, Fl. Am. v. 1. p. 90. Bigel. Fl. Bost. ed. 2. p. 46. Torrey in Fl. of Mid. Un. St. v. 1. p. 160.*—*L. minor. Linn. et Sm. in Rees' Cycl.—Lam. Ill. t. 52. f. 2.*

HAB. Canada. *Kalm; Pursh.*—Sir James E. Smith had long ago, in Rees' Cyclopædia, recommended the abolishing the name *Lechea major*; Linnaeus' original specimen, (which he afterwards confounded with other things,) being our *Helianthemum canadense*; but it appears that the plant so called by Michaux, Pursh, and Bigelow, is a true *Lechea*; hence, to avoid confusion, Mr. Elliott, the estimable author of the Flora of Carolina and Georgia, has given to the latter the name of *villosa*, which has been adopted by Nuttall and De Candolle. It is the tallest and broadest-leaved of the genus, and, in most instances, the leaves are elliptical, and not unfrequently ternately or quaternately whorled, those of the radical shoots and lesser branches of the stem being the smallest.

2. *L. minor*; ramis radicalibus prostratis villosis, foliis linearibus seu linearilanceo-

basi flexus.
 nina angu-

te suffruti-
 tomentosis
 lis capsul-
 2. p. 263.
 el. *Fl. Bost.*
 g to *Smith.*

inal flowers,
 for the same
 g leafy race-
 es not larger
 ke a *Lechea*,
 ens. *Scme-*
 y *Dr. Boott*,
 the branches
 iug of frosts
 as of fibrous,
 e Pine-rock,
 r out broad,
 way by day,

ata. *Stam.*
 distincta.
 a, paucis-
 era, coty-
 is, parvis,

micronatis
 adicellatis,
 or. *Mich.*
Torrey in
t. 52. f. 2.
 commended
 ounded with
 y *Michaux*,
 thor of the
 by *Nuttall*
 e leaves are
 and lesser

ri-lanceo-

latis appresso-villosis, paniculis foliosis elongatis, floribus breviter pedicellatis, caule erecto.
 —*Pursh, Fl. Am. v. 1. p. 91. (non Linn.) De Cand. Prodr. v. 1. p. 285.—Lam. Ill. t. 52. f. 1.?* *Torrey in Fl. of Mid. Un. St. v. 1. p. 161.*

HAB. Gravelly hills, Canada. *Pursh.* North side of Lake Winnipeg. *Drummond.*—Only one specimen of this exists in the collections of our Arctic Travellers; and it has the root-shoots perfect, but the stem and branches have lost all their leaves, and bear only a panicle of ripe capsules. It would hence appear that the upright and flowering branches die down in the autumn; and that our Travellers in passing through the country of this plant, were either too early or too late to meet with it in perfection. It is frequent in the New England States, and in all probability too in Upper Canada. *Lechea racemulosa* *Dr. Boott* finds in similar situations near Boston, United States; but except in its larger growth, and in having some of the stem-leaves broader, I can scarcely distinguish it from *L. minor*; an opinion in which I am happy to be confirmed by *Dr. Torrey*. The two remaining American species of this genus, *L. thymifolia*, *Michx.*, and *L. tenuifolia* of the same author, are confined to the more southern of the United States.

3. HUDSONIA. *Linn.*

Cal. 5-partitus, segmentis inæqualibus, 2 exterioribus minutis. *Pet.* 5. *Stam.* 9–30. *Stylus* rectus, simplex. *Stigma* simplex. *Caps.* 1-locularis, 3-valvis, 1–3-sperma. *Semina* granulata. *Embryo* in albumine corneo immersus.—*Suffrutices parvi, subsæspitiosi.* *Folia parva, cæstipulata.*

1. *H. tomentosa*; cæspitosa canescente-pilosa, foliis lato-linearibus acutis arcte imbricatis, floribus subsessilibus solitariis vel aggregatis, segmentis calycinis obtusis, capsula monosperma.—*Nutt. Gen. Am. v. 2. p. 5. Bigel. Fl. Bost. ed. 2. p. 213. De Cand. Prodr. v. 1. p. 285. Sweet, Cist. t. 57.—H. ericoides. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18.*

HAB. Central Canada. From Lake Huron, (*Dr. Todd*), to as far north as Slave Lake, in several places. *Dr. Richardson.*—This is very different from the true *H. ericoides* of *Linn.*, which has subulate and less imbricated leaves, and longer peduncles to its flowers.—After flowering, the sepals of our plant become spirally twisted.

ORD. XII. VIOLARIEÆ. *DC.*1. VIOLA. *Tourn.*

Calycis sepala inæqualia, omnia plus minus deorsum in appendices auriculæformes (e dilatationibus nervorum prodeuntes) producta, post anthesin erecta. *Pet.* inæqualia, restivatione convolutiva, ungue trinervi; inferius deorsum in calcar cavum plus minus productum. *Stam.* approximata aut coarctata (nec coalita) ad apicem dentium tori pentagoni 5-dentati inserta. *Filamenta* basi dilatata, oblonga vel triangularia, *antheras* demissius gerentia; lobi antherarum basi divergentes; stamina duo anteriora dorso appendices variis nectariferas in calcar intrantes gerentia. *Ovarium* nunc superum, nunc basi toro concavo cinctum et semiinferum. *Valvule capsulae* elasticæ post maturationem contractæ *semina* ejicientes; *semina* horizontalia manifeste carunculata, plus minus ovoidem et nitida. *Embryo* oblongus, *radicula* teretiuscula, *cotyledones* sæpius oblongo-orbiculatae planiusculæ radícula vix longiores.—*Herbæ plerumque perennes, rarissime annue, nunc caule brevissimo vel subterraneo, unde acaules dictæ, nunc caulescentes vel suffrutices parvi,*

folia alterna marcescentia; pedunculi solitarii axillares uniflori 2-bracteolati non auriculati, apice reflexi; flores cernui; folia seminalia oblonga ovatave, petiolata; primordialia opposita, sed raro coetanea. DC.

Obs. In drawing up the account of the present genus, I have derived much assistance from the labours of the Rev. Lewis Schweinitz, in the American Journal of Science, from Dr. Torrey in his Flora of the Northern and Middle Sections of the United States, and from Capt. Le Conte in his Observations on the North American species of the genus *Viola*, published in the 2d vol. of the Ann. of the Lyceum of Nat. Hist. of New York; as well as from numerous authentic specimens that have been communicated to me by Mr. Schweinitz, Dr. Torrey, Mr. Nuttall, and Dr. Boott: those of the latter gentleman from the neighbourhood of Boston, are particularly valuable, not only in consequence of their great similarity with the Canadian plant, but as serving to illustrate the species of Dr. Bigelow's Flora of Boston. Notwithstanding all these aids, so variable are the individuals of which the genus is composed, that even the authors who have had the best opportunities of examining them in their native stations, have been puzzled to distinguish species from mere varieties; and, in describing them from dried specimens, the difficulty is infinitely increased.

SECT. I. NOMIMUM. *Ging. in DC. Stigma rostratum, foraminulo ad extremitatem rostri sito; rostrum plus minus recurvum, nunc deorsum marginatum et tunc planiusculum et obliquum, nunc absque margine et tunc deorsum convexiusculum. Stylus ab apice ad basin attenuatus. Stamina oblonga approximata. Torus planiusculus. Capsula sæpius trigona. Semina 15-27. Folia seminalia sæpe obovata vel oblonga. DC.*

* *Caules subnulli.*

1. *V. pedata*; subpubescens, stigmatè incrassato oblique brevirostrato truncato perforato, foliis multipartitis, segmentis linearibus inferioribus hinc pinnatifidis.—*Lim. Sp. Pl. p. 1323. Mich. An. v. 2. p. 151. Pursh, Fl. Am. v. 1. p. 171. Elliott, Carol. v. 1. p. 300. Curt. in Bot. Mag. t. 89. Torrey, Fl. of Un. St. v. 1. p. 249. De Cand. Prodr. v. 1. p. 291. Schwein. Viol. in Sill. Journ. v. 5. p. 50. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 147.—V. digitata. Pursh, Fl. Am. v. 1. p. 171.—V. pinnata. Rich. in Frankl. 1st Journ. ed. 2. App. p. 8.*

Hab. Canada, frequent; and as far north as lat. 53° on the Saskatchewan. *Dr. Richardson; Drummond.*—Flowers blue, sometimes white, according to Le Conte; sometimes pale, with the two upper petals deep red-purple, when it becomes the *V. stabellifolia*, Lodd. Bot. Cab. t. 777.—It comes very near the true *V. pinnata*, but the structure of its leaves is different.

2. *V. palmata*; pubescens, stigmatè triangulari-marginato, foliis hastato-cordatis palmato-lobatis, lobis angustis latoribusque raro exterioribus cordatis indivisis.—*Lim. Sp. Pl. p. 1323. Mich. An. v. 1. p. 171. Curt. Bot. Mag. t. 535. Pursh, Fl. Am. v. 1. p. 172. Elliott, Carol. v. 1. p. 300. Bigel. Fl. Bost. ed. 2. p. 95.? Torrey, Fl. of Un. St. v. 1. p. 250. Schwein. Viol. in Sill. Journ. v. 5. p. 51. De Cand. Prodr. v. 1. p. 291. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 189.*

Hab. Canada. *Le Conte.*—This is allowed by all to be a very variable species. It is seen with its most distinctive characters in Bot. Mag., above quoted. When the leaves are more deeply divided, it has affinity with *V. pedata*; but generally they are less divided; the outer ones, and sometimes the whole of them, are quite entire, when I scarcely know how the species is to be distinguished from *V. cucullata*. The same plant too, at different seasons of the year, may possess all these differently formed leaves. Professor Bigelow seems to be of opinion that it is a state of the latter mentioned species. It does not exist in the collections

of our North American Travellers. Le Conte says it is better known by its habit than any character that can be assigned to it.

3. *V. asarifolia*; stigmatē clavato-capitato recurvo immarginato (*Schwein.*), foliis cucullatis lato-cordatis reniformibus nunc sagittatisve et subpalmatis lobatis omnibus crenato-dentatis in petiolum decurrentibus.—*Pursh, Fl. Am. v. 2. p. 732.* (not *Muhl. Cat.*) *Schwein. Viol. in Sil. Journ. v. 5. p. 54. Elliott, Carol. v. 1. p. 299. De Cand. Prodr. v. 1. p. 292. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 141.*—An *V. congener*, *Le Conte, l. c. p. 140.*?

HAB. Canada. *Le Conte.*—Much confusion exists with regard to the present species. Pursh is the original authority for it, and Le Conte cites the plant of Pursh as a native of Canada. The only specimens which I have had the opportunity of seeing are from Mr. Schweinitz, having entire cordate leaves, and varying in their general aspect scarcely at all from *V. cucullata*. It is it which Le Conte brings as a synonym to his *V. congener*, a species scarcely differing, according to his own description, from *V. cucullata*, and to which Nuttall is disposed to refer the *V. asarifolia* of Pursh.

4. *V. cucullata*; stigmatē triangulari-marginato, foliis cordatis acutis glabriusculis serratis junioribus præcipue basi cucullatis, rhizomate carnosose crasso, petalis oblique flexis, calcare brevissimo.—*Ait. Hort. Kew. ed. 1. p. 288. Pursh, Fl. Am. v. 1. p. 173. Elliott, Carol. v. 1. p. 298.* (non *Schwein.*?) *De Cand. Prodr. v. 1. p. 292. Sims in Bot. Mag. t. 1795. Torrey, Fl. of Un. St. v. 1. p. 251. Bigel. Fl. Bost. ed. 2. p. 97. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 137.*—*V. obliqua. Ait. Pursh, Schwein. Torrey.*—*V. papilionacea. Pursh.*—*V. affinis. Le Conte, l. c. p. 138.* (et tunc *V. cucullata, Schwein.*)—*V. sororia** of *Pursh*, according to *Le Conte*.

β. *minor*; foliis vix unciam longis, petalis subimberbibus.

HAB. Throughout Canada; *Lady Dalhousie and Dr. Todd*; and as far north as the Mackenzie River and Bear Lake. *Dr. Richardson; Drummond.* Newfoundland. *Mr. Morrison.* β. Marshes in the Rocky Mountains. *Drummond.*—The flowers are large, of a more or less deep purple colour, and with the claws more or less distinctly bearded. The leaves and petioles are uncertain in the degree of pubescence, and the leaves in their length relatively to their breadth. From these circumstances, often varying in the same individual, together with the greater or less width of the calycine leaves, and the length of the peduncles in regard to that of the leaves, many varieties, and not a few species, have been made, by which the difficulty of determining the synonyms is not a little increased. Le Conte refers the *V. cucullata* of Schweinitz to his new species *V. affinis*; yet says it differs in no distinctive characters, except the shortness of the peduncles and the broader sepals.—Whether or not my var. β. ought to be distinguished, I am not able to say. It does not differ in the stigma. The leaves are much shorter than the scapes or peduncles, and the blade is scarcely more, and often not so much, as an inch long. The flowers, to judge from the dried specimens, are very pale-coloured and almost glabrous.—Mr. Elliott observes that this species is very mucilaginous, and much used by the negroes of South Carolina and Georgia in their soups. The bruised leaves too are employed as an emollient application.

5. *V. Selkirkii*; stigmatē—? foliis cordatis crenato-serratis pilosiusculis. petalis imberbibus, calcare subæque longo crasso obtusissimo.—*Goldie in Edin. Phil. Journ. 1822. p. 319.*

* Willdenow, in Hort. Berol. t. 72, is the authority for this species, and his figure and description entirely accord with our plant, except that the flower is much smaller: and it is well known how liable this part is to vary in almost all our *Violas*.

Radix perennis, subrepens. *Folia* plurima ex eodem puncto, longe petiolata, subnuciam longa, lato-cordata, basi sinu profundo bilobata, crenato-serrata, facie superna pilis sparsis, subtus omnino glabra, pallidiora. *Petioles* graciles, glabri. *Pedunculi* seu *scapi* foliis vix longiores, medium versus bibracteati, bracteis lanceolato-acuminatis, integerrimis. *Calycis sepala* parva, late ovata, acuta, glabra. *Petala* cœrulea, obovata, unguiculata, imberbia: *Calcar* petalorum limbo subaeque longum, crassum, obtusum.

HAB. Hilly ground about Montreal, and only there. *Mr. Goldie*.—In size and general aspect, this species approaches my var. β . of *V. cucullata*, but the claws of the petals are beardless, and the spur is vastly longer, forming indeed its most striking characteristic. I have only seen specimens from Mr. Goldie. He showed them, while in Canada, to Mr. Pursh, who pronounced them to be identical with the *V. Selkirkii* of his MSS. The *V. villosa* of Elliott, according to specimens received from Mr. Schweinitz, comes very near to this, and its spur is often as long. To this *villosa* Nuttall refers the *V. sororia* of Willd., whereas Schweinitz brings it under Nuttall's var. *cordifolia* of Willd., which again he makes a distinct species.

6. *V. ovata*; pubescenti-hirsuta, stigmatate marginato, foliis oblongo-seu ovato-cordatis serratis basi nunc grosse serratis l. petiolum abrupte attenuatis, sepalis obtusis, calcare brevi obtuso, petalis duobus distincte barbatis.—*Nutt. Gen. Am. v. 1. p. 148. Schwein. Viol. in Sill. Journ. v. 5. p. 58. Torrey, Fl. of Un. St. v. 1. p. 251. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 143. De Cand. Prodr. v. 1. p. 293.—V. primulæfolia. Pursh, Fl. Am. v. 1. p. 172. (excl. syn. Willd.)*

HAB. Canada, (*Le Conte*), as far north as the Saskatchewan. *Drummond*.—Allied to *V. cucullata*, but with much narrower and very downy leaves and petioles, in which latter respect, as well as in its much larger flowers, it differs from the true *primulæfolia* of Linn., of which I have specimens from Pennsylvania; but I am not aware that it has been found so far north as the Canadian possessions.

7. *V. lanceolata*; stolonifera, stigmatate marginato, foliis lanceolatis utrinque attenuatis subserratis, sepalis ovatis, petalis imberbibus.—*Linn. Sp. Pl. p. 1323. Mich. Am. v. 2. p. 150. Pursh, Fl. Am. v. 1. p. 172. Bigel. Fl. Bost. ed. 2. p. 94. Schwein. Viol. in Sill. Journ. v. 5. p. 64. Elliott, Carol. v. 1. p. 92. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 146. De Cand. Prodr. v. 1. p. 293. Lodd. Bot. Cab. t. 211. Reichenb. Ic. v. 1. t. 52. f. 106.?*

HAB. Canada. *Mr. Schweinitz*. About Lake Huron. *Dr. Todd*.—Loddiges' figure of this beautiful species is very excellent. I quote that of Reichenbach with a mark of doubt, on account of its diminutive size and yellow petals; whereas, in all the specimens I have seen, the flowers, smaller than in any of the preceding species, are almost white, having the lower petal beautifully streaked with dark purple. The leaves are very glabrous and delicate; and distinct, as they may appear at first sight, by their being attenuated both extremities, I have yet some specimens from my inestimable friend Dr. Boott, having them so abrupt at the base, that they precisely accord in that, and in every other particular, with some of my specimens of the true *V. primulæfolia* of Linn. I think they will prove identical.—Few Monographs would render so much service to Botanical Science as one on the *Violets*, with figures and descriptions taken from living specimens, and none is capable of being rendered more interesting or beautiful.

8. *V. blanda*; stigmatate marginato, foliis teneris glabriusculis lato-cordatis ovatisque crenatis patentibus sinu profundo, petalis ovatis obtusis subimberbibus.—*Willd. Hort. Berol. t. 24. Nutt. Grn. Am. v. 1. p. 149. Pursh, Fl. Am. v. 2. p. 172. Bigel. Fl. Bost. ed. 2. p. 94. Schwein. Viol. in Sill. Journ. v. 5. p. 65. Torrey, Fl. of Un. St. v. 1. p. 254. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 144. De Cand. Prodr. v. 1. p. 294.*

HAB. Throughout Canada, very abundant as far as the mountains, and as high north as Fort Franklin, in lat. 66°. *Dr. Richardson; Drummond; Dr. Todd*.—This species has certainly a very close affinity with

our *V. palustris*. The flowers, too, have the most perfect agreement with the preceding species, being small, white, or nearly so, with the lower petal, and sometimes the two lateral mostly beardless ones, streaked with purple; indeed Professor Bigelow, who has very accurately studied, and very faithfully described, the plants of the neighbourhood of Boston, has found so many intermediate forms of leaf between this and *V. lanceolata*, that he is of opinion they are in all probability one and the same.

9. *V. clandestina*; stigmatè marginato, foliis teneris glabris orbiculari-seu reniformi-cordatis obtusissimis crenato-serratis sinu profundo, petalis anguste ovatis imberbibus, floribus sæpe apetalis.—*Pursh, Fl. Am. v. 1. p. 173. Schwein. Viol. in Sill. Journ. v. 5. p. 65. Torrey, Fl. of Un. St. v. 1. p. 254. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 146.*

HAB. About Lake Bourbon and Lake Winipeg. *Dr. Richardson*.—This was named *V. clandestina* by Dr. Richardson on examining it when recently gathered, and it does seem sufficiently to correspond with the character of Pursh, who is the original authority for it, in everything, except that I do not find the "stolones to be floriferous." Le Conte says that the "peduncles are subtetragonal, branched, with 2-8 flowers, and a pair of stipules beneath each pedicel." In some of our specimens the flowers are apetalous, and the peduncle bent down to meet the earth; in others, there are perfect flowers, in every respect, as far as can be judged from dried specimens, agreeing with those of *V. blanda*. With that species, indeed, Professor Torrey is disposed to unite it, and I see myself no difference but in the much larger size of the leaf and the trifling character above-mentioned. Pursh has, doubtfully, referred *V. rotundifolia* of Michaux to it; and De Caudolle has considered *V. clandestina* identical with *rotundifolia*: but in this, all the American Botanists differ from him.

10. *V. rotundifolia*; stigmatè marginato, radice articulata squamosa, foliis orbiculato-cordatis sinu (demum) clauso subtus glabris, stipulis subulato-lanceolatis, sepalis oblongis angustis obtusis, petalis lateralibus barbatis.—*Mich. Am. v. 2. p. 150. Elliott, Carol. v. 1. p. 298. Torrey, Fl. of Un. St. v. 1. p. 252. Bigel. Fl. Bost. ed. 2. p. 97. Schwein. Viol. in Sill. Journ. v. 5. p. 63. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 146. De Cand. Prodr. v. 1. p. 295. (excl. syn. *V. clandestinae*.)*

β. *pallens*. (*Banks. Herb.*) glabra, sepalis acuminatis. *De Cand. Prodr. v. 1. p. 295.*

HAB. Canada. *Torrey; Le Conte*.—The flowers are described as yellow; which I cannot judge of from the dried plant; nor do I possess specimens, save from Mr. Schweinitz, Dr. Torrey, and Dr. Boott, gathered in the United States. In all these the leaves are large, almost exactly ovato-cordate, with a narrow sinus. Dr. Boott's specimens have imperfect flowers, which appear to bury themselves in the earth, and very thin semipellucid membranaceous leaves: those in flower, from Dr. Torrey especially, have the foliage coriaceous.

* * *Caulibus elongatis.*

11. *V. Langsdorffii*; stigmatè marginato? subreflexo obtuso, caulibus demum elongatis basi obliqua, foliis rotundato-cordatis glabriusculis, stipulis ovatis setaceo-acuminatis, imis fuscis setoso-dentatis, sepalis ovatis subacutis, petali inferi limbo subrhomboidali, calcare late saccato obtusissimo. *DC.—Fisch. MSS.—De Cand. Prodr. v. 1. p. 296. Cham. in Linnæa, v. 1. p. 407.*

HAB. Island of Uualaschka, (*Fischer*); *Chamisso*.—This is a plant I have only seen in specimens from Dr. Fischer.

12. *V. ochroleuca*; caulibus assurgentibus, foliis cordato-rotundatis, stipulis maximis oblongo-lanceolatis dentato-ciliatis, sepalis subulato-lanceolatis, petalis duobus lateralibus dense barbatis, calcare longiusculo.—*Schwein. Viol. in Sill. Journ. v. 5. p. 69. Torrey, Fl.*

of *Un. St. v. 1. p. 255. Rich. in Frankl. 1st Journ. App. ed. 2. p. 8.?* *De Cand. Prodr. v. 1. p. 297.*—*V. repens. Schwein. (fide Le Conte.)—V. striata. Ait. Hort. Kew. ed. 1. v. 3. p. 291.?* *De Cand. Prodr. v. 1. p. 297.?* *Le Conte in Sill. Journ. v. 5. p. 69.*

HAB. Woody country, from lat. 54° to 64°. *Dr. Richardson. Canada. Le Conte.*—I do not find this in any of the collections made during the Second Journey of Captain Sir John Franklin, nor do I possess it except from Mr. Schweinitz. It is remarkable for its pale sulphur-coloured flowers, which Mr. Schweinitz reckons by far the largest of the American kinds. It is probably the same with *V. striata* of Aiton; but as we know that species only from a very short and unsatisfactory character, the name *ochroleuca* of the plant so admirably described by Schweinitz, is now universally conceded to it. I quote the synonym of my friend Dr. Richardson with a mark of doubt, partly because it does not exist in the collections of the Second Expedition, though very much of the same ground was travelled over, and partly because he describes the leaves as covered "with numerous minute depressed brown dots," which is not the case with Schweinitz's original specimens of *ochroleuca*; but which is so with the following species, one of the most abundant in the present collections.

13. *V. Muhlenbergiana*; stigmatè decurvo acuto, caulibus assurgentibus, foliis rotundato-cordatis sæpissime ferrugineo-punctatis serratis glabris, stipulis oblongo-lanceolatis ciliato-dentatis, sepalis linearilanceolatis, petalis duobus barbatis, cornu longiusculo.—*Ging. in De Cand. Prodr. v. 1. p. 297. Le Conte in Ann. of Lyc. N. Y. v. 2. p. 148.*—*V. Muhlenbergii. Torrey, Fl. of Un. St. v. 1. p. 256. (fide ejus specim.)—V. asarifolia. Muhl. Cat. and V. uliginosa. Muhl. et Schwein. (fide Torrey.)—V. punctata. Schwein.—V. canina. Walt.*

β. minor; caulibus brevioribus.—*V. debilis. Pursh, Fl. Am. v. 1. p. 174. (excl. syn. fide Torrey.) Schwein. Viol. in Sill. Journ. v. 5. p. 71. Rich. in Frankl. 1st Journ. ed. 2. App. p. 8.*

γ. albiflora; caulibus brevissimis, foliis cordato-ovatis ovatisque dense pubescentibus, floribus albis.

HAB. Labrador, (*Schweinitz*) and throughout Canada, as far north as lat. 59°, in the plains, (*Dr. Richardson*) North-West Coast. *Mr. Menzies. β.* Frequent in the same countries. *γ.* Prairies among the Rocky Mountains, rare. *Drummond.*—Six to eight inches high, throwing out many spreading or assurgent stems from the same root. Leaves in form, size, and stipules, very similar to the preceding; but here the flowers are smaller, and blue, and the whole foliage and calyx (sometimes even the petals) are not unfrequently covered with minute brown dots, impressed on the under side of the leaf. Rarely the leaves are slightly downy; in *γ.* exceedingly so all over, as well as the petioles. In a dried state, it is difficult to point out satisfactory characters, by which this species may be distinguished from our *V. canina*, where the leaves and even petals are in many of my specimens marked with similar dots. De Candolle doubts if his *V. debilis* be not a var. of *canina*. Indeed, I fear the North American *Viola* have been studied with too little reference to the European ones. This can only be satisfactorily done by cultivation and comparison of the living specimens.

14. *V. rostrata*; stigmatè rostrato, rostro suberecto acuto nudo, caulibus simplicibus decumbentibus, foliis cordatis glabris, stipulis lanceolatis ciliato-serratis, sepalis subulato-lanceolatis glabris, calcare porrecto longissimo petala imberbia excedente.—*Pursh, Fl. Am. v. 1. p. 174. Schwein. Viol. in Sill. Journ. v. 5. p. 73. Torrey, Fl. of Un. St. v. 1. p. 256. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 148. De Cand. Prodr. v. 1. p. 298.*

HAB. Moist woods in Canada. *Le Conte.*—Well distinguished by the exceedingly long horn or spur to the flower.

[Viola.]

15. *V. canina*; stigmatē papilloso subreflexo, caule adultiore adscendente ramoso glabro, foliis cordatis, stipulis acuminatis pectinatim tenuiter laceris, sepalis subulatis, pedunculis glabris, capsula elongata, valvis acuminatis, seminibus pyriformibus fuscis. *DC. Linn. Sp. Pl. p. 1324. De Cand. Prodr. v. 1. p. 298.*—Var. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 8.?*

HAB. North-West Coast of America, (*De Candolle.*) Canada? *Dr. Richardson.*—*Dr. Richardson* mentions this with a mark of doubt as a native of North America. No American author seems to be aware of its existence in that country. With regard to the station mentioned by *De Candolle*, his information is probably derived from *Mr. Menzies's* specimens, in *Mr. Lambert's* Herbarium. If so, I possess the same, and have referred them to *V. Muhlenbergiana*; though, I must confess, they have as good a claim to rank with *V. canina*.

16. *V. adunca*; stigmatē subreflexo glabro, caule adscendente simpliciusculo, foliis ovatis cordato-ovatisque coriaceis crenatis insigniter fusco-punctatis, stipulis lanceolato-acuminatis profunde dentato-ciliatis, sepalis lineari-lanceolatis, petalis duobus barbatis calcare nunc adunco vix longioribus, pedunculis elongatis folia multo superantibus.—*Sm. in Rees' Cycl.*

HAB. North-West Coast of America. On the plains of the Columbia. Puget Sound. Observatory Inlet. *Mr. Menzies; Douglas; Dr. Scouler.*—That this is the *V. adunca* of *Sir J. E. Smith* there can be no question, since *Mr. Douglas* has compared his specimens with the original ones in the Herbarium at *Norwich*, shortly previous to the death of its lamented possessor: but the spur, though sometimes, is by no means constantly, uncinatē. Generally it is so in the state of bud; and I find it to be remarkably the case with a specimen which has a double spur. But the greater number are straight, thick, and very obtuse. Hence, since *Sir J. E. Smith*, in other respects, compares it with *V. canina*, it may be supposed to be too nearly allied to that species; but I am of opinion that it is perfectly distinct. It has a more rigid and erect mode of growth. Its leaves are almost coriaceous, and, in all the specimens, (and these from very remote localities,) more ovate, more coriaceous, and so thickly covered with distinct brown dots as to give a dusky hue to the foliage, and to bring the species near to some of the South-West American kinds, which present that appearance in a remarkable degree. The flowers, as *Mr. Douglas* describes them, are of a fine and very deep purple-blue colour.

SECT. II. CHAMÆMELANIUM. *Ging. in De Cand. Stigma sphaeroideo-capitatum, utrinque fasciculis pilorum onustum, foraminulo minuto sublateralī. Stylus compresso-clavatus. Stamina oblonga approximata. Torus planiusculus. Capsula sæpe trigona. Folia seminaria sapius subrotunda. Petala 2 ungue barbata. DC.*

17. *V. Nuttallii*; stigmatē capitato utrinque subpiloso, caulibus erectis, foliis ovato-lanceolatis subintegerrimis subpubescentibus in petiolum longum attenuatis pedunculos æquantibus, stipulis lanceolatis integris, sepalis lanceolato-acuminatis, petalis ovato-lanceolatis, calcare brevissimo. (TAB. XXVI.)—*Pursh, Fl. Am. v. 1. p. 174. Schwein. Viol. in Sill. Journ. v. 5. p. 77. Le Conte in Ann. Lyc. of N. Y. v. 2. p. 151. De Cand. Prodr. v. 1. p. 300.*

β. *major*; foliis latioribus, floribus majoribus.—*V. glareosa, Douglas, MSS.*

Radix in terram sublonge descendens, subfasciculatim ramosa. *Caulēs* plurimi ex eadem radice, erecti, breves, rarius digitem longi, inferne subramosi, graciles. *Folia* fere omnia ad eadem altitudinem attingunt, ovato-lanceolata, nunc lanceolata, subfirma, integerrima vel obscure sinuato-dentata, glabra vel paululum pubescentia, in petiolum longum attenuata, uninervia, veuis lateralibus oblique parallelis. *Stipulæ* mediocres,

foliaceo-membranaceæ, oblongo-lanceolatæ, integræ. *Pedunculi* folia plerumque subæquantés, bibracteati, glabri, nunc superne pubescentes. *Flos* magnitudine *Violæ blande*, nunquam major, ut in β ., pallide sed evidentissimè flavus. *Calyx*, sepalis lanceolatis acuminatis glabris, basi vix productis. *Petala* omnia imberbia, inferum late ovatum, obtusum, subtus basi carinatum, calcarè brevissimo, vix ullo; *religua* oblongo-ovata, unguiculata, oblique patentia. *Stamina* approximata, duobus appendice lata brevi dorso auctis. *Stylus* superne incrassatus. *Stigma* utrinque depressum et fusciculo pilorum instructum.

HAB. About Carlton House, on the Saskatchewan, lat. 53°. *Dr. Richardson*. β . Abundant under the shade of pines on the dry sandy plains of the Columbia.—This seems to be a rare species, only hitherto known from specimens gathered by Mr. Nuttall on the sandy deserts of the Missouri. It differs from all the other described species remarkably, with the exception of the following, and, perhaps, *V. hastata* of Michaux, with which I am unacquainted.

Tab. XXVI. Plant:—*natural size*. Fig. 1, Flower; fig. 2, Stamen, inclosing the pistil; fig. 3, Pistil; fig. 4, Inside view of a stamen:—*magnified*.

18. *V. præmorsa*; stigmatè capitato utrinque subpiloso, caulibus erectis ovato-lanceolatis subintegerrimis pubescenti-hirsutis in petiolum longum attenuatis pedunculo brevioribus, stipulis lanceolatis integris, sepalis lanceolato-acuminatis, petalis ovato-lanceolatis, calcarè brevissimo.—*Douglas* in *Herb. Hort. Soc.*—*Bot. Reg. t. 1254*.

HAB. On the dry plains of the Columbia, and on the Multnomah River. *Douglas*. Plentiful about Fort Vancouver. *Dr. Scouler*.—Habit of the last, differing in the very great degree of long pubescence, in the larger, more highly coloured flowers, and in the peduncles exceeding the leaves in length.

19. *V. canadensis*; plerumque glabra, stigmatè capitato utrinque piloso, caule elongato gracili, foliis lato-cordatis serratis acuminatis, stipulis lanceolatis integerrimis, calcarè brevissimo.—*Linn. Sp. Pl. p. 1326*. *Pursh, Fl. Am. v. 1. p. 174*. *Schwein. Viol. in Sill. Journ. v. 1. p. 235*. *Mich. Am. v. 2. p. 150*. *Elliott, Carol. v. 1. p. 301*. *Torrey, Fl. of Un. St. v. 1. p. 255*. *Le Conte in Ann. Lyc. of N. Y. v. 2. p. 148*. *Bigel. Fl. Bost. ed. 2. p. 97*. *De Cand. Prodr. v. 1. p. 301*. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 8*.

HAB. Throughout Canada, as far as the Rocky Mountains; Newfoundland. *Mr. Cormack*; *Mr. Morrison*. North-West Coast of America. *Douglas*; *Dr. Scouler*.—Flowers whitish, or pale blue, with darker streaks. The North-West American specimens have been called *V. Scouleri* in Mr. Douglas's MSS., but I do not see how they differ from the common state of the plant. They are indeed smaller and quite glabrous.

20. *V. pubescens*; plerumque pubescenti-hirsuta, stigmatè capitato utrinque piloso, caule elongato crassiusculo inferne nudo squamigero, foliis lato-cordatis grosse serrato-dentatis, stipulis ovatis subdentatis, calcarè brevissimo.—*Ait. Hort. Kew. ed. 1. v. 3. p. 290*. *Pursh, Fl. Am. v. 1. p. 174*. *Schwein. Viol. in Sill. Journ. v. 5. p. 74*. *Torrey, Fl. of Un. St. v. 1. p. 257*. *Le Conte in Sill. Journ. v. 2. p. 149*. *De Cand. Prodr. v. 1. p. 301*.—*V. pennsylvanica*. *Mich. Am. v. 2. p. 149*.

β . *eriocarpa*; capsula dense villosa-tomentosa.—*Nutt. Gen. Am. v. 1. p. 150*.—*V. eriocarpa*. *Schwein. l. c. p. 75*. *De Cand. Prodr. v. 1. p. 301*.

HAB. Throughout Canada, to the mountains.—Flowers yellow. The var. β . is frequently cultivated in our gardens, and differs in no essential particular from α .

21. *V. sarmentosa*; caule stolonifero, foliis reniformi-cordatis crenatis, stipulis lanceolatis integris, pedunculis folia æquantibus, calcarè brevissimo obtuso.—*Douglas, MSS*.

HAB. Hilly wooded places near Fort Vancouver, and in the high grounds of Lewis and Clark's River, North-West America. *Douglas*.—My specimens of this are imperfect; and I am not sure that there are not two species among them: the one, probably from which the above character was mainly taken, throwing out wiry stems, like the runners of a strawberry, and bearing leaves, (as does the root,) which are more inclining to oval than reniform, of a coriaceous texture and brownish hue from the numerous small dots which cover both their surfaces, and having a few thick white hairs on the upper side. This is in fruit, and has a ripe and burst capsule upon one of the runners, whose footstalk is equal in length with the leaf. The other plant has no stolones: the pale green, almost reniform, leaves are quite destitute of dots, and have an injured flower arising from the root. Mr. Douglas describes the species as a handsome one, with bright yellow blossoms, marked with brown or red veins.

SECT. III. MELANIUM. DC. *Stigma urceolatum utrinque fasciculis pilorum onustum, apertura magna inferne labello munita. Stylus ab apice ad basin attenuatus. Stamina triangularia connexa. Torus concavus et ideo ovarium paulo inferum. Capsula obsolete hexagona. Semina numerosissima 40-60. Folia seminaria sæpius ovata. Petala 3 inferiora ungue barbata. DC.*

22. *V. tricolor*; radice subfusiformi, caulibus ramosis diffusis, foliis imis ovato-cordatis, stipulis runcinato-pinnatifidis, lobo medio crenato, petalis breviter unguiculatis incumben-
tibus, calcar: crasso obtuso non porrecto, nectaris brevis, seminibus oblongo-ovatis.—
Linn. Sp. Pl. p. 1326.

α. *arvensis*; DC. caulibus ramosis assurgentibus, petalis calyce vix longioribus flavescen-
tibus ceruleis vel purpureo maculatis.—*De Cand. Prodr. v. 1. p. 303.*—*V. bicolor*.
Pursh, Fl. Am. v. 1. p. 175.—*V. tenella. Schwein. Viol. in. Sill. Journ. v. 5. p. 78.?*

HAB. I have seen this only in the collection of Dr. Todd, from Lake Huron.—The *V. tenella* of Schweinitz, which I possess from that liberal and excellent Botanist, is smaller than is usual with our *V. tricolor*, but, I think, not specifically distinct.

ORD. XIII. DROSERACEÆ. DC.

1. DROSERÆ. Linn.

Sepala (potius *Cal.* 5-partitus) *petalæque* 5, inappendiculata. *Stam.* 5. *Styli* 3-5, bipartiti.—*Herbæ in uliginosis sphagnosis crescentes. Folia ciliis glandulosis rubidis irritabilibus ornata. DC.*

1. *D. rotundifolia*; foliis radicalibus orbiculatis patentibus, petiolis pilosis, seminibus arillatis.—*Linn. Sp. Pl. p. 402. Engl. Bot. t. 867. Mich. Am. v. 1. p. 186. Pursh, Fl. Am. v. 1. p. 210. Bigel. Fl. Bost. ed. 2. p. 123. Elliott, Carol. v. 1. p. 355. Torrey, Fl. of Un. St. v. 1. p. 331. De Cand. Prodr. v. 1. p. 318.*—*D. capillaris. Poir. Encycl. v. 6. p. 299. De Cand. Prodr. v. 1. p. 318.*

HAB. Throughout Canada to the mountains, and as far north as the Arctic Circle. Newfoundland. *Mr. Morrison*; *Mr. Cornack. Unalasehka. Chamisso*.—Numerous specimens, which I possess both from the United States and the British possessions, prove this to be the same as the European *rotundifolia*.

2. *D. anglica*; foliis radicalibus lineari-spathulatis erectis, petiolis elongatis, seminibus arillatis.—*Huds. Angl. p. 135. Engl. Bot. t. 369. De Cand. Prodr. v. 1. p. 318.*

HAB. Near Cumberland House, lat. 54°. *Dr. Richardson*. North-West Coast of America. *Mr. Menzies*.—Only two specimens of this are in *Dr. Richardson's* collection. The true *D. longifolia*, with seeds destitute of arillus, and with shorter leaves than the present, I have received from New York and near Boston; but I have not seen specimens from Canada, where it is yet very likely to be found.

3. *D. linearis*; foliis exacte linearibus obtusis sublonge petiolatis, petiolis longissimis nudis, scapis radicatis 1-3-floris, calycibus glabris, seminibus exarillatis lavibus. (TAB. XXVII. A.)—*Goldie in Edin. Phil. Journ.* 1822. p. 325. *De Cand. Prodr.* v. 1. p. 318.

Radix parva, fibrosa, annua, e fibris descendentibus simplicibus, subfasciculatis, crassiuscula, nigra. *Folia* omnia radicalia, subdigitalia, erecta, limbo duas fere tres uncias longo, duas lineas lato, exacte lineari, obtuso, inferne in petiolum subaeque longum, glabrum attenuato, margine dorsoque pilis longis patentibus, rubris, glandulosa tecto. *Scapus* solitarius, erectus, gracilis, glaber, dum florens, foliis subaeque longum vel paululum brevior, plerumque un-nunc bi-triflorus, demum, fructiferus, folia excedens. *Flores* pedicellati; pedicelli breves, glabri. *Calyx* glaber, profunde 5-fidus. *Capula* ovals, calyce plusquam duplo longior, 3-valvis. *Semina* ovali-oblonga, exarillata, levia, nigra.

HAB. Lake Simcoe, in Upper Canada. *Mr. Goldie*. It was found sparingly in fruit also in Upper Canada, as well as plentifully in a swamp near Jasper's Lake in the Rocky Mountains, by *Mr. Drummond*.—It was at my suggestion that *Mr. Goldie*, on his return from his travels in Canada, published the present plant as a new species in the Journal above quoted. The form of the leaf alone did appear to me quite decisive of a specific difference; but the American Botanists, and especially *Dr. Torrey*, entertained a different opinion, though I am not aware that the plant is at all known to them; and the able Botanist just mentioned has been disposed to unite it with the *D. longifolia*. It was therefore peculiarly gratifying to me to find amongst *Mr. Drummond's* rich collection many specimens gathered in the Rocky Mountains, and all possessing the characters detailed by *Mr. Goldie*, under his *D. linearis*. The name is singularly applicable; for from the blunt apex nearly to the very base of the limb or blade, it retains the same width. It must not be confounded with the American *D. filiformis* (*tenifolia*, Willd. and Muhl.); which has the leaves vastly longer and filiform, and which *Dr. Torrey* aptly compares to the rare and beautiful *Drosophyllum lusitanicum*.

TAB. XXVII. A. Plant:—natural size. Fig. 1, Capsule; fig. 2, Seed:—magnified.

2. PARNASSIA. Linn.

Sepala 5. *Petala* 5. *Squamæ* (an *Stamina abortiva*?) unguibus petalorum opposita, (plerumque) in setas apice glandulosas desinentes. *Stam.* 5. *Antheræ* posticæ. *Stigmata* 4, sessilia. *Caps.* 4-valvis, 1-ocularis, valvis medio septiferis. *Semina* arillata.—*Herbæ glaberrimæ, habitu et forsân caractere hinc ad Swertiam, illinc ad Violam accedentes.* DC.

1. *P. palustris*; squamis setis gracilibus plurimis, foliis omnibus cordatis, caulino sessili.—*Linn. Sp. Pl.* p. 391. *Engl. Bot. t.* 82. *Mich. Am. v.* 1. p. 184. *Pursh, Fl. Am. v.* 1. p. 208. *De Cand. Prodr. v.* 1. p. 320. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 10.

HAB. Throughout Canada, as far north as the Arctic Circle, and among swamps in the Rocky Mountains, between lat. 52° and 56°.—Labrador and Newfoundland. *Mr. Morrison*. Kotzebue's Sound and Bay of Eschscholtz. *Chamisso*; and *Messrs. Lay and Collie* in *Capt. Beechey's Expedition*. Cape Newenham. *Nelson*.—The broad, truly cordate, leaves, especially the cauline one, readily distinguish this from *P. parviflora*; and the numerous, slender, white pellucid hairs of its scale from all the other species of the genus.

2. *P. parviflora*; gracillima, squamis setis gracilibus subquinque, foliis radicalibus ovatis in petiolum attenuatis, caulino lineari-oblongo sessili.—*De Cand. Prodr. v.* 1. p. 320.—*P. palustris, ß. tenuis.* *Wahl. Fl. Lapp. p.* 74. ? TAB. XXVII. B.

Radix parva, annua? fibrosa. *Folia* fere omnia radicalia, ovata, vel anguste ovata, obtusiuscula, subquiloquenerria, in petiolum subseque longum attenuata, patentia. *Caulis* solitarii vel 3-4 ex eadem radice, erecti, tenues, gracillimi, unifoliati, folio, (seu bractea) parvo oblongo-lanceolato vel sublineari, spithamei ad pedalem, glaberrimi. *Flos* parvus, terminalis. *Calyx* inferne cum basi germinis accretus. *Sepala* patentia, lineari-lanceolata, viridia, petalis $\frac{2}{3}$ breviora. *Petalum* ovata, brevissime unguiculata, alba, lineata. *Stamina* et *Pistillum* ut in *P. palustris*. *Squamæ* 5, obovatae, setis 5, vel rarius 6, gracilibus pellucidis albis terminatae, uno, centrali, longiore, in faciem anteriorem decurrente. *Capsula* ovalis, stigmatibus 4, persistentibus coronata, demum in valvis 4 dehiscentibus; valvæ medio placentiferæ. *Semina* numerosa, parva, fusca, dense imbricata.

HAB. North America. *Banks, Herb. (in De Cand.)* Sandy banks formed by the floods in the rivers among the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—Numerous specimens of this pretty *Parnassia* exist in Mr. Drummond's portion of the collection, and all so constant to their characters, that I have little hesitation in considering it a good species, and I think too it is the *P. parviflora* of De Candolle. It is remarkable for its slenderness, for the root-leaves being ovate, that of the stem still narrower, and so small as, in most instances, to represent a true bractea. Whether the *P. ovata* β . *Belvisii* of De Candolle, should be considered the same, as I rather suspect, or not, I have no materials for determining. The flower of our plant is considerably smaller than that of *P. palustris*, so as well to merit the name of *parviflora*. TAB. XXVII. B.

3. *P. caroliniana*; squamis setis tribus crassis, foliis omnibus latissime ovatis ellipticisve, caulino sessili.—*Mich. Am. v. 1. p. 184. Bot. Mag. t. 1459. Pursh, Fl. Am. v. 1. p. 208. Elliott, Carol. v. 1. p. 371. Turrey, Fl. of Un. St. v. 1. p. 326. Bigel, Fl. Bost. ed. 2. p. 121. De Cand. Prodr. v. 1. p. 320.*

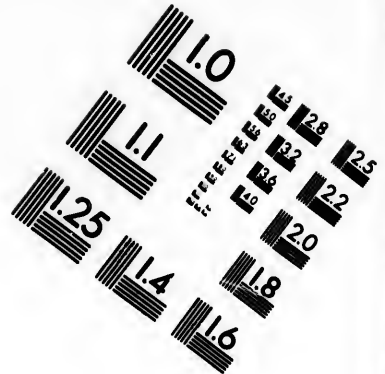
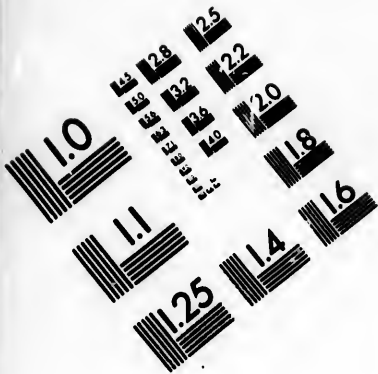
HAB. About Quebec, *Mrs. Percival*, and Lake Huron, *Dr. Todd*: which are perhaps the most northern limits of this fine plant, as well as the most western, at least in that latitude.—The leaves are more coriaceous, and paler beneath than any other species with which I am acquainted: their shape is either broadly ovate or elliptical; but they may vary in form, and I suspect the *P. grandifolia* of Beauvois and De Candolle can hardly be considered different. The *P. asarifolia* of Ventenat I have never seen, nor do the American Botanists themselves appear to be acquainted with it.

4. *P. Kotzebuei*; squamis setis tribus gracilibus, foliis radicalibus caulinoque (si adsit) subcordato-ovatis, petalis calyce brevioribus subtrinerviis. (TAB. XXVIII.)—*Cham. et Schlecht. in Linnæa, v. 1. p. 549.*

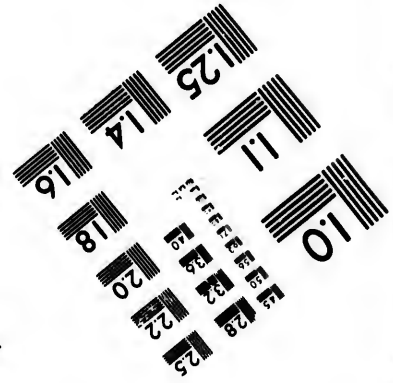
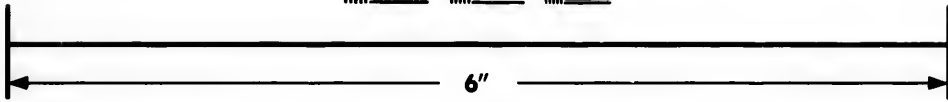
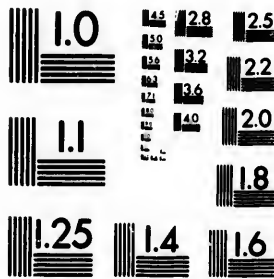
Radix fibrosa, perennis. *Caulis* vel *scapi* nudi seu unifoliati, solitarii vel plurimi ex eadem radice, digitales ad palmarem, erecti, graciles, ut et tota planta, glabri. *Folia* radicalia parva, lato-ovata, vix subcordata, obtusiuscula, submembranacea, subparallelim nervosa, inferne in petiolum unciam vel duas tres uncias longam attenuata: caulino radicalibus simili, etiam petiolato, basin versus inserto et radicalibus plerumque immixto, nunc nullo. *Flos* terminalis, solitarius, erectus. *Calyx* semi-superus, *sepalis* erecto-patentibus, anguste elliptico-lanceolatis, 5-7 nerviis. *Petalum* 5, elliptica, seu ovato-elliptica, alba, *sepalis* subbreviora, nerviis tribus præcipuis, 2 magis obscuris marginem versus. *Squamæ* parvæ, petalis oppositæ, orbiculate, flavo-virides, setis tribus, raro 4, brevibus gracilibus terminatæ: glandula flavæ. *Stamina* petalis breviora. *Filamenta* basi insigniter dilatata. *Antheræ* subrotundæ, posticæ. *Pistillum* ovali-globosum, tertia parte inferum. *Stigmata* subsessilia, 4, subglobosa, recurva. *Capsula*, calyce corolla persistentibus cincta, quadrivalvis, valvis ultra medium fissis, stigmatibus terminata, membranacea, medio longitudinaliter placentifera. *Semina* numerosa, imbricata, rufo-fusca, oblonga, ala latissima, pulcherrime reticulata circumdata. *Albumen* uullum: *Embryo* cylindricus, *radicula* ad hilum seminis versa.

HAB. Unalasehka, and Bay of Eschscholtz in Kotzebue's Sound, (*Chamisso*), at which latter place it was also found by *Messrs. Lay and Collie in Capt. Beechey's Expedition*. Rocky Mountains, between lat. 52° and 56°. *Drummond*. Bear Lake, and thence to the shores of the Arctic Sea. *Dr. Richardson*.—I am indebted for original specimens of this species to Dr. Chamisso, and find ours to correspond in every





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particular with them. It is remarkable for the small size, and few nerves upon the petals, the calyx, in almost every instance, overtopping the corolla, and for the leafless scape; or, if a leaf be present, it is situated amongst the other leaves, and is always stalked. With the perfect flowering stems, there not unfrequently appear, upon the same root, the stems and withered capsules of a former year, but still possessing the persistent remains of the calyx and corolla.

5. *P. fimbriata*; squamis lato-cuneatis carnosis crenatis medio intus carinatis nudis, foliis radicalibus longe petiolatis biariculato-reniformibus, caulino cordato sessili multo supra medium inserto, petalis basi fimbriatis.—*Kon. in Ann. of Bot. v. 1. p. 391. Smith in Rees' Cycl.—De Cand. Prodr. v. 1. p. 320. Hook. Bot. Miscell. v. 1. p. 43. t. 23.*

Radix subrepens, crassa, horizontalis, fibrosa, superne basibus petiolorum vetustorum fuscis vestita. *Caules* pedales, fere ad sesquipedalem, nunc duo ex eadem radice, erecti, graciles, angulati, glabri, multo supra medium unifoliati. *Folia* radicalis plurima, erecto-patentia, longe petiolata, petiolo superne insigniter dilatato, reniformia, acutiuscula, subcoriacea, radiatum nervosa, lobis ad petiolum curvatis, quasi biariculata; caulino parvo, cordato, sessili. *Flos* terminalis, solitarius. *Cal.* subsemisuperus; sepalis oblongo-lanceolatis, obtusis, 5-7 nerviis. *Petala* ovalia, brevi-unguiculata, alba, 5-7 nervia, inferne utrinque pulcherrime fimbriata. *Stamina*: filamenta, juniora ut videtur insigniter, demum minus dilatata. *Antheræ* ovales, posticæ, pallide flavæ. *Squamæ* majusculæ, carnosæ, viridi-flavæ, cuneatæ, basi attenuatæ, paululum concavæ, apice crenato-lobatæ, lobis vel crenis subquinque, facie interna linea media elevata carinatæ. *Pistillum* ut in reliquis hujusce generis. *Fructum* non vidi.

Hab. North-West Coast of America. *Mr. Menzies*. Elevated swamps in the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—Of this remarkable plant I have given a figure in the Botanical Miscellany: where, however, I have represented the fringe at the base of the petals rather as hairy or glandular processes, than as formed by the substance of the petal itself, which it really is. On this and other species of the genus, minute brownish dots are seen under a microscope, and particularly described, as common to almost all parts of the plant in *P. Kotzebuei*, by Chamisso, sprinkling more especially the petals and scales. Such were very evident on Mr. Menzies's specimens of the present species, and are represented in the Bot. Miscell., but I do not find them in Mr. Drummond's. They are probably analogous to the dots in many kinds of *Viola*, and are of the same colour in both, being sometimes present and sometimes absent in the same species, or in different parts of the same individual plant.

ORD. XIV. POLYGALÆÆ.

1. POLYGALA. *Tourn.*

Calycis sepalæ persistentia, 2 interiora alæformia. *Petala* 3-5 tubo stamineo connexa, inferiore carinæformi (forsan e duobus coalitis constante). *Capsula* compressa, elliptica obovata aut obcordata. *Semina* pubescentia, hilo carunculata, coma destituta. *DC.*

Obs. North America includes a very considerable number of species of this extensive and beautiful genus; but they are chiefly confined to the United States, and are most abundant in the southern provinces. The list of species in the Canadas is but small, and probably none has a more northern range than the Saskatchewan, in lat. 52°, unless it be the *P. Senega*. None was found among the Rocky Mountains, and none in North-West America.

SECT. I. TIMUTUA. DC. *Capsula* glabra ovali-oblonga, vix emarginata. *Racemi* nunc elongati floribus parvis, nunc conferti spiciformes, floribus inferioribus mox deciduis. *Folia* alterna aut verticillata. *DC.*

1. *P. incarnata*; glauca, racemis spiciformibus oblongis eglandulosis, foliis sparsis raris

subulatis, corollis longe tubulosis, caulibus erectis gracilibus subsimplicibus.—*Linn. Sp. Pl. p. 987. Mich. Am. v. 2. p. 52. Pursh, Fl. Am. v. 2. p. 464.*

HAB. Rocky places on the River Niagara, near the Falls. *Douglas*; 1823.—I have only seen specimens of this, which have been kindly communicated to me by Mr. Nuttall, from New Caesarea. It is from four to six inches high, annual, slender, glaucous, with very few, remote, minute, subulate leaves. Flowers flesh-coloured, the petals united into a long slender tube. Capsules ovate, obtuse.

2. *P. cruciata*; racemis capitatis sessilibus compactis, alis patentibus cordatis acutis, foliis oblongo-lanceolatis resinoso-punctatis quadrifariam verticillatis, caule erecto brevi ramisque subbrachiatis patentibus angulis alatis.—*Linn. Sp. Pl. p. 138. Pursh, Fl. Am. v. 2. p. 466. Bigel. Fl. Bost. ed. 2. p. 266. (certe.)—Non Nutt. Ell. De Cand.*

HAB. Canada. *Pursh*.—Stem four to six inches high, annual, with spreading branches and broadly lanceolate or oblong, mostly very obtuse leaves. Of this again I possess no Canadian specimens, and there are, unfortunately, two species confounded by authors under this name. I have chosen that of Professor Bigelow, described in his *Florula* of Boston, of which I have specimens from Dr. Boott, and which is likely to be the Canadian species. *Pursh*'s description too, and he is the authority for its being found in the British Possessions, sufficiently accords with our plant. But it then becomes a question whether it is the true one of Linnæus. It is to be regretted that Sir J. E. Smith has not noticed it in *Rees' Cyclopædia*: we can only, at a distance from the Linnean Herbarium, have recourse to the original character and reference; the former, unfortunately, is so short as to be equally applicable to more than one individual, "floribus imberbibus, foliis quaternis;" but the reference to Plukenet, both in the *Amœn. Acad.*, and in *Sp. Plantarum*, "*P. quadrifolia s. cruciata, floribus ex viridi rubentibus in globum compactis*," seems to me decisive in favour of our present plant. Dr. Torrey, among the many botanical rarities which he has obligingly sent me from the State of New York, has included a species under the name of *P. cruciata*, which differs in its taller mode of growth, in its truly linear leaves, oblong heads, and remarkably acuminate ale to the flowers, which are too of a redder colour. This is probably the *cruciata* of Nuttall; whereas our *cruciata*, and, as I conceive, the true one, is probably his *brevifolia*; though he describes the leaves as being nearly of the same shape in both. Elliott's *P. cruciata* I also consider to be identical with Nuttall's, inasmuch as he describes the stalks as being one or two inches long, the leaves linear, and the ale, or wings, acuminate.

3. *P. verticillata*; racemis gracilibus spiciformibus acuminatis pedunculatis, alis ovato-rotundatis obtusis appressis, foliis linearibus acutis verticillatis, caule erecto brachiato.—*Linn. Sp. Pl. p. 991. Pluk. Mant. t. 438. f. 4. (fig. bona.) Mich. Am. v. 2. p. 53. Nutt. Gen. Am. v. 2. p. 88. Elliott, Carol. v. 2. p. 182. Bigel. Fl. Bost. ed. 2. p. 266. De Cand. Prodr. v. 1. p. 329.*

HAB. Between Sandwich and Amherstberg, in Upper Canada. *Douglas*.—Flowers small, greenish. A slender, graceful, little annual.

SECT. II. SENEGA. *Carina imberbis. Calycis sepala 3 exteriora subæqualia. Folia alterna. DC.*

4. *P. Senega*; subcristata, racemis terminalibus pedunculatis elongatis spiciformibus, alis orbiculatis appressis petala æquantibus, foliis lato-lanceolatis basi apiceque attenuatis marginibus scabris.—*Linn. Sp. Pl. p. 990. Mich. Am. v. 2. p. 53. Pursh, Fl. Am. v. 2. p. 464. Bot. Mag. t. 1051. Bigel. Med. Bot. t. 30, Fl. Bost. ed. 2. p. 265. Elliott, Carol. v. 2. p. 182. Rich. in Frankl. 1st Journ. ed. 2. App. p. 27. De Cand. Prodr. v. 1. p. 330.*

HAB. Canada, as far north as the Saskatchewan. *Dr. Richardson; Drummond; Douglas*. In the Appendix to Capt. Franklin's Journal, however, Dr. Richardson has indicated it as growing still farther

north.—*Stems* arising many from the same perennial root, scaly below, slightly downy, rounded, angled above. The *leaves*, when seen under a microscope, are hairy with very short pubescence, and the edges are decidedly scabrous with little, rigid setæ pointing forward. *Flower* pale, greenish white. *Capsule* orbicular, scarcely notched, slightly compressed, containing two large, black, dotted, hairy seeds, having a broad white caruncle at the hilum. Dr. Bigelow has well described this species in his *Flora* of Boston, and has detailed its medical properties and history in his valuable American "Medical Botany."

5. *P. polygama*; cristata, racemis terminalibus pedunculatis laxis, alis ovalibus patentibus petala æquantibus obtusissimis, foliis alternis lineari-lanceolatis glabris superioribus cuspidatis, caulibus erectis, aliis brevissimis radicalibus sub subterraneis apetalis. (TAB. XXIX.)—Walt. *Fl. Carol.* p. 179. Pursh, *Fl. Am.* v. 2. p. 181. Nutt. *Gen. Am.* v. 2. p. 75. Elliott, *Carol.* v. 2. p. 181. De Cand. *Prodr.* v. 1. p. 330.—*P. rubella*. Willd. *Sp. Pl.* v. 3. p. 875. Pursh, *Fl. Am.* v. 2. p. 464. Bigel. *Fl. Bost. ed. 2.* p. 264, "Med. Bot. t. 54." De Cand. *Prodr.* v. 1. p. 330.

Radix gracilis, subglanosa, perennis? descendens, ramosa. *Caulis* nunc solitarii, nunc plurimi ex eadem radice, erecti, angulati, glabri, palmares ad spithamei, simplices, virgati, foliati. *Folia* alterna, erecta, seu erecto-patentia, unciam vel sesquinciunciam longa, lineari-lanceolata, adulta subcoriacea, basi paululum attenuata, inferiora subpetiolata, obtusissima, reliqua sessilia, superiora magis angusta, apice acutissima mucronulata, etiam cuspidata. *Racemi* solitarii, terminales, pedunculati, laxi, unciam vix duas uncias longi. *Pedicelli* breves, graciles, patentés, demum recurvati, ad basin bractea minutissima suffulti. *Flores* carneo-rosei, medioeres. *Calyx*; sepalis exterioribus minutis, ovalibus, viridibus, erectis, 2 interioribus seu alis, petala æquantibus, late obovatis, obtusissimis, patentibus, pallide roseis. *Carina* purpurea, cristata.—Ad basin caulium alii racemi adsunt, pedunculati, sub-subterranei, pedunculis squamosis; floribus apetalis, vel petalis valde minutis instructis, quorum capsula omnino ut in racemis caulinis, sed sessilibus, late ovatis, compressis, truncatis.

HAB. Upper Canada. Mr. Goldie. About Lake Huron. Mr. Todd.—The correctness of Mr. Nuttall, in uniting the *P. rubella* of Willdenow with the *P. polygama* of Walter, can, I believe, scarcely be called in question. The species is a very remarkable one, in many respects, as Pursh observes of his *P. rubella*, approaching to *P. vulgaris*. From the base of the main stems there proceed short stalks, from two to four inches long, bearing a raceme of flowers, which buries itself slightly in the earth. The uppermost blossoms are exceedingly imperfect, and abortive; the lower flowers of the raceme have petals, and perhaps calycine sepals, so altered as to represent a few small scales around a germen, which, to all appearance, comes to perfection and bears seeds. In some of the many specimens I have received from Dr. Boott, the racemes in question are upon leafy stalks, but this is by no means usually the case; others, though more rarely, have the upper flower of the perfect stem apetalous.

TAB. XXIX. Plant:—*natural size.* Fig. 1, Flower; fig. 2, The keel; fig. 3, Raceme, which arises from the base of the stem; fig. 4, Capsule, do.; fig. 5, Capsule, from the perfect raceme:—*magnified.*

SECT. III. CHAMÆBUXUS. Dill. *Calycis sepalum inferius concavo-cucullatum intus ad basin glandulam fovens. Corolla carina subcristata aut apice callosa. Flores pauci, magni. Herba aut suffrutices. DC.*

6. *P. paucifolia*; floribus ternis terminalibus, carina cristata, foliis ovatis petiolatis, caule simplici basi decumbente inferne nudo squamigero.—Willd. *Sp. Pl.* p. 880. Pursh, *Fl. Am.* v. 2. p. 464. Elliott, *Carol.* v. 2. p. 180. De Cand. *Prodr.* v. 1. p. 330. Bigel. *Fl. Bost. ed. 2.* p. 267. Hook. in *Bot. Mag.* t. 2852. Rich. in *Frankl. 1st Journ. ed. 2.* App. p. 27.—*P. purpurea.* Ait. *Hort. Kew. ed. 2. v. 4.* p. 244. (non Nutt.)

HAB. Plains of Canada, as far north as the Saskatchewan. *Mr. Goldie; Dr. Richardson; Mr. Blair;* (in Bot. Mag.) *Douglas; Drummond; Dr. Todd.*—This most beautiful species is now cultivated in the gardens of this country.

7. *P. uniflora*; "herbacea pumila, foliis latis ovalibus in petiolum angustatis, floribus imberbibus solitarie sparsis pedicellatis."—*Mich. Am. v. 2. p. 52. Pursh, Fl. Am. v. 2. p. 464. De Cand. Prodr. v. 1. p. 330.*—*P. paucifolia*, var.? *Nutt. Gen. Am. v. 2. p. 87.*

HAB. Borders of Canada, about Lake Ontario. *Michaux.* Islands in Lake Erie, rare. *Douglas; 1823.*—This plant I have never seen. Nuttall doubts if it be distinct from *P. pauciflora*; but then it must be incorrectly described by Michaux, who says that the keel is not crested, and that the flowers are solitary and scattered. De Candolle has only seen a specimen without inflorescence.

ORD. XV. CARYOPHYLLÆ. *Juss.*

TRIB. I. SILENÆ. *DC.* (Caryophyllæ. *Lam.*) *Sepala coalita in tubum cylindraceum apice 4-5-dentatum. DC.*

1. DIANTHUS. *Lin.*

Cal. tubulosus 5-dentatus, basi squamis 2-4 oppositis imbricatis. Pet. 5 longe unguiculata. Stam. 10. Styli 2. Caps. 1-locularis. Semina compressa hinc convexa inde concava, peltata. Embryo vix curvatus. DC.

SECT. CARYOPHYLLUM. *Ser. DC.* *Flores paniculati vel solitarii. DC.*

1. *D. repens*; caule unifloro, squamis calycinis binis ovato-lanceolatis acuminatis calyce paulo brevioribus, foliis linearibus glabris.—*Willd. Sp. Pl. v. 2. p. 681. De Cand. Prodr. v. 1. p. 358. Cham. et Schlecht. in Linnaea, v. 1. p. 37.*

HAB. Bay of Eschscholtz. *Chamisso.* Kotzebue's Sound, in the same Bay. *Lay and Collie in Capt. Beechey's Collection.*—This is probably the only species of *Dianthus* that is really a native of North America, and which shows the affinity of the vegetation of the North-West Coast with that of Siberia in the same latitude, where the present species was originally discovered. *D. Armeria*, enumerated in the Floras of the United States, is allowed by all to be introduced, and the *D. carolinianus* of Walter is a very dubious plant, with which no one seems to have been acquainted but Walter himself. Neither Capt. Beechey's specimens of *D. repens*, nor those communicated to me by Chamisso, nor the individuals in Willdenow's own Herbarium, according to the last mentioned author, possess a creeping root: on the contrary, one which descends deep into the earth, and bears on its summit many stems.

2. SILENE. *Lin.*

Cal. tubulosus, 5-dentatus, nudus. Pet. 5, unguiculata, fauce sæpissima coronata, limbo bifido. Stam. 10. Styli 3. Capsulae basi triloculares, apice in 6 dentes dehiscentes. DC.

SECT. I. NANOSILENE. *Oth. MSS.* *Cæspitosa. Caules fere nulli. Calyx subinflatus. Pedunculi uniflori. DC.*

1. *S. acaulis*; caulibus densissime cæspitosis humilibus, foliis linearibus basi ciliatis, pedunculis solitariis brevibus unifloris, calycibus campanulatis, petalis obcordatis coronatis.

Linn. Sp. Pl. p. 603. *Engl. Bot. t.* 1081. *Pursh, Fl. Am. v. 2.* p. 316. *De Cand. Prodr. v. 1.* p. 367. *Rich. in Frankl. 1st Journ. ed. 2.* App. p. 14.

HAB. Throughout the whole of Arctic and subarctic America, north of lat. 54°, and from Labrador to Behring's Straits, found by every traveller: as well as on the more elevated parts of the Rocky Mountains, between lat 52° and 56°. *Drummond.*

SECT. II. BEHENANTHA. *Oth. MSS. Caulescentes. Flores solitarii aut paniculati. Calyx vesiculato-inflatus. DC.*

2. *S. stellata*; caulibus erectis ramosis pubescentibus, foliis quaternis verticillatis lanceolatis longe acuminatis glabris, floribus paniculatis, calycibus vesiculosos pubescentibus, petalis fimbriatis.—*Ait. Hort. Kew. ed. 2. v. 3.* p. 84. *De Cand. Prodr. v. 1.* p. 368.—*Cucubalus stellatus. Linn. Sp. Pl.* p. 592. *Mich. Am. v. 1.* p. 271. *Pursh, Fl. Am. v. 1.* p. 315. *Elliott, Carol. v. 1.* p. 514. *Bigel. Fl. Bost. ed. 2.* p. 184. *Torrey, Fl. of Un. St. v. 1.* p. 449.

HAB. Canada. *Linn.* Dry stony places on the Niagara. *Douglas, 1823.*

3. *S. inflata*; caulibus ramosis, floribus paniculatis, calycibus vesiculato-ovatis, petalis bifidis nudis, unguiculis cuneiformibus, stylis longissimis. *DC.—Sm. Fl. Brit. p. 467. De Cand. Prodr. v. 1.* p. 368.—*Cucubalus Behen. Mich. Am. v. 1.* p. 271. *Pursh, Fl. Am. v. 1.* p. 315. *Engl. Bot. t.* 164. *Bigel. Fl. Bost. ed. 2.* p. 183. *Torrey, Fl. of Un. St. v. 1.* p. 449.

HAB. Canada, about Quebec. *Michaux; Mrs. Percival; and (at St. Foy) Mrs. Sheppard.*

4. *S. Douglasii*; læviter pubescens, caulibus erectis flexuosis gracilibus, foliis remotis longo-linearibus angustis, floribus paniculatis, calycibus obovatis demum inflatis læviter striatis obscure reticulatisque pubescentibus petalorum limbo bifidis.

Perennis. (*Douglas.*) *Caulis* simplices vel ad basin solummodo ramosi, pedales, erecti, graciles, læviter sed abique, ut et folia calycesque, pubescenti-scabri. *Folia* ad basin caulium congesta, *caulina* remota; *omnia* opposita, basi connata, 2-3 uncias longa, linearia, angusta, subesquilineam lata, uninervia, superne rara, parva. *Flores* mediocres, paniculati; rami sepe triflori, pedicellis longis, bibracteati, bracteis subulatis. *Calyx* oblongo-obovatus, 5-dentatus, dentibus patulis, pubescens, 10-striatus, basi abruptus, demum membranaceus, obscure reticulatus, inflatus. *Petala* alba, limbo bifido. *Capsula* ovalis, pallide fusca, nitida, 6-dentata, calyce paululum longior, authophoro longo insidens.

HAB. Abundant in mountain vallies, above the Grand Rapids of the Columbia, and among the Rocky Mountains, on their western declivity. *Douglas.*—I possess wild specimens of this from the stations now given, and others cultivated in the gardens of the Horticultural Society. In many respects it seems to agree with the *S. Gypsophila* of Desf. and De Cand., and especially as described by Chamisso and Schlechtendal in the *Linnaea*, p. 39; but it does not sufficiently accord to induce me to think it is the same.

SECT. III. OTITES. *Oth. MSS. Caulescentes. Flores verticillato-spicati. DC.*

5. *S. Scouleri*; pubescens subviscida, caule simplici erecto remote folioso, geniculis nodosis, foliis lanceolatis lineari-lanceolatisve planis, spica longa, floribus erectis, calycibus oblongo-clavatis 10-striatis, petalis bifidis.

Radix parva, annua, vel biennis, (perennis. *Douglas.*) *Caulis* solitarius, erectus, pedalis ad bipedalem, teres, denso sed breviter pubescens, superne subglandulosus, viscidus, ad geniculas insigniter nodosus,

geniculis remotis. *Folia* opposita, basi cincta et caulem vaginantia, lato- vel etiam lineari-lanceolata, plana, magis minusve obtusa, vel sepe acuminata, utrinque pubescentia, margine scabriuscula; *inferiora* majora, nunc 3-4 uncias longa, basi in petiolula attenuata; *superiora* sensim minor, erecta, sessilia. *Bractea* ovato-acuminata. *Flores* subracemoso-eploati, ramis plerumque trifloris, oppositis, et ita verticillati videantur: pedicellis bracteolatis. *Calyx* oblongo-clavatus basi abruptus, glanduloso-pubescent, apice 5-dentatus, decem-striatus. *Petala* bifida, alba nunc rosea. *Stamina* stylique exserta.—*Capsula* anthophoro longo suffulta, bifida, lacinis demum 3-dentatis.

HAB. North-West coast of America. *Mr. Menzies*. Fort Vancouver. *Dr. Scouler*. Upon the low hills of the Columbia, and in the mountain vallies of the Spoken and Macgillivray Rivers. *Douglas*.—This, again, has long lain in the Herbaria of British Naturalists, without having, as far as I can ascertain, been taken up by any author. It exhibits, it must be confessed, a close affinity with *S. viscosa*; but it is smaller in all its parts, less viscid, with more remote pairs of leaves, with a shorter calyx, and a stem that is strikingly swollen at the joints. It appears to be confined to the Columbia River, and its tributary streams; and although approaching the Rocky Mountains, it was not found among them, either by Mr. Douglas or Mr. Drummond.

SECT. IV. STACHYMORPHA. *Oth. MSS. Caulescentes. Flores spicati (vel racemosi) axillares, non (aut rarius) oppositi. Calyx 10-striatus. DC.*

6. *S. Drummondii*; tota pubescenti-glandulosa viscida, caulibus erectis simplicibus strictis, foliis remotis lineari-lanceolatis, racemo laxo paucifloro, pedicellis elongatis plerumque alternis, calycibus oblongo-cylindraceis erectis.—*S. nicæensis. Cham. et Schlecht. in Linnæa, v. 1. p. 41.?*

Radix perennis, crassiuscula. *Caules* simplices, erecti, strictissimi, teretes, pedales ad sesquipedalem, ubique, ut et tota planta, præter corollam, pubescenti-glandulosi, viscid, supernis præcipue. *Folia* lineari-lanceolata, *radicalia* latiora, in petiolulum attenuata; *caulina* remota sursum sensim minor, opposita, basi connata, uninervia. *Flores* pauci, 3-5 in racemum laxum, raro spicatum, strictissimum dispositi. *Bractee* subulatae. *Pedicelli* alterni, nunc, sed raro, oppositi, unciam sesquinciunciam longi, simplices, nudi vel, nunc, bibractati. *Calyx* oblongo-cylindraceus, pubescenti-viscidus, 5-dentatus, dentibus parvis, striis decem viridibus, demum, fructiferus, paulo latior, nunquam inflatus nec clavatus. *Petala* alba, parva, vix calyce longiora. *Capsula* cylindracea, sessilis, calycis longitudine, apice 6-dentata.

HAB. Plains of the Saskatchewan. *Dr. Richardson; Drummond*. Common on the elevated, gravelly soils, near Fort Vancouver, and skirting the Blue Mountains. *Douglas*.—I am doubtful whether this species should be referred to the division "*Stachymorpha*" or "*Siphonomorpha*" of the Prodrômus. It accords in many respects with *S. gallica* of the former division, but it has the flower-stalks vastly more elongated, sometimes opposite, and the calyx more cylindrical; while, on the other hand, it approaches very near to the *S. nicæensis* in the latter division, but is far less glutinous, and never has clavate calyces, as in my specimens of *nicæensis* from the south of France. Still I suspect it may be the Californian *nicæensis* of Chamisso and Schlechtendal, which those authors refer, doubtfully, to the plant of Allioni and De Candolle. From both the species now mentioned ours differs in its remarkably strict habit and small petals.

SECT. V. RUPIFRAGA. *Oth. MSS. Caulescentes. Caules stricti. Pedunculi filiformes. Calyces campanulati vel cylindrici. DC.*

7. *S. Antirrhina*; glabra inferne pubescenti-scabriuscula, caule erecto valde ramoso, foliis lanceolatis marginibus minute ciliato-scabris superioribus linearibus, floribus parvis paniculatis, calycibus ovalibus glaberrimis, petalis obcordatis coronatis.—*Linn. Sp. Pl. p. 600. Dill. Hort. Elth. p. 422. t. 313. Pursh, Fl. Am. v. 1. p. 316. Elliott, Carol. v. 1. p.*

517. *Torrey, Fl. of Un. St. v. 1. p. 451. Bigel. Fl. Bost. ed. 2. p. 183. De Cand. Prodr. v. 1. p. 376.*

HAB. Common throughout Canada, and from Lake Huron (*Dr. Todd*) to the Pacific at the mouth of the Columbia; apparently, however, confined to the plains.—A nearly glabrous plant, with numerous and very slender branches and peduncles, which are almost capillary, yet quite erect; and remarkable for its short broadly oval, or almost obovate, shining calyx. The blossoms, *Dr. Bigelow* observes, are probably nocturnal, since he has never seen them expanded in the day. Corolla small, whitish.

SECT. VI. SIGHONOMORPHA. Oth. MSS. Caulescentes. Flores paniculati raro solitarii; pedicelli oppositi breves. Calyx tubulatus. DC.

8. *S. virginica*; viscoso-pubescent, caule procumbente assurgente ramoso, foliis lanceolatis inferioribus longissime petiolatis basi longe ciliatis, floribus magnis paniculatis, calycibus amplo clavatis, petalis longe unguiculatis latis bifidis coronatis. *DC.—Linn. Sp. Pl. p. 600? Mich. Am. v. 1. p. 272. Pursh, Fl. Am. v. 1. p. 316. Elliott, Carol. v. 1. p. 516. Torrey, Fl. of Un. St. v. 1. p. 450. De Cand. Prodr. v. 1. p. 379.*

HAB. Lake Huron. *Dr. Todd*.—There are several specimens of this plant in *Dr. Todd's* collection, but the corolla is so much withered and faded that I cannot satisfy myself whether it is the *S. virginica* or *pennsylvanica*; nor indeed do I well understand the difference between the two species. The present individual has its petals deeply bifid, on which account I refer it to *S. virginica*; but *Elliott* assures us that the petals vary in having the limb entire or divided. The colour of *S. virginica* is said to be a bright crimson, that of *pennsylvanica*, a bright purple (*Elliott*), purplish white (*Bigelow*). *Torrey* unites the *S. Catesbeii* of *Walt.* to this, which, judging from *Dr. Schweinitz's* specimens, is very different, and more allied to *S. regia*. *Bot. Mag. t. 1724.*

9. *S. pennsylvanica*; viscido-pubescent, caulibus procumbentibus, foliis linearibus longis, floribus paniculatis, calycibus longis tubulatis, petalis læviter emarginatis subrenatis. *DC.—Mich. Am. v. 1. p. 272. Pursh, Fl. Am. v. 1. p. 316. Bigel. Fl. Bost. ed. 2. p. 183. Torrey, Fl. of Un. St. v. 1. p. 450. Elliott, Carol. v. 1. p. 515. De Cand. Prodr. v. 1. p. 381. Bot. Reg. t. 247.*

HAB. Rocky Islands on the north side of Lake Erie, abundant. *Douglas*.—Of this I have seen no specimens, and rely on *Mr. Douglas's* correctness for its being a Canadian plant. *Dr. Torrey* refers to it, though with a mark of doubt, the *S. virginica* of *Linneus*. *Smith* has thrown no light on these species in *Rees' Cyclopaedia*. *De Candolle* places them in two different subsections, the latter in that "*calycibus elongatis clavatis*;" and *pennsylvanica* in the division "*calycibus longe clavatis*." I confess I do not see a difference in this respect.

SECT. VII. Caulescentes. Pedunculi axillares; pedicelli elongati.

10. *S. Menziesii*; pubescens, caule erecto ramoso dichotomo, foliis lato lanceolatis basi apiceque acuminatis, pedunculis axillaribus folium vix superantibus, floribus parvis, calycibus obovatis 5-fidis, petalorum limbo bipartito laciniis linearibus. (**TAB. XXX.**)

Tota planta tenera, pube brevi, minuto obtecta. *Caules* epithamæi ad pedalem, erecti, flexuosi, teretes, subdense foliosi. *Folia* opposita, bi-rarius triuncialia, patentia, lanceolata, uninervia, basi attenuata, sed inferiora solummodo subpetiolata; reliqua sessilia, apice in acumen subpungens attenuata. *Pedunculi* subbiunciales, foliis vix longiores, graciles, simplices, erecti, alterni vel plerumque oppositi, nudi, nisi supremi, qui bibracteati. *Flores* magnitudine *Silenis quadridentatae*. *Calyx* oblongo-obovatus, basi subattenuatus, apice profunde 5-dentatus seu quinquefidus, dentibus vel paululum majores, acuminatis, obscure decemcostatus, pubescens. *Petala* 5, calyce multo longiora, alba, unguiculata, corona nulla, limbo bipartito, laciniis linearibus,

obtusis. *Stamina* pistillumque anthophoro, germinis longitudine, suffulta. *Filamenta* 10, subsqualia, exserta: *Anthera* oblongo-ovales. *Germin* ovale, obtusum. *Styli* tres, petalorum unguibus vix longiores. *Capsula* membranacea, calyce minor. *Semina* subtriginta.

HAB. North-West Coast of America. *Mr. Menzies*. Straits of Juan de Fuca, in lat. 48°. *Dr. Scouler*. Under the shade of solitary pines, on the low hills of the Okanagan. *Douglas*. Portage d'embarras, Slave River. *Dr. Richardson*.—This species is totally unlike any other with which I am acquainted, somewhat resembling a slender state of *Soaponaria ocyroides*, nor indeed does it accord with any of the divisional characters of the genus given by De Candolle: for here the peduncles are throughout solitary and single-flowered, and the stem is leafy to the very summit. *Dr. Richardson's* specimens are smaller than those from the east side of the Rocky Mountains, and have fewer flowers: but they are not otherwise different.

TAB. XXX. Plants:—*natural size*. *Fig. 1*, Flower; *fig. 2*, Stamens, pistil, and their stalk; *fig. 3*, Capsule:—*magnified*.

SECT. VIII. ATOCION. *Oth. MSS. Caulescentes. Flores corymbosi. Calyx clavatus, 10-striatus. DC.*

11. *S. Armeria*; glaberrima glauca viscosa, caule ramoso, foliis ovato-lanceolatis, floribus paniculato-corymbosis, calycibus longe clavatis, petalis obcordatis coronatis.—*Linn. Sp. Pl. p. 601. Engl. Bot. t. 1398. De Cand. Prodr. v. 1. p. 384.*

HAB. Among the plants gathered at Pentanguishene, on Lake Huron, by *Dr. Todd*: probably introduced from Europe.

2. LYCHNIS. *Linn.*

Cal. tubulosus, 5-dentatus, nudus. *Pet.* 5, unguiculata, fauce sæpius coronata, limbo plerumque diviso. *Stam.* 10. *Styli* 5. *Caps.* 1-5-locularis, anthophoro longo vel nullo.

1. *L. apetalá*; pubescens, caule simplici, calyce cylindraceo pubescente striato demum inflato et corollam includente, seminibus arillatis.

α. caule subunifloro brevi.—*Linn. Sp. Pl. p. 626. Fl. Lapp. t. 12. f. 1. Fl. Dan. t. 305. Wahl. Lapp. p. 135. t. 7. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18. Br. in Parry's 1st Voy. App. p. clxx. Hook. in Parry's 2d Voy. App. p. 389. De Cand. Prodr. v. 1. p. 386. Cham. et Schlecht. in Linnaea, v. 1. p. 42.—L. uniflora. "Ledeb. Mém. Petersb. v. 5. p. 537."*

β. caule 3-6-floro elongato.—*L. apetalá*; *β.* pauciflora. *De Cand. Prodr. v. 1. p. 386.—L. pauciflora. Fisch.—L. brachypetala. Cat. Hort. Berol.*

HAB. Labrador (*Mr. Morrison*) seems to be its most southern latitude: in the plains to the east: Fort Norman, (var. *β.*), in the interior. *Dr. Richardson*. Abundant every where beyond the Arctic Circle, and as far west as Behring's Straits. On the more elevated parts of the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—A very variable plant, with a stem scarcely a finger's length in height, to a foot, or a foot and a half, almost naked, or with three or four pairs of linear obtuse leaves, the lowermost ones spatulate; with from one to six flowers, which are sometimes erect, oftener drooping; the petals more or less exserted, varying in breadth, almost a deep red: the calyces more or less pubescent. When the capsule is ripe it is always erect, it fills the previously inflated calyx, is five-toothed, one-celled, with the seeds arillated, as described by *Wahlenberg*, and as observed by *Dr. Richardson* in recent specimens.

2. *L. alpina*; glabra, paniculis capitatis, calycibus fructibusque obovatis basi attenuatis, petalis bifidis, foliis lineari-lanceolatis acutis.—*Linn. Sp. Pl. p. 626. Fl. Dan. t. 65. Pursh, Fl. Am. v. 1. p. 321. Engl. Bot. t. 2254. De Cand. Prodr. v. 1. p. 387.*

HAB. Labrador. *Herb. Banks. et Dicks. (Pursh) Mr. Morrison*.—This plant, which is abundant on most of the higher alps of Europe and in Iceland, seems to be found upon the American Continent only at the point just mentioned, whence I have received specimens from Mr. Morrison, agreeing in every particular with those of the Old World.

3. AGROSTEMMA. Linn.

Cal. tubulosus, 5-fidus, coriaceus. *Pet.* 5, unguiculata, non coronata, limbo integro. *Capsula* 1-locularis, 5-dentatus.

1. *A. Githago*; hirta, calyce corollam excedente, foliis linearibus.—*Linn. Sp. Pl.* p. 624. *Engl. Bot. t.* 741. *Pursh, Fl. Am. v. 1. p.* 321.—*Lychnis Githago. Lam.—De Cand. Prodr. v. 1. p.* 387.

HAB. Canada. Around Quebec. *Mrs. Percival; Mr. Sheppard*.—Probably introduced from Europe.

TRIB. II. ALSINÆÆ. DC.—*Calycis sepala 4-5 libera aut ima basi vix subcoalita. DC.*

4. SAGINA. Linn.

Cal. 4-5-partitus. *Pet.* 4-5 aut nulla. *Stam.* 4-5. *Caps.* 4-5 valvis, 1-locularis, polysperma. DC.

1. *S. procumbens*; perennis glabra, caulibus procumbentibus, foliis linearibus mucronatis, pedunculis fructiferis adscendentibus, petalis brevibus obtusis, sepalis ovatis.—*Linn. Sp. Pl.* p. 185. *Engl. Bot. t.* 880. *Pursh, Fl. Am. v. 1. p.* 130. *Elliott, Carol. v. 1. p.* 221. *Torrey, Fl. of Un. St. v. 1. p.* 135. *De Cand. Prodr. v. 1. p.* 389.

HAB. North-West Coast of America, in springy ground, on the plains of the Columbia. *Douglas; Dr. Scouler*.—These specimens entirely agree with European ones, only that the number of parts to the flower are more frequently five than four.

5. MOLLUGO. Ser. (MOLLUGO ET PHARNACUM. Linn.)

Cal. 5-partitus. *Pet.* 0. *Stam.* 3-5. *Styli* 3. *Capsula* 3-valvis, 3-locularis, polysperma.—*Folia verticillata, raro opposita. Flores solitarii, gemini vel umbellati. DC.*

1. *M. verticillata*; foliis verticillatis inæqualibus obovato-lanceolatis acutis, caulibus decumbentibus dichotomis, pedunculis unifloris verticillatis.—*Linn. Sp. Pl.* p. 191. *Mich. Am. v. 1. p.* 77. *Pursh, Fl. Am. v. 1. p.* 92. *Elliott, Carol. v. 1. p.* 183. *Bigel. Fl. Bost. ed. 2. p.* 48. *Torrey, Fl. of Un. St. v. 1. p.* 160. *De Cand. Prodr. v. 1. p.* 391. *Cham. et Schlecht. in Linnæa, v. 1. p.* 45.—*Pluk. Munt. t.* 332. *f.* 5.

HAB. Canada. *Pursh*. Sandy banks of the Columbia, on the North-West Coast. *Douglas*.

6. SPERGULA. Linn.

Cal. 5-partitus. *Pet.* 5, integra. *Stam.* 5-10. *Styli* 5. *Caps.* 1-locularis, 5- (6- DC.) -valvis, polysperma. DC.

* *Foliis verticillatis, basi stipulatis.*

1. *S. arvensis*; foliis verticillatis basi stipulis minutis membranaceis, floribus decandris, pedunculis fructiferis reflexis, seminibus marginatis.—*Linn. Sp. Pl.* p. 630. *Pursh, Fl. Am. v. 1. p.* 320. *Engl. Bot. t.* 1535, et t. 1536. (S. pentandra.) *Elliott, Carol. v. 1. p.* 523. *Bigel. Fl. Bost. ed. 2. p.* 185. *Torrey, Fl. of Un. St. v. 1. p.* 457. *De Cand. Prodr. v. 1. p.* 394.

β. bipedalis, ramosissimus, omnibus partibus majoribus.—*S. ramosissima. Douglas, MSS.*
—*S. maxima. Wiehe in Reich. Ic. t. 113.*

HAB. Canada; about Quebec. *Mrs. Percival; Mr. Sheppard.* On the high grounds of the Red and Assiniboia Rivers. *Douglas.* *β.* Common on the banks of the Columbia at Fort Vancouver, and near the Pacific, in open prairies. *Douglas.*—The seeds in *β.*, as well as in *α.*, have a small narrow border, and are black, with raised points or papillæ of a pale brownish colour. The *S. ramosissima* of Mr. Douglas has been cultivated in our gardens; but I do not find that it affords any specific mark by which it can be really distinguished from *α.* It seems to be the *S. maxima* of Wiehe, both in point of size and in regard to the seeds. In the former character it agrees with the *S. pentandra* of Smith, but that has the seeds with a broader margin.

* * *Foliis oppositis, junioribus in axilla fasciculatis; stipulis nullis. DC.*

2. *S. nodosa; foliis subulatis oppositis glabris connatis, inferioribus vaginantibus, superioribus in axillis proliferis, petalis calyce duplo longioribus.*—*Linn. Sp. Pl. p. 630. Engl. Bot. t. 694. De Cand. Prodr. v. 1. p. 394. Rich. in Frankl. 1st Journ. App. p. 18.*

α. axillis foliorum superiorum viviparis.

γ. fasciculis foliorum axillaribus paucis.

HAB. Upper Canada, to the shores of the Arctic Sea, eastward of the Mackenzie River. *Dr. Richardson.*—The specimens from the Arctic shores differ in no respect from the others, except in having their leaves shorter and more fleshy. The clusters of young leaves, in the axils of the older upper ones, are very numerous and so compact as to appear like gemmæ; they evidently fall out from those axils, and doubtless become new plants. In the individuals from the Mackenzie River, the axillary clusters of young leaves are very few.

3. *S. saginoides; glabra, foliis subulatis acutis muticis, pedunculis solitariis longis, petalis calycem æquantibus capsula longioribus.*—*Linn. Sp. Pl. p. 631. Engl. Bot. t. 2105. Mich. Am. v. 1. p. 276. Pursh, Fl. Am. v. 1. p. 320. Torrey, Fl. of Un. St. v. 1. p. 457. De Cand. Prodr. v. 1. p. 394. Cham. et Schlecht. in Linnæa, v. 1. p. 46.—S. decumbens. Elliott, Carol. v. 1. p. 523.*

HAB. North-West Coast of America. *Mr. Menzies in Herb. nostr.* Islands of Unalashka, St. Paul, and in the Bay of Eschscholtz. *Chamisso.*

4. *S. subulata; glabra vel subpubescens, foliis anguste lineari-subulatis mucronatis, pedunculis solitariis longis, petalis capsulaque calycem æquantibus.*—*Suartz, Act. Holm. 1789. p. 45. t. 1. f. 3. Engl. Bot. t. 1082. De Cand. Prodr. v. 1. p. 394.—S. saginoides. Curt.—S. procumbens, β. Linn.*

HAB. Rocky Mountains, north of the Smoking River, lat. 56°. *Drummond.*

6. LARBREA. *St. Hil.*

Cal. 5-fidus (potius 5-partitus) basi breviter urceolatis. Pet. 5, bipartita, calyci inserta. Stam. 10, etiam perigyna. Styli 3, (vel 5.) Ovarium 1-loculare, polyspermum. Ovula axi centrali adfixa. Capsula apice 6-valvis, valvis nempe tribus apice bifidis.—*Herba glabra habitu Stellariae medice. Flores parvi albi. DC. Prodr. v. 3. p. 366.*

L. uliginosa.—*Larbrea aquatica. St. Hil. (not Ser. in De Cand. Prodr. v. 1. p. 393. quæ est Cerastium aquaticum. Linn.)—De Cand. Prodr. v. 3. p. 366.—Stellaria uliginosa. "Murr. Gött. 55." Engl. Bot. t. 1074.—S. aquatica. Poll. Pal. v. 1. p. 429. De Cand. Prodr. v. 1. p. 395. Cham. et Schlecht. in Linnæa, v. 1. p. 50.—S. graminea, γ. Linn.*

A. foliis latioribus, floribus minoribus.

HAB. Island of Unalasehka. *Chamisso*. *β*. Prairies of the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—A small plant with altogether the habit of *Stellaria*: from which it is separated on account of its slightly perigynous stamens and petals. This insertion, however, equally exists in some acknowledged *Stellaria*.

7. STELLARIA. *Linn.*

Cal. 5-partitus. *Pet.* 5, bifida. *Stam.* 10, aut abortu 3-8. *Styli* 3. *Caps.* 1-locularis, apice 6-valvis, polysperma. *DC.*

1. *S. media*; caulibus procumbentibus linea laterali alterna pilosa, foliis ovatis petiolatis tenerrimis superioribus sessilibus, pedicellis fructiferis deflexis, capsulis profunde 6-valvibus, calyce piloso vix longioribus.—*Engl. Bot. t.* 537. *Pursh, Fl. Am. v. 1. p.* 317. *Bigel. Fl. Bost. ed. 2. p.* 181. *Torrey, Fl. of Un. St. v. 1. p.* 453. *De Cand. Prodr. v. 1. p.* 396. —*Alsine media. Linn.*

HAB. Gathered on the route between Cumberland House and York Factory. *Drummond*. Lake Huron. *Dr. Todd*. At the Grande Chaudière, Upper Canada. *Pursh, MSS.*

2. *S. longifolia*; flaccida ramosa, caule tetragono scabriusculo, foliis linearibus patentibus marginibus sæpissime scabris, paniculis terminalibus divaricatis bracteatis, petalis bipartitis calyce acuto trinervi vix longioribus, stylis 3-4.—*Muhl. Cat.*—*De Cand. Prodr. v. 1. p.* 400. *Rich. in Frankl. 1st Journ. ed. 2. App. p.* 14. *Torrey, Fl. of Un. St. v. 1. p.* 452. (excl. syn. *S. longip. Gold.*) *Bigel. Fl. Bost. ed. 2. p.* 182.—*S. graminea. Bigel. Fl. Bost. ed. 1. p.* 110. *Cham. et Schlecht. in Linnæa, v. 1. p.* 49.—*Spergulastrum gramineum. Mich. Am. v. 1. p.* 276. *De Cand. Prodr. v. 1. p.* 422.—*Micropetalum gramineum. Pers. Syn. Pl. v. 1. p.* 509. *Pursh, Fl. Am. v. 1. p.* 320.

HAB. Canada. *Goldie*. Lake Huron. *Dr. Todd*. Woody country from lat. 54° to 64°. The specimens, here noticed, were gathered at Cumberland House Fort and English River, by *Dr. Richardson* and *Drummond*. Unalasehka. *Chamisso*. On the Columbia. *Dr. Scouler*; *Douglas*.—After the elaborate and faithful description which *Dr. Richardson* has given of this plant in the Appendix to the Second Edition of *Franklin's Journal*, it might be needless for me to offer any farther remark, were it not that, like others of this perplexing genus, it is liable to variation, and it will be seen by the above synonymy what difficulty the American Botanists have found in determining its place. *Dr. Richardson* has included among his references the *Spergulastrum lanceolatum* of *Mich.*, which, nevertheless, I have ventured to keep distinct; but I am far from saying that they ought not to be united, different as the extremes may appear to be. Indeed my specimens of *S. longifolia*, from *Dr. Boott*, (which are the same as *Professor Bigelow's*), and others from *Dr. Torrey*, have rather broader leaves than *Dr. Richardson's* plants, and quite smooth (not scabrous) stems and margins to the leaves: thus, as it were, partaking of the characters of the following species. With regard to the genus *Spergulastrum* or *Micropetalum*, all the American Botanists concur in uniting it with *Stellaria*, the minute or absent petals being a very unimportant character, and decidedly variable in the species of the genus in question. The stamens and petals are perigynous, as in *Larrea*.

2. *S. borealis*; flaccida ramosa ubique lævis glaberrima, foliis lato-lanceolatis lanceolatisque basi apiceque acutis, paniculis terminalibus foliosis, petalis bipartitis calyce acuto trinervi vix longioribus.

α. panicula foliosa, ut pedicelli axillares solitarii videantur.—*S. borealis. Bigel. Fl. Bost.*

ed. 2. p. 433.—*S. lanceolata*. *Torrey, Fl. of Un. St. v. 1. p. 453.* (non *Poiret et De Cand.*)
—*Spergularium lanceolatum*. *Mich. Am. v. 1. p. 275.*—*Micropetalum lanceolatum*. *Pers.*
Syn. Pl. v. 1. p. 320.

α. panicula minus foliosa, rarius bracteata.

γ. nana; omnibus partibus minoribus.

HAB. *α.* Fort Norman, in lat. 65°. *Dr. Richardson.* *β.* Throughout Canada, and as far as the Arctic Circle. *γ.* On the Rocky Mountains, between lat. 52° and 56°. *Drummond.*—If I am correct in keeping this plant distinct from the preceding, the name of Professor Bigelow is what ought to be adopted. I possess authentic specimens of his *S. borealis* from Dr. Boott, and am certain that it exactly corresponds with my *α.* Such, too, is the case with the plant of Dr. Torrey, and I presume it is equally the *Spergularium lanceolatum* of Michaux. Its petals are sometimes wanting. When the panicles are much elongated, bractes take the place of leaves; and then, especially if the leaves are more narrow than usual, the plant can hardly be distinguished from some states of *S. longifolia*. Nor can it be concealed that it bears a close affinity with our *S. graminea*, being, most probably, what is intended under that name by Chamisso; whilst the variety he mentions with scabrous stems, "qualem in regionibus sylvaticis inter 54-64 gradum lat. bor. observavit Richardson," I have referred to *S. longifolia*. The dwarf state from the Rocky Mountains, I have had the greatest difficulty in distinguishing from *Larrea uliginosa*, for assuredly the stamens and corolla are perigynous; but the leaves are less ovate, the flowers less crowded at the top of the branches; the petals and styles longer. *Dr. Richardson* had already observed, under his *S. longifolia*, "flores magnitudine *Stellaria uliginosa* (Smith) quæ quoque non raro tetragyna."

3. *S. longipes; subflaccida glaberrima glaucæ, foliis lineari-subulatis patentibus, pedunculis terminalibus dichotome ramosis, bracteis membranaceis, pedicellis valde elongatis, petalis late obovatis profunde bifidis calyce obtuso obscure trinervi paulo longioribus.*—*Goldie in Edin. Phil. Journ. Apr. 1822. De Cand. Prodr. v. 1. p. 400.*

β. minor; caulibus foliisque strictioribus.

Planta tota glaberrima. Caulis in α., subpatentes, flaccidi, pedales et ultra, in β. sphæram, basi decumbentes, dein erecti, subtetragoni, ramosi. Folia glaucoviridia, sesquicliniam ad duas uncias longa, late lineari-subulata, seu o basi latiore sensim acuminata, integerrima, margine subcartilaginea, patentia, in β. paulo latiora magisque erecto-patentia. Pedunculi terminales, aphylli, dichotome ramosi, ad dichotomias bracteati, bracteis majusculis, late ovatis, albo-membranaceis, dorso solummodo viridibus. Flores conspicui, albi. Sepala elliptico-ovata, obtusa, viridia, glaucescentia, obscure trinervia, margine lato-membranacea. Petala calyce paulo longiora, late obovata, alba, profunde bifida. Antheræ fuscæ. Capsula ovato-oblonga, nigra, vel intense fusca, nitida, calycem paulo excedens, usque ad medium trivalvis, valvis raro bifidis. Semina parva, subrotunda, fusca.

HAB. Woods near Lake Ontario; *Mr. Goldie*; thence to the Mackenzie River and Bear Lake. *Dr. Richardson; Drummond.*—The present *Stellaria* is one, (along with 4, 5, and 6,) of a series of the genus, respecting which I scarcely know whether they should constitute species or rather be described as varieties. Characters, indeed, may easily be detected for defining the extreme appearances of them: but there are, among the numerous specimens which *Dr. Richardson's* and *Mr. Drummond's* rich collection can boast, intermediate states which I cannot satisfactorily refer to any. All are distinguished by their rigid erect habit; (except the var. *α.* of the present species,) by leaves, broad at the base, gradually tapering upwards, by their remarkable glossiness, unless when any portion, or the whole of them, be glaucous; by their obscurely-nerved calyx; and by the large, deep, rich, brown, or black, very glossy, capsule, which, being longer than the calyx, forms a striking contrast with the pale hue of the rest of the plant. Our present species is distinguished by a larger size than the rest, by its more distant, longer leaves, and especially by the great length of the pedicels of its flower and fruit. Nevertheless, the plants of a humbler growth border upon

Dr. Richardson's and our *S. lata*, which, however, differs in its yet smaller size, shorter foliage, and more acute sepals.

4. *S. stricta*; erecta stricta nitidissima vel subglaucescentia, foliis lineari-subulatis erectis subcanaliculatis rigidis, panicula terminali, petalis linearibus bipartitis calyce glabro obscure trinervi acutissimo plerumque longioribus, antheris purpureis.—*Rich. in Frankl. 2d Journ. ed. 2. App. p. 15.*—*S. palustris*, β . *Frankl. 1st Journ. ed. 1. App. n. 164.* (excl. syn.)

α . caulibus laxè pubescenti-pilosis.—*S. stricta*, α . *Rich. l. c.*

β . caulibus glabris. *Rich. l. c.*—*S. palustris*, α . *Rich. in Frankl. 1st Journ. ed. 1. App. n. 164. var. α .* (excl. syn.)

γ . foliis superioribus præcipue glaucescentibus.

HAB. α . and β . From Lake Winnipeg (*Douglas*) to the Bear Lake, lat. 65°. *Dr. Richardson*; and from Hudson's Bay to the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—It will be readily seen that my third variety, γ , may be supposed to pass into the following species; and there are specimens which do appear, in a dried state indeed, to be intermediate, such as I cannot confidently refer either to the one or to the other. I must content myself with having given the characters of the most marked varieties or species, and leave it to others to judge of their importance. The capsule is similar to that of *S. longipes*.

5. *S. lata*; erecta stricta valde glauca, foliis erectis lanceolatis basi latioribus acutis carinatis lævibus, pedunculis nunc binis unifloris nunc paniculis paucifloris terminalibus, petalis bipartitis calyce glabro pubescenteve obscure trinervi paulo longioribus, antheris albis vel siccitate luteo-fuscis.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 16. Hook. in Parry's 2d Voy. App. p. 390.*

HAB. From Great Bear Lake to the shores and islands of the Arctic Sea; *Dr. Richardson*; *Capt. Sir E. Perry*; and upon the more elevated of the Rocky Mountains, between lat. 52° and 56°. *Drummond*.—This is more arctic or more alpine than the preceding, and always smaller; thus situation may account for some difference in its habit.

6. *S. Edwardsii*; erectiuscula, caulibus pubescentibus vel glabris, foliis erectis rigidis lanceolatis basi latioribus seu ovato-lanceolatis inferne margineque sæpissime laxè pilosis, pedunculis terminalibus uni-bifloris, petalis bipartitis calyce glabriusculo acuto obscure trinervi longioribus, antheris purpureis luteo-fuscisve. (TAB. XXXI.)—*Br. in Parry's 1st Voy. App. p. cclxxi. Rich. in Frankl. 1st Journ. ed. 2. App. p. 15. Hook. in Parry's 2d Voy. App. p. 390. Cham. et Schlecht. in Linnæa, v. 1. p. 48.*—*S. nitida. Hook. in Scoresb. Greenl. App. p. 411. Cham. et Schlecht. in Linnæa, v. 1. p. 47.*

HAB. Shores and Islands of the Arctic Sea. *Dr. Richardson*; *Capt. Sir John Franklin*; *Capt. Back*; *Capt. Sir E. Parry*; *Mr. Edwards*. Behring's Straits. *Chamisso*; *Messrs. Lay and Collie* in *Capt. Beechey's Collection*.—A figure of the most distinct appearance of this plant may not be unacceptable to Botanists: but then, I must confess, that when the panicle bears three or four flowers, it is very difficult to form a character by which to distinguish it from *S. stricta*. The colour of the anthers is considered by Mr. Brown of specific importance: but *Dr. Richardson's* var. γ has the anthers small and white, destitute of pollen. Perhaps in all of this groupe they are purple when perfect—yellow, dingy brown, or white, when abortive; for I find all these differences in what I should otherwise consider as one and the same species. The plant is plentiful in the extreme North-West America; and *Chamisso* and *Schlechtendal* have devoted two pages of the *Linnæa* to remarks on what they conceive may be *S. nitida* and *S. Edwardsii*, while they think the *S. dahurica*, of *Schlecht.* and *De Cand.*, as well as the *S. florida* of

Fisch. and De Cand., very closely allied plants; as are probably some other Siberian ones. For further observations on our plant, I must refer to Mr. Brown and Dr. Richardson, in the works above quoted, and to the Appendix of Capt. Parry's 2d Voyage.

TAB. XXXI. A. B. Plants:—*natural size.* Fig. 1, Flower; fig. 2, Petal; fig. 3, Stamen; fig. 4, Sepal; fig. 5, Capsule:—*magnified.*

7. *S. humifusa*; glaberrima, caulibus procumbentibus ramosis, foliis ovatis sessilibus subcarnosis, pedunculis solitariis terminalibus abbreviatis unifloris, petalis bipartitis calyce acutiusculo enervi longioribus.—*Roitb. in Act. Hafn. v. 10. p. 447. t. 4. f. 14. Fl. Dan. t. 578. Hook. in Parry's 2d Voy. App. p. 391. Rich. in Frankl. 1st Journ. App. ed. 2. p. 17.*—*S. crassifolia. Cham. et Schlecht. in Linnæa, v. 1. p. 50. (non Ehrh. et De Cand.)*—*S. crassifolia, ß. Wahl. Lapp. p. 125.*

HAB. Sandy shores of the Arctic Sea and Islands. *Capt. Sir E. Parry; Dr. Richardson; Capt. Sir John Franklin and Capt. Back.*—I know not how it is that Botanists have confounded this very distinct species with quite another plant, the *S. crassifolia* of Ehrhart, which has the habit of *Larrea uliginosa*, and is found in moist pastures of Germany. Ours is altogether arctic, and so fleshy in its foliage, that, in drying, the leaves always turn brown.

8. *S. gracilis*; glaberrima, caule debili, ramis sterilibus gemmiferis, foliis lanceolatis subsucculentis, pedunculo elongato solitario unifloro axillari vel terminali, sepalis glabris acutis nervibus petalis bipartitis brevioribus.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 17.*—*ß. foliis minus succulentis siccitate etiam viridibus.*

HAB. About Slave Lake, and between Cumberland House and Hudson's Bay. *Dr. Richardson. Drummond.*—The more usual state of this plant is to have the leaves somewhat fleshy, and like *S. humifusa*, turning brown when dry. Some of Mr. Drummond's specimens from the more southern latitudes, have their leaves still green, and rather less fleshy. Both possess terminal and axillary gemmæ, by which the plant increases abundantly. It seems always to grow densely tufted. *Styles 3. Capsule* half as long again as the calyx, oblong, thin, membranous, pale greenish-brown, 6-valved.

9. *S. crispa*; "glaberrima, caulibus diffusis, foliis brevissime petiolatis ovatis acuminatis margine repando-undulatis, floribus solitariis axillaribus, petalis calyce multo brevioribus, capsula calycem æquante."—*Cham. et Schlecht. in Linnæa, v. 1. p. 51.*

HAB. Unalashka. *Chamisso.*—With this species I am unacquainted. It is probably allied to the subsequent one, of which I regret that only very imperfect specimens are known to me; such, however, as will enable me to draw up the following specific character.

10. *S. ovalifolia*; caule procumbente pubescente, foliis internodio multo brevioribus ovalibus basi apiceque acutis subciliatis, axillis sæpe gemmiferis, pedunculo terminali unifloro, petalis calyce acuminato longioribus.

HAB. Kotzebue's Sound. *Lay and Collie in Capt. Beechey's Collection.*—A few injured stems without a perfect flower are all that I possess. These are 5-6 inches long, weak. *Leaves* $\frac{3}{4}$ of an inch long, broadly oval, acute at both extremities, single-nerved, evidently reticulated when held between the eye and the light. *Peduncle* terminal, an inch long, solitary, with a single flower, large in proportion to the size of the plant. *Calyx* glabrous; its *sepals* acuminate, nerveless, shorter than the white *petals*, whose shape I cannot well determine.

8. ARENARIA. Linn.

Cal. 5-sepalus. *Petal.* 5, integra. *Stam.* 10, aut abortu pauciora. *Styli* 3. *Caps.* 1-locularis apice 6-3-valvis, polysperma. *DC.*

SECT. I. SPERGULARIA. *Pers.*

1. *A. rubra*; caulibus prostratis, foliis angusto-linearibus acutis subcarnosis, stipulis ovatis fissis, seminibus compressis margine membranaceo nullo.—*Linn. Sp. Pl.* p. 606. *Engl. Bot.* p. 852. *De Cand. Prodr.* v. 1. p. 401. *Bigel. Fl. Bost. ed. 2.* p. 179. *Torrey, Fl. of Un. St.* v. 1. p. 456.—*A. canadensis. Pers.—Pursh, Fl. Am.* v. 1. p. 219.

HAB. Canada. *Mrs. Percival.* Between Cumberland House and Bear Lake. *Dr. Richardson.* Newfoundland. *Dr. Morrison.* Straits of De Fuca and Observatory Inlet, on the North-West Coast. *Dr. Scouler.*—This plant varies in the pubescence of its leaves, and in the presence or absence of the mucro. Even in maritime specimens I do not find the seeds margined as in our *A. marina*. In all, the root is annual.—*Schlechtendal* and *Chamisso* mention it as an inhabitant of California, and, indeed, I have specimens from almost every part of the world.

SECT. II. ARENARIUM. *Ser.* * *Foliis gramineis.*

2. *A. nardifolia*; cæspitosa, foliis fasciculatis angustissimis lineari-setaceis glaberrimis mucronatis, caulibus erectis glabris 1-3-floris, petalis obovatis sepala ovata obtusissima 5-nervia superantibus. (TAB. XXXII.)—*Ledeb. Fl. Alt. ined.*—An "*A. lychnidea*, *β. glabra*, *A. Laxmanni*." *Fisch. in litt.* *De Cand. Prodr.* v. 1. p. 402.

Caulis cæspitosi, inferne decumbentes, ramosi, valde foliosi, dein erecti, parce foliosi, ut et tota planta, glaberrima. *Folia* opposita, inferiora et in ramis sterilibus fasciculata, omnia angustissime lineari-setacea, nitida, rigida, unciam ad 3 uncias longa, recta vel subcurvata, basi subdilata atque connata, apice mucrone curvato terminata. *Rami* fertiles vix spithamei, apice 1-3-flori; *pedicelli* bracteati. *Flores* majusculi. *Calycis sepala* 5, ovata, obtusissima, margine diaphana, dorso inferne 5-nervia. *Pet.* obovata. *Stam.* 10. *Capsula* late ovata, 3-valvis

HAB. Shores of the Arctic Sea. *Dr. Richardson.*—This belongs to a natural little groupe of *Arenaria*, with very narrow and long leaves growing in fascicles on the short barren stems; most of them are inhabitants of Asia, (and not the more northern parts,) or the countries of Europe bordering upon it. My specimens of the *A. nardifolia* of Ledebour, from Dr. Fischer and Mr. Prescott, gathered by the former of these Naturalists, exactly correspond with those of Dr. Richardson from lat. 70° of North America: and these again approach so near to the *A. lychnidea* of Bieberstein, from the Iberian Caucasus, that, except in the pubescence of the latter, there is scarcely any difference.

TAB. XXXII. Fig. 1, Flower; fig. 2, Sepal; fig. 3, Capsule; fig. 4, Leaves:—all more or less magnified.

* * *Foliis subulatis linearibusve.*

3. *A. laticifolia*; foliis subulatis denticulato-ciliatis, caulibus adscendentibus 3-6-floris subsabris, calycibus cylindricis, sepalis oblongis obtusiusculis triplinerviis hirtis corolla duplo brevioribus, capsulis trivalvibus calycem superantibus. *DC.—Linn. Sp. Pl.* p. 607. *Jacq. Austr.* v. 3. p. 272. *De Cand. Prodr.* v. 1. p. 404. *Pursh, Fl. Am.* v. 1. p. 219. *Cham. et Schlecht. in Linnæa*, v. 1. p. 54.

HAB. North-West coast of America. *Menzies. (Pursh.)* Bay of Eschscholtz and Island of St. Lawrence. *Chamisso.*—This is quite unknown to me as an American plant.

4. *A. juniperina*; foliis subulatis rigidis spinosis, inferioribus subfasciculatis, superioribus distantibus, caulibus erectis firmis, sepalis ovatis subuninerviis, petalis obovatis calyce subduplo longioribus, capsulis ovato-rotundis trivalvibus calycem vix superantibus. *DC.—Sm. Ic. ined.* p. 35. t. 35. *Pursh, Fl. Am.* v. 1. p. 319. *De Cand. Prodr.* v. 1. p. 403.

HAB. Labrador and Newfoundland. (*Herb. Banks. Pursh.*) Between Lake St. Clair and Lake Huron, rare; *D. Douglas*.—I have myself received nothing like this plant of Smith's from the above-named countries.

5. *A. stricta*; erecta, glabra, multicaulis, foliis lineari-setaceis uninerviis rigidis patentibus in axillis proliferis et quasi verticillatis, panicula dichotoma patente, petalis obovatis sepala ovata acutissima 3-nervia superantibus.—*α*. foliis magis erectis, fasciculis axillariibus paucioribus, panicula erectiore.—*A. stricta*. *Mich. Am. v. 1. p. 274.*? *De Cand. Prodr. v. 1. p. 403.* *Pursh, Fl. Am. v. 1. p. 319.* *Elliott, Carol. v. 1. p. 521.*—*β*. foliis recurvis, fasciculis axillaribus numerosis, panicula patentissima. (TAB. XXXIII.)—*A. stricta*. *Bigel. Fl. Bost. ed. 2. p. 180.* *Torrey, Fl. of Un. St. v. 1. p. 455.*

HAB. *β*. From the United States to the Arctic Sea, north of the Rocky Mountains. On the Columbia? *Dr. Scouler*.—In characterizing many of the species of this division of *Arenaria*, we need the indulgence of those who study the same plants after us, for none are attended with more difficulty, even when, as in our case, we have numerous specimens from various latitudes, soils, situations, and elevations above the level of the sea: for it then becomes almost impossible to say what differences may be caused by local circumstances, and what may be permanent characters. To the species before us, these remarks are peculiarly applicable. What I have here called var. *β*. is what most of the American Botanists take for the true *stricta* of Michaux; and it is named as such in the Herbarium of Dr. Boott, which was compared with that of Michaux: yet the very appellation of "*stricta*," and the words "foliis erectis" of its original describer, are quite at variance with the plant. Mr. Drummond's, however, and Dr. Richardson's specimens tend to prove that my *α*. and *β*. may pass into each other. It is among the tallest of this groupe, often nearly a foot high; the capsules are rather longer than the calyx. *Dr. Scouler's* plant from the Columbia has the peduncles and calyces glandular. The var. *β*. is what I have figured at

TAB. XXXIII. *Fig. 1*, Flower; *fig. 2*, Fruit; *fig. 3*, Seed:—*magnified*.

6. *A. verna*; erecta, cæspitosa, multicaulis, foliis lineari-subulatis nervosis erectis, panicula erecta pauci-multiflora, calycibus ovatis acutis trinerviis corolla plerumque longioribus.—*Linn. Mant. p. 72. Engl. Bot. p. 512.*

HAB. Between Norway House and Cumberland House. *Dr. Richardson. Drummond. Columbia. Menzies. D. Douglas*.—This quite agrees with our British specimens of *A. verna*; the petals are sometimes longer and sometimes shorter than the calyx, and the latter and the pedicels are sometimes glabrous and sometimes pubescent, and, as it were, glandular.

7. *A. propinqua*; "cæspitosa, glanduloso-pilosa, foliis lineari-subulatis acutis trinerviis, calyce acuto trinervi petalis vix longiori capsula breviori."—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 17.*

HAB. Barren grounds, north of lat. 54°, to the Arctic Sea. *Dr. Richardson*. Summits of the Rocky Mountains. *Drummond*.—*Dr. Richardson* has fully described this in the place above quoted, and has justly remarked that it has the habit of *A. verna*, but that its flowers are much smaller. The whole plant is, indeed, slenderer, and the hue more glaucous, or sometimes inclining to purple. In the last expedition, specimens were found without the glands, which brings it nearer to some states of *A. verna*, with which perhaps it should be united. It seems again intermediate between it and the following.

8. *A. hirta*; foliis lineari-subulatis obtusis bisulcis hirtis, caulibus hirtis 2-3-floris, calycibus 3-nerviis acutis capsula brevioribus, petalis oblongis capsula subbrevioribus. *DC.—Wormsk. in Fl. Dan. t. 1646. De Cand. Prodr. v. 1. p. 405.* (excl. syn. *Als. rubella*, *Wahl.*) *Cham. et Schlecht. in Linnæa, v. 1. p. 56.*

HAB. Kotzebue's Sound. *Lay and Collie in Capt. Beechey's Voyage*.—I have specimens of this plant

from Greenland and from Kamtschatka, which differ in no respect from those in Capt. Beechey's collection. The plant is still slenderer than *A. propinqua*. As is the case with that species, Chamisso and Schlechtendal notice two vars., the one glabrous, the other pubescent.

9. *A. rubella*; caulibus cæspitosis numerosis, pedunculis terminalibus pubescentibus unifloris, foliis lineari-subulatis obtusis 3-nerviis, petalis elliptico-lanceolatis capsulaque 4-valvi calyce lanceolato acutissimo 3-nervi brevioribus.—*Hook. in Parry's 2d Voy. App. p. 391, et in Fl. Lond. N. S. t. 200.*—*Alsine rubella. Wahl. Lapp. p. 128. t. 6.*—*Arenaria quadrivalvis. Br. in Parry's 1st Voy. App. p. cclxxi.*

HAB. Arctic Sea-coast, *Dr. Richardson*; and summits of the Rocky Mountains, *Drummond*. Arctic Islands. *Capt. Parry*.

10. *A. Rossi*; glaberrima, "foliis triquetro-subulatis obtusiusculis muticis enerviis florem vix æquantibus, pedunculis unifloris elongatis, petalis oblongis calyces obsolete trinerviis paulo superantibus."—*Br. in Parry's 1st Voy. App. p. cclxxii.*—*β. statura majorè, foliis calycem longitudine superantibus, minus crassis nec adeo obtusis, internodio sæpius brevioribus, nervis lateralibus omnium manifestioribus, petalis longitudine calycis. Br. in Frankl. 1st Journ. ed. 2. App. p. 17.*

HAB. Arctic Sea-coast, *Dr. Richardson*; and upon the summits of the Rocky Mountains, between lat. 54°—57°, *Drummond*; where the flowers are sometimes apetalous.

11. *A. Pumilio*; glaberrima, cæspitosa, foliis lineari-subulatis obtusis carnosissimis enerviis flore longioribus margine ciliato, flore solitario sessilibus, petalis oblongo-spathulatis calyces trinerviis obtusissimos duplo longioribus.—*Br. MSS. Hook. in Parry's 2d Voy. App. p. 391.*

HAB. One of the islands in the Strait of the Fury and Hecla. *Capt. James Ross*.

12. *A. arctica*; cæspitosa, foliis linearibus obtusis curvatis marginibus ciliatis, caulibus unifloris, pedunculis piloso-glandulosis, sepalis oblongis obtusis obscure 3-nerviis, petalis (speciosissimis) obovatis calyce duplo longioribus.—*Steven in De Cand. Prodr. v. 1. p. 404. Cham. et Schlecht. in Linnæa, v. 1. p. 54.*—*α. minor*; foliis falcato-curvatis. (TAB. XXXIV. A.)—*β. grandiflora*; magis cæspitosa, floribus magnis. (TAB. XXXIV. B.) *γ. stenopetala*; petalis abortivis linearibus.

Habitus, ut bene monet Cl. De Candolle, *Silenes acaulis*. Cæspitosa, robusta, perennis. *Caulis* procumbentes, breves, nunc, in *α.* subelongati. *Folia* semiunciam longa, linearia, dorso convexa, 3-striata, supra plana, obtusa, margine magis minusve ciliata; in *α.* valde uno latere curvata, in *β.* strictiora. *Pedunculi* terminales, uniflori, pubescenti-glandulosi. *Sepala* ovalia vel oblonga, mollia, obscure trinervia, plerumque, nisi ad basin, glabra, sæpe purpurascens. *Petala* in var. *β.* maxima. *Capsula* 3-valvis, calyce subduplo longior.—Var. *γ.* forte distincta species. *Radix* ut videtur, annua; *folia* longiora, remotiora, magis carnosissima. *Caulis* etiam pubescenti-glandulosus. *Petala* linearia (abortiva) calycem vix superantia.

HAB. Island of St. Lawrence. *Chamisso*. Shores of the Arctic Sea. *Dr. Richardson*; *Capt. Sir John Franklin* and *Capt. Back*. Kotzebue's Sound. *Lay and Collis* in *Capt. Beechey's Voyage*. *γ.* Coast, west of the Mackenzie River. *Dr. Richardson*.—This very fine species seems peculiarly to merit the name of *arctica*. Mr. Drummond did not meet with it upon the Rocky Mountains: but in more southern latitudes the *A. obtusa* of Dr. Torrey is found on the higher parts of the same range, and both from a specimen in my Herbarium, and from that Author's own remarks, (*See Torrey's Account of Plants from the Rocky Mountains, p. 170.*) it is very nearly allied to, if not the same as, the present.

TAB. XXXIV. A. *Arenaria arctica*, *n.*—Fig. 1, Leaves.—B. var. *β*, fig. 1, Leaf; fig. 2, Petals and 2 Stamens; fig. 3, Fruit:—*magnified*.

13. *A. macrocarpa*; cæspitosa, foliis congestis subulato-linearibus planis margine ciliatis, pedunculis terminalibus unifloris foliosis, calycis foliolis linearibus, petalis ovatis calyce duplo longioribus, capsulis elongato-oblongis calyce triplo longioribus.—*Pursh, Fl. Am. v. 1. p. 318. De Cand. Prodr. v. 1. p. 405. Cham. et Schlecht. in Linnea, v. 1. p. 55.*

HAB. North-West Coast of America. *Nelson in Herb. Banks. (Pursh.)* Chamisso's Island and Island of St. Lawrence. *Chamisso*.—I have placed this next to *A. arctica*, because, judging from Pursh's description, it must be nearly allied to it. Chamisso, however, keeps it distinct; but says, that in the Bay of St. Lawrence (on the Asiatic side of Behring's Straits) he found a plant that was intermediate between the two in question. The chief distinction from *A. arctica*, appears to me to be in the capsule, which Pursh says is thrice as long as the calyx.

14. *A. fasciculata*; (?) "glabriuscula, cæspitosa, cauliculis stricto-erectis, foliis subulatis pungentibus striatis, floribus dense fasciculatis, calycibus subulatis striatis, petalis brevissimis."—*Pursh, Fl. Am. v. 1. p. 319.*

HAB. Canada; in Mr. Lambert's Herbarium from Kew Gardens. (*Pursh*).—This plant must be considered very doubtful. The true *A. fasciculata* of Gouan is perhaps one of the rarest of all plants. His Herbarium in my possession proves it to be quite distinct from the plant so named and figured by Jacquin, (*Austr. p. 182.*) which is the *A. fastigiata* of Smith. The Canadian plant Mr. Pursh alludes to, can scarcely be the following, which indeed comes nearer to the true *A. fasciculata* than any other species, inhabiting, however, a widely different part of America, which was a *terra incognita* at the time Mr. Pursh wrote.

15. *A. Franklinii*; ramis erectis fastigiatis numerosis fragilibus, foliis nitidissimis subulato-setaceis, floribus fasciculatis, sepalis subulatis scariosis late uninerviis petala lineari-oblonga superantibus. (TAB. XXXV.)—*A. Franklinii. Douglas, MSS.*

Radix sublonga, descendens, perennis. *Caulis* breves, foliorum vetustorum vestigiis obsiti, in ramos numerosos, erectos, subpalmares, basin versus divisi. *Rami* valde fragiles, glabri. *Folia* opposita, basi connata, vix unciam longa, subulato-setacea, erecta, nitidissima, albescentia, obscure uninervia, integerrima vel sub summa leute minute ciliato-dentata. *Flores* terminales, dense fastigiati. *Pedunculi* breves, foliosi seu bracteati. *Bracteæ* foliis similes, sed paulo minores magisque scariosæ. *Sepala* semiunciam longa, subulata seu lanceolato-subulata, acuminatissima, membranacea, scariosa, albidâ, dorso nervo latiusculo obscure viridi notata, margine nunc integerrima, nunc, ut in foliis, minutissime ciliata. *Petala* oblonga, obtusissima, basi attenuata, calyce breviora. *Stam.* 10, vix petala æquantia. *Germen* ovale. *Styli* 3. *Capsula* ovali-rotundata, calyce multo brevior, apice 3-valvis, valvis medio bifidis.

HAB. Abundant on barren sandy plains and undulating grounds of the Columbia, from the "Great" to the "Kettle Falls;" and south of that river as far as the source of the Missouri. *Douglas*.—This is the most beautiful, and, at the same time, the most distinct of the genus, remarkable for its fragile stems, and glossy foliage and calyces. Its nearest affinity is assuredly the *A. fasciculata* of Gouan; but that is at once recognized by its decidedly annual root, its coarser, rigid, and more opaque aspect, and, above all, by the leaves and sepals being strongly 3- or 5-ribbed.

TAB. XXXV. Fig. 1, Flower and bractæ; fig. 2, Flower, expanded; fig. 3, Stamen; fig. 4, Capsule; fig. 5, Leaves:—*magnified*.

* * * *Foliis lanceolatis ovalibus rotundatisve.*

16. *A. buxifolia*; pubescens, foliis ovato-oblongis sessilibus, caulibus repentibus, pe-

dunculis dichotomis subbifloris, sepalis linearibus brevibus obtusis margine membranaeis, petalis calyce vix longioribus, capsulis ovatis obtusis calycem æquantibus (5-valvibus?) DC.—*Poir. Dict. v. 6. p. 362. De Cand. Prodr. v. 1. p. 411.*

HAB. Canada. (*Poiret*.)

17. *A. Purshiana*; caule dichotomo diffuso, foliis ovalibus subacutis, pedunculis alternis axillaribus solitariis elongatis, calycibus acutis, petalis longitudine calycis. *De Cand. Prodr. v. 1. p. 414.*—*A. thymifolia. Pursh, Fl. Am. v. 1. p. 318.* (non *Sibth. and Sm.*)

HAB. Sea-shore of Labrador. *Herb. Banks. (Pursh.)*

18. *A. lateriflora*; minute pubescens, caule erecto gracili dichotome ramoso, foliis oblongo-ellipticis obtusis ciliatis patentibus, pedunculis lateralibus terminalibusque elongatis bifloris, sepalis ellipticis obtusis enerviis corolla subdimidio brevioribus. (TAB. XXXVI.)—*Linn. Sp. Pl. p. 605. Pursh, Fl. Am. v. 1. p. 317. Bigel. Fl. Bost. ed. 2. p. 181. Goldie, in Edin. Phil. Journ. v. 6. p. 327. Cham. et Schlecht. in Linnæa, v. 1. p. 57.*

HAB. From the United States to lat. 60°, and from Hudson's Bay to the Rocky Mountains in the woody districts. *Dr. Richardson; Drummond; and others. Unalashka. (Dr. Fischer.)*

TAB. XXXVI. Fig. 1, Flower; fig. 2, Sepal; fig. 3, Stamen; fig. 4, Pistil; fig. 5, Leaf;—*magnified.*

19. *A. macrophylla*; caule gracili erecto dichotome ramoso, foliis patentibus lanceolatis glabris basi apiceque acuminatis, pedunculo terminali 2-3-floro, sepalis ovatis acuminatissimis corolla capsulaque subrotunda multo longioribus.—*α. foliis angustioribus. (TAB. XXXVII. A.)—β. foliis brevioribus latioribusque. (TAB. XXXVII. B.)*

HAB. *α.* North-West America, in shady woods; and *β.* banks of the Saskatchewan. *Douglas.*—Habit of the preceding, yet very distinct. Here the plant is wholly glabrous, the leaves are acuminate at both extremities, the sepals of the calyx are totally different, and longer than the corolla. I possess the same plant from Kamtschatka, gathered by Wormskiöld.

TAB. XXXVII. A. *Arenaria macrophylla, α.*—B. var. *β.*—Fig. 1, Flower, fully expanded; fig. 2, View of the outside of the calyx and corolla; fig. 3, Stamen; fig. 4, Leaf;—all more less *magnified.*

20. *A. peplodes*; glabra, foliis ovatis oblongisve acutis carnosis, floribus subsolitariis breviter pedunculatis, sepalis obtusis corollam subæquantibus.—*Linn. Sp. Pl. p. 605. Engl. Bot. t. 189. Pursh, Fl. Am. v. 1. p. 317. Torrey, Fl. of Un. St. v. 1. p. 453. Bigel. Fl. Bost. ed. 2. p. 181. De Cand. Prodr. v. 1. p. 413. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18. Cham. et Schlecht. in Linnæa, v. 1. p. 57.—Adenarium peplodes. Rafin. De Cand. Prodr. v. 3. p. 366.—β. major; foliis unciam longis.*

HAB. Sea-shores, everywhere.—*β.* De Fuca's Straits. *Dr. Scouler.*

9. MERCKIA. Fischer.

Cal. 5-sepalus, persistens. *Cor.* 5-petala, petalis unguiculatis, integris. *Stam.* 5, cum petalis alternantia, filamentis subulato-filiformibus, antheris medifixis subglobosis, loculis appositis. *Styli* 3. *Caps.* sessilis inflata depresso-globosa umbilicata sulcata, imperfecte trilocularis, trivalvis, dissepimentis bipartibilibus; *spermophorum* centrale basale parvum liberum. *Semina* numerosa minuta pyriformia, embryone uncinato peripherico

ex majori parte albumen includente, radícula hilum spectante.—Herba debilis herbacea effuso-caspiosa. Folia opposita subpetiolata. Flores pedunculati, terminales et laterales, solitarii. HAB. ad littora maris in regionibus arcticis Asia orientalis et America occidentalis. Cham. et Schlecht.

1. *M. physodes*. Fisch. MSS.—Cham. et Schlecht. in *Linnaea*, v. 1. p. 59.—Arenaria physodes. De Cand. Prodr. v. 1. p. 413.

HAB. Frequent on the sandy sea-shores of the Bay of Eschscholtz. Chamisso.—I am indebted to Dr. Fischer and Dr. Chamisso for specimens of this plant.

CERASTIUM. Linn.

Cal. 5-partitus. Pet. 5, bifida. Stam. 10. Styli 5. Caps. 1-locularis, cylindrica aut globosa, apice dehiscens, dentibus 10, circinatis aut adscendentibus. DC.

SECT. I. STREPHODON. Ser.

1. *C. stellarioides*; caule erecto dichotomo ramoso subtrifloro foliisque glabris oblongis acuminatis, pedicellis 1-floris terminalibus, sepalis lanceolatis, petalis semibifidis calyce duplo longioribus. DC.—“*Moc. Pl. Nuk. Ic. ined.*” De Cand. Prodr. v. 1. p. 415.

HAB. About Nootka Sound. (De Cand.)

SECT. II. ORTHODON. * *Petalis calycem æquantibus vel minoribus.*

2. *C. vulgatum*; hirsutum, suberectum, superne viscidum, foliis ovatis, bracteis herbaceis, petalis calycis longitudine, floribus capitatis, calycibus oblongis pedicello longioribus.—*Linn. Sp. Pl.* p. 627. *Engl. Bot. t.* 789. De Cand. Prodr. v. 1. p. 415. Pursh, *Fl. Am.* v. 1. p. 321. *Elliott, Carol.* v. 1. p. 524. *Bigel. Fl. Bost. ed. 2.* p. 184.

HAB. At La Grande Chaudière. Pursh, MSS. About the Falls of Niagara, abundant. Douglas.

3. *C. viscosum*; hirsutum, viscidum, diffusum, foliis oblongo-lanceolatis, bracteis marginem membranaceis, floribus subpaniculatis, calyce oblongo pedicellis brevioribus.—*Linn. Sp. Pl.* p. 627. *Engl. Bot. t.* 790. De Cand. Prodr. v. 1. p. 416. Pursh, *Fl. Am.* v. 1. p. 320. *Torrey, Fl. of Un. St.* v. 1. p. 158. *Bigel. Fl. Bost. ed. 2.* p. 184. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 18.

HAB. Canada. Pursh. About the trading posts, perhaps introduced. Dr. Richardson. Lake Huron. Dr. Todd.

* * *Petalis calycem superantibus.*

4. *C. elongatum*; hirsutum, foliis linearibus internodiis longioribus divaricatis, pedunculis terminalibus elongatis bis trichotomis, bracteis oppositis ovatis, petalis emarginatis calyce acuto duplo longioribus, capsulis subglobosis.—Pursh, *Fl. Am.* v. 1. p. 321. De Cand. Prodr. v. 1. p. 417. *Torrey, Fl. of Un. St.* v. 1. p. 460.

HAB. Plains of the Columbia. *Herb. Lewis.* (Pursh.)—May this not be *C. arvense*? which I possess from Mr. Menzies, gathered in the same country, and which Dr. Torrey says it nearly resembles, but in having longer and narrower leaves, and longer petals.

5. *C. Fischerianum*; hirsuto-subviscosum, caulibus prostratis, foliis ovatis sessilibus dis-

tantibus, floribus dichotomo-subumbellatis breviter pedunculatis, flore solitario longe pedunculato in dichotomia, sepalis lanceolatis obtusiusculis margine scariosis, petalis calyce duplo longioribus, "capsula cylindrica sepalis longiore." (*Cham.*)—*Ser. in De Cand. Prodr. v. 1. p. 419. Cham. et Schlecht. in Linnæa, v. 1. p. 60.*—*C. alpinum.* "*Oed. Dan. t. 6.*" (fide *Ser.*)

HAB. Frequent on all the coasts of America, bordering on Behring's Straits. *Chamisso.*—This plant *Chamisso* and *Schlechtendal* observe to be nearly allied to *C. viscosum*, and still more to *C. alpinum*; and they even think that the *C. alpinum* of Melville Island, and other arctic regions explored by our navigators, is identical with it. The *Cerastium* brought by *Capt. Beechey* from *Kotzebue's Sound*, I unite, without any hesitation, to a very common state of *C. alpinum*.

6. *C. alpinum*; caulibus prostratis foliisque elliptico-ovatis magis minusve sericeo-hirsutis, panicula dichotoma pauciflora, pedunculis elongatis, sepalis oblongis obtusiusculis margine scariosis pilosis, petalis calyce duplo longioribus, capsula oblonga sepalis subduplo longiore.—*Linn. Sp. Pl. p. 628. Engl. Bot. t. 472. Br. in Ross' Voy. ed. 2. v. 2. p. 192. Hook. in Parry's 2d Voy. App. p. 390. Rich. in Frankl. 1st. Journ. ed. 2. App. p. 18.*—*β. glabratum*; foliis glabratibus. *Hook. in Parry's 2d Voy. App. p. 390. Fl. Dan. t. 979.*

HAB. Arctic America and adjacent Islands. *Kotzebue's Sound. Lay and Collis in Capt. Beechey's Voyage. β. Duke of York's Bay. Capt. Sir E. Parry. Rocky Mountains. Drummond.*—*Dr. Richardson* observes, in the Appendix to *Capt. Sir John Franklin's 1st Voyage*, that a similar plant to this, but with more rigid pubescence, and gathered on the shores of the Arctic Sea, existed in the collection that was lost. It was probably the *C. Fischerianum*, if that be really a distinct species, which *Chamisso* says is distinguished from *C. alpinum*, among other marks, by its more rigid pubescence.

7. *C. arvense*; caulibus basi declinatis, foliis lineari-lanceolatis pubescentibus ad basin præcipue, floribus dichotome paniculatis paucifloris, petalis calyce duplo majoribus, capsula oblongo-cylindracea calycem duplo superante.—*Linn. Sp. Pl. p. 628. Engl. Bot. t. 93. Pursh, Fl. Am. v. 1. p. 321. Bigel. Fl. Bost. ed. 2. p. 184.*

HAB. Throughout Canada, and in the Rocky Mountains. *Dr. Richardson; Douglas; Drummond; and others. Columbia. Mr. Menzies.*

8. *C. pensylvanicum*; caule suberecto foliisque lineari-lanceolatis dense pubescentibus, panicula longe pedunculata dichotoma, corollis calyce duplo longioribus.—*Hornem. Hort. Hafn. p. 435.*—*C. pubescens. Goldie, in Edin. Phil. Journ. 1822. Rich. in Frankl. 1st Journ. ed. 2. p. 18.*—*C. arvense. ed. 1. p. 738.*—*C. tenuifolium. Torrey, Fl. of Un. St. v. 1. p. 460.* (fide specim.) an *Pursh*?

HAB. In many places in the woody parts of Canada. *Goldie; Dr. Richardson; Drummond.*—This, which, with *Mr. Goldie*, I was formerly disposed to keep distinct from *C. arvense*, I now think scarcely deserving to rank as a species. It is indeed larger and stronger in all its parts, and the petals are much more conspicuous. But there are intermediate states which diminish the value of those characters.

9. *C. natans*; ubique pubescenti-glutinosum, magis minusve arachnoideo-tomentosum, caule erecto superne paniculato, foliis oblongo-lanceolatis acutis, floribus fructibusque nutantibus, petalis calycem superantibus, capsula cylindracea sursum curvata calyce plusquam duplo longiore.—*α. nudiusculum.* "*Rafin. Préc. p. 36.*" *De Cand. Prodr. v. 1. p. 420. Torrey, in Fl. of Un. St. v. 1. p. 459.* (excl. syn. *C. pubescens. Gold.*) *Rich.*

in *Frankl. 1st Journ. ed. 2. App. p. 18.* cum descr.—*C. glutinosum. Nutt. Gen. v. 1. p. 291.* (non *Humb.*)—*C. longipedunculatum. Muhl. Cat. p. 47.*—*♂. vestitum*; ubique pilis longis mollibus albis arachnoideis tectum.

HAB. ♂. From Canada to lat. 58°, and from Hudson's Bay to the elevated vallies of the Rocky Mountains. *Dr. Richardson; Drummond; Douglas.* Common in North-West America, where the timber has been destroyed by fire. *Douglas. ♂.* About Lake Winipeg. *Drummond.*—Annual. This is amongst the tallest of the genus, a foot high, very erect; in young plants the flowers are few and somewhat umbelled; the old plants bear large and many-flowered panicles. The leaves are often two inches and more long. *Var. ♂.* is very remarkable for the loose cobwebby down which covers the whole plant; but as the specimens thus clothed are, though in flower, evidently young, it is probable that this additional covering disappears in age. All our specimens are, indeed, more or less densely clothed with down.

9. *C. rigidum*; hirsutum, caule erecto inferne simplicissimo apice dichotomo, foliis oblongis acutis, pedunculis elongatis, sepalis lanceolatis acutis, petalis bifidis calyce longioribus, capsulis oblongis nitidis calyce duplo et ultra longioribus. *DC.*—"Lédeb. *Mem. Acad. Petersb. p. 514. n. 25.*" *De Cand. Prodr. v. 1. p. 420. Cham. et Schlecht. in Linnæa, v. 1. p. 62.*

HAB. Unalasccha. *Chamisso.*—According to Lédebour, this plant grows to a height of nearly two feet, is erect, rigid, everywhere clothed with patent rigid hairs, and inhabits Siberia. *Chamisso* says that his Unalasccha specimens are similar, but smaller.

10. *C. Beringianum*; hirtum, superne viscosum, caulibus inferne cæspitosis, superne strictis erectis elongatis oligophyllis, foliis oblongis subacutis, floribus dein cernuis, sepalis ellipticis acutis, petalis et capsulis calyce sesquolongioribus. *Cham. et Schlecht. in Linnæa, v. 1. p. 62.*

HAB. In the Bay of Eschscholtz.

ORD. XVI. LINEÆ. *De Cand.*

1. LINUM. *Linn.*

Flores proportione partium quinarie. *Sepala* integra. *Styli* rarissime 3, cum petalis staminibus sepalisque 5. *DC.*

* *Floribus flavis.*

1. *L. rigidum*; annuum, caule superne ramosissimo acute angulato, foliis linearibus alternis rigidis marginibus scabris, floribus paniculatis, calycibus ovato-lanceolatis acuminatis capsula globosa longioribus bracteisque marginibus aculeato-serratis glandulosis. —*Pursh, Fl. Am. v. 1. p. 210. De Cand. Prodr. v. 1. p. 424. Torrey in Pl. of Rocky Mount. p. 171.*—*L. striatum. Nutt. Gen. v. 1. p. 206,* (fide specim.) non *Walt.*

HAB. Abundant in the plains of the interior, especially about the Saskatchewan. *Dr. Richardson; Drummond; Douglas.*—This is amongst the most distinct of all the species of *Linum*, yet scarcely known to any author, except *Pursh* and *Torrey*, and by them only as a native of the Missouri. I possess beautiful specimens from *Dr. Boott*, gathered near Boston; and I have it from *Mr. Nuttall* as "*L. striatum*," gathered at *New Haaler*; but this latter species should have ovate or oblong leaves and blue flowers.—The beautifully spinuloso-serrate and glandular calyces at once characterise the present species.

2. *L. virginianum*; annuum, erectum, caule superne ramoso subanguloso, foliis oblongo-lanceolatis margine scabriusculis, racemis elongatis foliosis, floribus unilateralibus, sepalis late ovatis mucronatis capsula depressa subbrevioribus.—*Linn. Sp. Pl.* p. 399. *Mich. Am. v. 2. p. 36. Pursh, Fl. Am. v. 1. p. 210. Elliott, Carol. v. 1. p. 375. Bigel. Fl. Bos. ed. 2. p. 123. Torrey, Fl. of Un. St. v. 1. p. 330.*

HAB. Lake Huron, which is perhaps its most northern range. *Dr. Todd.*

• • *Floribus caruleis.*

3. *L. perenne*; subperenne, glabrum, ramis erectis virgatis, foliis alternis acutis sæpe pellucido-punctatis, floribus suboppositifoliis terminalibusque, filamentis subulatis, stylis ad basin usque liberis, sepalis ovalibus basi obscure 5-nerviis ext. acutis int. obtusis, capsula globosa paulo, petalisque retusis 8-plo, brevioribus.—*Linn. Sp. Pl.* p. 397. *Cham. et Schlect. in Linnæa, v. 1. p. 71. Engl. Bot. t. 40. Rich. in Frankl. 1st Journ. ed. 1. p. 735. Nutt. Gen. v. 1. p. 206. Torrey in Pl. of Rocky Mount. p. 171.—L. Lewisii. Pursh, Fl. Am. v. 1. p. 210.—L. sibiricum et L. anglicum. (Mill.) De Cand. Prodr. v. 1. p. 427.*

HAB. From Canada, (*Mrs. Percival*) throughout North America, among the Rocky Mountains, (*Drummond, Douglas*), to the shores of the Pacific, (*Douglas*), and as far north as the shores of the Arctic Sea, *Dr. Richardson*.—*Chamisso* and *Schlechtendal* unite with this, and, I think, justly, *L. austriacum*, *Jacq.*, *L. lara*, *Scop.* and *L. alpinum*, *Jacq.*; for the differences are indeed very trifling and very inconstant. At the same time, those authors distinguish the *L. perenne* from our British *L. perenne*, (*L. anglicum*, *Mill.* and *De Cand.*) by its "drooping capsule, whereas in *L. anglicum* it is constantly erect;" a character, perhaps, on which too much stress is laid, even were it constant; but in my American specimens, often on the same plant, the capsules are sometimes erect and sometimes drooping. Although this species of Flax is of such general occurrence in North America, *Pursh* and *Douglas* both observe that it is never employed by the natives for economical purposes.

ORD. XVII. MALVACEÆ. *Br. De Cand.*—MALVACEÆ. *Sect. 1. 2. 3. Juss.*

1. MALVA. *Linn.*

Cal. cinctus involucre 3-phyllo rarius 5-6-phyllo, bracteolis oblongis setaceisve. *Carpella* capsularia plurima in orbem disposita.

SECT. MALVASTRUM. *DC.* * *floribus purpureis v. carneis.*

1. *M. rotundifolia*; caule prostrato, foliis cordato-orbiculatis obtusissime 5-lobatis, pedunculis fructiferis declinatis.—*Linn. Sp. Pl.* p. 969. *Engl. Bot. p. 1092. Pursh, Fl. Am. v. 2. p. 454. Elliott, Carol. v. 2. p. 162.*

HAB. About Montreal and Quebec, in cultivated plains. *Mrs. Percival*; *Mrs. Sheppard*; *Dr. Richardson*.

2. *M. Munroana*; herbacea, albido-tomentosa, foliis subrotundis cordatis subquinque-lobis dentatis, involucello setaceo, pedunculis terminalibus paniculatis. *Lindl.*—*Douglas, MSS. in Herb. Hort. Soc.—Lindl. in Bot. Reg. t. 1306.*

HAB. Common on the arid, barren, sandy deserts of the Columbia, from the "Great Falls" to the Rocky Mountains, covering the ground with scarlet, as *Papaver Rhæas* does in our country. *Douglas.*

3. *M. rivularis*; caule herbaceo stellato-pubescente, foliis scabriusculis cordatis profunde 5-7-fidis, lobis acutis grosse serratis, pedunculis terminalibus axillaribusque elongatis 6-8-floris racemosis foliosis, calyce stellatim tomentoso, involucellis setaceis, fructu hirsutissimo.—*Douglas, MSS. in Herb. Hort. Soc.*

Perennis. *Caulis* 2-4 pedalis, herbaceus, ramosus, robustus, ramisque stellatim pubescentes. *Folia* ampla, superne leviuscula, infra pilis raris ramosis scabra. *Pedunculi* stellatim tomentosi, racemosi. *Pedicelli* ad basin folio parvo instructi, breves, erecti. *Floras* magnitudine *Malva rotundifolia*, albi vel carnei.

HAB. Common on the banks in North-West America, from the ocean to the Rocky Mountains. Fl. June—August. *Douglas.*

* * *floribus flavis.*

4. *M. hederacea*; "perennis, ubique dense stellato-tomentosa incana, caule brevi herbaceo procumbente, foliis petiolatis cordatis integris sublobatisque crenato-serratis subplicatis, pedunculis axillaribus unifloris, petalis dorso marginibusque stellatim pubescentibus."—*Douglas, MSS. in Herb. Hort. Soc.*

Planta parva. *Caulis* versus basin divisus, flexuosus. *Folia* unciam lata, reniformi-cordata, crassiuscula, subrigida, venosa, venis subtus prominentibus, superne depressa, ut folia subplicata videantur, margine vix lobata, crenato-serrata. *Petioles* foliis subbreves. *Pedunculi* petiolis sesquialongiores, graciles, uniflori. *Calyx* 5-fidus, segmentis acutis, ad basin involucellis 3 deciduis setaceis cinctus. *Petala* flava, obovato-cuneata seu obovata, linea dorsali lata marginibusque exterioribus stellato-pubescentibus. *Caulis, folia, petioles, pedicelli calycisque* stellatim pubescentes, incani.

HAB. Sides of streams, upon their low projecting banks, in the interior districts of the Columbia. Fl. June, July. *Douglas.*—The size, pubescence, foliage, and inflorescence of this plant are very similar to those of a new *Sida* from Teflis in Georgia, which I have received from my friend Mr. Prescott, under the name of *Sida iberica*.

2. HIBISCUS. *Linn.*

Calyx cinctus involucello sæpius polyphyllo, rarius foliolis paucis aut inter se coalitis. *Petala* hinc non auriculata. *Stigmata* 5. *Carpella* in capsulam 5-locularem coalita, valvis intus medio septiferis, loculis polyspermis aut rarius monospermis. *DC.*

SECT. ABELMOSCHUS. *Medik.*

1. *H. Moscheutos*; foliis ovatis acuminatis serratis subtus tomentosis, petiolis pedunculisque inter se coalitis, involucellis calycibusque tomentosis, capsulis glabris.—*Linn. Sp. Pl. p. 975. Cav. Diss. v. 3. t. 65. f. 1. Mich. Am. v. 2. p. 47. Pursh, Fl. Am. v. 2. p. 455. Elliott, Carol. v. 2. p. 165.*

HAB. Common on land occasionally flooded, and in damp soil on the banks of rivers and lakes; Upper Canada. *Douglas.*

2. *H. palustris*; foliis ovatis dentatis subtrilobis subtus cano-tomentosis, pedicellis axillaribus a petiolo liberis supra medium articulatis. *DC.—Linn. Sp. Pl. p. 976. Cav. Diss. v. 3. t. 65. f. 2. Pursh, Fl. Am. v. 2. p. 455. Elliott, Carol. v. 2. p. 166. Bigel. Fl. Bost. ed. 2. p. 259.*

HAB. Canada. *Pursh.*—This, as well as the preceding fine species, has probably its northern limit in the south of Canada. They are found in the adjoining country of the United States, and become more frequent towards the south.

3. SIDA. Cav.

Cal. nudus, 5-fidus, sæpe angulatus. *Stylus* apice multifidus. *Carpella* capsularia 5-80, circa axim verticillata, plus minusve inter se coalita, 1-locularia, mono-aut-oligosperma, apice mutica aut aristata. DC.

SECT. I. MALVINDA. Medik.

1. *S. malvaeflora*; foliis radicalibus subrotundatis 9-lobatis basi truncatis, lobis apice tridentatis, caulibus 5-partitis, laciniis linearibus subdentatis, racemo terminali, carpellis muticis. Lindl.—*De Cand. Prodr.* v. 1. p. 474. Lindl. in *Bot. Reg.* t. 1036.

HAB. Common on the plains of the Multnomak and Umpqua rivers; also near the sea at Cape Orford, North-West America.—If this plant be rightly referred to the *S. malvaeflora* of De Cand., it is a native also of Mexico, and perhaps of all the intermediate country near the coast.

2. *S. coccinea*; stellato-pubescentis incana, caulibus erectis, foliis longe petiolatis profunde tripartitis fere ternatis, segmentis lateralibus bipartitis, intermedio trifido, racemis terminalibus foliosis.—*De Cand. Prodr.* v. 1. p. 465.—Malva coccinea. "Fraser's Cat." *Bot. Mag.* t. 1673. Nutt. *Gen.* v. 2. p. 81.

HAB. On the plains of the Saskatchewan. Drummond.—There certainly is no involucre to the calyx of this plant, only a solitary linear-subulate bractea; hence, with De Candolle, I refer it to *Sida*: but, it must be confessed, in habit and in the rich scarlet hue of its flowers, it much resembles *Malva Munroana*, with which Mr. Douglas compares it. The germen is globose, densely covered with a white, compact, cobwebby substance. Capsules 1-seeded, about 6, very compactly and circularly arranged, as in *Malva*, forming a somewhat transversely-oblong fruit, depressed in the centre. The capsules are easily separated in maturity, and are indehiscent.

ORD. XVIII. TILIACEÆ. Juss.

1. TILIA. Linn.

Cal. 5-partitus, deciduus. *Pet.* 5, intus aut nuda aut squamula aucta. *Stam.* plurima, filamentis liberis aut subpolyadelphis. *Ovar.* globosum, villosum, 1-stylum, 5 loculis loc. dispermis. *Nux.* coriacea, abortu 1-loc., 1-2-sperma. *Cotyledones* sinuato-dentatæ.—Arbores cortice flexili, ligno lævi. DC.

1. *T. glabra*; foliis profunde cordatis abrupte acuminatis argute serratis subcoriaceis glabris, petalis apice truncatis crenatis, stylo petalis æquali, fructu ovato subcostato.—*Vent. Diss.* p. 9. t. 2. Pursh, *Fl. Am.* v. 2. p. 362. Elliott, *Carol.* v. 2. p. 2.—*T. americana.* Linn. *Sp. Pl.* p. 733. Mich. *Arb.* (ed. Am.) v. 3. t. 131. Bigel. *Fl. Bost.* ed. 2. p. 214.—*T. canadensis.* Mich. *Am.* v. 1. p. 306.

HAB. Throughout Canada. (*Lady Dalhousie*; *Mrs. Sheppard*; *Mrs. Percival*;) and in the interior, as far as Norway House; *Dr. Richardson*; *Drummond*; *Douglas*.—The bark of this tree, which is called Basswood, is employed for a variety of economical purposes where a coarse kind of cordage is required: and the wood is used by cabinet and carriage-makers. Mr. Douglas speaks of this as one of the most ornamental and useful trees in Canada.

2. *T. pubescens*; foliis basi truncatis subcordatis obliquis denticulato-serratis subtus pubescentibus, petalis emarginatis, stylo petalis longiore, fructu globoso lævi. DC.—

Ait. Hort. Kew. ed. 1. v. 2. p. 219. Vent. Diss. p. 10. t. 3. Mich. Arb. (ed. Am.) v. 3. t. 133.—T. americana. Walt.

HAB. About Quebec. *Mrs. Sheppard. Shores of Lake St. Clair, and near Sandwich. Douglas.*

ORD. XIX. HYPERICINEÆ. *Juss.*

I. HYPERICUM. *Linn.*

Capsula membranacea. Styli 3-5 in quibusdam numero variabiles. Stam. plurima basi polyadelpa, raro numero subdefinita. Pet. 5. Sepala 5, basi plus minusve coalita et inæqualia.—Herbæ aut suffrutices. Folia opposita, sæpe pellucido-punctata, aut margine nigro-punctata. Flores varis dispositi. DC.

SECT. I. ASCYRIA. *Chois.* * *Stylis vulgo 5.*

1. *H. ascyroides*; caule erecto tetragono subsimplici herbaceo, foliis ovato-oblongis acutiusculis semiamplexicaulibus minute pellucido-punctatis, sepalis ovatis, stylis 5-7 liberis longitudine staminum.—*Willd. Sp. Pl. v. 3. p. 1443. Pursh, Fl. Am. v. 2. p. 374. De Cand. Prodr. v. 1. p. 545. Bigel. Fl. Bost. ed. 2. p. 279.—H. macrocarpum. Mich. Am. v. 2. p. 82.*

HAB. About Montreal and Quebec. *Michaux; Lady Dalhousie; Mrs. Percival; Mrs. Sheppard; Goldie.*—A very fine species, apparently peculiar to the places above-mentioned, and to the New England States, whence I have received specimens. *Leaves 3 inches long. Flowers few, terminal, large. Capsules,* according to Professor Bigelow, nearly as large as nutmegs, ovate.

2. *H. Kalmianum*; suffruticosum, ramosissimum, ramis erectis tetragonis, foliis lineariblongis pellucido-punctatis rigidis margine revolutis, floribus 3-7 in corymbis terminalibus, sepalis oblongis foliaceis nervosis æqualibus marginibus reflexis, stylis 5 liberis.—*Linn. Sp. Pl. p. 1101. Lam. Dict. v. 4. p. 148. De Cand. Prodr. v. 1. p. 545.*

HAB. Lake Huron. *Dr. Todd. Falls of Niagara. Douglas. From Lake Winnipeg to Canada. Dr. Richardson.*

SECT. II. ELODEA. *Chois.*

3. *H. virginicum*; caule tereti suffruticoso subramoso, foliis ovato-ellipticis basi cordatis semiamplexicaulibus pellucido-punctatis, pedunculis 1-paucifloris axillaribus, sepalis lanceolatis, stam. 9-12, stylis 3, capsulis oblongis.—*Linn. Sp. Pl. p. 1104. Andr. Bot. Rep. p. 552. Mich. Am. v. 2. p. 81. Bigel. Fl. Bost. ed. 2. p. 281.—Elodea virginica. Nutt. Gen. v. 2. p. 17. Elliott, Carol. v. 2. p. 38.—E. campanulata. Pursh, Fl. Am. v. 2. p. 370.—H. campanulatum. Walt.—H. emarginatum. Lam.*

HAB. Lake Huron. *Dr. Todd. From Canada to Lake Winnipeg. Dr. Richardson.—Petals red.*

SECT. III. PERFORARIA. *Chois.*

4. *H. micranthum*; caule tereti punctato purpurascete, ramulis rectis, foliis oblongis obtusis nigro-punctatis, floribus confertis terminalibus, calyce minimo obtuso, corolla nigro-punctata, antheris nigro-punctatis.—“*Chois. Prodr. Hyp. p. 44. t. 5.*” *De Cand. Prodr. v. 1. p. 546.*

HAB. Canada. About Quebec, and Montreal, and Lake Huron. *Mrs. Sheppard; Mrs. Percival; Dr. Richardson; Dr. Todd.*—This seems very closely to resemble *H. corymbosum*, Willd. (*H. punctatum*, Lam.); but that is described as having subacute leaves and lanceolate sepals. I still think it may be the *H. corymbosum* of Bigelow: and perhaps the two are not really distinct. It is remarkable for the black dots scattered over every part of the plant, its compact heads of small pale-yellow flowers, and the small obtuse calyx-segments.

5. *H. perforatum*; caule ancipiti, foliis obtusis ovato-ellipticis pellucido-punctatis, floribus paniculatis, calyce lanceolato pellucido-punctato, antheris nigro-punctatis, stylis divergentibus.—*Linn. Sp. Pl. p. 1105. Pursh, Fl. Am. v. 2. p. 377. Bigel. Fl. Bost. ed. 2. p. 279.*

HAB. About Quebec. *Mrs. Percival.*

6. *H. canadense*; caule herbaceo erecto acute quadrangulo, foliis lanceolatis linearibusve subacutis pellucido-punctatis, subtus nigro-punctatis, panicula terminali dichotoma, sepalis lanceolatis acuminatis, stylis 3 brevissimis, capsula conica calycem vix superante.—*Linn. Sp. Pl. p. 1104. Mich. Am. v. 2. p. 79. Pursh, Fl. Am. v. 2. p. 378. Elliott, Carol. v. 2. p. 24. Bigel. Fl. Bost. ed. 2. p. 280. De Cand. Prodr. v. 1. p. 550.— β . minimum; statura minore, foliis angustioribus, floribus paucioribus.*

HAB. Throughout Canada, and to Lake Winipeg. *Dr. Richardson. Lake Huron. Dr. Todd. Newfoundland. Mr. Morrison.*—Flowers small, pale-yellow.

7. *H. quinquenervium*; annum, caule herbaceo obscure tetragono, foliis (parvis) ellipticis obtusis obscure 5-nerviis pellucido-punctatis subtus fusco-punctatis, panicula foliosa, sepalis lanceolatis obtusis capsula elliptica brevioribus, stylis 2-3 brevissimis.—“*Walt. Car. p. 190.*” *Mich. Am. v. 2. p. 79. De Cand. Prodr. v. 1. p. 550.—H. parviflorum. Willd. Sp. Pl. v. 3. p. 1456. Elliott, Carol. v. 2. p. 24. Bigel. Fl. Bost. ed. 2. p. 280.—H. mutilum. Linn.*

HAB. Canada, to Lake Winipeg. *Dr. Richardson.* Frequent in Upper Canada. *Douglas.*—A small annual species, with slender erect stems, panicled above. Leaves scarcely half-an-inch long.—*De Candolle* refers to this species also the *H. stellarioides* of Humb., a native of the Andes of South America.

8. *H. ellipticum*; caule erecto herbaceo superne subramoso acuto 4-angulo, foliis ellipticis obtusissimis pellucido-punctatis et obscure fusco-punctatis, corymbis parvis terminalibus, sepalis oblongis patentibus valde inæqualibus nervosis foliaceis, stylis 2-3 arcte in unum coalitis.

Radix repens atque fibrosa, ut videtur perennis. *Caulis* erectus, spithameus ad pedalem et ultra, erectus, subgenuis, acute tetragonus, superne solummodo divinus, ramulis brevibus plerumque sterilibus. *Folia* opposita, unciam sesquunciam longa, fere exacte elliptica, plana, membranacea, obtusissima, pellucido-punctata atque superficie subtus precipue magis minusve obscure fusco-punctata. *Pedunculus* aphyllus, terminalis, dichotome corymbosus, floribus in axillis sessilibus. *Calycis* foliata 3-5, patentia, inæqualia, foliacea, nervosa atque pellucido-punctata, oblonga vel elliptica. *Petala* flava, obovata-cuneata, calyce vix longiora. *Stamina* numerosa, styli longitudine. *Germen* ovatum. *Styli* 2-3 in unum arcte coaliti, subulati, obtusi, rarius in floribus e dichotomia corymbi in duos vel tres stylos separabiles, basi magis minusve unitos. *Capsula* ovato-globosa, calyce patenti persistenti brevior.

HAB. Canada to Lake Winipeg. *Mr. Cleghorn; Dr. Richardson. Lake Huron. Dr. Todd.*—This *Hypericum*, of which I can find no description, I only know as a native of Canada. I long ago received

specimens from Mr. Cleghorn, and now it has been found by Dr. Todd at Pentanguishene on Lake Huron, exactly on the borders of the United States; and, by Dr. Richardson it was ascertained to extend its range as far as the plains of the Saskatchewan, in lat. 54°. It is difficult to say to what division of the genus it should belong; its unequal calyx allies it with "*Ascyria*," its foliaceous sepals with "*Bathrys*," its habit with "*Perfraria*," where I have placed it. So much are the styles united, that the flowers may be said to be monogynous; yet in the axils of the corymb some of the pistils as they advance to maturity are found to have their styles more or less divided; but I do not observe this to be the case with the upper flowers.

9. *H. Scouleri*; caule herbaceo ramoso inferne terete superne quadrangulo, foliis oblongo-ovatis subcoriaceis venosis impunctatis, panicula corymbosa foliosa, calycibus ovatis obtusis petalisque triplo longioribus extus nigro-glandulosis, stylis 3 longitudine staminum numerosorum.

HAB. Abundant in dry gravelly soils and limestone rocks on the North-West coast of America, near the Columbia. *Dr. Scouler; Douglas*.—Flowers about the size of those of *H. dubium*. Petals, stamens, and styles long, and about equal in length. Leaves of a rigid and somewhat coriaceous texture, turning brown in drying, exhibiting no pellucid dots, except in the youngest, and these often mixed with oblong ones.

ORD. XX. ACERINEÆ. De Cand.

1. ACER. *Mench.*

Flores polygami. *Calyx* 5-lobus interdum 5-partitus. *Stam.* rarius 5, sæpius 7-9.—*Folia simplicia*. DC.

* *Floribus racemosis.*

1. *A. pensylvanicum*; foliis rotundato-cordatis 3-raro-5-lobis, lobis acuminatissimis, tenuiter acutissime duplicato-serratis, racemis simplicibus pendulis, petalis obovatis, fructibus glabris alis divergentibus.—*Linn. Sp. Pl.* p. 1496. *Mich. Am. v. 2.* p. 252. *Elliott, Carol. v. 1.* p. 451. *Torrey, Fl. of Un. St. v. 1.* p. 397.—*A. striatum. Lam. Dict. v. 2.* p. 381. *Mich. Arb. (ed. Am.) v. 1. t. 45.* *Pursh, Fl. Am. v. 1. p. 267.*

HAB. Canada, (*Michaux*.) most abundant near the southern lakes. *Douglas; Dr. Todd; Mrs. Percival.* Mr. Douglas observes that its northern limit is at Lake Winnipeg, where it is of diminutive stature.—This is a beautiful small tree, with smooth bark, streaked with longitudinal white lines, whence in some parts of the United States it is called *Striped Maple*, while in others it is named *Moose-Wood*, from the circumstance of the Moose-Deer subsisting during severe weather upon its young twigs. The leaves have their lobes singularly acuminate and most finely serrated. Its buds and leaves are among those of the earliest of the American trees to announce the approach of Spring; and, when beginning to unfold, are of a delicate rose-colour, which soon changes to green. The wood is said by Michaux to be white, and used instead of Holly. Horses and cattle are turned into the woods to feed on the young shoots at the latter end of winter.—*Racemes* long. *Flowers* large.

2. *A. montanum*; foliis cordatis 3-5-lobis subtus pubescentibus lobis acuminatis grosse inæqualiter serratis, racemis erectis, petalis angustissimis minutis, fructibus glabrisculis alis subdivergentibus.—*Ait. Hort. Kew. ed. 1. v. 3.* p. 435. *Mich. Am. v. 1. p. 253.* *Pursh, Fl. Am. v. 1. p. 267.* *Mich. Arb. (ed. Am.) v. 1. t. 47.* *Bigel. Fl. Bost. ed. 2. p. 379.* *Torrey, Fl. of Un. St. v. 1. p. 398.*—*A. spicatum. Lam. Dict. v. 2. p. 381. De Cand. Prodr. v. 1. p. 593.*

HAB. Canada, (Michaux,) to Lake Winipeg. Dr. Richardson. Newfoundland. Dr. Morrison.—A small tree, 8-10 feet high, with ample leaves that are coarsely serrated. Flowers very inconspicuous, in long upright racemes. Fruit small, purple-red.

3. *A. macrophyllum*; foliis (amplissimis) profunde 5-lobis demum glabriusculis, lobis oblongis subcuneatisve obtusiusculis sinuato-incisis, racemis pendulis, petalis obovatis, fructibus pubescentibus alis subdivergentibus glabris. (TAB. XXXVIII.)—Pursh, *Fl. Am. v. 1. p. 267. De Cand. Prodr. v. 1. p. 594.*

Arbor 40-90 pedalis, ramis patentibus. Folia ampla, non raro pedalia, longe petiolata, profunde palmato-5-fida, crassiuscula, subcoriacea, sinibus obtusis, lobis oblongis oblongo-cuneatisve, obtusis, lateralibus subintegerrimis, intermediis sinuato-lobatis, lobis subacuminatis; folia juniora omnino pubescenti-hirsuta, adulta fere glabra, nisi subtus et in axillis venarum. Racemi longi, penduli, multiflori. Bractea lineares, glabri. Pedicelli subfasciculati rachisque glabri. Calyx glaber, foliolis ovalibus. Petala calyce majora, obovata. Stam. 10, an semper? Filam. basi hirsuta. Germina pilis rigidis sculeiformibus erectis hispissimis. Fructus majusculus, hispidus vel subnudus. Ala, nonnunquam 3, erecto-divergentes, margine externo recto, interno convexo.

HAB. North-West coast of America. Menzies, in *Herb. nostr.* On the Great Rapids of the Columbia. Lewis (in Pursh).—Common between 40° and 50° of N. lat.; exclusively confined to the mountainous woody country along the coast, which seldom exceeds 2° or 2° 30' of long. Douglas; Dr. Scouler. Its eastern station on the Columbia is four miles above the "Grand Rapids." Douglas.—This noble tree was unquestionably discovered by our countryman Mr. Menzies, the first Naturalist who visited the coast where it grows; and it could not but be noticed by every succeeding Botanist, for Mr. Douglas observes, "it is one of the most graceful of trees in the country it inhabits, varying from 40 to 90 feet in height, and from 6 to 16 feet in the circumference of its trunk. The branches are widely spreading; the bark rough, brown; the wood soft, but beautifully veined. It contains perhaps as much sap as any species, except *A. saccharinum*, but is not used by the natives. The flowers are yellow, very fragrant, appearing in April and May. It will, at some future time, constitute one of our most ornamental forest-trees in England."

TAB. XXXVIII. Fig. 1, Fructified branch:—natural size. Fig. 2, Raceme: do.; Fig. 3, Stamen:—magnified. Fig. 4, Young leaf:—natural size.

* * *Floribus corymbosis fasciculatisve.*

4. *A. circinatum*; foliis cordatis 7-9-lobis subtus pubescentibus lobis acutissimis atque acutissime inaequaliter serratis radiatim nervosis, nervis in axillis hispidis, corymbis pedunculatis paucifloris, petalis ovatis linearibusve calyce brevioribus, germinibus glaberrimis alis patentissimis. (TAB. XXXIX.)—Pursh, *Fl. Am. v. 1. p. 253. De Cand. Prodr. v. 1. p. 595*, (inter species "non satis notas.")

Arbor 20-40 pedalis. Folia digitem longa, subbrevis-petiolata, membranacea, cordata, 7-9-lobata, 7-9-nervia, supra glabra, subtus pubescenti-hirsuta, nervis e summo petioli radiantibus, in axillis (ad basin folii) superne hispidis, subtus, in eadem loco, lanatis, sinibus acutis, lobis ovatis acutissimis, acutissime serratis. Corymbi longe pedunculati, nutantes. Flores mediocres. Calyx hirsutus demum glaber, foliolis ovalibus. Petala ovalia crispata ubi stamina perfecta, et linearia, ut videtur, ubi stamina abortiva, calyce breviora. Stamina 8 (10?) Germen glaberrimum, bialatum, alis divaricatisissimis, subrecurvis. Stylus 1 in pistillo fertili, 2 in sterili (?) germine longior, filiformis, apice scaber. Fructum maturum non vidi.

HAB. On the Great Rapids of the Columbia River. Lewis (in Pursh.) Common along the North-West coast, between lat. 43° and 49°. Douglas; Dr. Scouler.—This, like the preceding, Mr. Douglas observes, "is exclusively confined to the woody, mountainous country that skirts the shores, and there, among the Pine-forests, it forms almost impenetrable thickets. The branches are pendulous and crooked, often taking

root, as in the case with many species of the genus *Ficus*. Bark smooth, green when young, white when fully grown. The wood is fine, white, and close-grained, very tough, and susceptible of a good polish. From the slender branches of this tree the native tribes make the hoops of their *scoop-nets*, which are employed for taking salmon at the Rapius, and in the contracted parts of the river. Fl. April, May.—This species is remarkable for the nerves radiating from one point. I find flowers of three kinds:—1. Male flowers, with oval crisped petals, and no gland at their base, and no trace of a pistil; in lieu of it, a small tuft of white hairs; the stamens inserted upon a large orbicular fleshy gland. 2. Female flowers, with two styles to the germen, which, with the eight imperfect stamens, are inserted upon the receptacle, but having five small fleshy glands, at the base of which the linear petals are inserted. 3. Flowers with ovate crisped petals, eight perfect stamens, which, with the monogynous germen, are inserted upon a large circular fleshy disk.

Tab. XXXIX. *Acer circinatum*:—*natural size*. Fig. 1, Male flower; fig. 2, Fertile do.; fig. 3, advanced pistil:—*magnified*.

5. *A. barbatum*; foliis ovato-cordatis breviter 3-lobis inæqualiter serratis subtus ad nervos pubescentibus glaucisque, pedunculis pilosis masculis ramosis, fœmineis simplicibus, calycibus intus barbatis, capsulæ alis erectis. Ph.—*Mich. Am. v. 1. p. 252. Pursh, Fl. Am. v. 1. p. 267. Elliott, Carol. v. 1. p. 451. De Cand. Prodr. v. 1. p. 595. Torrey, Fl. of Un. St. v. 1. p. 396.*

HAB. Vallies near springs on the west side of the Rocky Mountains, about the sources of the Columbia. Douglas.—I rely upon the indefatigable Douglas for the correctness of this name; his specimens, in my possession, being too young to enable me to form an opinion. According to Pursh, it inhabits the country between New Jersey and Carolina. I have seen no authentic specimen; nor am I aware that a figure of it is anywhere published.

6. *A. saccharinum*; foliis cordatis glabris subtus glaucis seu pallidis palmato-3-5-lobis, sinibus obtusis, lobis acuminatis sinuato-incisis, corymbis breviter pedunculatis nutantibus, fructibus glaberrimis, alis subdivergentibus.—*Linn. Sp. Pl. p. 1496. Mich. Am. v. 1. p. 252, Arb. (ed. Am.) v. 1. t. 42. Pursh, Fl. Am. v. 1. p. 266. Elliott, Carol. v. 1. p. 450. De Cand. Prodr. v. 1. p. 595. Bigel. Fl. Bost. ed. 2. p. 378. Torrey, Fl. of Un. St. v. 1. p. 398.*

HAB. Canada; apparently most common in the southern parts.—My specimens from Dr. Todd, gathered at Lake Huron, which, indeed, are the only ones I possess from British North America, have the leaves more rigid, the sinuses broader, and the margins less divided than in Dr. Boott's specimens from near Boston, and are probably the *A. nigrum* or *Black Maple* of Michaux's *Forest-Trees*. Both are valuable for their timber, and for the quantity of sugar produced by them. Mr. Douglas observes that some of the largest *Sugar-Maples* in America are on *Goat Island* at the Falls of Niagara.

7. *A. dasycarpum*; foliis cordatis sæpe basi truncatis glabris subtus glauco-albidis palmato-5-lobis, sinibus obtusiusculis, lobis tenuiter acuminatis incisiss serratisque, floribus conglomeratis breviter pedicellatis "pentandris apetalis," germinibus tomentosiss, fructu glabro, alis superne latioribus falcato-incurvis.—*Willd. Sp. Pl. v. 4. p. 485. Pursh, Fl. Am. v. 1. p. 266. Elliott, Carol. v. 1. p. 449. Bigel. Fl. Bost. ed. 2. p. 379. Torrey, Fl. of Un. St. v. 1. p. 396. Mich. Am. v. 1. p. 253. Desf. Ann. du Mus. v. 7. p. 412. t. 25. Mich. Arb. (ed. Am.) v. 1. t. 40. De Cand. Prodr. v. 1. p. 595.*

HAB. Lake Huron. Dr. Todd.—This forms a large tree, known in the United States by the name of *White* or *Soft Maple*, and is said to yield a good sugar. In the southern States it is very abundant, but rarely within forty miles of the sea. The young leaves and young germen are very downy; but the old

leaves and perfect fruit glabrous. The *als* are remarkably large, broad upwards, and falcato-incurved, beautifully striated, the stria running in straight parallel lines along the outer margin, and all terminating towards the broad part at the inner margin.

8. *A. rubrum*; foliis cordatis demum glabris subtus glaucis palmato-5-lobis, lobis acuminatis inciso-serratis, sinibus acutis, floribus conglomeratis pentapetalis "pentandris," ovariis glabris, fructus alia subdivergentibus superne dilatatis paululum falcatis.—*Linn. Sp. Pl.* p. 1496. *Mich. Am.* v. 1. p. 253. *Pursh, Fl. Am.* v. 1. p. 263. *Elliott, Carol.* v. 1. p. 449. *De Cand. Prodr.* v. 1. p. 593. *Bigel. Fl. Bost. ed. 2.* p. 377. *Torrey, Fl. of Un. St.* v. 1. p. 395.

HAB. Throughout Canada, (*Pursh*; *Mrs. Sheppard*; *Mrs. Percival*), to the vallies of the Rocky Mountains, and on the west side near the sources of the Columbia. *Drummond*.—This, the *Red Maple*, so called on account of its red flowers and fruit, is a large tree, whose wood is close-grained, smooth, and hard, and used for various kinds of furniture. *Elliott* observes that "in descending the mouths of our large rivers, this is the last tree we find in the swamps, diminishing as the soil becomes impregnated with salt, until it dwindles to a shrub, and, mingling with the *Myrica cerifera* (*Candleberry Myrtle*) and *Baccharis halimifolia*, finally disappears."

2. NEGUNDO. *Manch.*

Flores dioici. *Cal.* minimus inæqualiter 4-5-dentatus. *Pet.* 0. ♂ *Flores* fasciculati, pedicellis filiformibus. *Anthera* 4-5, lineares, sessiles.—♀ *Flores* racemosi.—Folia *composita impari-pinnata*. *DC.*

1. *N. fraxinifolium*; foliis 3-foliolatis, foliolis oppositis grosse rariterque dentatis, impari sæpius trilobo. *DC.*—*Nutt. Gen.* v. 1. p. 253. *De Cand. Prodr.* v. 1. p. 596.—*Acer* Negundo. *Linn. Sp. Pl.* p. 1497. *Mich. Am.* v. 1. p. 253, *Arb.* (ed. Am.) v. 1. t. 46. *Elliott, Carol.* v. 1. p. 459. *Torrey, Fl. of Un. St.* v. 1. p. 398.

HAB. Interior of Canada; abundant about the Red River and Saskatchewan, which latter river, in lat. 54°, is its most northern limit. *Dr. Richardson*; *Douglas*; *Drummond*.—This is the *Box Elder* or *Ash-leaved Maple* of the United States. *Mr. Douglas* informs me that the Cree Indians manufacture a sugar from it. From *Dr. Schweinitz* I possess a specimen with the leaves having their two lower and the terminal leaflets ternate.

ORD. XXI. AMPELIDÆ. *Humb. et Kunth.*

1. AMPELOPSIS. *Mich.*

Cal. subinteger. *Pet.* 5, (ut in *Vite*) ab apice ad basim (more *Cissi*) abscondentia. *Stam.* 5. *Stylus* 1. *Stigma* capitatum. *Ovarium* disco non immersum, 2-4-spermum. *Kunth*.—Genus medium inter *Cissum* et *Vitem*.

1. *A. quinquefolia*; foliis palmato-3-5-foliolatis utrinque glabris, foliolis petiolatis oblongis acuminatis mucronato-dentatis, racemis dichotomo-corymbosis.—*Mich. Am.* v. 1. p. 160.—*Hedera* quinquefolia. *Linn. Sp. Pl.* p. 292.—*Vitis* quinquefolia *Lam.*—*Cissus* hederacea. *Pursh, Fl. Am.* v. 1. p. 170. *Elliott, Carol.* v. 1. p. 305. *Torrey, Fl. of Un. St.* v. 1. p. 266.—*Vitis* hederacea. *Willd.*—*Bigel. Fl. Bost. ed. 2.* p. 93.

HAB. Canada. *Michaux*. Lake Huron. *Dr. Todd*.—A well-known plant, being cultivated throughout Europe under the name of *Five-fingered Ivy*, and employed for covering old walls and the sides of buildings, and rendered beautiful in autumn by the deep red-colour of its leaves.

2. VITIS. Linn.

(Dioica et Polygama. Omnes Americana.)

Cal. sub 5-dentatus. *Pet.* 5 apice coherentia et instar calyptræ basi abscedentia simulque decidua. *Stam.* 5. *Stylus* 0. *Bacca* 2-loc., 4-sperma, loculis seminibusve sæpe abortivis.—*Folia simplicia. De Cand.*

1. *V. Labrusca*; ramis ferrugineo-tomentosis, foliis cordatis subintegris trilobisve acute dentatis subtus pedunculisque subferrugineis tomentosis.—*Linn. Sp. Pl.* p. 293. *Mich. Am. v. 2.* p. 230. *Pursh, Fl. Am. v. 1.* p. 169. *Elliott, Carol. v. 2.* p. 689. *De Cand. Prodr. v. 1.* p. 634. *Bigel. Fl. Bost. ed. 2.* p. 93. *Torrey, Fl. of Un. St. v. 1.* p. 264.

HAB. Canada. *Pursh.*—This is the *Fox-Grape*, or common *Wild Grape-Vine* of the United States. The fruit is, according to Professor Bigelow, large, purple, and pleasantly tasted; while Torrey remarks that it has a strong disagreeable flavour in a wild state, but that, when cultivated, it is as pleasant as any of the varieties of *V. vinifera*. Two sorts are much esteemed at New York, and known under the name of "*Bland's-Grape*" and the "*Isabella-Grape*."

2. *V. vulpina*; foliis profunde cordatis acuminatis subæqualiter dentatis utrinque glabris in axillis pubescentibus, racemis laxè multifloris polycarpiis, baccis parvis serotinis.—*Linn. Sp. Pl.* p. 293. *Sm. in Rees' Cycl. n. 9.* *Torrey, Fl. of Un. St. v. 1.* p. 264.—*V. cordifolia. Mich. Am. v. 2.* p. 231. *Pursh, Fl. Am. v. 1.* p. 169. *Elliott, Carol. v. 2.* p. 688. *De Cand. Prodr. v. 1.* p. 634.

HAB. Canada. *Pursh.*—This is the *Winter-Grape* or *Chicken-Grape* of North America. Dr. Torrey considers it to be the true *V. vulpina* of Linn., on account of the glabrous leaves; and his observation is confirmed by Sir J. E. Smith in *Rees' Cycl.*

3. *V. riparia*; foliis profunde cordatis 3-lobis, lobis acuminatis inciso-serratis subtus glabriusculis in axillis nervisque pubescentibus.—*Mich. Am. v. 2.* p. 231. *Pursh, Fl. Am. v. 1.* p. 169. *Elliott, Carol. v. 2.* p. 688. *De Cand. Prodr. v. 1.* p. 635. *Torrey, Fl. of Un. St. v. 1.* p. 265.

HAB. Canada. *Mr. Cleghorn; Mrs. Percival.* Lake Huron. *Dr. Todd.* Extending to the south end of Lake Winipeg, in lat. 52°. *Dr. Richardson.*—Some of my specimens of this plant have the leaves so slightly lobed that I scarcely know how they are to be distinguished from the preceding.

ORD. XXII. GERANIACEÆ. Juss.

1. GERANIUM. L'Herit.

Sepala 5, æqualia. *Pet.* 5, æqualia. *Stam.* 10 fertilia, alterna majora. *Glandulæ* nectariferæ ad basin *stam. majorum.* *Carpellorum aristæ* intus glabræ, demum elasticæ a basi ad axeos apicem circinatim revolutæ.—*Herbæ rarissime suffrutescentes, foliis palmato-lobatis, pedunculis 1-2 floris. DC.*

* *Perennia, pedunculis bifloris.*

1. *G. maculatum*; caule subangulato erecto dichotomo retrorsum pubescente, foliis 3-5-partitis segmentis acutis inferne cuneatis superne inciso-serratis, radicalibus longe

petiolatis superioribus oppositis, petalis integris, staminum filamentis vix basi subciliatis. —*Linn. Sp. Pl.* p. 955. *Cav. Diss.* v. 4. t. 86. f. 2. *Mich. Am.* v. 2. p. 157. *Pursh, Fl. Am.* v. 2. p. 448. *Elliott, Carol.* v. 2. p. 157. *Bigel. Med. Bot.* t. 8, *Fl. Bost. ed.* 2. p. 256. *De Cand. Prodr.* v. 1. p. 642.—*β. tota planta pubescenti-pilosa.*

HAB. Canada. *Michaux.* *β.* North-West America. *Douglas.*—Flowers large, handsome, purple.

2. *G. albiflorum*; caule subangulato erecto dichotomo inferne glabro superne piloso-glanduloso, foliis profunde 5-partitis ovato-acuminatis inciso-subpinnatifidis subpilosis, radicalibus longe petiolatis, superioribus oppositis breve petiolatis 3-partitis magis acuminatis, calycibus glanduloso-pilosis, petalis integris (albis) intus filamentisque basi hirsutis. (TAB. XL.)

Radix perennis. *Caulis* sesquipedalis, erectus, dichotomus, glaber, apicibus ramorum solummodo glanduloso-pilosis. *Folia* subpilosa margine præcipue, profunde palmato-et subpeltato-5-rius-7-partita, segmentis ovatis acuminatis profunde incisus subpinnatifidis, laciniis valde acutis: *radicalia* longe petiolata, petiolo epithamæo et ultra: *superiora* sensim minora, petiolo breviora; *suprema* etiam petiolata, 3-5-partita, segmentis angustioribus magis acuminatis magisque incisus. *Pedunculi* elongati, biflori, pedicellique basi bracteati, pilosi, pilis brevibus patentibus glandulosis. *Calyx* basi præcipue glanduloso-pilosus; sepalis ovalibus obscure nervosis longe mucronatis. *Petala* magna, obovata, alba vel ochroleuca, obscure lineata, intus valde hirsuta. *Staminum* filamenta alterna sublongiora, basi hirsuta. *Fructum* non vidi.

HAB. Vallies in the Rocky Mountains. *Drummond.*—This fine species of *Geranium* seems to hold a middle rank between the American *G. maculatum* and the European *G. pratense*: yet it is, I feel assured, truly distinct from both. In the former, *G. maculatum*, the leaves are much less divided, the segments broader, and the peduncles are quite destitute of glandular hairs: in the latter, the leaves are much more deeply divided, the segments greatly narrower, and more truly pinnatifid. In both, the blossoms are purple; in ours, the flowers are constantly white, even when cultivated, as the plant is in our gardens, and of a firmer texture. The *G. longipes* of De Candolle, according to his description, also approaches our plant.

TAB. XL. Fig. 1, Root-leaf:—*natural size.* Fig. 2, Petal; fig. 3, Stamen; fig. 4, Calyx and pistil, with the filaments of the stamens:—*slightly magnified.*

* * *Annuum, pedunculis bifloris.*

3. *G. Carolinianum*; foliis ultra medium 5-lobis, lobis inciso-3-5-fidis, pedunculis apice confertis, petalis emarginatis longitudine calycis aristati, carpellis pilosis, seminibus lævibus. *DC.*—*Linn. Sp. Pl.* p. 956. *Cav. Diss.* v. 4. t. 84. f. 1, et t. 124. f. 2. *Mich. Am.* v. 2. p. 38. *Pursh, Fl. Am.* v. 2. p. 449. *De Cand. Prodr.* v. 1. p. 643. *Elliott, Carol.* v. 2. p. 157. *Rich. in Frankl. 1st Journ. ed.* 2. *App.* p. 27.

HAB. Throughout Canada to lat. 52°, in the vallies of the Rocky Mountains, and to the westward of that range in the same latitude. *Drummond*; *Douglas.*—De Candolle says the flowers are white: in our specimens, both wild and cultivated, they are of a delicate rose-colour.

2. ERODIUM. *L'Herit.*

Sep. 5, æqualia, in calcar seu tubum nectariferum nulla producta. *Pet.* 5 regularia aut irregularia. *Stam.* 10, filamentis basi monadelphis, 5 antheriferis, 5 alternis sterilibus. *Glandulæ* 5 ad basin staminum sterilium. *Carpellorum aristæ* intus barbata, demum elastice spiralliter torta. *DC.*

1. *E. cicutarium*; caule prostrato aut diffuso hirto, foliis pinnatisectis, segmentis sessilibus pinnatifidis incisus acutisve, pedunculis 2-multifloris, petalis inæqualibus.

L'Herit.—*De Cand. Prodr.* v. 1. p. 646. *Engl. Bot. t.* 1768.—*E. cheilanthifolium.* *Douglas, MSS.*—*Geranium cicutarium.* *Linn. Sp. Pl.* p. 951.

HAB. Near the "Great Falls" of the River Columbia, in sandy soils and in the vallies of the Rocky Mountains.—The same species I have received from the Baths of Collina in Chili.

ORD. XXIII. BALSAMINEÆ. *A. Rich.*

1. IMPATIENS. *Riv.*

Antheræ 5, nempe 3 biloculares, 2 ante petalum superius 1-loculares. *Stigmata* 5 coalita. *Caps.* prismatico-teretiuscula elongata, valvis a basi ad apicem extrorsum revolutis. *Cotyledones* planiusculæ. *Pedunculi* axillares ramosi multiflori. *Capsula* glabræ.—*Folia alterna.* *DC.*

1. *I. fulva*; pedunculis 2-4-floris, foliis rhombeo-ovatis obtusis mucronato-dentatis, petalo calcarato cæteris longiore, calcare emarginato resupinato. *DC.*—*Nutt. Gen.* v. 1. p. 146. *Torrey, Fl. of Un. St.* v. 1. p. 249. *De Cand. Prodr.* v. 1. p. 687. *Pursh, Fl. Am.* v. 1. p. 171.—*I. biflora.* *Walt.—Willd. Sp. Pl.* p. 1175. *Elliott, Carol.* v. 1. p. 304.—*I. nolitangere*, *β.* *Mich. Am.* v. 2. p. 149. *Bigel. Fl. Bost. ed.* 2. p. 93.

HAB. Throughout Canada; and as far north as Bear Lake; lat. 66°. *Dr. Richardson; Drummond.* Newfoundland. *Mr. Morrison.*

2. *I. pallida*; pedunculis 3-4-floris, foliis rhombeo-ovatis subacutis mucronato-dentatis, petalo calcarato dilatato cæteris brevior, calcare recurvo brevissimo. *DC.*—*Nutt. Gen.* v. 1. p. 146. *Torrey, Fl. of Un. St.* v. 1. p. 248. *De Cand. Prodr.* v. 1. p. 687.—*I. nolitangere.* *Mich. Am.* v. 2. p. 149. *Pursh, Fl. Am.* v. 1. p. 171. *Elliott, Carol.* v. 1. p. 303.

HAB. Canada. *Mr. Blair.* North-West coast of America, near the Columbia. *Dr. Scouler; Douglas.*—The only specimen I have seen from Canada was gathered by Mr. Blair. The species found on the west side of North America is identical with it, and very distinct from the European *I. nolitangere*, with which it was, for a long time, confounded.

ORD. XXIV. OXALIDEÆ. *De Cand.*

1. OXALIS. *Linn.*

Cal. 5-sepalus, sepalis liberis aut basi coalitis. *Pet.* 5. *Stam.* 10, filamentis basi breviter monadelphis, 5 ext. alternis brevioribus. *Styli* 5 apice penicelliformes aut capitati. *Capsula* pentagona oblonga aut cylindracea.—*Herbæ perennes, caulescentes, stipulatæ aut acaules, foliis variis sed nunquam abrupte pinnatis.* *DC.*

* *Corniculata.* *DC.*

1. *O. corniculata*; caule decumbente ramoso radicante, pedunculis sub-2-floris petiolo brevioribus, stipulis basi petioli unitis, foliolis obcordatis, petalis emarginatis, stylis longitudine staminum interiorum.—*Linn. Sp. Pl.* p. 624. *Engl. Bot. t.* 1726. *Mich. Am.* v. 2. p. 39.—(*β.*) *Pursh, Fl. Am.* v. 1. p. 322. *Elliott, Carol.* v. 1. p. 525. *Torrey, Fl. of Un. St.* v. 1. p. 462. *De Cand. Prodr.* v. 1. p. 692.

HAB. Canada. Lake Huron. *Dr. Todd*. About Montreal and Quebec; *Mrs. Percival*; *Mrs. Sheppard*; *Mr. Cleghorn*; and as far north as the Saskatchewan. *Dr. Richardson*; *Drummond*.

2. *O. stricta*; caule erecto folioso, pedunculis umbelliferis 2-6-floris folii circiter longitudine, stipulis obsolete, foliis obcordatis, petalis integris, stylis staminum interiorum longitudine.—*Linn. Sp. Pl.* p. 624. *Jacq. Oz. t.* 80. *f.* 2. *Mich. Am. v.* 2. p. 39. *Pursh, Fl. Am. v.* 1. p. 322. *Elliott, Carol. v.* 1. p. 525. *De Cand. Prodr. v.* 1. p. 692. *Torrey, Fl. of Un. St. v.* 1. p. 462. *Bigel. Fl. Bost. ed.* 2. p. 258.

HAB. Dry soils in upland woods in the interior, west of the Rocky Mountains. *Douglas*.

* * *Acetosella*. DC.

3. *O. Acetosella*; acaulis, radice dentata repente, foliolis obcordatis puberulis, scapo folio longiore supra medium bibracteolato, petalis ovalibus obtusis, stylis stam. interiora æquantibus aut superantibus.—*Linn. Sp. Pl.* p. 700. *Engl. Bot. t.* 762. *Mich. Am. v.* 2. p. 38. *Pursh, Fl. Am. v.* 1. p. 322. *De Cand. Prodr. v.* 1. p. 700. *Torrey, Fl. of Un. St. v.* 1. p. 461. *Bigel. Fl. Bost. ed.* 2. p. 257.

HAB. Canada. *Pursh*; *Mrs. Sheppard*; *Mrs. Percival*. Lake Huron. *Dr. Todd*. North-West coast of America, in woods, frequent. *Douglas*; *Dr. Scouler*.—The specimens from the North-West coast have unusually long and branched subterraneous stems.

4. *O. trillifolium*; acaulis, pedunculis umbelliferis petiolum æquantibus, foliis ternatis foliolis obcordatis glabris, stylis staminum interiorum longitudine.—*O. macrophylla*. *Douglas, MSS. in Herb. Hort. Soc.* (non *Kunth*.)

HAB. "North-West America, on the summits of the high mountains near the 'Grand Rapids' of the river Columbia; and also in the vallies of the Rocky Mountains, on moist decayed vegetable soil." *Douglas*.—"Petiole equal in length with the scape, from 6-12 inches high. Leaves glabrous, very large, and when the plant is out of flower, they may almost be taken for those of *Trillium grandiflorum*." *Douglas*.

ORD. XXV. RUTACEÆ. *Juss.*

TRIB. DIOSMEÆ. *De Cand.*

1. ZANTHOXYLUM. *Humb. et Kunth.*

Flores hermaphroditi aut abortu dioici aut monoici. *Cal.* 3-9-lobus sæpius 4-5-partitus. *Pet.* tot quot calycis lobi, interdum basi connata aut libera, abortu sæpe ad minorem numerum reducta imo interdum solitaria, matura bivalvia 1-3-sperma. *Semen* nitidum. (*Gærtn.*)—Frutices arboresve sæpe aculeati. Folia sæpius alterna, sæpe punctato-glandulosa. DC.

1. *Z. fraxineum*; foliis impari-pinnatis 3-5-jugis, foliolis ovatis obsolete serrulatis basi æqualibus, petiolis teretibus inermibus, aculeis stipularibus, umbellis axillaribus. DC.—*Willd. Sp. Pl. v.* 4. p. 757. *Pursh, Fl. Am. v.* 1. p. 210. *De Cand. Prodr. v.* 1. p. 727. *Bigel. Fl. Bost. ed.* 2. p. 376.—*Z. ramiflorum*. *Mich. Am. v.* 2. p. 235.

HAB. Canada. *Michaux*. "La Grande Chaudière." *Pursh*.

2. *Z. tricarpum*; foliis impari-pinnatis 3-5-jugis, foliolis petiolulatis oblongo-ovalibus acuminatis serrulatis basi obliquis, petiolis ramisque aculeatis, paniculis terminalibus.

DC.—*Mich. Am. v. 2. p. 235. Pursh, Fl. Am. v. 1. p. 210. Elliott, Carol. v. 2. p. 600. De Cand. Prodr. v. 1. p. 726.*—*Fagara fraxinifolia. Lam.*

HAB. Lachine, near Montreal. *Mrs. Sheppard.*—This was sent to me by Mrs. Sheppard as the *Z. fraxinæum*; but it has decidedly and strongly sculeated petioles, and quite agrees with *Z. tricarpum* of Michaux, which has been only considered a native of Carolina and Georgia.

SUBCL. II. CALYCIFLORÆ. DC.

ORD. XXV. CELASTRINEÆ. Br.

TRIB. I. STAPHYLEACEÆ. DC.

1. STAPHYLEA. Linn.

Cal. 5-partitus, disco urceolato basi tectus, lobis oblongis concavis coloratis. *Pet.* 5 sepalis alterna. *Stam.* 5 petalis alterna. *Ovarium* 2-3-lobum. *Styli* 2-3 interdum coaliti. *Caps.* 2-3-locularis, loculis membranaceis intus dehiscentibus oligospermis, nunc basi nunc per totam longitudinem adnexas. *Semina* ossea subglobosa ad hilum truncata. *Albumen* tenue seu 0. *Cotyledones* carnosæ.—Frutices foliis compositis, imparipinnatis trifoliatisve, oppositis (rarissime alternis) ad basin petioli et foliolorum bistipulatis; floribus albis, racemoso-paniculatis. DC.

1. *S. trifolia*; foliis 3-foliolatis, foliolis ovatis acuminatis regulariter serratis junioribus subtus pubescentibus, stylis glabris, capsulis vesicariis.—*Linn. Sp. Pl. p. 286. Mich. Am. v. 1. p. 184. Elliott, Carol. v. 1. p. 369. Pursh, Fl. Am. v. 1. p. 206. De Cand. Prodr. v. 2. p. 2. Torrey, Fl. of Un. St. v. 1. p. 325. Bigel. Fl. Bost. ed. 2. p. 121.*

HAB. Canada. *Mr. Cleghorn.*

TRIB. II. EUONYMEÆ. DC.

2. EUONYMUS. Linn.

Cal. 4-6-lobus, planus, basi disco peltato tectus. *Pet.* 4-6 patentia disco inserta. *Stam.* 4-6, glandulis supra discum prominulis inserta, petalis alterna. *Stylus* 1. *Caps.* 3-5-locularis, 3-5-angularis, valvis medio septiferis; semina in loculis 1-4, pulpa aut arillo involuta. *Embryo* viridis, rectus, in medio albuminis carnosus.—Frutices ramulis tetragonis, foliis ovatis sæpius oppositis vix stipulaceis, pedunculis axillaribus. DC.

1. *E. atropurpureus*? ramis lævibus, foliis ovatis subacuminatis petiolatis serratis, pedunculis divaricatis multifloris, "floribus 4-fidis," fructibus lævibus.—*Jacq. Hort. Vind. v. 2. t. 120. Mich. Am. v. 1. p. 155. Pursh, Fl. Am. v. 1. p. 168. Elliott, Carol. v. 1. p. 293. Torrey, Fl. of Un. St. v. 1. p. 261.*

HAB. Banks of streams about the Columbia. *Douglas.*—My specimen of this, which is in fruit, seems to accord with the *E. atropurpureus*; which, however I have not seen from the British possessions east of the Rocky Mountains.

2. *E. Americana*; ramis lævibus, foliis elliptico-lanceolatis serratis subsessilibus, pedunculis 1-3-floris, petalis suborbiculatis, capsulis verrucoso-echinatis.—*Linn. Sp. Pl. p. 286. Mich. Am. v. 1. p. 155. Elliott, Carol. v. 1. p. 292. Pursh, Fl. Am. v. 1. p. 168. Torrey, Fl. of Un. St. v. 1. p. 261.*

HAB. Banks of Lake St. Clair; very common. Douglas.—This is called *Strawberry-Tree*, and *Burning-Bush*, in the United States. Its fruit resembles that of our *Arbutus Unedo*, and its bright scarlet-colour renders it a conspicuous ornament of the woods in America.

3. CELASTRUS. Linn.

Cal. minimus 5-lobus. Pet. 5 unguiculata. Stam. 5. Ovarium parvum in disco decem-striato immersum. Stylus 1. Stigmata 2-3. Capsula 2-3-valvis loculicido-trivalvis nempe valvis medio septiferis, septis completis aut incompletis, utrinque in latere interiore basi gerentibus. Semen 1 rectum, arillo magno carnoso plus minus involutum.—Frutices *foliis alternis, pedunculis multifloris axillaribus aut in paniculam terminalem approximatis. DC.*

1. *C. scandens*; inermis, scandens, glaber, foliis ovalibus acuminatis serratis, racemis terminalibus.—Linn. *Sp. Pl. p. 285. Mich. Am. v. 1. p. 155. Pursh, Fl. Am. v. 1. p. 167. Bigel. Fl. Bost. ed. 2. p. 57. Torrey, Fl. of Un. St. v. 1. p. 262.*

HAB. Canada, frequent in woods and thickets. Known under the names of *Bitter-Sweet*, and *Warwork*.

TRIB. III. AQUIFOLIACEÆ. DC.

4. MYGINDA. Jacq.

Cal. minimus 4-fidus. Pet. 4, patentia. Stam. 4 petalis alterna, iis breviora. Ovarium subrotundum, liberum aut calycis tubo immersum et in partem adhærens disco coronatum, 2-loculare, loculis 1-spermis. Stylus brevis aut nullus. Stigmata 4 (an semper?) ideo nunc ad apicem styli, nunc subsessilia. Drupa ovata (verosim. abortu) 1-locularis 1-sperma. Semen ex apice loculi pendulum (vel e basi loculi erectum) albuminosum.—Frutices *ramulis tetragonis, foliis oppositis subcoriaceis, pediculis axillaribus sæpius apice trifidis trichotomisve, floribus minimis. DC.*

1. *M. myrtifolia*; foliis oblongo-ellipticis brevissime petiolatis coriaceis glabris margine serratis revolutis, pedunculis brevissimis 1-3-floris, germine disco tecto, stylo elongato, stigmatibus solitario capitato subsulcato. (TAB. XLI.)—Nutt. *Gen. v. 1. p. 109. De Cand. Prodr. v. 2. p. 13.*—*Ilex myrsinites. Pursh, Fl. Am. v. 1. p. 119.*—*α. minor*; foliis minoribus densioribus, pedunculis plerumque trifloris.—*β. major*; foliis majoribus sparsioribus, pedunculis plerumque unifloris.

Frutex ramosissimus, glaber. Rami juniores tetragoni, dein teretes, rufo-fusci. Folia opposita, approximata, oblongo-elliptica in α. densissima, vix unciam, in β. sæpe plusquam sesquiunciam longa, brevissime petiolata, coriacea, obscure nervosa, pallide viridia, margine paululum recurva, serrata, serraturis nunc argutis, nunc, foliis junioribus, obsolete. Pedunculus axillaris, solitarius, 1-3-florus, pedicellis pedunculo longioribus, ex uno puncto pedunculi, basi bibracteatis, lateralibus iterum supra basin singulo bibracteato, bracteis parvis, subrotundis, erectis, carnosis. Flores parvi, rubicundi. Calycis tubus turbinatus; limbo 4-fido, segmentis æstivatione imbricatis, demum patentibus late ovatis, obtusis. Corolla 5-petala; petala calycis segmentis alterna et paulo breviora, ovata, sessilia, concava, basi lata, minime unguiculata. Stamina 4, petalis alternantia et calycis lobis opposita: Filamenta e margine disci breviuscula. Antheræ subrotundæ, flavæ, interius rima longitudinali dehiscentes. Germen subglobosum, calycis tubo immersum, sed plerumque liberum, disco carnosio pateriformi margine subrenato staminifero tectum, et cum ore calycis tubi unitum, biloculare, loculis biovulatis. Ovula subrotunda, angulata e basi loculi erecta. Podospermum clavatum, superne dilatatum. Stylus filamentis subbrevior, erectus. Stigma capitatum, obscure sulcatum.

HAB. North-West coast of America. *Menzies*, (in *Herb. nostr.*) On the Rocky Mountains, and near the Pacific Ocean. *Lewis*, (in *Pursh*.) Common on subalpine hills of the North-West coast; and β , valley of the Rocky Mountains, particularly abundant near the sources of the Columbia, in 52° N. lat. and 118° W. long. *Douglas*.— β . Woods of Portage River, east side of the Rocky Mountains. *Drummond*.—I was much gratified in finding, both in Mr. Drummond's and Mr. Douglas's collections, specimens of this interesting plant, which I had long ago received from Mr. Menzies under the name of "*Ilex vomitoria*" of Ait. But that plant it cannot be; the flower, as figured in *Jacq. Ic. Flor. t. 310*, being totally at variance with that of the present species. I still retain it where Nuttall has placed it, in the genus *Myginda*. In many points, indeed, it differs from De Candolle's character of that genus; in none more than in the direction of the ovules. But M. Kunth has shown, that in his *M. myrsinoides* the ovules are, as here, erect; still the situation of the disk makes me think that it ought to be removed from *Myginda*; for here it covers the mouth of the tube of the calyx, as in the genus *Thamnea* of the Order *Bruniaceæ*; there, and there only, uniting the germen with the calyx, in which that germen is, nevertheless, almost wholly immersed. The fruit was, unfortunately, not detected by any of our Naturalists. Pursh describes it as a one-seeded, blackish-purple, ovate drupe. But his characters of the flower are extremely incorrect, nor is their structure at all like that of *Myginda Rhacoma*, from the West Indies, to which he compares it.

TAB. XLI. A. *Myginda myrtifolia*, α . B. var. β . Fig. 1, Peduncle, with a single flower in bud; fig. 2, a 3-flowered peduncle; fig. 3, Flower; fig. 4, Anterior view of a stamen; fig. 5, Posterior view of do.; fig. 6, Vertical section of a calyx and germen; fig. 7, Transverse section of do.; fig. 8, Ovule;—magnified.

5. ILEX. Linn.

Cal. 4-5-dentatus, persistens. *Pet.* 4-5, hypogyna (ex Kunth), sepalis alterna, nunc libera, nunc basi in corollam rotatam subcoulita. *Stam.* 4-5, petalis alterna, hypogyna. *Ovarium* sessile, 4-loculare, stigmatibus subsessilibus, 4-5, nunc distinctis nunc in 1 coalitis coronatum. *Bacca* 4-5-pyrena, nucleis oblongis apice umbilicatis 1-spermis. *Semen* inversum; albumen carnosum. *Embryo* in apice nidulans.—Frutices *sempervirentes, foliis sæpius coriaceis, pedunculis multifloris, floribus hermaphr., rarissime abortu dioicis aut polygamis.* DC.

1. *I. opaca*; foliis ovatis planis coriaceis acutis sinuato-dentatis spinosis glabris non lucidis, floribus ad basin ramulorum annotinorum sparsis, calycinis dentibus acutis. DC.—*Ait. Hort. Kew. ed. 1. v. 1. p. 169. Mich. Am. v. 2. p. 228. Pursh, Fl. Am. v. 1. p. 117. De Cand. Prodr. v. 2. p. 14. Torrey, Fl. of Un. St. v. 1. p. 134. Bigel. Fl. Bost. ed. 2. p. 62.*

HAB. Canada. *Pursh*.—According to Pursh, this *Evergreen-tree* reaches to a height of eighty feet, having a trunk four feet in diameter. Probably it is only in the southern States that it attains this size. Torrey says that, in the middle States, it is but thirty to forty feet in height, and often only a large shrub.

6. PRINOS. Linn.

Omnia *Ilicis* sed flores sæpius abortu dioici aut polygami 6-fidi 6-andri, et fructus 6-pyreni.—Frutices *foliis deciduis persistentibusve, pedicellis axillaribus unifloris.* DC.

1. *P. verticillatus*; foliis deciduis ovalibus obovatisve acuminatis serratis subtus reticulatis pubescentibus, fasciculis florum masculis axillaribus umbelluliformibus, femineis aggregatis utrinque 6-partitis.—*Linn. Sp. Pl. p. 471. Pursh, Fl. Am. v. 1. p. 220. Elliott, Carol. v. 2. p. 706. Torrey, Fl. of Un. St. v. 1. p. 337. Bigel. Fl. Bost. ed. 2. p. 129. De Cand. Prodr. v. 2. p. 17.—P. Gronovii. Mich. Am. v. 2. p. 236.*

HAB. Canada. *Michaux*.—This is the "*Black Alder*" of the United States. *Berries* red.

2. *P. glaber*; foliis sempervirentibus cuneato-lanceolatis coriaceis glabris nitidis apice subdentatis, pedicellis axillaribus subsolitaris plerumque trifloris.—*Linn. Sp. Pl.* p. 471. *Mich. Am. v. 2. p. 236. Elliott, Carol. v. 2. p. 707. Pursh, Fl. Am. v. 1. p. 220. De Cand. Prodr. v. 2. p. 17. Torrey, Fl. of Un. St. v. 1. p. 338. Bigel. Fl. Bost. ed. 2. p. 129.*

HAB. Canada. *Pursh*.—Berries black and glossy; hence the plant is called in the United States *Black-berry*; and sometimes *Evergreen Winter-Berry*.

7. NEMOPANTHES. *Rafn.*

Flores abortu dioici polygamive. *Cal.* minimus vix conspicuus. *Pet.* 5 distincta oblongo-linearia decidua. *Stam.* 5 petalis alterna. *Ovarium* hemisphæricum succo viscoso obductum. *Stylus* 0. *Stigmata* 3-4 sessilia, in ♂ vix manifesta. *Bacca* subglobosa 3-4-locularis 3-4-sperma. *DC.*

1. *N. canadensis*.—"De Cand. Mem. Soc. Gen. v. 1. p. 44." *Pl. Rar. Hort. Gen. t. 3.*—*Ilex canadensis. Mich. Am. v. 2. p. 229. t. 49. Pursh, Fl. Am. v. 1. p. 118. Torrey, Fl. of Un. St. v. 1. p. 194. Bigel. Fl. Bost. ed. 2. p. 62.*

HAB. Canada, to Hudson's Bay. *Michaux.* Newfoundland. *Mr. Morrison.*

ORD. XXVI. RHAMNEÆ. *Br.*

1. RHAMNUS. *Lam.*

Cal. 4-5-fidus, post anthesin medio sæpe circumscissus, basi sub fructu persistente et cum eo adhærente. *Pet.* lobis calycis alterna aut nulla. *Stam.* ante petala inserta. *Stylus* 2-4-fidus. *Fructus* subexsuccus aut baccatus 2-4-locul., loculis coccisve in exsuccis separalibus 1-spermis (rarissime 2-spermis) rima longit. intus dehiscentibus. *Semina* oblonga, ad latus exterius sulco profundo basi latiore notata.—*Frutices aut arbusculæ, ramis apice interdum spinoscentibus, foliis penninerviis, stipulis in aculeum nunquam conversis. Flores sæpe 1-sexuales. Fructus non edules. DC.*

1. *R. alnifolius*; inermis, erectus, foliis deciduis ovalibus subacuminatis serratis subtus glabriusculis, nervis lateralibus obliquis lineatis, pedicellis 1-floris aggregatis, floribus 4-5-fidis apetalis, stigmatibus trifido. (TAB. XLII.)—*L'Herit. Sert. p. 5. De Cand. Prodr. v. 2. p. 25. Torrey, Fl. of Un. St. v. 1. p. 263.*—*R. franguloides. Mich. Am. v. 1. p. 153. Pursh, Fl. Am. v. 1. p. 166.*—*R. alpinus. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*

Frutex, cortice atro-fusco, pelliculo albo tenui tecto. *Rami* foliosi. *Folia* 1-3-uncialia, submembranacea, decidua, breviter petiolata, ovalia, apice subacuta, vel paululum acuminata, margine serrata, glabra, juniora solummodo subtus obscure pubescentia, nervis lateralibus obliquis lineata, venisque numerosis transversalibus reticulata. *Stipula* 2, oppositæ, membranaceæ, circumvolutæ, margine ciliate, deciduæ. *Pedicelli* axillares, uniflori, basi stipulis circumvoluti, 4-5 lineas longi, glabri. *Flores* glabri pallide virides. *Calyx* persistens, tubo brevi dilatato, limbo 4-5-fido, lobis scutiusculis patentibus. *Discus* tubum occupans planiusculus, margine lato-incrassatus. *Petala* omnino nulla. *Germen* subrotundum, trilobum. *Stylus* brevis, apice trilobo. *Bacca* nigra, magnitudine fructus *Ribis nigri*, calycis basi persistente suffulta.

HAB. Upper Canada (*Douglas*) to Lake Winipeg, the Saskatchewan and York Factory on Hudson's

Bay. Dr. Richardson; Drummond; Douglas.—The general aspect of this plant, particularly its foliage, is very similar to that of *R. alpinus*, but the flowers are very different, decidedly apetalous, the anthers are much smaller, and the berries larger and much more pulpy.

TAB. XLII. Fig. 1, Fascicle of flowers; Fig. 2, Stipule; Fig. 3, a 4-ld flower; Fig. 4, a 5-ld flower; Fig. 5, Section of do.; Fig. 6, Stamen; Fig. 7, Berry; Fig. 8, Seeds.—magnified.

2. *R. Purshianus*; inermis, erectus, foliis lato-ellipticis minute denticulato-serratis subtus pubescentibus nervis lateralibus obliquis lineatis, pedunculis axillaribus umbellatis floribusque pubescentibus, calyce 5-fido, petalis minutis cucullatis. (TAB. XLIII.)—*De Cand. Prodr. v. 2. p. 25.*—*R. alnifolius. Pursh, Fl. Am. v. 1. p. 166.* (non *L'Herit.*)

Frutex seu arbor 10–20-pedalem altus, trunco 9 uncias diametro. *Rami* teretes, nigro-fuscescentes, pubescentes. *Folia* 3–5 uncias longa, petiolata, demum subcoriacea, decidua, lato-elliptica, basi rotundata, raro acutiuscula, nostris exemplaribus nunquam cordata, apice obtusa nunc brevissime acuminata, margine denticulis minutis subserrata, juniora tota magis minusve pilis brevibus tecta, demum subtus solummodo, nervisque præcipue, pubescentia, pallida, nervis lateralibus obliquis lineatis, venisque obscure transversalibus reticulata. *Petioles* subunciam longi, pubescentes. *Stipulae* cito decidua. *Pedunculi* solitarii, unciales et ultra, crassiusculi, umbellati. *Pedicelli* etiam pubescentes, duas lineas longi, demum, ut et pedunculi fructiferi, elongati. *Calyx* extus pubescens, demum circumscissus: *Tubus* subhemisphaericus, disco interne tectus: *limbo* 5-fido, segmentis acutis erecto-patentibus, intus carinatis. *Petala* minuta, cucullata, apice bifida, in sinibus calycis inserta, segmentis breviora, valde concava, cucullata. *Stam.* petalis opposita, et illis fere circumvoluta. *Filamenta* brevissima: *Anthera* subglobosa. *Germen* parvum, ovatum: *Stylus* germinis brevior: *Stigma* obtusum, subtrilobum. *Fructus*: *Bacca* lato-obpyriformis, 3-ocularis, 3-sperma. *Semina* obovata, atra, nitidissima, dorso convexo, facie interiori linea media elevata, basi ad hilum flava.

HAB. North-West America. Nootka. *Mr. Menzies.* Banks of Kooxkooksky. *Lewis, (in Pursh.)* Common on the banks of the Columbia, in dry soils near the outskirts of Pine-forests.—If this be the *R. alnifolius* of Pursh, as is very probable, judging not only from the similarity of the leaves to those of our *Alder*, but also from the country where Mr. Lewis found his specimens, (very near to the Columbia,) the leaves are not “cordate at the base,” nor are the peduncles “twice bifid.”

TAB. XLIII. Fig. 1, Umbel of flowers; Fig. 2, Section of a flower; Fig. 3, Berry:—(natural size.) Fig. 4, Seed:—all but Fig. 3, more or less magnified.

3. *R. oleifolius*; inermis, erectus, foliis perennantibus coriaceis oblongis integerrimis acutis, junioribus subtus pubescentibus nervis lateralibus obliquis remotiusculis, paniculis axillaribus foliosis, floribus glomeratis pentandris, petalis minutissimis, bacca disperma. (TAB. XLIV.)

Frutex ramosus, ramis junioribus angulatis pubescentibus, reliquis teretibus, glabris. *Folia* alterna, breviter petiolata, 3–4 uncias longa, oblonga, perennantia, coriacea, integerrima, acuta, nervosa, nervis lateralibus anbrementis obliquis obscure reticulata, utrinque glabra, junioribus solummodo subtus pube brevi dense vestita. *Petioles* breves, subpubescentes. *Paniculae* axillares, breves, subfoliosae, floribusque glomeratis pubescentes. *Calyx* 5-fidus, tubo subhemisphaerico discigero, segmentis ovatis erecto-patentibus. *Petala* minuta, cucullata. *Stamina* minuta, petalis circumvoluta. *Filamenta* brevissima. *Anthera* rotundata. *Germen* ovatum: *Stylus* brevis, crassus. *Stigma* obscure bifidum. *Bacca* magnitudine *Pisi sativi*, exacte globosa, bilocularis, disperma. *Semen* magnum, compressum, facie interiore sulcatum.

HAB. North-West coast of America. *Mr. Menzies.*—This I have long possessed from its estimable discoverer, who found it not only on the banks of the Columbia River, but in California. The flowering specimen is from the latter country; the one in fruit from the former. I ought to observe, however, that there are some discrepancies between the two: the one from the Columbia having larger and greener foliage, and its young leaves are more decidedly velutinous beneath: so that it is possible the two may be distinct.

TAB. XLIV. A. *Rhamnus oleifolius*; from California. B. Portion of the fruit-bearing specimen, from the Columbia:—*natural size*. Fig. 1, Flower; fig. 2, Section of do.; fig. 3, Young fruit; fig. 4, Section of do.; fig. 5, Berry:—*magnified*.

4. *R.?* *cuneatus*; ramis subferrugineo-pubescentibus, foliis oppositis in axillis fasciculatis coriaceis brevissime petiolatis cuneatis obtusis retusisve supra glabris subtus pubescentibus albidis reticulatis.—“*Rhamnus*.” *Douglas, MSS.*

HAB. North-West America. Abundant near the sources of the Multnomak River, in sandy soils, growing under the shade of *Pinus Lambertiana*. *Douglas*.—I have retained this in the genus *Rhamnus*, it being so named by Mr. Douglas in the Herbarium of the Horticultural Society: but when its flowers and fruit shall be known, it will probably prove to be something very different, even from the Order *Rhamnea*. It constitutes a harsh shrub, from four to twelve feet high, with numerous, stout, rigid, terete, opposite, subpatent, and subspiniform branches, very leafy, and clothed with a rusty-coloured down. *Leaves*, the largest of them scarcely an inch long, and those oblong, cuneate at the base, while those on the younger parts of the branches are more decidedly cuneate, and smaller, all of them opposite, bearing clusters of young leaves and branches in the axils, coriaceous, the margins slightly revolute, entire, the apex obtuse, retuse, emarginate, and sometimes tridentate, glabrous, and very obscurely obliquely nerved on the upper surface; beneath downy, with the nerves oblique, close, prominent, brown, and reticulated with transverse veins, the *areolæ* of these veins, when seen under a microscope, are filled with a beautiful, short, dense fascicle of hairs, which hairs originate in a circle, and all converge towards the centre of the little tuft, lying nearly flat. From the axils of some of the leaves, and from a terminal pair in others, arises a *peduncle?* clothed with rusty-brown hairs, and bearing a globose bud, or cluster of buds, (apparently of very young flowers,) surrounded by small, rusty, closely-pressed *bractæ?* But of the nature of these flowers I can make nothing. The whole plant yields, even when not rubbed or bruised, a balsamic odour like that of some *Balsam-Poptars*, mixed with a powerful astringency, resembling the smell of young *Birch twigs*.—It is to be hoped that during his present arduous journey through North-West America, Mr. Douglas will obtain flowering and fruit-bearing specimens of this singular plant.

2. CEANOTHUS. *Linn.*

Cal. 5-fidus, campanulatus, post anthesin medio circumscissus, basi sub fructu persistente, subadhærente. *Pet.* 5 parva longe unguiculata fornicata, rarius 0. *Stam.* exserta, ante petala. *Styli* 2–3 ad medium coaliti. *Bacca* exsucca 3-locularis (rarius 2–4-loc.), coeculis chartaceis 1-spermis basi perviis latere interiore deliscentibus. *Semina* ovata sulco destituta.—*Frutices inermes, foliis ovatis. DC.*

SECT. EUCEANOTHUS. *DC.*

1. *C. Americanus*; foliis ovatis acuminatis trinerviis glanduloso-serratis subtus pubescentibus, thyrsis elongatis, rachi pubescente. *DC.*—*Linn. Sp. Pl. p. 284. Sims, Bot. Mag. t. 1479. Mich. Am. v. 1. p. 154. Pursh, Fl. Am. v. 1. p. 167. De Cand. Prodr. v. 2. p. 31. Torrey, Fl. of Un. St. v. 1. p. 280. Elliott, Carol. v. 1. p. 290. Bigel. Fl. Bost. ed. 2. p. 91.*

HAB. Throughout Canada. *Michaux.*

2. *C. intermedius*; foliis oblongo-ovalibus obtusis glanduloso-serrulatis triplinerviis subtus pubescentibus, paniculis axillaribus corymbosis.—*Pursh, Fl. Am. v. 1. p. 167. Elliott, Carol. v. 1. p. 290. De Cand. Prodr. v. 2. p. 32.—C. ovalis. Bigel. Fl. Bost. ed. 2. p. 92.*

HAB. Upper Canada. *Mr. Goldie. Lake Huron. Dr. Todd.*—I possess the *C. ovalis* of Professor Bigelow from my friend Dr. Booth, and it is the same as what I consider to be the *C. intermedius* of Pursh.

3. *C. velutinus*; ramis subpendulis, foliis rotundato-ellipticis coriaceis argute glanduloso-dentatis triplinerviis supra nitidis quasi vernicosis glaberrimis subtus incanovelutinis, racemis terminalibus, ramis thyrsoides, inferioribus foliosis. (TAB. XLV.)—*Douglas, MSS. in Herb. Hort. Soc.*

Frutex 3-8-pedalis, ramis teretibus glabris, ramulis junioribus solummodo appresso-pubescentibus. *Folia*, in hoc genere, ampla, petiolata, 3-4 uncias longa, 2½ ad 3 uncias lata, alterna, coriacea, lato-rotundato-elliptica, basi obtusa, raro subcordata, apice obtusa, margine pulcherrime et argute glanduloso-denticulata, triplinervia, supra glaberrima, nitida, quasi vernice obducta, subtus mollissima, incana, tactu præcipue velutina, nervis prominentibus. *Petiolus* fere unciam longus, tenui-pubescentis. *Panicula* terminales elongate, ramis glabriusculis, thyrsiformibus, inferioribus, ad basin, folium gerentibus. *Pedicelli* graciles, fasciculati. *Flores* albi, glaberrimi. *Calyx* profunde 5-fidus; *tubo* perbrevis, *disco* margine incrassato repleto, medio pistillifero; *limbi segmentis* erecto-incurvis, ovatis, subacuminatis. *Petala* patentia, obovata fere cucullata, longe unguiculata. *Stamina* ante petala. *Filamenta* petalorum longitudine. *Antheræ* subglobosæ. *Germen* subtundum. *Stylus* elongatus, staminibus brevior. *Stigma* bi-trifida, segmentis subrecurvis. *Bacca* sicca, 2-3-locularis, 2-3-sperma. *Cocculi* chartacei. *Semina* obovata, nitidissima, atro-fusca.

HAB. Subalpine hills near the sources of the Columbia; and at the "Kettle Falls." *Douglas.*

TAB. XLV. Fig. 1, Flower; fig. 2, Vertical section of do.; fig. 3, Berry; fig. 4, Seed:—*magnified.*

4. *C. lævigatus*; foliis rotundato-ellipticis coriaceis argute glanduloso-dentatis triplinerviis omnino glaberrimis supraque nitidis et quasi vernicosis, paniculis in ramos breves terminalibus, floribus coarctatis.—*C. grandis. Douglas, MSS.*

HAB. Nootka. *Mr. Menzies.* Mountains near the coast of North-West America, between the parallels of 40° and 43° N. lat.? *Douglas.*—My character of this is drawn up from Mr. Menzies's specimen in my Herbarium. In Mr. Douglas's MSS. he notices a *C. grandis* from the station above-mentioned, which is probably the same as the present, although it inhabits a much more southern latitude. Our plant, however, it must be confessed, differs in no respect from the preceding species, except in being everywhere, even upon the young leaves, entirely glabrous; whereas *C. velutinus* has, on the oldest as well as the youngest leaves, a delicate, short, hoary, and almost white tomentum, clothing their underside.

5. *C. thyrsoiflora*; caule erecto stricto ramisque angulatis, foliis breviter petiolatis oblongis triplinerviis glanduloso-serratis glabris subtus nervis venisque appresso-pilosis, paniculis longe pedunculatis axillaribus thyrsoides inferne foliosis, pedicellis brevibus.—"*Eschscholtz, in Descr. Pl. Nov. Calif. in Mém. de l'Acad. Imp. de Petersb. v. 10. 1826.*"

HAB. "North-West coast of America." *Mr. Menzies, (in Herb. nostr.)* New California. *Eschscholtz.*—For a knowledge of the name of this very distinct species of *Ceanothus*, I am indebted to Dr. Chamisso, who sent me an authentic specimen from California. Whether Mr. Menzies's plant be from California, or from a higher latitude, as I rather suspect, from the manner in which its station is indicated, I will not take upon me to say. The flowers are surrounded by densely imbricated, ovate, and acute bractea, in the state of bud, but these drop before the blossoms are expanded. The calyx, Eschscholtz describes to be blue, the petals white. The whole plant turns black in drying.

6. *C. sanguineus*; foliis petiolatis elliptico-ovatis obtusis membranaceis serratis, serraturis subglandulosis, venis lateralibus obliquis basi subtrinerviis, subtus nervis venisque pubescentibus, paniculis axillaribus thyrsoides brevi-pedunculatis folia superantibus, pedicellis elongatis.—*Pursh, Fl. Am. v. 1. p. 167. De Cand. Prodr. v. 2. p. 32.*

HAB. On the banks of the Missouri, near the Rocky Mountains. *Lewis, (in Pursh.)* Common on the banks of streams and low hills, from the Rocky Mountains to the Western Ocean, along the valley of the

Columbia. *Douglas*.—This, again, is a species very distinct from any of the preceding. It forms a handsome white-flowered shrub, 4-8 feet high, according to Mr. Douglas. The stems and branches are glabrous, rounded, tinged with purple. Petioles an inch long, slender, very hairy when young. Leaves small when the plant is in blossom, when in fruit, 3 inches and more long, thin and membranous, having three nerves, (two lateral ones, and the mid-rib springing from the base;) but these are less strong than in the preceding species, and scarcely differ from the oblique lateral nerves which branch off from the mid-rib. *Thyrus* many-flowered. Berries dry, brown, 3-lobed, 3-seeded, tipped with the persistent style.

ORD. XXVII. TEREBINTHACEÆ. *Juss.*TRIB. SUMACHINEÆ. *DC.*I. RHUS. *Linn.*

Cal. parvus 3-partitus persistens. *Pet.* 5 ovata patentia. *Stam.* 5 omnia in masc. et hermaphrod., antherifera. *Ovarium* subglobosum, 1-loculare. *Styli* breves 3, aut stigmata 3 sessilia. *Drupa* fere exsucca 1-locularis, nucleo osseo forsan abortu 1-spermo et interdum 2-3-spermo. *Semen* exalbuminosum, funiculo fundo nucleoli orto inversum. *Cotyledones* foliaceæ. *Radicula* cotyledonum rimæ superius incumbens. (*Gærtn.*)—Frutices, foliis alternis variis sæpius compositis, floribus sæpe abortu polygamis dioicisve. *DC.*

SECT. I. SUMAC. * *foliis impari-pinnatis.*

1. *R. typhina*; foliis 8-10-jugis, petiolis immarginatis ramisque hirsutissimis, foliolis lanceolatis acuminatis grosse serratis subtus pubescenti-pilosis.—*Linn. Sp. Pl.* p. 380. *Mich. Am.* v. 1. p. 182. *Pursh, Fl. Am.* v. 1. p. 204. *Elliott, Carol.* v. 1. p. 360. *Torrey, Fl. of Un. St.* v. 1. p. 322. *De Cand. Prodr.* v. 2. p. 67. *Bigel. Fl. Bost. ed. 2.* p. 118.

HAB. Canada. *Michaux.* Near Quebec. *Mrs. Percival.*—The *R. viridiflora* of Poir. and De Cand. (*R. canadensis*, Mill. Dict.) is probably only a less hairy variety of this. Berries velvety, rich-purple.

2. *R. glabra*; foliis 8-10-jugis, petiolis immarginatis ramisque glabris, foliolis lanceolato-oblongis acuminatis serratis subtus albicantibus.—*Linn. Sp. Pl.* p. 380. *Mich. Am.* v. 1. p. 182. *Pursh, Fl. Am.* v. 1. p. 204. *Elliott, Carol.* v. 1. p. 361. *Torrey, Fl. of Un. St.* v. 1. p. 322. *De Cand. Prodr.* v. 2. p. 67. *Bigel. Fl. Bost. ed. 2.* p. 118.

HAB. Canada; and as far north as the Saskatchewan. *Dr. Richardson.*—Berries clothed with a down which is said to contain the *malic* acid. The leaves are astringent, and used in tanning. I have not ventured to introduce the *R. copallinum* as a native of the British Settlements, because, though found in the adjoining territories of the United States, I have never seen Canadian specimens.

3. *R. venenata*; foliis 5-6-jugis (deciduis) glabriusculis, petiolo aptero, foliolis ovato-oblongis acuminatis integerrimis.—*De Cand. Prodr.* v. 2. p. 68.—*R. vernix.* *Linn. Sp. Pl.* p. 380. (non *Mat. Med.*) *Mich. Am.* v. 1. p. 183. *Pursh, Fl. Am.* v. 1. p. 205. *Elliott, Carol.* v. 1. p. 362. *Torrey, Fl. of Un. St.* v. 1. p. 323. *Bigel. Fl. Bost. ed. 2.* p. 119, *Med. Bot.* t. 10.

HAB. Canada. *Pursh.*—This is the famous *Poison-Sumach*, *Swamp-Sumach*, or *Poison-Elder*, of the United States. An admirable history of it is given in the Medical Botany of Dr. Bigelow, above-quoted. Berries glabrous, almost white.

* * *Folii trifoliolatis, foliolo medio petiolato.*

4. *R. radicans*; caule radicante, foliis 3-foliolatis, foliolis ovato-rotundatis rhomboideisve acutis seu acuminatis glabris integris.—*Linn. Sp. Pl.* p. 381. *Elliott, Carol.* v. 1. p. 363. *Bigel. Med. Bot. t. 42, Fl. Bost. ed. 2.* p. 120. *De Cand. Prodr.* v. 2. p. 69.—*R. Toxicodendron*, *Mich. Am.* v. 1. p. 183. *Pursh, Fl. Am.* v. 1. p. 205.—*R. Toxicodendron*, *Æ. Torrey, Fl. of Un. St.* v. 1. p. 322.

HAB. Throughout Canada, to the Saskatchewan. *Dr. Richardson; Drummond.* North-West America on "Mount Hood," and the "Blue Mountains," *Douglas.*

5. *R. Toxicodendron*; caule erecto debili, foliis 3-foliolatis, foliolis ovato-rotundatis subrhomboides acutis seu acuminatis inciso-angulatis.—*Linn. Sp. Pl.* p. 381. *Elliott, Carol.* v. 1. p. 363. *De Cand. Prodr.* v. 2. p. 69.—*Æ. Torrey, Fl. of Un. St.* v. 1. p. 323.—*Æ. quercifolia.* *Mich. Am.* v. 1. p. 183. *Pursh, Fl. Am.* v. 1. p. 205.

HAB. Canada; and, I believe, in the same localities as the preceding. *Pursh; Mr. Cleghorn; Dr. Richardson; Drummond; Douglas.*—American Botanists are at variance with regard to the distinctive characters of this and the preceding species. Nuttall says they are certainly different; but most other authors either unite them, or speak with doubt as to the value of their presumed marks of distinction.

6. *R. lobata*; caule stricto, ramulis brevibus foliosis, foliis trifoliolatis, foliolis ovatis obtusissimis varie lobatis, lobis obtusis, sinibus acutis, paniculis laxis petiolo longioribus. (TAB. XLVI.)

Frutex erectus, 3-4-pedalis, rami teretes, junioribus solummodo pubescentibus, ramulis numerosis, brevibus, patentibus, foliosis. *Folia* longe petiolata, trifoliolata, foliolis ovatis, unciam ad duas uncias longis, obtusissimis, membranaceis, basi nunc acutis, nunc rotundatis truncatisve, subtus præcipue pubescentibus, profunde et varie lobatis, terminali sublonge petiolulato, utrinque subæqualiter lobato, lobis præcipuis subtribus, foliolis lateralibus margine exteriori magis profunde lobato. *Flores* (masculini) flavi, in racemis laxis, folio brevioribus, petiolo longioribus. *Bractææ* ad basin ramulorum oblonge, ciliatæ. *Cal.* profunde 3-partitus, laciniis oblongis. *Petala* 5, calycis laciniis multo longiora, obovata, basi in unguem sensim attenuata, dorso vana. *Stamina* 5, æcta, petalis parum breviora. *Filamenta* subulata. *Antheræ* majusculæ, ovatæ, pallide flavæ, loculis suboppositis. *Stylus* parvus, e centro disci pateriformis, in fundo calycis siti, margine elevato crispato.

HAB. Common on the outskirts of woods, in dry soils of North-West America. Plentiful at Fort-Vancouver. *Douglas.*—Although nearly allied, as this assuredly is, to the two preceding species, I nevertheless venture to consider it distinct. Its general habit is very different, having erect straight stems, and numerous small leafy branches. The leaflets, besides that they are deeply lobed, with acute sinuses, are truly ovate, very obtuse, and greatly smaller than in any state of *R. Toxicodendron*, or *R. radicans* which I have seen: the panicles, too, are exceedingly numerous, and large in proportion to the size of the leaf.

TAB. XLVI. *Fig. 1.* Outside view of a male flower; *fig. 2.* View of the upper side of a male flower; *fig. 3.* Stamen; *fig. 4.* Petal; *fig. 5.* Disk from the bottom of the calyx, and style from the male flower:—magnified.

SECT. II. LOBADIUM. *Raf.*

7. *R. aromatica*; foliis trifoliolatis, foliolis sessilibus inciso-crenatis subtus pubescentibus, intermedio rhombeo, lateralibus ovato-rhomboides, floribus in amentis compunctis dispositis.—*Ait. Hort. Kew. ed. 1.* v. 1. p. 367. *Mich. Am.* v. 1. p. 184. *Pursh, Fl. Am.* v. 1. p. 205. *Elliott, Carol.* v. 1. p. 364. *Turpin, in Ann. du Mus.* v. 5. p. 445. t. 30. *Torrey, Fl. of Un. St.* v. 1. p. 324.

HAB. Canada. "La Grande Chaudière." Pursh, MSS. Thence, as far north as the Saskatchewan. Dr. Richardson.—Mr. Pursh says the *R. suaveolens*, Ait., is only the male of this species. The inflorescence is widely different from that of any other of the genus.

ORD. XXVIII. LEGUMINOSÆ. Juss.

SUBORD. I. PAPILIONACEÆ. Linn.

TRIB. I. SOPHOREÆ. Spr. Cor. papilionacea. Stam. libera. Cotyledones foliaceæ. DC.

1. THERMOPSIS. Br.

Cal. oblongus campanulatusve 4-5-fidus subbilabiatus postice convexus basi attenuatus. *Pet.* 5 subæqualia, vexillo lateribus reflexis, carina obtusa. *Stam.* persistencia. *Legumen* compressum falcatum aut lineare polyspermum.—Herbæ perennes sericeo-villosæ. Folia trifoliolata. Stipulæ ovato-lanceolatæ foliaceæ. Racemi terminales, floribus pedicellatis geminis aut subverticillatis flavis. DC.

1. *T. rhombifolia*; foliis petiolatis, foliolis rhombeo-ovatis subcuneatis, stipulis ovatis cordatisve acutis petiolo subæque longis, racemo interrupto, leguminibus falcatis compressis. (TAB. XLVII.)—*Nutt. Gen. v. 1. p. 283*, (sub *Thermia*.) *Rich. in Frankl. 1st Journ. ed. 2. p. 13. De Cand. Prodr. v. 2. p. 99.*—*Cytisus rhombifolius. Pursh, Fl. Am. v. 2. p. 741.*

Radix perennis, subfusiformis, superne divisa. *Caules* 3-4 ex eadem, radice, erecti, herbacei, parce ramosi. *Planta* junior caulibus folisque pilis sericeis vestita, demum glabriuscula. *Folia* petiolata, trifoliolata, foliolis sessilibus subrhombeo-ovatis, acutiusculis, inferne cuneatis. *Stipulæ* maximæ, ovatæ cordatæve, foliaceæ, persistentes, virides, non raro unciam longæ, petiolo subæque longæ. *Pedunculus* subterminalis, sed fere semper o basi rami annotini, et ita lateralis, racemosus. *Racemus* oblongus, 10-12-florus, floribus inferioribus subinterruptis, pedicellis brevibus, sericeis. *Bractea* obovatæ, longitudine fere calycis. *Calyx* oblongo-campanulatus, sericeus, 5-fidus, seu potius 4-fidus, segmentis subæqualibus, superiore bifido. *Corolla* flava. *Vexillum* obovatum, obtusum, primum lateribus inflexis demum subreflexis. *Ala* obtusæ, longitudine vexilli et carinæ obtusæ. *Stamina* 10, libera, membranacea. *Antheræ* omnes fertiles, subrotundæ. *Geraena* lineare, rectiusculum, dense sericeum. *Stylus* sursum curvatus, carina vix longior. *Stigma* obtusum. *Legumen* valde falcatum, fere digitale, compresso-planum, marginatum hio illio constrictum, 3-6-spermum, stylo persistente acuminatissimum.

HAB. About the Saskatchewan. Dr. Richardson; Douglas; Drummond.—In general aspect, this bears a great resemblance to the *Sophora alpina* of Pallas; but there the leaflets are much narrower, and the stipules ternate.

TAB. XLVII. Fig. 1, Vexillum; fig. 2, Alæ; fig. 3, Carina; fig. 4, Calyx, bractea, stamens, and pistil:—magnified. Fig. 5, Fruit:—natural size.

2. *T. fabacea*; foliis petiolatis, foliolis lato-ovalibus, stipulis lato-ovatis obtusis petiolo brevioribus, racemo alternifloro.—*De Cand. Prodr. v. 2. p. 99.*—"Sophora fabacea. *Pall. Astr. p. 122. t. 90. f. 2.*"—*S. lupinoides, n. Linn. Amæn. v. 2. p. 250.?*

HAB. Kamtschatka. Pallas. Near the sources of the Rivers "Utalla" and "Wallallah," in the vallies of the Blue Mountains in North-West America. Douglas.—My specimen under this name from Mr. Douglas, has the leaves thrice as large, and the peduncles thrice as long as in the preceding species.

3. *T. lanceolata*; foliis subsessilibus infimis summisque simplicibus stipulæformibus,

cæteris trifoliolatis, foliolis oblongo-lanceolatis, stipulis petiolo duplo et ultra longioribus, floribus geminis, pedicellis calyce brevioribus. *DC.—Br. in Hort. Kew. ed. 2. v. 3. p. 3. De Cand. Prodr. v. 2. p. 99.*—*Sophora lupinoides.* “*Pall. Astr. t. 89.*”—*Podalyria lupinoides.* *Willd. Sp. Pl. v. 2. p. 504.*

HAB. Kamschatka. *Demidoff,* (in *Willd.*)—I possess this species from Professor Ledebour, which, as well as the *T. Corgonensis*, De Cand. (*Sophora alpina*, Pall.) he gathered on the Altaï Mountains.

2. BAPTISIA. Vent.

Cal. semi-4–5-fidus bilabiatus. *Pet.* 5 subæqualia, vexillo lateribus reflexis. *Stam.* decidua. *Legumen* ventricosum pedicellatum polyspermum.—*Herbæ Boreali-Americane.* Flores *racemosi.* *DC.*

1. *B. tinctoria*; valde ramosa, foliis brevissime petiolatis ramisque glabris summis sessilibus, foliolis late-obovatis cuneatis, stipulis subulatis minutissimis deciduis, racemis terminalibus paucifloris, leguminibus oblongis longe stipitatis.—*Br. in Hort. Kew. ed. 2. v. 3. p. 5. De Cand. Prodr. v. 2. p. 100. Elliott, Carol. v. 1. p. 467.*—*Sophora tinctoria.* *Linn. Sp. Pl. p. 534.*—*Podalyria tinctoria.* *Sims, Bot. Mag. t. 1099. Pursh, Fl. Am. v. 1. p. 308. Bigel. Fl. Bost. ed. 2. p. 170.*

HAB. Canada. *Pursh.*—This, as well as the following, turns black in drying. It is known in North America under the name of *Wild Indigo*, and a considerable quantity of inferior indigo is prepared from it.

2. *B. alba*; superne ramosa, foliis breve petiolatis ramisque glabris, foliolis obovatis obtusissimis, stipulis lineari-acuminatis deciduis petiolo brevioribus, racemis longis multifloris, leguminibus cylindraceis.—*Br. in Hort. Kew. ed. 2. v. 3. p. 6. De Cand. Prodr. v. 2. p. 100. Elliott, Carol. v. 1. p. 469.*—*Crotalaria alba.* *Linn. Sp. Pl. p. 1006.*—*Podalyria alba.* *Willd.—Pursh, Fl. Am. v. 1. p. 308. Sims, Bot. Mag. t. 1177.*

HAB. Lake Erie. *Mr. Goldie.*

TRIB. II. LOTEÆ. DC. *Embryo* homotropus. *Cor.* papilionacea. *Stam.* aut monodelpha aut more ordinis diadelpha (9 et 1.) *Legumen* continuum uniloculare, aut rarius sutura altera introflexa biloculare. *Cotyledones* planiusculæ, per germinationem in folia stomatibus donata conversæ. *DC.*

3. MEDICAGO. Linn.

Cal. subcylindricus 5-fidus. *Carina* e vexillo subremota. *Stam.* diadelpha. *Legumen* polyspermum forma varium, semper falcatum vel in spicam contortum.—*Herbæ aut frutices.* *Stipulæ* sæpius incisæ. *Folia* petiolata, fere in omnibus 3-foliolata, foliolis sæpe dentatis. *Pedunculi* axillares uni-bi-aut-multiflori. Flores flavi. *DC.*

1. *M. lupulina*; procumbens, foliolis obovato-cuneatis, stipulis subintegris, floribus spicato-capitatis, leguminibus reniformibus monospermis.—*Linn. Sp. Pl. p. 1097. Engl. Bot. p. 971. Pursh, Fl. Am. v. 2. p. 490. De Cand. Prodr. v. 2. p. 172.*

HAB. Canada. *Pursh; Mrs. Percival.*—Introduced, in all probability, from Europe.

4. MELILOTUS. Tourn.

Cal. tubulosus 5-dentatus. *Carina* simplex, alæ vexillo breviores. *Legumen* calyce

longius, coriaceum, mono-aut oligospermum vix dehiscens, forma varium.—Herbæ stipulæ petiolo adnatæ. Folia pinnatim 3-foliolata, foliolis sæpe dentatis. Flores laze racemosi, flavi aut rarius albi. DC.

1. *M. officinalis*; leguminibus dispermis ovatis rugosis, racemis laxis, corollis calyce plusquam duplo longioribus, petalis subæqualibus, caule erecto. Willd.—*De Cand. Prodr.* v. 2. p. 186. Pursh, *Fl. Am.* v. 2. p. 477. Elliott, *Carol.* v. 2. p. 199.—Trifolium officinale. Linn.—*Engl. Bot.* t. 1340.

HAB. About Montreal and Quebec. *Lady Dalhousie*; *Mrs. Percival*.—Naturalized.

5. TRIFOLIUM. Linn.

Cal. tubulosus persistens eglandulosus 5-fidus, laciniis subulatis. *Carina* alis et vexillo brevior. *Stamina* diadelphæ. *Legumen* parvum vix dehiscens sæpius ovatum 1-2-spermum calyce brevius et ab eo tectum, rarius oblongum 3-4-spermum calycem paululum superans.—Herbæ. Stipulæ petiolo adnatæ. Folia palmatim tri-aut rarissime 5-foliolata. Flores capitati aut dense spicati, bracteati, purpurei, albi aut ochroleuci. Petala in quibusdam omnia inter se basi coalita. DC.

SECT. I. LAGOPUS. Ser.

1. *T. altissimum*; glaberrimum, caule erecto elato, foliolis lineari-lanceolatis denticulatis petiolo longissimo, supremis subsessilibus, stipulis lanceolato-acuminatis petiolo utrinque adnatis, capitulo oblongo, calycibus glaberrimis, dentibus 4 superioribus tortuosis. (TAB. XLVIII.)—*Douglas, MSS. in Herb. Hort. Soc.*

Caulis erectus, strictus, 2-3-pedalis, herbaceus, striatus, glaber, superne parce ramosus. *Folia* trifoliolata, glabra, *caulina radicaliaque* longissime petiolata; *suprema* subsessilia, omnia lineari-lanceolata, apiculata, subtilissime oblique striata, minute denticulata, pallide viridia, rigida. *Stipulæ* magnæ, foliaceæ, striatæ, longissimæ, lineari-lanceolatæ, acuminatæ, apice integre vel denticulatæ, petiolo utrinque per totam fere longitudinem adnatæ, cauli appressæ, margine anteriore libere. *Pedunculi* subterminales, digitem et ultra longi, glabri. *Capitula* ovalia, multiflora, ebracteata. *Flores* majusculi, rubri, inferiores reflexi. *Calyces* dense dispositi, glaberrimi, striati, membranacei. *Tubus* campanulatus, subinflatus, dentibus 4 superioribus æqualibus tubi longitudine, insigniter circa tubum corollæ (utrinque duobus) subspiraliter incurvis et quasi tortuosis, dente inferiore reliquis longiore tubum corollæ æquante, recto. *Corolla* calyce duplo longior; petalis staminibusque in tubum simplicem basi inflatum unitis. *Germen* ovatum, compressum, læviter marginatum, glabrum, monospermum. *Stylus* longus, filiformis, glaber. *Stigma* obtusum.

HAB. Abundant in North-West America, between the *Spokan River* and *Kettle Falls* of the Columbia. FL. June—August. *Douglas*.—The somewhat spiked heads of flowers, and the great affinity in habit of this plant with the following, have induced me to place it in the family of "*Lagopus*," although it departs from it in the entirely glabrous calyces. The structure of this calyx is very remarkable: the lower tooth or segment alone is straight, the four upper ones, two on each side the corolla, bend downwards and inwards in a sort of spiral manner, so as to surround the tube of the latter, their points meeting on the opposite side. At first, these teeth appear to be unnaturally twisted and distorted; but when they are examined with care, the mode and direction of the curvature are found to be invariably the same.

TAB. XLVIII. *Fig. 1*, Flower; *fig. 2*, Calyx laid open, and seen from within; *fig. 3*, Front view of the Corolla; *fig. 4*, Pistil:—magnified.

2. *T. plumosum*; sericeo-pubescent, caule elato erecto, foliolis lineari-lanceolatis

acuminatis denticulatis petiolo longissimo supremis sessilibus, stipulis lineari-lanceolatis acuminatis petiolo adnatis, capitulis conico-oblongis, calycibus hirsutissimis, dentibus linearibus rectis tubo corollæ longioribus sericeo-plumosis, germine 4-ovulato. (TAB. XLIX.)—*Douglas, MSS. in Herb. Hort. Soc.*

Caulis erectus, strictus, herbaceus, striatus, sesquipedalis ad bipedalem altus, superne subramosus, subsericeo-hirsutus, pilis erectis, parce foliosus. *Folia caulina* longissime pedunculata, *suprema* sessilia, trifoliolata, foliolis lineari-lanceolatis, acuminatis, subrigidis, appresso-sericeis, denticulatis, minute oblique striatis, acutissimis, subpungentibus. *Petioles* 6-8-pollicares. *Stipulae* magnæ, petiolo utrinque adnatæ, margine anteriore libere, foliaceæ, lineari-lanceolatæ, acuminatæ, subdenticulatæ; superiores latiores, breviores, inferiores angustiores, nonnunquam 3 uncias longæ, magis acuminatæ. *Pedunculi* terminales, dense sericei. *Capitula* 3-pollicaria, compacta, conico-oblonga, multiflora, ebracteatâ. *Flores* albi, primæ erecti, dein, inferiores præcipue, subpatentes, semper arcte dispositi. *Calyx* dense sericeo-hirsutus. *Tubus* campanulatus. *Dentes* lineares, elongati, tubo longiores; 2 superiores subbreviores, omnes recti, pulcherrime sericeo-plumosi. *Vexillum* superne latum, acutum. *Petala filamentagis* in tubum subæquale unita. *Pistillum*: *Germen* ovatum, 4-ovulatum. *Stylus* filiformis alarum longitudine.

HAB. Blue Mountains in North-West America, in alluvial soils. *FL.* June, July. *Douglas*.—In height, and foliage, and general habit, similar to the preceding, but everywhere clothed with silky hairs, which are most abundant on the upper leaves, peduncles, and especially on the calyces. Both ought to rank near to *T. rubens* and *angustifolium* of the continent of Europe, from which they are distinguished by the characters above given.

TAB. XLIX. *Fig. 1*, Flower; *fig. 2*, Corolla; *fig. 3*, Pistil:—*magnified*.

3. *T. arvense*; annum, caule erecto valde ramoso, foliolis spathulato-lanceolatis obtusis, stipulis ovatis longe acuminatis pilosis, capitulis cylindraceis villosissimis, calycis dentibus setaceis persistentibus corolla longioribus demum patentibus.—*Linn. Sp. Pl. p. 1083. Engl. Bot. t. 944. Mich. Am. v. 2. p. 59. Elliott, Carol. v. 2. p. 203. Pursh, Fl. Am. v. 2. p. 478. De Cand. Prodr. v. 2. p. 190. Bigel. Fl. Bost. ed. 2. p. 270.*

HAB. Canada. *Pursh*; *Mrs. Percival*; *Mrs. Sheppard*.

SECT. II. EUTRIPHYLLUM. Ser.

4. *T. pratense*; caulibus ascendentibus, foliolis ovalibus obcordatisve, stipulis ovatis membranaceis nervosis seta terminatis, capitulis ovatis densis subsessilibus, dentibus calycinis setaceis, inferiore reliquis longiore corollæ tubo dimidio brevior.—*Linn. Sp. Pl. p. 1082. Pursh, Fl. Am. v. 2. p. 478. Engl. Bot. t. 1770. Elliott, Carol. v. 2. p. 202. Bigel. Fl. Bost. ed. 2. p. 271.*

HAB. Canada. *Pursh*; *Mr. Cleghorn*. Lake Huron, *Dr. Todd*; and as far north as the Saskatchewan. *Dr. Richardson*; *Drummond*. North-West America, on the Columbia. *Dr. Scouler*; *Douglas*.

5. *T. Pensylvanicum*; caule ramosissimo flexuoso, foliolis ovato-ellipticis obtusis integerrimis, stipulis aristatis, capitulis ovato-cylindraceis solitariis densis, calycis lacinia infima petalis brevior.—*DC.—Willd. Enum. p. 793. Pursh, Fl. Am. v. 2. p. 478. De Cand. Prodr. v. 2. p. 196.*

HAB. Plentiful in dry fertile soils, about Sandwich and Amherstberg, Upper Canada. *Douglas*.—With this plant I am unacquainted. *Pursh* and *De Candolle* both observe that it is very nearly allied to *T. pratense*. It is known in America by the name of *Buffalo Clover*.

SECT. III. TRIFOLIASTRUM. Ser.

6. *T. repens*; caule repente radicante, foliolis obcordatis serrulatis, capitulis axillaribus globosis, floribus subumbellatis post florescentiam deflexis, dentibus calycinis inæqualibus corolla brevioribus, leguminibus tetraspermis.—*Linn. Sp. Pl.* p. 1080. *Engl. Bot. t.* 1769. *Mich. Am. v. 2.* p. 59. *Pursh, Fl. Am. v. 2.* p. 477. *Elliott, Carol. v. 2.* p. 201. *Bigel. Fl. Bost. ed. 2.* p. 271.

HAB. Canada, *Lady Dalhousie*; *Mrs. Sheppard*; and from Lake Huron, (*Dr. Todd*), to the Saskatchewan, in lat. 54°. *Dr. Richardson*; *Drummond*.—Abundant in the grassy valleys of the Rocky Mountains and Blue Mountains, on the West side of North America. *Douglas*.—*Pursh* says it makes its appearance wherever the lands are cleared of timber.

SECT. IV. LUPINASTER. Ser.

7. *T. megacephalum*; ascendens, hirsutum, foliolis 5-7 oblongo-cuneatis mucronatis spinuloso-denticulatis, stipulis magnis ovatis spinuloso-serratis, capitulo (maximo) ovato-globoso, calycis tubo brevissimo, dentibus subulatis longissimis vexillo amplissimo circumvoluto brevioribus, legumine stipitato.—*Nutt. Gen. v. 2.* p. 105. *De Cand. Prodr. v. 2.* p. 204.—*Lupinaster macrocephalum. Pursh, Fl. Am. v. 2.* p. 479. t. 23.

Caules decumbentes, fere pedales, vix ramosi, patentim hirsuti. *Folia* longe petiolata, foliolis 5-7 oblongo-vel obovato-cuneatis, basi attenuatis, mucronatis, margine spinuloso-denticulatis, pilis longiusculis magis minusve vestitis, adultis glabris, omnibus subrigidis, oblique pulcherrime venosis. *Stipulae* unciam sesquiuunciam longe, foliaceae, striatae, ovatae seu ovato-lanceolatae, versus apicem nonnunquam laciniatae, margine spinuloso-serratae. *Capitulum* terminale, maximum, ovato-globosum, multiflorum, involucre nullo. *Flores* duas fere uncias longi. *Calyx*; tubo piloso, brevissimo, campanulato, dentibus, seu laciniis, setaceis, longissimis, sericeo-plumosis, corolla brevioribus. *Vexillum* amplissimum, ovatum, acuminatum, obtusum, subbifidum, basi latissimo minime unguiculato carinam alasque omnino obvolvens, liberum. *Alae* carinaeque sublineares, subsquales, inferne una cum filamentis 9, in unum corpus coalitae: *Filamentum* superius liberum. *Antherae* oblongae, flavae. *Pistillum* oblongum, valde compressum, dorso superne hirsutissimum, inferne in stipitem attenuatum, dispermum. *Stylus* filiformis.

HAB. Common on moist elevated grounds, near the sources of the Columbia, and upon the Blue Mountains, North-West America. *Douglas*.—This is a truly magnificent species, no less remarkable for its numerous leaflets than for its great head of very large flowers, and above all, the broad lower half of the vexillum, which quite envelops the rest of the floral coverings.

SECT. V. INVOLUCRARIVM.

8. *T. microcephalum*; ascendens, ramosum, foliolis obcordatis denticulatis integris emarginatisque, stipulis ovatis acuminatis ciliato-laciniatis, capitulis (parvis) subrotundis, involucre monophyllo multifido, segmentis æqualibus integris, dentibus calycinis 5 æqualibus rectis e lnta basi subulatis longitudine corollæ.—*α. hirsutum*; ubique hirsutum. *Pursh, Fl. Am. v. 2.* p. 478. *De Cand. Prodr. v. 2.* p. 207.—*β. glabrum*; ubique pilis destitutum.

HAB. *α.* First discovered by *Mr. Menzies* in California; then found by *M. Lewis* on the banks of Clark's River, (*Pursh*.) About Fort-Vancouver. *Dr. Scouler*.—*β.* In the same situation as the last, and in the interior of North-West America, near springs. *Douglas*.—This, and the remaining species of the present group, are remarkable for the curious monophyllous involucre with which the heads of flowers are surrounded at the base. There are other *Trifolia* with the same character; and all are, I believe, inhabitants of the New World, and confined to the Pacific side of the great chain of mountains. The present is the least of the kind, having very small heads, and an involucre cut nearly half-way down into about nine equal, entire, much acuminate, and pungent segments.

9. *T. fimbriatum*; prostratum, glabrum, foliolis oblongis subcuneatisve spinuloso-denticulatis, stipulis ovato-acuminatis laciniato-spinulosis, involucri monophyllo laciniato-multifido capitulis subglobosis brevioribus, dentibus calycinis lato-subulatis rectis corolla subdimidio brevioribus.—*Lindl. in Bot. Reg. t. 1070.*

HAB. First detected by *Mr. Menzies* in California, (in *Herb. nostr.*) Common in the salt-marshes of the North-West coast of America, from Cape Orford to Puget Sound. *Douglas*; *Dr. Scouler*.—Flowers purple, the vexillum paler than the rest of the corolla.

10. *T. spinulosum*; prostratum, glabrum, foliolis oblongis utrinque acutis spinuloso-denticulatis spinulaque rigida terminatis, stipulis ovato-acuminatis spinuloso-serratis, involucri monophyllo laciniato-multifido capitulis subglobosis brevioribus, dentibus calycinis angusto-subulatis pungentibus rectis corolla paulo brevioribus.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. Very common near springs, in the valleys between *Spokane* and *Kettle Falls*, North-West America. *Douglas*.—This is, as *Mr. Douglas* observes, "allied to *T. fimbriatum*, but sufficiently distinct. The vexillum and *alæ* are shorter and more acute; the flowers smaller, white; the *carina* and *alæ* tipped with a fine purple, and the whole plant more slender. It is abundant in the fertile alluvial soils of the mountain-valleys, forming a dense, short sward. It might prove, perhaps, very useful as a clover, the herbage being extremely nutritive, and preferred to every thing else by deer and horses."

11. *T. involucreatum*; glabrum, suberectum, vix ramosum, foliolis lineari-lanceolatis mucronatis spinuloso-denticulatis, stipulis lanceolatis acuminatissimis spinuloso-serratis, involucri monophyllo laciniato-multifido capitulis subhemisphæricis laxifloris brevioribus, calycibus tubulosis, dentibus brevibus rectis lanceolatis cuspidato-pungentibus corolla paulo brevioribus nunc utrinque basi unidentatis.—*Willd. Sp. Pl. p. 1372. (non Kunth.) Smith, in Rees' Cycl. n. 28.*—*T. Willdenovii. Spr.*—*T. tridentatum. Lindl. in Bot. Mag. sub t. 1070.*

HAB. Specimens in my Herbarium, gathered by *Mr. Menzies*, are marked "California." Abundant in North-West America, from the mouth of the Columbia to its source in the Rocky Mountains, on dry gravelly soils.—This is unquestionably the *T. involucreatum* of *Smith*, and, as far as can be judged from the description, of *Willdenow* also; but the species so named by *Kunth* is widely different, having much larger corollas, long setaceous teeth to the calyx, and being, as that author remarks, allied in habit to *T. alpinum*. In many specimens that I have examined, both from *Mr. Menzies* and *Mr. Douglas*, (those from the latter both wild and cultivated,) I find the teeth of the calyx generally simple; sometimes some of the teeth, rarely all, have a smaller tooth on each side at the base, hence becoming tridentate. Our plant is very erect and slender in its mode of growth, and remarkable for the great length of the tube of the calyx in proportion to its teeth. The legume is oblong, two-seeded, and bursts spontaneously and for its whole length, even while yet surrounded by the floral coverings.

12. *T. cyathiferum*; prostratum, ramosum, glabrum, foliolis oblongis obovato-cuneatisve mucronatis spinuloso-dentatis, involucri (magno) monophyllo cyathiformi breviter multifido dentato inter venas transversim rugoso capitulis hemisphæricis multifloris subbrevioribus, calycibus oblongis subinflatis membranaceis dentibus setaceis tri-multipartitis corollam æquantibus. (TAB. L.)—*Lindl. in Bot. Reg. sub t. 1070.*

Radicis parva, annua, subfusiformis, fibrosa. Caudex prostratus, glabri, ramosi, pedales ad sesquipedalem. Folia sublonge petiolata, trifoliolata, glabra, foliolis nunc oblongis basi subattenuatis, nunc obovato-cuneatis

vel fere oboordatis, mucronatis, spinuloso-denticulatis. *Stipule ovate*, acuminatæ, reticulatæ, basi membranaceæ, albide, margine spinuloso-laciniatæ. *Pedunculi* laterales, terminalesque digitem longi. *Involucrum* magnum, cyathiforme seu hemisphericum, membranaceum, venosum, intra venas transversim rugosum, pallide viride, basi albida, margine multifido, segmentis brevibus latis subtriangularibus inæqualiter denticulatis. *Capitula* hemispherica, compacta, multiflora, vix involucre longiora. *Calyx* oblongus, membranaceus, scariosus, albus, minutissime reticulatus atque venosus, subinflatus, dentibus corollam sequantibus, setaceis, 2 superioribus brevioribus, 2-3-partitis, 2 lateralibus 3-partitis, inferiore reliquis longiore 3-partito, lacinia trifida, segmentis omnibus magis minusve patentibus. *Corolla* pallide rosea. *Vexillum* oblongum basi latum, vix unguiculatum, rectum, liberum. *Alæ* vexillo vix breviores; *Carina staminique* in unum corpus coalita. *Germen* oblongum: *Stylus* filiformis. *Legumen* ovall-oblongum, compressum, dehiscent, dispermum. *Semina* subrotunda, compressa, levia.

HAB. Moist valleys in the interior of North-West America, bordering upon the Columbia. *Douglas*.—This is one of the most curious and elegant of the genus. The *involucre*, in size, colour, and texture, resembles that of *Astrantia*, but is formed of one entire piece or cup, in which the flowers are almost wholly imbedded. The *corolla* is very short, and the *vexillum* quite free from adherence with the other petals.

TAB. L. *Fig. 1*, Back view of a flower; *fig. 2*, Front view of do.; *fig. 3*, Calyx laid open; *fig. 4*, Legumen; *fig. 5*, Seed:—*magnified*.

6. HOSACKIA. *Benth.*

Cal. campanulatus, 5-fidus. *Alæ* vexillum subæquantes patentés. *Carina* rostrata. *Stylus* filiformis. *Stigma* capitatum. *Legumen* cylindræum, v. subcompressum, rectum, levæ.—*Herbæ*, foliis impari-pinnatis (varius simplicibus, *H.*), foliolis sæpius alternis, stipulis membranaceis minutis aut obsoletis. *Benth.*

1. *H. bicolor*; glabra, decumbens, foliolis suboppositis 7-9 oblongis obovatisve, stipulis cordato-ovatis membranaceis obtusissimis, floribus umbellatis, bractea monophylla vel nulla. *Douglas*, *MSS.*—*Benth.* in *Bot. Reg. t.* 1257.—*Lotus* pinnatus. *Hook.* in *Bot. Mag. t.* 2913.

HAB. Frequent in low alluvial soils between Fort-Vancouver and the Grand Rapids on the Columbia, and also near the base of Mount St. Helen, in similar situations. *Douglas*.—Neither my dried specimens, nor the recent cultivated ones, which I have examined, exhibit such remarkably patent *alæ* as are figured on this plant in the *Botanical Register*, perhaps because they were not fully expanded. I willingly, however, follow my valued friend, Mr. Benth. in considering the genus to be distinct from *Lotus*. But if I am correct in referring my fourth species to it, the leaflets are sometimes reduced to a single one; while in the *H. Purshiana*, *Benth.* (*Lotus sericeus*, *Pursh*; *Trigonella Americana*, *Nutt.*) according to my authentic specimens from Mr. Nuttall, there are constantly three leaflets to each leaf, as in *Lotus* there are spurious spongy disseiments between the seeds. The *flowers* are yellow, except the *alæ* which are white and waved.

2. *H. decumbens*; pubescenti-hirsuta, decumbens, foliolis alternis 4-5 ovali-subcuneatis acutis, stipulis minutissimis acutis deciduis, floribus umbellatis, bractea 1-3-foliolata.—*Benth.* in *Bot. Reg. sub t.* 1257.—*Lotus* incanus. *Douglas*, *MSS.*

HAB. Plentiful on gravelly soils near the mouth of the Columbia, at Fort-Vancouver. *Douglas*; *Scouler*; and on the banks of the Multnomak. *Douglas*.—This throws out numerous *stems* from the root, which are one and a half to two feet long, bearing many *umbels* of flowers, which are wholly yellow. The *alæ* are even, and narrower than in the preceding species.

3. *H. parviflora*; erecta, glabra, basi præcipue ramosa, foliolis alternis 4-6 oblongo-

obovatis subtus glaucis, stipulis obsolete deciduis, pedunculis 1-floris, bractea sub flore sæpissime 3-foliolata.—*Benth. in Bot. Reg. sub t. 1257.*

Radix annua, parva. *Caules* sphæmæli, erecti. *Stipulae* cito deciduæ. *Pedunculi* 2 lineas longi, solitarii, superne unibracteati, uniflori, bracteis plerumque 2-3-foliolatis, flore minute flavo. *Alæ* vix divergentes. *Stigma* capitatum. *Fructum* non vidi.

HAB. California. *Menzies*, (in *Herb. nostr.*) communis on soils where wood has been destroyed by fire, on the shores of the Columbia. *Douglas*.

4. *H. unifoliolata*; decumbens, hirsuta, valde divaricato-ramosa, foliis unifoliolatis rarissime 2-3-foliolatis subsessilibus, foliolis ovalibus basi apiceque acutis, stipulis obovatis; pedunculo unifloro, bractea sub flore ovata monophylla.

Radix annua, inferne fibrosa. *Caules* decumbentes, valde ramosi, subhirsuti, ramis divaricatis, flexuosis. *Folia* fere omnino sessilia, unifoliolata, petiolo articulata, rarissime 2-3-foliolata, foliolis semiunciam longis, ovalibus, subobliquis, basi apiceque acutis, pilosis. *Stipulae* minutissimæ, acutæ, cito deciduæ. *Pedunculi* breves, 2-3 lineas longi, hirsuti, axillares, solitarii, uniflori, sub calyce bractea ovata (folio simillima sed minore) suffulti. *Flos* minutus, ceruus. *Calyx* hirsutus, tubo obconico, dentibus subulatis corolla vix brevioribus. *Corolla* flava. *Vexillum* obovatum. *Alæ* oblongæ, rectæ, subundulatæ. *Stamina* diadelpa, 9-1. *Germen* lineare, glabrum: *Stylus* germine brevior, sursum curvatus; *Stigma* capitatum. *Legumina* lineari-cylindracea, basi calyce cineta, unciam longa, basi styli terminata, fusca, sub lente pallide punctata, margine superiore precipue incrassata, unilocularia, loculo isthmis transversalibus spongiosis completis interrupto. *Semina* 5-6, reniformia, levia, fusca.

HAB. Shores of the Columbia. *Dr. Scouler*.—In size and shape of the *leaflets*, and in hairiness, this species approaches to the *H. decumbens* of Mr. *Bentham*; in its *flowers*, to *H. parviflora*; and, in the bractea, calyx, and seed-vessel, to *H. Purshiana*, *Benth.*; in its almost universally solitary *leaflets*, and in its much branched and divaricated *stems*, it is very unlike any other.

9. PSORALEA. *Linn.*

Sep. 5, ad medium concreta in calycem 5-fidum persistentem, tubo sæpius glanduloso, lobis acuminatis infimo paulo productiore. *Stam.* 10, sæpius diadelpa, decimo interdum basi cum cæteris connexo. *Legumen* calycis longitudine, evalve, 1-spernum, interdum in rostrum desinens.—Frutices aut Herbae tuberculis glandulosis sæpius verrucosa. *Folia* varia, stipulis petiolo basi adnatis. *Flores* dispositione varii, cærulei albidipurpurecentive. *DC.*

1. *P. lanceolata*; subglabra, ramis erectis, foliis 3-foliolatis, foliolis sessilibus lineari-lanceolatis superne latioribus mucronatis, racemis axillaribus capitatis, pedunculis folio plerumque brevioribus, stipulis linearibus, bracteis ovato-lanceolatis pedicello longioribus, calycis dentibus subæqualibus brevibus acutis, leguminibus globosis hirsutis. (*Tab. LI.*)—*Pursh, Fl. Am. v. 2. p. 475.*—*P. elliptica. Pursh, Fl. Am. v. 2. Suppl. p. 741, (fide Nutt.)*—*P. arenaria. Nutt. Gen. v. 2. p. 103. De Cand. Prodr. v. 2. p. 219.*

Radix perennis, subfusiformis, descendens. *Caules* herbacei, glabri, superne appressim paululum hirsuti, striati, glandulosi, basi decumbentes dein erecti, subvirgati, pedales et ultra, ramosi; rami alterni, erecti. *Folia* petiolata, 3-foliolata; foliolis glabris rarius subpilosis, lineari-lanceolatis superne dilatatis, mucronatis, integerrimis, nunc obovato-cuneatis basi attenuatis, subcarnosis, aveniis, omnibus sessilibus sesquiunciam ad duas uncias longis, utriusque glandulis fuscis obsitis. *Petioli* foliis longitudine. *Stipulae* lineares, libere, non cum petiolo adnate. *Pedunculi* axillares, solitarii, petiolo longiores, folio plerumque breviores. *Racemus* brevis, capitatus, 8-10-florus. *Bractea* ovato-lanceolata, glandulosa, pedicello longiores, post florescentiam

decidua. *Calyx* brevi-campanulatus, appresse pilosus, glandulosus, dentibus brevibus subæqualibus acutis ciliatis. *Flores* parvi, (caerulei, Ph.) *Vexillum* subrotundum, unguiculatum. *Carina* obtusa, cum *alis* oblongis obtusis coadunata. *Stamina* diadelpa, 9-1. *Legumen* globosum, magnitudinis seminis *Pisii sativi*, glandulosum, pilis albidis appressis brevibus tectum, stylo subulato terminatum. *Semen* subrotundatum, solitarium, compressum, luteo, fuscum.

HAB. This, which was first discovered by *Lewis* on the banks of the Missouri, is found by *Mr. Douglas* inhabiting dry, parched, and sandy soils, from the mouth of the Columbia to its source; and by *Mr. Drummond* on the east side of the Rocky Mountains, on the Saskatchewan, from Carlton-House to Edmonton-House.—I have followed *Mr. Nuttall* in considering the *P. elliptica* of *Pursh* the same as the *P. lanceolata*; but I see no reason why one of these two original names should not be retained.

Tab. LI. Fig. 1, Flower; fig. 2, Vexillum; fig. 3, *Ala* and *carina* combined; fig. 4, *Stamens*, including the *Pistil*; fig. 5, *Legumen*; fig. 6, Seed—*natural size*. Fig. 7, *Legume*; fig. 8, Seed—all but figs. 5 and 6, magnified.

2. *P. physodes*; glabriuscula, foliis pinnatim 3-rarius 5-foliolatis, foliolis lato-rhombico-ovatis acutis mucronatis obscure glandulosis terminali longe petiolato, racemis pedunculatis laxis axillaribus folio longioribus, calycibus valde inflatis hirsutis corolla vix brevioribus, dentibus subæqualibus.—*Douglas*, *MSS. in Herb. Hort. Soc.*

HAB. Banks of streams, in open, sandy and gravelly soils, from the Great Falls of the Columbia to the Rocky Mountains. *Douglas*.—This species is well distinguished by its large leaflets and their form, together with the large inflated calyces, which almost conceal the flowers, and wholly so the elliptical, compressed, scarcely glandular, slightly hairy, 1-seeded legumes.

3. *P. argophylla*; pulcherrime argenteo-sericea, erecta, ramis divaricatis, foliis palmatim 3-5-foliolatis, foliolis elliptico-lanceolatis, apicis pedunculatis folio longioribus interruptis bracteatis, bracteis subbifloris, calycis dente inferiore longissimo. (Tab. LII.)—*Pursh*, *Fl. Am. v. 2. p. 475*.—*P. incana*, *Nutt. in Fraser's Cat. 1813. Gen. v. 2. p. 102*.

Tota planta, sed præcipue folia juniora, ramuli calyces bractesque pilis mollibus appressis pulcherrime argenteo-sericea. *Caulis* erecti, ramosi, striati, ramis patentibus. *Folia* 3-æm 5-foliolata, foliolis digitatis, elliptico-lanceolatis, acutis, breve petiolulatis, 2-3 uncias longa. *Petiolus* folio brevior. *Stipula* lineares, libere, seminnamiam vel unciam fere longæ. *Pedunculi* axillares, folio duplo longiores. *Flores* (purpureæ, Ph.; azaurei, *Nutt.*), interrupte et verticillatim spicati, verticillis bracteatis. *Bractes* subbifloræ, calycis longitudine, lanceolatæ. *Calyx* densissime sericeo-villosus. *Tube* brevis; dentes subulati, 4 superiores subæquales; inferiore elongato petalis longiore. *Vexillum* ovatum, unguiculatum, ad basin laminae bicallosum. *Ala* oblongæ, unguiculatæ, cum *carina* obtusa unite. *Fructus* mihi ignotus.

HAB. Dry soils on the banks of the Red River, in lat. 50°, (*Douglas*), to the Saskatchewan in lat. 54°, from Carlton-House to Edmonton-House. *Drummond*; *Douglas*.—Few plants can exceed this in beauty; even in the dry state, its silvery hue is quite remarkable, and the flowers are either bright azure-blue, according to *Nuttall*, or purple, according to *Pursh*. The former author observes that the stems are rarely branched: such is not the case with our specimens.

Tab. LII. Fig. 1, Portion of a spike; fig. 2, Flower; fig. 3, Vexillum; fig. 4, *Ala* and *carina*:—more or less magnified.

4. *P. macrostachya*; foliis pinnatim 3-foliolatis pubescentibus, foliolis ovatis mucronatis, petiolis glanduloso-scabris, pedunculis axillaribus folio quadruplo longioribus, apicis cylindraceis rachi bracteis calycibusque hirsutissimis.—*De Cand. Prodr. v. 2. p. 220*.

HAB. Nootka. (*Lagasca* in *De Cand.*)—"Bractes acuminatæ calycis longitudine. Spica subramosa." *DC.*

5. *P. brachiata*; caule erecto flexuoso subramoso patenti-villosissimo, foliis palmatim 5-foliolatis appresso-hirsutis, foliolis ellipticis, pedunculis axillaribus elongatis folio longioribus, racemis oblongis spicatis laxiusculis, bracteis dentibusque calycis foliaceis lanceolatis, floribus erectis. (TAB. LIII.)—*Douglas, MSS. in Herb. Hort. Soc.*

Radix fusiformis, crassa, 4–10 uncias longa. *Caulis* pedalis ad sesquipedalem, herbaceus, erectus, flexuosus, parce ramosus ramis patentibus, striatus, crassus, ubique pilis longis patentibus albis valde villosus. *Folia* patentia, palmatim 5-foliolata, longe petiolata, appresse villosa, pilis albidis subseriosis; foliolis 2 fere tres uncias longis, ellipticis, acutis, basi attenuatis, nunquam obovato-cuneatis. *Petioli* digitales et ultra, patenti-villosi. *Pedunculus* axillaris, solitarius, folio longior, patenti-pilosus. *Racemus* apicam elongatam bracteosam efformans, 3–4 uncias longus, sesquiunciam latus, albidovillosus. *Bractea* florem subsequens, lanceolata, foliacea, virides, superiores subserulescentes. *Calyx* fere unciam longus, pilis longis albis hirsutus. *Tubus* breviusculus, subcampamilatus, membranaceus, laciolis foliaceis 4 superioribus linearilanceolatis corolla paulo brevioribus, inferiore majore lanceolata corollam subsequente. *Corolla*: *Vexillum* ovale, album, inferne in unguem attenuatum, ad basin laminae utrinque subcalloseum. *Carina* caerulea cum ala unita. *Stamina* diadema, 1, 9, tubo ad apicem in dentibus latis atheriferis aeternim longioribus fuso. *Germen* oblongum, glabrum. *Stylus* longus, subulatus, inferne hirsutissimus, apice sursum curvatus. *Stigma* capitatum.

HAB. Plains of the Saskatchewan from Carlton-House to Edmonton-House. *Drummond*; *Douglas*.—This, Mr. Douglas observes, is the *Navel de Prairie* of the Canadian "Voyagers": and, I must confess, that had I been left to judge of the species solely from the figure and description of Pursh, I should have had no hesitation in considering it as *Psoralea esculenta*: but Mr. Douglas, who has compared the plant with Lewis and Clarke's original specimens of *P. esculenta*, in Mr. Lambert's Herbarium, pronounces it to be quite distinct; although the chief differences he mentions are the more slender habit, and longer and laxer spikes of our plant. Again, he observes that the *P. esculenta* of Nuttall, of which an original specimen is likewise in the Lambertian Herbarium, is distinct from both; and, indeed, Mr. Nuttall describes it as nearly stemless. The roots, though stringy, dry, and tough, and containing but little farinaceous matter, are gathered and eaten by the Cree Indians raw, or sometimes roasted.

TAB. LIII. *Psoralea brachiata*. *Fig. 1*, Back view of a flower; *fig. 2*, Front view of do.; *fig. 3*, The vexillum; *fig. 4*, Portion of the stamens, and style with the stigma; *fig. 5*, Pistil:—magnified.

8. PETALOSTEMUM. Mich.

Cal. 5-fidus, aut 5-dentatus. *Pet.* 5, unguiculata, inter se subsimilia. *Stam.* 5 interjecta et cum iis in tubum concreta; *vexillum* conduplicatum liberum. *Legumen* calyce tectum 1-spermum indehiscens.—Herbæ *perennes Boreali-Americanae, glanduloso-punctatae*. *Folia impari-pinnata*. *Flores dense spicati, spicis pedunculatis*. *Pedunculi oppositifolii, terminales, ramo abortivo facti*. *DC.*

1. *P. candidum*; spica cylindrica, bracteis calyce glabro longioribus, foliolis 3-jugis linearilongis glabris.—*Mich. Am. v. 2. p. 49. t. 37. f. 1. Pursh, Fl. Am. v. 2. p. 461. De Cand. Prodr. v. 2. p. 243.*—*Dalen candida. Willd.*—*Psoralea candida. Poir.*

HAB. Banks of the Saskatchewan, and upon the Red-Deer and Eagle Hills of that river. *Drummond*; *Douglas*. On the Red River. *Douglas*.—*Petals* white. This, and the following, and probably all the species of the genus, have glandular dots on their leaves, as in *Psoralea*.

2. *P. violacea*; spica oblongo-cylindracea, bracteis calyce sericeo-pubescente longioribus, foliolis binjugis anguste linearibus subhirsutis.—*Mich. Am. v. 2. p. 50. t. 37. f. 2.*

Pursh, Fl. Am. v. 2. p. 461. Bot. Mag. t. 1707.—*Dalea violacea. Willd.*—*D. purpurea. Vent. Cels. t. 40.*—*Psoralea violacea. Poir.*

HAB. In the same situations as the preceding species. *Douglas; Drummond.*—*Petals purple.*

3. *P. ornatum*; spica oblongo-cylindræca, bracteis calyce villosissimo longioribus, foliolis 2-3-jugis elliptico-oblongis glabris.—*Douglas, MSS. in Herb. Hort. Soc.*

Radix perennis. *Caulis* pedalis, glaber, striatus, valde ramosus. *Folia* pinnata; foliolis uncialibus oblongo-ellipticis obtusis vel retusis, basi nunc subobtusatis, subtus pallidis glanduloso-punctatis, supra, siccitate, pulcherrime seruginosis. *Spica* solitaria, terminalis, pedunculata, oblongo-cylindræca, crassa, multiflora. *Bracteæ* valde hirsutæ, subulatae, calycibus hirsutissimis longiores. *Petala* violacea.

HAB. Frequent in the arid Prairies near the Blue Mountains of Lewis River, North-West America. *Douglas.*—This is perhaps the most beautiful species of the genus, and well deserving of the name which Mr. Douglas has given to it. The *spikes* are large, densely clothed with spreading silky hairs, among which the rose-coloured *petals* appear. The *leaves* are perhaps more remarkable in their dry than in their fresh state; for in the Herbarium, the upper-side becomes of a rich verdigris-green. The same change of colour takes place, though in a very inferior degree, in some of the specimens of *P. candidum* in my collection.

9. GLYCYRHIZA. Linn.

Cal. nudus, tubulosus, 5-fidus, bilabiatus, lobis nempe 2 superioribus ultra alios contractis. Cor. vexillum, ovato-lanceolatum, rectum carina biceps aut dipetala recta acuta. Stam. diadelphæ. Stylus filiformis. Legumen ovatum aut oblongum, compressum, 1-loculare 1-4-spermum.—*Herbæ perennes. Radices dulcissima. Folia impari-pinnata. Racemi axillares. Flores cærulei violacei aut albi. DC.*

1. *G. lepidota*; foliolis oblongo-lanceolatis mucronatis subtus vix strigosis glanduloso-sublepidotis, racemis spicatis oblongis laxis pedunculatis folio brevioribus, leguminibus oblongis 2-4-seu 6-spermis setis uncinatis echinatis.—*Nutt. in Fraser's Cat. Pursh, Fl. Am. v. 2. p. 480. Nutt. Gen. v. 2. p. 106. Bot. Mag. t. 2150.*

HAB. Banks of the Saskatchewan. *Drummond.*—“This,” *Mr. Douglas* observes, “has perhaps a greater range than almost any other plant in North America. It is common in the western territories of the United States, (where, on the banks of the Missouri, at St. Louis, it was first discovered by Bradbury,) throughout the temperate parts of the British Possessions, (as about Hudson’s Bay, the Red, Saskatchewan, Assinaboine, and Athabasca Rivers,) and upon all the intervening plains; and is equally abundant on the west side of the Rocky Mountains, from the source of the Columbia to its confluence with the sea, and from Cape Mendocino, in lat. 47°, to Puget Sound on the shores of the Pacific.” It is, therefore, not without reason that Mr. Nuttall suspected this was the *Liquorice*, mentioned by Sir A. Mackenzie as indigenous to the coasts of the Pacific Ocean, which Dr. Richardson determined to be the *Hedysarum Mackenzii*. It will be remarkable if this species should prove the same as a North African one. Mr. Nuttall, indeed, alludes to its similarity with the *G. fetida* of Desfontaines; observing, that, like that, it emits a somewhat disagreeable resinous odour: but he does not say how they differ. I have compared our American species both with Desfontaines’ description and figure, and with specimens gathered by Saltzman at Tangiers; and I confess, as far as can be judged from these authorities, I can find no distinguishing character whatever. The number of seeds is variable in both. The little scales on the underside of the leaves are the same in both, and they are formed by a resinous exudation from the glands, which abound, as in *Psoralea* and *Petalostemon*, and which are scarcely different in colour from the leaf itself.

10. TEPHROSIA. Pers.

Cal. ebracteolatus subæqualis 5-dentatus. Corollæ vexillum amplum subrotundum extus

sericeum aut pubescens patenti-reflexum, *alæ carinæ* obtusæ adherentes. *Stamina* varie connexa, monadelpha aut diadelpha, *flam. super.* nunc semi-coalito. *Stylus* filiformis, *stigma* terminali. *Legumen* sæpius sessile compresso-planum lineare polyspermum, valvis planis, seminibus compressis.—Frutices vel Herbæ. *Stipulæ a petiolo distinctæ, lanceolatae aut subulatae, non sagittatae.* Folia in *Tephrosiis* veris impari-pinnata, in spuris trifoliata aut palmata. Racemi axillares rarius oppositifolii. Flores albi et purpurascetes. DC.

1. *T. Virginiana*; (SECT. BRISSONIA. DC.), herbacea, erecta, foliolis 8-11-jugis ovali-oblongis mucronatis subtu candicanti-villosis, calycibus lanatis.—*Pers. Syn. v. 2. p. 329. Pursh, Fl. Am. v. 2. p. 489. Elliott, Carol. v. 2. p. 245. Bigel. Fl. Bost. ed. 2. p. 278.*—Galega Virginiana. Linn.—*Mich. Am. v. 2. p. 67.*

HAB. Canada. Michaux; Pursh.

11. AMORPHA. Linn.

Cal. 5-dentatus obconico-campanulatus. *Corollæ vexillum* ovatum concavum, *alæ* et *carina* 0. *Stylus* filiformis, rectus, glaber. *Stamina* exserta, basi ima monadelpha. *Legumen* compressum ovatum lunulatum 1-loc. 1-2-spermum.—Frutices Boreali-Americani. Folia impari-pinnata, foliolis multijugis pellucido-punctatis sæpius basi stipellatis. *Stipulæ caulinae deciduæ.* Racemi spicati elongati, sæpius ad apices ramorum subsusciculati. Flores cæruleo-violacei. DC.

1. *A. fruticosa*; subarborescens, subvillosa aut glabrâ, foliolis elliptico-oblongis, infimis acaule distantibus, calycis subvillosi dentibus 4 obtusis 1 acuminato, vexillo eglanduloso, leguminibus oligospermis. DC.—Linn. *Sp. Pl. p. 1003. Mich. Am. v. 2. p. 64. Pursh, Fl. Am. v. 2. p. 466. Bot. Reg. t. 427. Elliott, Carol. v. 2. p. 188.*—*A. nana?* Sims in *Bot. Mag. t. 2112.*

HAB. Limestone rocks between Fort-Osnaboyne, on the Red River, and the south end of Lake Winipeg, in lat. 50°, its most northern range. Douglas.

2. *A. nana*; fruticosa, pumila, glabriuscula, foliolis ellipticis longe mucronatis punctis pellucidis majusculis adsparsis, calycibus glabris glandulosis dentibus omnibus subulatis, leguminibus 1-spermis.—Nutt. in *Fraser's Cat. 1813, Gen. v. 2. p. 91. De Cand. Prodr. v. 2. p. 256. vix Sims in Bot. Mag. t. 2112.*—*A. microphylla. Pursh, Fl. Am. v. 2. p. 466.*

HAB. Abundant on the plains of the Red River, in lat. 50°. Douglas.—The *Amorpha nana*, figured by Dr. Sims in the *Bot. Mag. t. 2112*, is the representation of a specimen which flowered in Mr. Lambert's garden; from which place also I possess an individual under the same name, and probably taken from the same plant. But this I would unquestionably refer to the *A. fruticosa*. Mr. Douglas' plant is truly distinct from this, having all the teeth narrow-subulate, as described by Mr. Nuttall. The leaves, too, are dotted with large pellucid glands, there are resinous brown glands on the calyx, and it forms an exceedingly compact shrub, with copious foliage, and very small rigid leaflets.

3. *A. canescens*; suffruticosa, humilis, ubique canescenti-tomentosa, foliolis ellipticis mucronatis approximatis, spicis subaggregatis, calycis dentibus ovatis acutis.—Nutt. in *Fraser's Cat. 1813. Pursh, Fl. Am. v. 2. p. 467. Nutt. Gen. Am. v. 2. p. 92. De Cand. Prodr. v. 2. p. 256.*

HAB. Abundant on the plains of the Red River, with the preceding. Douglas.—Leaves and calyx covered with a soft hoary tomentum. Flowers brilliant purplish-blue.

12. ROBINIA. *De Cand.*

Calycis dentes 5 lanceolati, 2 sup. breviores approximati. *Cor.* papilionacea *vevillo* amplo, *carina* obtusa. *Stam.* diadelpa decidua; *ovarium* 16–20-ovulatum. *Stylus* antice barbatus. *Legumen* compressum subsessile polyspermum, valvis planis tenuibus, sutura seminifera marginata.—Arbores *Boreali-Americanae*, *spinis stipularibus saepe donate*. *Folia impari-pinnata*, *foliis petiolulatis basi stipellatis*. *Flores albi aut rosei, in racemos axillares saepius nutantes dispositi*. *DC.*

1. *R. Pseudacacia*; *spinis stipularibus, ramis virgatis, racemis laxis pendulis leguminibusque glabris, foliolis ovatis*. *DC.*—*Linn. Sp. Pl. p. 1043. Lam. Ill. t. 606. f. 1. Mich. Arb.* (ed. Am.) v. 2. t. 76, *Am. v. 2. p. 65. Pursh, Fl. Am. v. 2. p. 487. Elliott, Carol. v. 2. p. 242, De Cand. Prodr. v. 2. p. 261. Bigel. Fl. Bost. ed. 2. p. 277.*

HAB. Canada. *Michaux; Pursh.* Plentiful in Upper Canada. *Douglas.*—This, the *False Acacia* or *Locust-tree*, in the rich soils, and with the genial summers of North America, produces a durable and valuable timber: but it is little suited to the soil and climate of Great Britain.

13. PHACA. *Linn.*

Calyx 5-dentatus, *dentibus* 2 superioribus remotioribus. *Carina* obtusa. *Stamina* diadelpa. *Stylus* imberbis. *Stigma* capitatum. *Legumen* subturgidum uniloculare, sutura superiore seminifera tumida.—*Herbæ foliis impari-pinnatis, racemis pedunculatis axillaribus. Legumina matura saepius resupinata.*

* *Floribus albidis aut ochroleucis.*

1. *P. frigida*; erecta, glabriuscula, parum ramosa, foliolis 4–5-jugis oblongo-ovatis subtus margineque pilosis, stipulis ovato-oblongis ciliatis foliaceis magnis, calycis ore pubescenti, leguminibus stipitatis oblongis inflatis membranaceis.—*europæa*; leguminibus hirsutis. *Linn. Syst. Nat. ed. 10. p. 1173. Fl. Lapp. ed. 2. p. 227. Jacq. Austr. t. 166. De Cand. Prodr. v. 2. p. 273.*—*P. alpina. Linn. Sp. Pl. p. 1064. Fl. Dan. t. 865.*—*β. Americana*; leguminibus glabris.—*P. frigida. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—*γ. littoralis*; calycibus leguminibusque nigro-hirsutis, caule humiliore, foliolis subtus pubescenti-incanis.

HAB. *β.* Woody regions of the Rocky Mountains in lat. 52° to 56°, to Slave Lake in lat. 61°. *Dr. Richardson and Drummond.*—*γ.* Arctic shores, westward of the Mackenzie River. *Capt. Sir John Franklin and Capt. Back*, to Cape Lisburne, in Behring's Straits. *Messrs. Lay and Collie in Capt. Beechey's Collection.*—This plant, as found in the woody regions of North America, is equal in size with the European, and differs only in its glabrous *legumina*. In the littoral Arctic regions it becomes much smaller, hoary, and very pale beneath, and with the whole calyx, as well as the seed-vessels, clothed with black hairs.

2. *P. elongata*; caule erecto angulato pubescente parce ramoso, foliolis 8–10-jugis oblongo-cuneatis retusis subtus incanis, stipulis parvis e lata basi acuminatis inferioribus coalitis, pedunculis folio multo longioribus, racemis elongatis laxis, calycibus sericeis, leguminibus corinceis cylindraceis curvatis sessilibus acutis.—*β. minor*; caule flexuoso.

Radix perennis. *Caules* plurimi, pedales, vel sesquipedales, erecti, stricti, in *β.* flexuosi, angulati, incano-pubescentes parce ramosi. *Folia* remota, digitalia; foliolis 8–10-jugis cum impari oppositis alternisve vix unciam longis oblongis, basi cuneatis brevissime petiolulatis, apice obtusis vel plerumque retusis, supra glabris, subtus

pubescenti-incanis, in junioribus sericeis. *Stipula* parva, inferiores subcuneatæ, superiores liberæ, duas uncias longæ, e lata basi sensim acuminatæ, subserricæ. *Pedunculi* axillares, solitarii, non raro spithamei, folio duplo triplove longiores, erecti, stricti. *Flores* in racemum elongatum laxè dispositi, patentes, demum deflexi. *Stipula* lineam longæ, subulate, sericeæ, pedicelli perbreves. *Calyx* cylindraceo-campanulatus, sericeus, ore obliquo, dentibus lato-subulatis brevibus. *Flores* parvi, albi vel ochroleuci, carina solummodo apice purpureo, ut videtur, tineta. *Stamina* diadelpa. *Germen* lineare, sericeum, rectum, subsessile, stylo subulato sursum curvato glabro duplo longius. *Legumen* naciale et ultra, sessile, coriaceo-cartilagineum, cylindraceum, sursum curvatum, hirsutum, apice acutum, uniloculare, 8-12-spermum, valvis intus spongioso-subhirsutis, suturis angustis equalibus, minime introflexis.

HAB. Plains of the Saskatchewan. Dr. Richardson; Drummond.

3. *P. flexuosa*; caule decumbente flexuoso angulato parce ramoso, foliolis 6-9-jugis lineari-oblongis obtusis supra glabris subtus appresso-pilosis, stipulis parvis e lata basi acuminatis, inferioribus coalitis, pedunculis folio longioribus, racemis elongatis laxis, calycibus subserricis, leguminibus coriaceis cylindraceis rectis sessilibus acutis.—*Astragalus flexuosus*. Douglas, MSS. in *Herb. Hort. Soc.*

HAB. Abundant on elevated and dry fertile soils of the Red River and Assinaboia, lat. 50°. Douglas.—The habit of this is very similar to the preceding, and I am doubtful if it ought not to be united with it. But the leaves are smaller and narrower, the "flowers are purplish and very fragrant," and the legumes are not only smaller than in *P. elongata*, but straight. What Mr. Douglas has considered as a white-flowered variety, I have referred to the latter species. The cell of the fruit is without a dissepiment, nor is there any introflexion or thickening of the sutures on either side of it.

4. *P. collina*; erecta vel diffusa, pilosa, foliolis 9-11-jugis linearibus obtusis basi in petiolulum brevem attenuatis, stipulis parvis oblongis acuminatis, pedunculis folio duplo longioribus, racemis oblongis densis floribus retrofractis, calycibus tubulosis dense hirsutis, leguminibus (immaturis) linearibus pubescentibus etipitatis deflexis.—*Astragalus collinus*. Douglas, MSS. in *Herb. Hort. Soc.*

Caulis erectus vel declinatus, ramosus, pedalis et ultra, teres, striatus, pubescenti-hirsutus. *Folia* remota, digitalia, subsessilia, 19-23-foliolata; foliolis remotis, unciam longis, angusto-linearibus, obtusis vel retusis, subtus præcipue pilis brevibus albis curvato-patentibus obsitis, basi in petiolulum brevem attenuatis. *Stipula* parva, oblonga, acuminatæ, subfoliaceæ. *Pedunculi* foliis subduplo longiores, pubescentes. *Racemi* 3-4 uncias longi, oblongi. *Flores* arcte dispositi, retrofracti. *Bracteæ* subulate, pedicellis erectis paululum longiores. *Calyx* oblongus, dense hirsutus, pilis pallidis, tubo elongato basi obtuso subgibboso, dentibus subulatis tubo triplo brevioribus. *Corolla* alba, macula magna ut videtur singulo petalo purpurea. *Vexillum* obovatum apice reflexum, alis carinaque longitudine subæquale. *Stamina* diadelpa. *Germen* lineare, stipitatum. *Legumen* (vix maturum) calyce plusquam duplo longius, lineare, compressum? submembranaceum, pubescens, uniloculare, basi in stipitem gracilem calycis longitudine, apicem stylo gracili sursum curvato terminatum, polyspermum.

HAB. On the subalpine range of the Blue Mountains, in dry soils. Fl. June, July, 24. Douglas.—This plant, which, on an inspection of its legumen, must be referred to the genus *Phaca*, rather than to *Astragalus*, where Mr. Douglas had placed it, is remarkable for its narrow linear leaves, for the sudden deflexion of the flower from the summit of the erect pedicel, for the elongated tube of the calyx, and for the short vexillum.

5. *P. pectinata*; glabriuscula, caule decumbente striato, foliis pectinatis rigidis, foliolis 8-10-jugis linearibus subacutis terminali nonnunquam bifido, stipulis hinc longitudinaliter unitis, racemis folio plerumque longioribus, leguminibus sessilibus ovalibus coriaceis

transversim rugosis, sutura superiore crassissima. (TAB. LIV.)—*Astragalus pectinatus*. Douglas, MSS. in *Herb. Hort. Soc.*—*β*. foliis filiformibus.

Caulis decumbentes, pedales, flexuosi, crassi, fistulosi, striati, glabriusculi, inferne subnudi. *Folia* remota, alterna, digitem longa, pectinato-pinnatifida (!) potius quam pinnata, dorso precipue appresso-subsericea. *Rachis* compressa nonnunquam furcata. *Foliola* opposita vel alterna, 6-8-10-juga sequiunciam vel duas uncias longa, linearia, in *β*. fere filiformia, rigidiuscula, subacuta, basi sessilia, minime articulata, cum substantia rachidis concreta, et ita persistentia, terminali nonnunquam bifido, axillis glandula flava cornea notatis. *Stipulae* mediocres, bi-tri-lineares, subtriangulati-acuminatæ, inferiores marginibus hinc unitæ, apice solummodo bifidæ, superiores liberæ magis angustiores. *Pedunculi* axillares, solitarii, crassi, striati, glabriusculi, folium subsequentes. *Racemus* lato-ovatus, sub-13-florus. *Flores* magni, albi. *Bractea* minutæ, ovato-acuminatæ, pedicellis paululum breviores. *Calyx* cylindraceo-campanulatus, oblique 5-dentatus, pilosus, pilis sparsis, nigris, appressis: *dentes* breves. *Vexillum* ovatum, attenuatum, obtusum, alis multo longioribus, lateribus reflexis. *Ala* oblongæ, subacuminatæ, unguiculatæ. *Carina* obtusa, alis brevior. *Stamina* diadelpa, 1-9. *Germen* linear-oblongum, glabrum, stylo subulato-filiformi glabro triplo brevius. *Stigma* parvum, capitatum. *Legumen* ovale, sessile, inflatum, crassum, coriaceo-cartilagineum, stylo curvato rigido persistente terminatum, uniloculare, 12-14-spermum, bivalve, valvis intus spongiosis, extus profunde transversim rugosis sutura superiore crassissima. *Semen* rotundato-reniforme, podospermo elongato.

HAB. Pastures of the Saskatchewan, Drummond; and on the Red-Deer and Eagle Hills, bordering on that river. Douglas.—This is a very remarkable species of *Phaca*, differing from all its congeners in the great length of the flowers, in the singularly thick and wrinkled fruit, and above all, in the structure of its leaves. The leaflets do not appear to be jointed upon the rachis, but to form a continued substance with them, and to be rather deeply-pinnatifid in a pectinated manner, than really compound and pinnated. In proof of this, the upper leaflet, which is, as it were, a prolongation of the rachis, is sometimes forked, and the rachis itself I have observed to be so in two or three instances. The leaflets are therefore persistent, and remain upon the withered rachis, like the segments of a simple leaf. Notwithstanding this peculiarity of structure in the foliage, there is nothing, I think, in the fructification, that would justify a separation of the plant from *Phaca*.

TAB. LIV. *Phaca pectinata*. Fig. 1, Flower; fig. 2, Stamens and pistil; fig. 3, Ala and carina; fig. 4, Pistil; fig. 5, Legumes:—natural size. Fig. 6, Single legume; fig. 7, Legume, bursting open; fig. 8, Seed, with its stalk:—all but fig. 6, more or less magnified.

6. *P. podocarpa*; canescens, valde ramosa, diffusa, caule ramisque strintis, foliis 6-9-jugis lato-linearibus obtusis, stipulis parvis ovatis acuminatis, pedunculis folio longioribus, racemis laxis, leguminibus oblongis coriaceis compressis appresso-hirsutis acuminatis basi in stipitem longum attenuatis, suturis incrassatis.

Radix perennis. *Caulis* diffusi, subpedales, valde ramosi, striati, flexuosi, superne precipue pubescentes. *Folia* 4-5 uncias longa; foliolis 13-19 parvis, remotis, 6-7 lineas longis, linearibus seu lato-linearibus, sessilibus, obtusis, supra glabris, subtus appresso-pubescentibus. *Pedunculi* axillares, folio parum breviores, pilis brevibus appressis obtiti. *Racemi* laxi. *Flores* mediocres, albi. *Calyx* cylindraceo-campanulatus, pubescenti-scaber; ore oblique 5-dentato. *Ala* carina sublongiores, vexillo breviores. *Germen* lineare, sericeum, stipitatum, superne in stylo filiformi sursum curvato attenuatum. *Stigma* obtusum. *Stamina* diadelpa 1, 9. *Legumen* valde coriaceum, rigidum, cano-hirsutum (vix maturum,) compressum, uniale, basi in stipitem æque longum attenuatum, apice acuminatum, uniloculare, 12-14-spermum; suturis valde incrassatis, superiore recta, inferiore arcuata. *Semina* podospermo elongato.

HAB. Dry, sandy, and barren grounds, at the Great Falls of the Columbia, rare. 1825. Fr. June—August.—This stands marked, in Mr. Douglas' collection, as a new genus; and there is indeed something very remarkable in the appearance of its legumes, compressed as they are and thickened at the sutures, both above and below, and borne upon a stalk as long as themselves. But it possesses all the essential characters of *Phaca*, where I therefore place it.

7. *P. nigrescens*; obscure appresso-pilosa, caule erecto vel decumbente ramoso striato, foliolis 8-10-jugis oblongis obtusis basi subcuneatis, racemis folio plerumque longioribus, stipulis parvis ovatis subacutis basi connatis, calycis dentibus tubo paulo brevioribus, leguminibus stipitatis oblongis membranaceis compressis glabris.

Radix perennis. *Caules* nunc erecti strictiusculi, nunc decumbentes flexuosi, striati, ramosi, sæpe purpurascens, parce pilosi, pilis albis sparatis appressis. *Folia* remota, digitalia. *Foliola* 17-21, plerumque opposita, vix unciam longa, oblonga, obtusa, basi subcuneata, viridia, in planta sicca fructifera nigrescentia, supra glabra, subtus appresso-pilosa. *Bractea* ovata, acuminata, parva; inferiores connatae, bifidae. *Racemi* axillares, elongati, laxi, brevissime pedunculati, foliis vix excedentes, demum fructiferi longiores. *Flores* parvi. *Bractea* lanceolata, acuminata, membranacea, pedicellis brevibus longiores ciliata. *Calyx* campanulatus, superne præcipue pubescens, 5-dentatus; *dentibus* lato-subulatis, tubo subaeque longis. *Corolla* alba vel ochroleuca. *Germen* lineare, glabrum, stipitatum, stipite tubi calycis longitudine, stylo sursum curvato brevius. *Legumina* uncialia, nutantia, fusco-nigrescentia, oblonga, valde compressa, membranacea, glabra, basi in stipitem calycem duplo longiorem attenuata, apice stylo curvato terminata, plerumque recta, nonnunquam paululum falcato-curvata.

HAB. On the Saskatchewan, to the Rocky Mountains, and as far north as Fort-Franklin, on the Mackenzie River, in lat. 65°. *Dr. Richardson; Drummond.*—Although extremely plentiful in the localities just mentioned, the present *Phaca* does not seem to have been known to any author. Its habit, like many of the North American *Phaca*, is similar to that of several species in that division of *Astragalus* to which *A. canadensis* belongs; but the seed-vessel is here truly that of the present genus, though considerably compressed.

8. *P. ? cæspitosa*; acaulis, cæspitosa, sericeo-nitens, foliis trifoliolatis longe petiolatis, foliolis lanceolatis, stipulis magnis ovatis albo-membranaceis tenerrimis, floribus aggregatis sessilibus, leguminibus oblongo-ovatis teretibus sericeis calyce tectis. (TAB. LV.)—*Nutt. Gen. Am. v. 2. p. 98. De Cand. Prodr. v. 2. p. 274.*—*Astragalus triphyllus. Pursh, Fl. Am. v. 2. p. 740.* (non *Pall.*)

Radix perennis, crassa, fusiformis, sublonge descendens, apice multiceps: sed caules nulli vel brevissimi cæspitosi. *Folia* numerosa, longe petiolata, undique pulcherrime sericeo-villosa, nitentia, 3- (5, *Nutt.*) -foliolata, foliolis digitatis sessilibus lanceolatis basi attenuatis apice acutis. *Stipulae* ad basin petioli, magnæ, ovatae, membranaceæ, albae, tenerrimæ, cito laceratae. *Flores* aggregatae, sessiles ad basin foliorum. *Corollam perfectam* non vidi. *Calyx* cylindraceo-campanulatus, villosus, ore 5-dentato, dentibus subulatis. *Legumen* oblongo-ovatum, teres, coriaceo-membranaceum, sericeum, sessile, apice in stylum filiformem flexuosum attenuatum, calyce persistente fere omnino tectum, uniloculari, intus subpongiosum. *Semina* subdecem, rotundato-reniformia, podospermo longiusculo suffulta.

HAB. Between Carlton-House and Edmonton-House, on the Saskatchewan. *Dr. Richardson; Drummond.*—The whole habit and the inflorescence of this plant are so much at variance with those of *Phaca*, that I cannot but consider it a very doubtful species of this genus. The fruit, however, accords with it. *Pursh*, who first described it under the name of *Astragalus triphyllus*, and whose short character perfectly agrees with our plant, seems to have had specimens, like my own, without flowers. He gives it as a native of Upper Louisiana, on the authority of *Bradbury*. *Nuttall* describes the corolla as ochroleucous: the leaves as sometimes quinate, (which I do not find to be the case,) and he does not notice the beautifully silvery hue of the whole plant, but calls it "canescently villous." His specimens are from gravelly hills near the confluence of the Sawanee River with the Missouri.

TAB. LV. *Phaca? cæspitosa.* Fig. 1, Withered flower; fig. 2, Legume enveloped by the calyx; fig. 3, Legume removed from the calyx; fig. 4, Legume laid open; fig. 5, Seed; fig. 6, Leaf:—all more or less magnified.

* * *Floribus purpurascensibus aut albo et violaceo pictis.*

9. *P. Aboriginum*; pubescenti-cana, caule erecto parce ramoso striato, foliolis sub-5-

jugis oblongo-lanceolatis obtusiusculis, stipulis ovatis acutis inferioribus connatis majusculis, leguminibus tenui-stipitatis oblique ellipticis acutis membranaceis glabris. (TAB. LVI.)—*Astragalus* Aboriginorum. *Rich.* in *Frankl. 1st Journ. ed. 2. App. p. 28.*

"*Radix* teres, longa, flavescens, Glycyrrhizæ similis, e qua surgunt *caules* plures pedales, suffruticosi, erecti, graciles, simpliciusculi, pilis mollibus canescentes. *Folia* sessilia (aut brevi-petiolata) pinnata, pube canescenti ut in caule sed longiori et densiori; *rachide* bipollicari filiformi; *foliis* plerumque 11, pollicaribus, sessilibus, linearibus lanceolatisve obtusiusculis basi attenuatis, utrinque concoloribus, nunc alternis nunc oppositis rariusve verticillatis; *stipulis* cauliniis: inferioribus connatis ovatis acutis; superioribus magis distinctis acuminatis. *Pedunculi* axillares foliis duplo longiores, pilosi. *Racemus* erectus, latus, 15-20-florus, pedicellis erectis calyce et bractea subulata pilosa brevioribus. *Calyx* nigrescenti-pilosus, laciniis quinque subulatis æqualibus: superioribus sinu obtuso separatis. *Corolla* albidæ cærulescensve carina saturate cærulea. *Vexillum* ungue lato horizontali calyce breviori, limbo obcordato erecto. *Alæ* vexillo breviores, *carina* paulo longiores, ungue tenui lineari, limbo oblongo emarginato ad basin lobo lineari obovato tucto. *Carina* obtusa, calyce tertia parte longior. *Legumen* immaturum oblongum, pilis canis adpressis tectum, (nunc glabrum,) pedicello longitudine calycis sustentatum, *stylo* brevi incurvo capitate terminatum. *Semina* 14." *Rich.* *Legumen* (maturum) uniloculare, rotante, unciam sesquiquinciam longum, inflatum, membranaceum, obscure reticulatum, glabrum, subellipticum, acutum, stylo brevi terminatum, inferne in stipitem gracilem calyce duplo longiorem attenuatum, sutura hinc plana, marginibus paululum introflexis, illinc curvata. *Semina* subrotundo-reniformia, levia, fusco-olivacea, *podospermo* brevi.

HAB. From Lake Winnipeg to the Rocky Mountains, and as far north as Bear Lake, in lat. 66°. *Dr. Richardson; Drummond.*—"The Crees and the Stone Indians gather its roots in the Spring as an article of food." *Rich.*—"After the excellent description above-quoted, made from the recent plant, I have little to remark. The perfect fruit, which was unknown to Dr. Richardson, has now been seen in abundance, and proves the genus to be *Phaca*, rather than *Astragalus*."

TAB. LVI. *Phaca* Aboriginorum. *Fig. 1*, Raceme of fruit:—*natural size.* *Fig. 2*, Flower; *fig. 3*, Alæ and carina; *fig. 4*, Stamens and Pistil; *fig. 5*, Pistil; *fig. 6*, Legume:—*natural size.* *Fig. 7*, Transverse section of do.:—all but *figs. 1* and *6*, more or less magnified.

10. *P. glabriuscula*; glabra vel pilis raris minutis sparsa, caule erecto subsimplice striato, foliolis 5-6-jugis lineari-lanceolatis subacutis, stipulis ovatis acutis inferioribus connatis majusculis, leguminibus sublonge stipitatis lanceolato-falcatis (vix maturis) compressis membranaceis glabris.

HAB. Valleys of the Rocky Mountains. *Drummond.*—General aspect very similar to the preceding, of which it may perhaps be a variety; but it is almost entirely, and especially in the leaflets, glabrous; smaller too in all its parts, and the fruit is much narrower, more falcate, and, in the scarcely mature state, exceedingly compressed. It seems to be rare, as very few specimens were gathered, but those are both in flower and fruit.

11. *P. elegans*; subglabra, caule subramoso erecto vel assurgente angulato, foliolis 5-7-jugis oblongis obtusis basi cuneatis supra glabris subtus pilis minutis appressis, stipulis ovatis acutis basi subconnatis, racemo compacto longe pedunculato folium excedente fructifero elongato, leguminibus sessilibus ellipticis inflatis membranaceis, nigro-lutinis apiculatis 3-5-spermis.—*β. minor*; caule ascendente minore, racemo brevior.

HAB. Prairies in the Rocky Mountains, and *β.* on the higher summits of the mountains. *Drummond.*—This grows in the plains to the height of a foot, or a foot and a half, erect, having leaflets nearly an inch long, somewhat glaucous beneath, flowers bright and deep purplish-blue, in a compact raceme; these racemes elongate considerably as the fruit ripens, and bear ovate, very densely hairy, blackish legumes, about three-fourths of an inch long. *Var. β.* is smaller in all its parts, has smaller and rounded racemes, with more

patent flowers, and approaches the *P. astragalina*; but its flowers are always considerably smaller, of a far deeper colour, and the leaflets are much narrower. It is a very elegant species.

12. *P. astragalina*; caule (breviusculo) ascendente hirsutulo, foliolis 8–10-jugis ovalibus subtus præcipue hirsutis, stipulis ovatis fere liberis, pedunculis folio longioribus, floribus capitato-racemosis patentibus, leguminibus inflatis stipitatis pendulis ellipticis nigro-hirsutis.—*De Cand. Astr. p. 52. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28. De Cand. Prodr. v. 2. p. 274.*—*Astragalus alpinus. Linn. Sp. Pl. p. 1070. Pursh, Fl. Am. v. 2. p. 472.*—*A. montanus. Jacq. Fl. Austr. t. 131.*

HAB. From Newfoundland and Labrador (*Mr. Morrison*) on the east, to the Rocky Mountains (*Drummond*) and Kotzebue's Sound (*Lay and Collie*) on the west; and to the extreme Arctic regions in the north. *Dr. Richardson; Capt. Sir E. Parry, &c.*

13. *P. bisulcata*; caule subdecumbente glabriusculo, foliis subsessilibus, foliolis 11–13-jugis ellipticis subtus appresso-hirsutis, stipulis ovatis acutis liberis, racemis pedunculatis valde elongatis, floribus nutantibus, leguminibus pendulis stipitatis linearicylindræcis hinc bisulcatis appresso-pubescentibus.

HAB. Plains of the Saskatchewan. *Drummond.*—Stems 1 to 2 feet long, scarcely branched. Leaves 4 to 6 inches long. Leaflets an inch long. Racemes, including the peduncle, 6 to 8 or 10 inches in length, with numerous closely-placed, drooping, rich purple flowers, nearly an inch long; carina and ala pale at their base. Legumes pendent, an inch long, between membranaceous and cartilaginous, narrow, cylindrical, acute at the point, with the style often deciduous, at the base attenuated into a stipes as long as the calyx, one-celled, but having two furrows on the upper side, one on each side of the suture, which form two prominent ridges within the cell. Seeds 5–6, reniform, each upon a slender stalk of about its own length.

14. OXYTROPIS. DC.

Calyx 5-dentatus. *Corollæ carina* in mucronem exsertum summo dorso desinens. *Stamina* diadelphæ. *Legumen* biloculare aut semi-biloculare, sutura superiore introflexa. —Herbæ foliis impari-pinnatis, pedunculis axillaribus radicalibusve, floribus spicatis. DC.

1. ACAULES, nempe caulibus subnullis, stipulis petiolo foliolis more solito conjugatis nec verticillatis.

* *Floribus purpurascensibus aut albis.*

1. *O. borealis*; subcaulis, pilis scaporum stipularumque setosis patulis, petiolorum paucis, foliolis elliptico-lanceolatis subtus glabris superne pilosis, scapis folii longitudine, floribus capitatis, bracteis calycis nigro-hispidissimi longitudine. *De Cand. Prodr. v. 2. p. 275.*

HAB. Kotzebue's Sound. *Lay and Collie.*—The specimens from Capt. Beechey's Collection precisely accord with those sent me from the opposite side of Behring's Straits, by Dr. Fischer. One of the individuals has some, apparently monstrous, bracteæ, which are foliaceous, and longer than the flowers.

2. *O. Uralensis*; acaulis, villosa, vix sericea, foliolis oblongo-lanceolatis, scapis folio longioribus calycibusque hirsuto-lanatis, capitulis multifloris ovatis, floribus patulis, bracteis infimis calyce longioribus cæteris huic æqualibus, leguminibus subdistantibus erectis ovatis acuminatis bilocularibus. *De Cand. Prodr. v. 2. p. 276. Rich. in Frankl. 1st Journ. ed. 2. App. p. 98.*—*Astragalus Uralensis. Linn.—Jacq. Ic. Rar. v. 1. t. 155.*

Engl. Bot. t. 46. Hook. in Parry's 1st Voy. App. p. 395.—*β. subsucculenta*; foliis fere glabris.—*γ. minor*; glabriuscula, floribus paucis patulis purpurascens.

HAB. *α.* Arctic regions and Islands. *Dr. Richardson*; *Capt. Parry*, &c. *β.* Arctic sea-shore to the east of the Mackenzie River. *Dr. Richardson*. *γ.* Dry hills and prairies of the Rocky Mountains. *Mr. Drummond*. Labrador. *Mr. Morrison*.—This, it must be allowed, is a very variable plant; nor am I without specimens which exhibit a gradation between it and the following species. *Var. α.* has the leaves very free from hairs, and somewhat fleshy.

3. *O. arctica*; subacaulis, sericea, stipulis petiolaribus, foliolis oppositis alternisque ovali-oblongis, capitulo subumbellato paucifloro, leguminibus erectis oblongis acuminatis calycibusque nigro-pubescentibus. *Br.*—*α. subumbellata*; capitulis 2-4-floris. *O. arctica. Br. in App. to Parry's 1st Voy. p. cclxxviii. Hook. in Parry's 2d Voy. App. p. 396. De Cand. Prodr. v. 2. p. 276.*—*O. Uralensis, β. microphylla. Un. Itin.*—*β. minor*; dense sericea, floribus solitariis. *Hook. in Parry's 2d Voy. l. c.*—*δ. inflata*; foliis leguminibusque inflatis glabriusculis.

HAB. *α.* and *β.* Arctic shores and Islands of North America. *Capt. Sir E. Parry*; *Dr. Richardson*; *Capt. Sir John Franklin*; *Capt. Back*, &c. Labrador. *Mr. Morrison*. Kotzebue's Sound. *Messrs. Ley and Collie*. *δ.* Highest summits of the Rocky Mountains. *Drummond*.—The specimens given in the "*Unio Rineraria*" collection, from Cambre d'Azé and the Vallée d'Eynes in the Pyrénées, under the name of *O. Uralensis, β. microphylla*, exactly correspond with the more usual state of our plant. *Mr. Drummond's var.* from the most elevated ridges of the Rocky Mountains has the leaves, especially the old ones, nearly glabrous, the leaflets narrow; the legume greatly swollen, or inflated, thin and membranaceous, scarcely at all hairy.

4. *O. foliolosa*; acaulis, incano-villosa, foliis numerosis, foliolis approximatis ovatis seu oblongo-ovatis subacutis, scapis folio longioribus pilosis, capitulis late ovatis (parvis), floribus congestis patentibus inferioribus reflexis, bracteis lineari-lanceolatis calyce nigro-hirsuto brevioribus, leguminibus remotiusculis deflexis (vix maturis) cylindraceis acutis nigro-hirsutis.

Radix perennis, subfusiformis, sublonge descendens, apice fibroso-ramosa, superne multiceps. *Folia* numerosa, radicalia digitem longa, erecta vel erecto-patentia; *foliola* 23-25, subarcte-approxinata, ovata, seu oblongo-ovata, 3-4-lineas longa, acuta, una cum rachide subappressim pilosa. *Petioli* ad basin patentipilous. *Stipulae* lanceolatae, acuminatae, sublonge pilosae. *Scapi* plurimi ex eadem radice foliis longiores, demum fructiferi, duplo longiores, pubescenti-pilosi, pilis ad basin longioribus magisque patentibus. *Capitula* late ovata seu subglobosa, ratione plantae parva, floribus oomactis, patentibus, inferioribus reflexis. *Bractea* herbacea, lineari-lanceolata, pilosae, calycibus nigro-pilosis breviores. *Dentes calycini* subulati, tubi longitudine. *Petala* intense caeruleo-purpurascens, basi fere alba. *Carina* obtusa cum mucrone conspicuo subrecurvo. *Legumina*, vix matura, omnia pendencia, unciam longa, fere exacte cylindracea, acuta, dense nigro-pubescenti-hirsuta, basi in stipitem calycis tubo breviorum attenuata.

HAB. From Carlton-House to the Rocky Mountains, in lat. 54°.—This very elegant species of *Oxytropis* has an affinity on the one hand with *O. montana*, and on the other with *O. caerulea*; agreeing with both in the general shape of the leaflets, and their regular and close insertion upon the rachis, and in the deep-blue colour of the flowers, pale at the base of the petals. From the former it differs in its more compact and tufted growth, smaller heads, and smaller and more patent flowers, and in the drooping, cylindrical, very black, and hairy legumes; from the latter, in its less silvery foliage, more obtuse leaflets, and far shorter and more compact heads of flowers.

5. *O. argentata*; acaulis, foliolis obovato-lanceolatis sericeo-argenteis, scapis folia

æquantibus, floribus capitatis, bracteis lanceolatis longitudine calycis sericei.—*Pursh, Fl. Am. v. 2. p. 473. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—*Astragalus argentatus. Pall. Astr. p. 69. t. 48. (non A. Missouriensis, Nutt. fide Cl. Rich.)*

HAB. Woody country between lat. 54° and 64° north.—Of this species I have seen no specimen.

6. *O. Lamberti*; acaulis, sericeo-pilosa, foliolis lanceolatis acutis remotiusculis, scapo foliis sublongiore, floribus spicatis capitatisve, bracteis lanceolato-linearibus calyce sericeo brevioribus. *DC.—Pursh, Fl. Am. v. 2. p. 740. De Cand. Prodr. v. 2. p. 277. Nutt. Gen. v. 2. p. 98.*—*α. floribus majoribus remotioribus patentibus.*—*O. Lamberti. Sims in Bot. Mag. t. 2147. Lindl. in Bot. Reg. t. 1054.*—*β. foliolis brevioribus, floribus minoribus congestis erectis.*

HAB. *α.* Canada, *Lady Dalhousie; Mrs. Percival; Mrs. Sheppard.* *β.* Dry banks on the Red River and Saskatchewan, (*Douglas.*) to the Prairies in the vallies of the Rocky Mountains. *Drummond.*—My Canadian specimens from *Lady Dalhousie* and *Mrs. Percival* much more resemble the figures in the *Botanical Magazine* and *Register*, than those from the more western parts of North America: and certainly, as Mr. Lindley observes, approach the *O. grandiflora*, as they do also the *O. ambigua*; both natives of Siberia. Nor is this species far removed, or readily distinguished by words, from some states of *O. Uralensis*.

7. *O. nigrescens*; subacaulis, multiceps, procumbens, foliolis 7–11 ellipticis acutiusculis villosis, stipulis calycibusque nigro-villosis, pedunculis bifloris folii longitudine, leguminibus (ex *Pall.*) oblongis inflatis pubescentibus unilocularibus.—*Fisch. MSS. De Cand. Prodr. v. 2. p. 278.*—“*Astragalus nigrescens. Pall. Astr. p. 65. t. 53.*”

HAB. Island of St. Lawrence, in Behring's Straits. (*De Cand.*)—According to the description this must be very nearly allied to *O. arctica*.

* * *Floribus ochroleucis.*

8. *O. campestris*; acaulis, foliolis multijugis lanceolatis sericeis, scapo sæpius decumbente foliis subæquali (vel longiore), spicis capitatis (nunc elongatis), bracteis calyce paulo brevioribus, floribus erectis, leguminibus erectis ovatis (oblongisve) inflatis pubescentibus semibilocularibus.—*De Cand. Prodr. v. 2. p. 278. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—*Astragalus campestris. Linn.—Engl. Bot. t. 2522.*—*Phaca campestris. Wahl.*—*γ. sulphurea; DC.?* foliolis latioribus, spicis capitatis, floribus majoribus speciosis.—*O. sulphurea. Fischer, MSS.—δ. spicata; spicis elongatis, floribus remotioribus.*—*ε. glabrata; foliolis glabriusculis subsucculentis.*—*ξ. melanocephala; minor, calycibus nigro-villosis.*

HAB. *α.* and *β.* Carlton-House on the Saskatchewan to the Rocky Mountains, (*Drummond.*) and as far as the sources of the Columbia. *Douglas.* *ι.* and *ξ.* Bear Lake to the Arctic shores and Islands. *Dr. Richardson; Capt. Sir J. Franklin and Capt. Back; Capt. Sir E. Parry, &c.*—In the degree of pubescence, in the form of the leaflets, in the colour of the hairs of the calyx, and size of the flowers, this plant is very variable. The var. *γ. sulphurea*, corresponding almost exactly with the *O. sulphurea* of Dr. Fischer, (the *O. campestris γ.* of De Candolle,) is exceedingly beautiful, not only in the silkiness of its foliage, but in the size and brightness of the corollas.

2. VERTICILLARES, nempe foliolis omnibus aut plerisque subverticillatis seu ex eodem petioli puncto 2–3 ortis. *DC.*

9. *O. splendens*; acaulis, foliolis 3–4^m verticillatis lanceolatis acutissimis sericeo-

pilosis, scapo foliis longiore petiolisque patentim pilosis, spicis elongatis, floribus subremotis erecto-patentibus bractea longioribus, calycibus albo-hirsutissimis, leguminibus erectis ovatis acuminatis pubescenti-hirsutis semibilocularibus.—*α. vestita*; valde hirsuto-sericea, bracteis hirsutissimis calyce multo longioribus. *O. splendens*. *Douglas, MSS. in Herb. Hort. Soc.*—*β. Richardsoni*; minus hirsuta, bracteis vix longitudine calycis.—“*O. oxyphylla*”? *Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.* (not *Pall.* and *De Cand.*)

HAB. *α.* On limestone rocks of the Red River, and south towards Pembina. *Douglas.* *β.* From Cumberland-House on the Saskatchewan, north to Fort-Franklin and the Bear Lake, and west to the dry Prairies of the Rocky Mountains. *Dr. Richardson; Drummond.*—This belongs to the same groupe of “*Verticillares*” with the true *O. oxyphylla* of Pallas, which I possess from Pallas' Herbarium, through the kindness of Mr. Lambert; and which is at once distinguished from this by its short, broad, and compact head of flowers. It well deserves the name which Mr. Douglas has given it. Its blossoms are bright-blue, in long spikes. In *Dr. Richardson's* specimens, the fruit greatly exceeds the calyx in length; in *Mr. Douglas's*, it is shorter; but as many of the flowers among the latter are abortive, I suspect that the fruit is imperfect too.

3. CAULESCENTES, *nempe caulibus elongatis fruticosis, stipulis caulinis nec petiolo adnatis, foliolis conjugatis nec verticillatis.* *DC.*

10. *O. deflexa*; caulescens, adscendens, pilosiuscula, foliolis ovato-lanceolatis pubescentibus, pedunculis folio multo longioribus, floribus spicatis, leguminibus pendulis hirsutis 1-locularibus apice hiantibus.—*De Cand. Astr. n. 32, Prodr. v. 2. p. 280. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—*Astragalus deflexus.* “*Pall. Act. Petr. 1776. t. 15.*” *L'Hérit. Stirp. t. 80.*—*A. hians. Jacq. Ic. Rar. t. 252.*—*A. parviflorus. Lam.—A. retroflexus. “Pall. Astr. t. 27.”*

HAB. Banks of the Saskatchewan. *Dr. Richardson; Drummond.*—The flowers of this species are very small; its fruit large and pendulous. The American specimens exactly agree with those in my Herbarium from Lake Baikal.

15. ASTRAGALUS. *DC.*

Calyx 5-dentatus. *Corolla* carina obtusa. *Stamina* diadelpa. *Legumen* biloculare aut semibiloculare, sutura inferiore inflexa.—*Herbæ aut suffrutices.* *DC.*

1. PURPURASCENTES, *stipulis a petiolo liberis, floribus purpurascensibus.* *DC.*

* HYPOGLOTTIDEI, *floribus purpureis aut albis, stipulis a petiolo liberis inter se coalitis et ideo quasi bifidis et oppositifoliis.* *DC.*

1. *A. hypoglottis*; diffuso-procumbens, subpilosus, stipulis (junioribus) concretis oppositifoliis, foliolis elliptico-oblongis 8-12-jugis, pedunculis folio longioribus, spicis capitatis, floribus densis erectis, bracteis calyce nigro-piloso brevioribus, leguminibus erectis capitatis ovatis valde hirsutis, loculis plerumque monospermis.—*Linn. Mant. v. 2. p. 274. Engl. Bot. t. 274. Nutt. Gen. Am. v. 2. p. 99. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28. De Cand. Astr. t. 14.*—“*A. arenarius. Pall. Astr. t. 34.*”—*β. caulibus foliolisque longioribus, calycibus pallidioribus.* *A. agrestis. Douglas, MSS. in Herb. Hort. Soc.*

HAB. *α.* Dry hills of the Saskatchewan, *Drummond*; and on the Eagle and Red-Deer Hills of that River. *Douglas.* *β.* On the fertile plains of the Red River, and in the south, towards Pembina. *Douglas.*—*α.* is the more frequent American form of this plant. The var. *β.* differs in its more luxuriant growth, and

almost exactly resembles a plant which I possess from the Altai, sent to me by Mr. Prescott, and marked "Astragalus *hypoglottidii* affinis, sed legumina polysperma, sem. 4-8." It approaches the *A. onobrychioides*.

2. *A. pauciflorus*; decumbens, incanus, appresso-pilosus, stipulis concretis oppositifoliis inferioribus integris, foliolis 3-5-jugis oblongis acutis, pedunculis folio subterioribus 2-4-floris, floribus (parvis) laxe racemosis, bracteis pedicelli longitudine, calycis albo-pilosi dentibus tubum æquantibus.

Radix longe descendens, subfusiformis, lignosa, apice divisa, superne caulibus pluribus inferne ramosis decumbentibus vel prostratis digitalibus ad pedalibus gracilibus incanis instructa. *Folia* etiam incana, pills brevibus albis appressis; *foliolis* 7-11, 3-raro 4-lineas longis oblongis, vel lineari-oblongis, raro ellipticis, acutis. *Stipule* quasi oppositifoliæ accrete, inferioribus integris superioribus sensim magis profunde bifidis foliaceo-membranaceis, appresso-pilosis. *Pedunculi* subnunciam vel æsquiunciam longi, folia vix longitudine excedentes incani. *Racemi* 2-3-4-flori, floribus laxis parvis patentibus. *Bractea* lineari-lanceolata, pedicelli longitudine. *Calyx* brevi-campanulatus, villosus, pills appressis albis; dentibus subulatis, tubum longitudine æquantibus. *Petala* (siccitate) intense cærulea; vexillo subpurpurascente; alis carinaque obtusa inferne fere albidis. *Germen* oblongum sericeum. *Legumen* ignotum.

HAB. Among rocks in the more elevated regions of the Rocky Mountains. *Drummond*.—This species, so very different from any with which I am acquainted, belongs to the same division of the genus with *A. hypoglotidis*, and should perhaps be placed near to it. It is distinguished by its hoary stems and leaves, by the small number of leaflets, by its few-flowered racemes, and small patent flowers on pedicels, which are about as long as the bractes.

3. *A. vaginatus*; erectus, pubescens, stipulis concretis oppositifoliis, foliolis lineari-lanceolatis acutis, pedunculis folio longioribus, floribus dense spicatis nutantibus, leguminibus linearibus rectis. DC.—"Pall. Astr. n. 49. t. 36." *De Cand. Prodr. v. 2. p. 283. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*

HAB. Woody country, between lat. 54° and 64° north. *Dr. Richardson in Frankl. 1st Journ.*—The habit of this is so very similar to that of our *Phaca Aboriginum*, (*Astragalus Aboriginum*, Rich., next to which Dr. Richardson has ranged it,) that were the fruit discovered, it would probably prove to be a *Phaca* also. The only specimen I have seen, has the flowers larger than in *P. Aboriginum*.

* * ONOBRYCHOIDEI, stipulis a petiolo et inter se distinctis, floribus purpurascensibus dense spicatis capitatisve, vexillis linearibus elongatis, leguminibus rectis vel falcatis, radicibus perennibus (an semper?) DC.

† *Leguminibus rectis.*

4. *A. adsurgens*; elongatus, adscendens vel prostratus, glabriusculus, foliolis 8-12-jugis oblongis, stipulis ovatis acuminatis membranaceis, pedunculis folio longioribus, spicis oblongis ovatis rotundatisve, floribus densis erectis, vexillo alis vix 1-3 longiore, leguminibus erectis compactis oblongis subtriquetris hinc sulcatis appresso-pubescentibus vix calyce nigro-hirsuto longioribus.—"Pall. Astr. n. 44. t. 31." *De Cand. Prodr. v. 2. p. 287.*—A. Laxmanni. *Pall. Astr. t. 30?* (fide DC.) *Jacq. Hort. Vind. v. 3. t. 37?* (sed spicis elongatis et foliolis angustioribus.) *De Cand. Prodr. v. 2. p. 287.*—*β. robustior*; calycibus albedo-pilosis, pills nigris perpancis. A. nitidus. *Douglas, MSS. in Herb. Hort. Soc.*

HAB. α. Plains of the Assinaboin and Saskatchewan Rivers, as far as the mountains. *Dr. Richardson; Drummond; Douglas.* β. Common in the mountain-vallies, from the Kettle Falls to the sources of the

Columbia, on the West side of the Rocky Mountains. *Douglas*.—I possess the Asiatic *A. adurgens* and *A. Lazmanni* from Dr. Fischer and Mr. Prescott; but I am unable to distinguish them specifically. Our specimens from America seem to be identical with them. *Flowers* purple-blue.

5. *A. Labradoricus*; caulescens, procumbens, foliolis ovatis pubescentibus, spicis pedunculatis, leguminibus secundis rectis utrinque acuminatis pendulis. *Ph.—De Cand. Prodr. v. 2. p. 287.*—*A. secundus. Mich. Am. v. 2. p. 67. Pursh, Fl. Am. v. 2. p. 473.* (not *De Cand.*)

HAB. North of Canada. *Michaux. Labrador. Colmaster, (in Pursh).*—The flowers are described as purple. With the imperfect characters of this plant given in Michaux and Pursh, it is impossible to say whether it ought not to be referred to some well known-species.

6. *A. melanocarpus*; incano-sericeus, caulibus brevibus decumbentibus, stipulis ovatis acutis, foliolis 8–10-jugis ovalibus utrinque acutis nunc obovatis obtusis, racemis capitatis laxis 6–8-floris folio longioribus longeque pedunculatis, floribus patentibus, leguminibus patentibus-elliptico-oblongis coriaceis subunilocularibus nigro-fuscis rugosis.—*A. melanocarpus. "Fraser's Cat." Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—*A. Missouriensis? Nutt. (excl. syn. A. argentata, Pursh.)*

Radix lignosa, subfusiformis, sublonge descendens, parce ramosa. *Caulis* plurimi, decumbentes, breves, 3–4 uncias longi, suffruticosi, superne præcipue lucani, foliosi. *Folia* subdigitem longa; *foliolis* 8–10-jugis, plerumque oppositis, 3–5-linearibus utrinque petioloque pilis numerosis brevibus sericeis appressis, incanis, nitidis, ovalibus, utrinque acutis, nunc obovatis, obtusis. *Pedunculus* folio longior, incanus. *Racemus* ovalis, laxis, 5–9-florus; floribus maiusculis cæruleo-purpureo-roseis albisque. *Bractea* lanceolato-subulata, pedicellis brevibus longiores. *Calyx* oblongus, pilis albidis appressis subsericeis, dentibus subulatis tubo subdimidio brevioribus. *Vexillum* carina alisque longius. *Legumen* patens, unciam longum, ovali-oblongum, subcompressum, coriaceum, transversim rugosum, marginatum, nigro-fuscum, breviter acuminatum, demum glabrum, fere omnino uniloculare, polyspermum, sutura paululum inflexa.

HAB. Plains of the Saskatchewan, and Eagle and Red-Deer hills of the same river. *Dr. Richardson; Douglas; Drummond.*—Dr. Richardson doubts if the *A. Missouriensis* of Nuttall be the same with this plant. The description in many respects accords; but the calyx is said to be clothed with black hairs; and in our specimens the suture of the legumen is so little introflexed, that they seem to have as strong a claim to be ranked with *Phaca* as with *Astragalus*. The species is an exceedingly beautiful one: the flowers being of a deep purplish-blue, varied with white; the leaflets sometimes, as in Mr. Douglas' specimens, about the size, and of the shape, of the leaves of *Thymus vulgaris*; at other times, as in Mr. Drummond's specimens, twice or thrice that size, always thickly clothed with soft silky hairs.

7. *A. caryocarpus*; multiceps, prostrato-assurgens, pilis appressis subhirtis, stipulis ovatis acutis, foliolis 9–12-jugis ellipticis, pedunculis folio brevioribus, racemis capitatis laxis, "leguminibus nuciformi-inflatis rugosis mucronatis glabris polyspermis."—*A. calycibus dense pubescenti-hirsutis. A. caryocarpus. Ker in Bot. Reg. t. 176. De Cand. Prodr. v. 2. p. 287.*—*A. crassicaarpus. Fraser's Cat. 1813.*—*A. carnosus. Nutt. Gen. v. 2. p. 100. (non Purshii.)—s. calycibus appresso-pilosis subsericeis, pilis raris nigris. A. succulentus. Rich. in Frankl. 1st Journ. ed. 2. App. p. 29. Lindl. in Bot. Reg. t. 1324.*

HAB. Hilly grounds of the Saskatchewan, especially about Carlton-House. *Dr. Richardson; Drummond; Douglas.*—Possessing as I do, from Mr. Nuttall, an original specimen of *A. caryocarpus*, (*A. carnosus*, Nutt.), and of the *A. succulentus*, from my valued friend Dr. Richardson, I am compelled to say that they are not specifically distinct. Nor can I find any difference between them, except that in the true

A. caryocarpus the calyx is more thickly hairy than in *A. succulentus*: hence I have been led to mark them as varieties. I do not, indeed, possess the fruit of either; that of the former is well known, however; and Mr. Lindley has observed of the latter; "Its fruit is not certainly known. We suspect it to be of the same nature as that of *A. caryocarpus*: at least, there is, in Mr. Douglas' collection, a fruit of such a kind, which does not appear to belong to any other of his species." This certainly goes far towards proving that the fruit is also alike in the two.

†† *Leguminibus curvatis.*

8. *A. succumbens*; ubique hirsutus, caule procumbente flexuoso ramoso, stipulis parvis oblongo-acuminatis, foliis 5-jugis obovatis, pedunculis folio brevioribus, racemis capitatis subovalibus, floribus (majusculis) patentibus laxis, stipulis lineari-subulatis pedicello brevissimo longioribus, calycibus pilis laxis hirsutis, leguminibus (bilocularibus) lineari-lanceolatis nitidis glabris falcatis hinc carinatis illi: profundissime et subconduplicatim sulcatis bilocularibus polyspermis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the barren grounds of the Columbia, and near the Wallawalla River, North-West America. *Douglas*.—Flowers large, purple and white. The legumes are very remarkable; when spread open, they are broadly lanceolate, but there is, on one side, a deep sulcus, so that a transverse section represents the letter V.

9. *A. diaphanus*; prostratus, diffusus, piloso-scaber, stipulis parvis ovatis acuminatis, foliis 5-9-jugis obovatis, pedunculis folio brevioribus, floribus (parvis) capitatis laxis, bracteis ovatis acuminatis minutis pedicello subbrevioribus, leguminibus subreflexis linearibus compressis falcatis subdiaphanis glabriusculis bilocularibus polyspermis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. Abundant on sandy soil near the Great Falls of the Columbia.—Flowers small, scarcely more than half an inch long, "purple," fading, when dry, to nearly white. Legumes scarcely an inch long, much flattened laterally, and falcate; when mature subdiaphanous if held between the eye and the light.

10. *A. lentiginosus*; prostratus, glabriusculus, stipulis parvis ovatis acatis, foliis 8-jugis obovatis, pedunculis folio brevioribus, floribus—? leguminibus ovatis acuminatis membranaceis sursum curvatis basi inflatis bilocularibus glabriusculis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. Subalpine ranges of the Blue Mountains of North-West America. *Douglas*.—The flowers of this do not appear to have been seen by Mr. Douglas; but the fruit is very remarkable, and, as his discoverer observes, considerably resembles that of *A. tuberosus*, a native of Syria and Cappadocia.

11. *A. inflexus*; diffusus, prostratus, ubique villosissimo-tomentosus, caule flexuoso, stipulis majusculis ovatis acuminatis, foliis 9-10-jugis ellipticis acutiusculis obovatisve obtusis, pedunculis folii longitudine, racemis laxis late ovalibus, pedicellis brevibus, bracteis longis subulatis calycem membranaceam æquantibus, leguminibus ovato-acuminatis depressis bilocularibus tomentosis sursum insigniter curvatis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the barren sandy grounds of the Coluzabia, from the junction of Lewis and Clarke's River to the mountains. *Douglas*.—Whole plant, except the large purple corollas, woolly, with long lax hairs. Calyx long, cylindrical, with slender, wavy, subulate teeth, nearly as long as the corolla. Legumes an inch long, ovate, and tapering a little at the base, but much more at the extremity, into a sharp point; compressed, (but by no means flat,) and curved upwards, so as to be almost doubled, like the letter U; with a shallow, but broad furrow below. The calyx is very thin and membranaceous, bursting when the fruit is ripe.

12. *A. glareosus*; depressus, totus molliter hirsuto-tomentosus, caulibus brevibus, stipulis oblongis acuminatis appressis membranaceis, foliis lineari-oblongis 6-jugis, pedunculis folium subæquantibus seu brevioribus 3-4-floris, pedicellis brevibus, bracteis linearibus calyce cylindraco-elongato nigro-hirsuto dimidio brevioribus, leguminibus--? —*Douglas, MSS. in Herb. Hort. Soc.*

HAB. Plentiful on dry gravelly banks of rivers, from the confluence of Lewis and Clarke's River with the Columbia to the mountains. *Douglas*.—This is a very beautiful plant, scarcely five inches high, with densely woolly and whitish foliage, which the large flowers of its numerous peduncles, of a rich purple-blue colour, just exceed in height. The specimens were gathered in April and May, when, it is to be regretted, there was no fruit.

II. OCHROLEUCI, *stipulis a petiolo liberis, floribus ochroleucis.*

(CICEROIDEI, *stipulis nec petiolo nec inter se adnatis, spicis pedunculatis, floribus ochroleucis, radicibus perennibus, leguminibus sessilibus. DC.*)

13. *A. Canadensis*; elatus, subpubescens, erectus vel decumbens, stipulis lato-lanceolatis acuminatis, foliis sub-10-jugis elliptico-oblongis obtusis, pedunculis folio subæqualibus, racemis elongatis spiciformibus, bracteis subulatis pedicello longioribus, floribus patenti-reflexis, leguminibus erectis oblongis teretibus glabris bilocularibus polyspermis, sutura superiore acuta.—*Linn. Sp. Pl. p. 1066. Pursh, Fl. Am. v. 2. p. 472. Elliott, Carol. v. 2. p. 227. De Cand. Prodr. v. 2. p. 293.*—*A. Carolinianus. Linn.? et aliorum?*—*Astragalus orthocarpus. Douglas, MSS. in Herb. Hort. Soc.*

HAB. Throughout Canada, *Mrs. Percival*; *Mr. Cleghorn*; as far as York-Factory and the Saskatchewan, *Dr. Richardson*; *Drummond*; *Douglas*: sparingly seen to the west of the Rocky Mountains, where, however, it was found at the branches of Lewis and Clarke's River. *Douglas*.—*Mr. Douglas' A. orthocarpus* only differs in having the flowers rather more constantly reflexed than usual. The *A. Carolinianus*, according to the authors who are best acquainted with it, seems to be but a more luxuriant state of the present, having a greater number of leaflets. All that I have seen cultivated in our gardens under the name of *A. Carolinianus*, are what I here call *A. Canadensis*.

14. *A. Purshii*; hirsutissimus, caulibus brevibus diffusis, stipulis lanceolatis acuminatis, foliis 6-8-jugis oblongis, pedunculis folio duplo brevioribus, floribus laxis capitato-racemosis patentibus, bracteis lineari-subulatis pedicello duplo longioribus, calyce elongato membranaceo, alis attenuatis vexillum subæquantibus, germine subsessili lineari pilosissimo.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the low hills of the Spokan River, North-West America. *Douglas*.—"Flowers yellow. Calyx cylindrical; its teeth subulate, equal, half the length of the calyx; vexillum obovate, bidentate; ala long; carina obtuse, purple at the apex." *Douglas*.—It is to be regretted, that this species has not been found in fruit. The flowers are large, an inch and a half long: the whole plant, except the corolla, is very woolly. It flowers in June, and is perennial.

15. *A.?* (an *Phaca?*) *lotiflorus*; incanus, appresso-pilosus, caulibus brevibus diffusis, stipulis ovato-acuminatis, foliis sublonge petiolatis, foliis remotiusculis subsexjugis oblongis obtusis, pedunculis gracilibus folio brevioribus, floribus 3-4 laxis capitatis (parvis flavis), bracteis subulatis pedicello perbrevis longioribus, calyce campanulato albo-piloso, dentibus subulatis tubo longioribus, petalis subæqualibus, leguminibus

(vix maturis) erecto-patentibus ovatis acuminatis compressis pilis albis villosissimis unilocularibus (?), sutura superiore recta inferiore arcuata.

HAB. About Carlton-House on the Saskatchewan. *Drummond*.—Very few specimens of this plant are in the Herbarium, and those have the fruit immature. In that state, I find no dissepiment within the legume, and am inclined to think it would be more correctly placed with the *Phacæ*, and very near to *P. villosa*, (*Astragalus villosus*, Mich.) The size of the two plants is nearly alike, and their general appearance; but in *P. villosa*, (which I possess from Mr. Nuttall,) the leaflets are broader, far more decidedly villous, the flowers more numerous in each head, but of similar colour and structure, and the legumes appear to be the same in both.

(GALEGIFORMES, *stipulis a petiolo et inter se liberis, floribus ochroleucis aut albis, leguminibus stipitatis*. DC.)

16. *A. Drummondii*; elatus, erectus, caulibus sulcatis foliisque subtus pedunculisque valde molliter hirsutis, stipulis ovatis valde acuminatis, foliolis 13–15-jugis lineari-oblongis oblongisve obtusis basi in petiolulum perbreve attenuatis, pedunculis folio longioribus, racemis elongatis laxis, bracteis subulatis pedicello longioribus, floribus pendulis, calycibus nigro-hirsutis, leguminibus stipitatis subsecundis cylindraceis glabris paululum falcatis semibilocularibus, sutura superiore obtusa, inferiore introflexa profunde canaliculata. (TAB. LVII.)—*Douglas, MSS. in Herb. Hort. Soc.*

Radix perennis. *Caulis* pedales sesquipedales et ultra, fere bipedales, erecti, vel inferne paulo decumbentes, subrobusti, profunde striati seu sulcati, pilis patentibus flexuosis subtomentosi, parum ramosi. *Folia* fere sessilia, digitalia; *foliolis* 27–31, fere uncialibus plerumque oppositis, nunc oblongis, obtusis, nunc lineari-oblongis, subacutis, basi in petiolulum perbreve attenuatis, supra glabris late-viridibus, superne margine rachibusque pilis longis flexuosis hirsutissimis. *Stipule* semunciam longæ, e lata basi sensim acuminatæ, membranaceæ. *Pedunculi* folio longiores, hirsuti, striati. *Racemi* digitales et ultra, laxi, floribus ochroleucis pendulis. *Bracteæ* subulatæ, pilosæ, pedicellis longiores. *Calyx* oblongus, pilis nigris albis intermixtis tectus, dentibus brevibus subulatis. *Vezillum* ovatum, attenuatum, obtusum, alis longius. *Carina* obtusa. *Stamina* diadelphea, 1, 9. *Germen* glabrum, teretere, compressum, sublonge stipitatum, stylo curvato terminatum. *Stigma* obtusum. *Legumen* cartilagineum, glabrum, fere duas uncias longum, lineari-cylindraceum, semibiloculare, ius subspongiosum, polyspermum, *sutura superiore* lata, obtusa, prominente, *inferiore* valde introflexa profunde sulcata, ita ut legumen, sectione transversa, bilobum videatur. *Semina* reniformia, glabra, podospermo longo filiformi.

HAB. First, I believe, gathered by Mr. Wright, very many years ago, in Hudson's Bay. (*Herb. nostr.*) Esqle and Red-Deer Hills of the Saskatchewan. *Douglas*. Carlton-House. *Dr. Richardson*.—The present very fine species, which Mr. Douglas wishes should bear the name of the indefatigable Drummond, has been long known to me from a specimen gathered more than thirty years ago, by Mr. Wright, son of the late eminent Dr. Wright of Edinburgh, in Hudson's Bay, but which, from its habit, (and being destitute of fruit,) I was led to refer to the genus *Phaca*. Its nearest affinity seems to be with the *A. galegoides*, Nutt., (*A. racemosus*, Pursh and De Cand.); but that, besides being an inhabitant of more southern latitudes, is described as only subpubescent, whereas our plant is so remarkable for its hairiness, that Mr. Douglas in his MSS. has aptly compared it to the *Oxytropis pilosa* of the Old World.*

TAB. LVII. *Astragalus Drummondii*. Fig. 1, Flower; fig. 2, Alæ and carina, including the stamens and

* There is another species of *Astragalus* described in Mr. Douglas' MSS. under the name of—"*A. miser*; caulescens, debilis, stipulis acuminatis, foliolis linearibus 5–6-jugis subpubescentibus, calycibus nigricantibus.—On low hills of Spokan River, sixty miles from its confluence with the Columbia. Fl. May, June, 24." But of this I have seen no specimen.

pistil; *fig. 3*, Pistil; *fig. 4*, Raceme, with fruit:—*natural size*. *Fig. 5*, Section of a legume; *fig. 6*, Seed:—all but *fig. 4* more or less magnified.

TRIB. III. HEDYSARÆE. DC.

16. DESMODIUM. DC.

Cal. basi bibracteolatus ad medium obscure bilabiatus, labio superiore bifido inferiore tripartito. *Cor.* papilionacea; *vevillo* subrotundo, *carina* obtusa non truncata, *alis* carina longioribus. *Stamina* diadelpa (9 et 1) filamentis subpersistentibus. *Legumen* constans articulis plurimis ad maturitatem secedentibus compressis monospermis membranaceis coriaceisve, non aut vix dehiscentibus.—*Herbæ aut suffrutices plerique æquinoctiales*. Folia nunc trifoliolata seu 1-juga cum impari, nunc simplicia dicta nempe ad impar foliolulum reducta ideo unifoliolata. Stipellæ 2 ad basin folioli extremi, 1 ad quodque laterale. Racemi terminales sapius laxi. Pedicelli 1 aut 3 ex bractearum axillis orti filiformes, 1-flori. Flores purpurei cærulei aut albi, minores quam in *Hedysaro*. DC.

(SECT. TRIFOLIOLATA, foliis pinnatim 3-foliolatis, foliolo impari cæteris parum majore. DC.)

1. *D. canadense*; caule erecto pilosusculo striato, foliis oblongo-lanceolatis glabriusculis, stipulis lineari-subulatis, racemis lateralibus terminalibusque simplicibus vel paniculatis, bracteis lanceolatis, leguminis articulis 4-5 rotundato-triangularibus pubescenti-hispidis.—*De Cand. Prodr. v. 2. p. 328.*—*Hedysarum canadense*. *Linn. Sp. Pl. p. 1054.* *Pursh, Fl. Am. v. 2. p. 481.* *Elliott, Carol. v. 2. p. 214.* *Bigel. Fl. Bost. ed. 2. p. 275.*—*β. minor*; foliis ellipticis. *Hedysarum ciliare?* *Pursh, Nutt.*

HAB. Throughout Canada, as far as Norway-House, in lat 54°.—*Flowers* small. *Leaflets* variable; in *α.*, 2-3 inches long, broadly lanceolate and gradually acuminate; in *β.* elliptical; and this latter state agrees very well with the character of *Hedysarum ciliare*, in *Pursh* and *Nuttall's Floras*.—The *Hedysarum paniculatum*, again, appears to be hardly distinct from the present species.

2. *D. bracteosum*; caule erecto glabro, foliis oblongo-ovalibus acuminatis glabris, stipulis subulatis, racemo terminali sparsifloro, bracteis ovatis acuminatis striatis glabris, leguminis articulis subovalibus. *De Cand. Prodr. v. 2. p. 329.*—*Hedysarum bracteosum*. *Mich. Am. v. 2. p. 73.* *Pursh, Fl. Am. v. 2. p. 482.* *Elliott, Carol. v. 2. p. 213.*—*β. cuspidatum*; foliis margine scabris, stipulis ovato-lanceolatis, leguminis articulis reticulatis glabris margine pubescentibus. DC.—*Hedysarum cuspidatum*. *Willd.*—*Pursh, Fl. Am. v. 2. p. 483.*

HAB. *α.* Near Fort-Erie, rare; *β.* near Queenstown, on the Niagara. *Douglas.*

3. *D. acuminatum*; caule erecto simplici parce pubescente, foliis longissime petiolatis, foliis (amplis) tenui-membranaceis rotundato-ovatis anguste acuminatis subpilosus terminali latissimo longe petiolulato, pedunculo longissimo, panicula elongata subsimplici paucifloræ, leguminis stipitati articulis subtribus obtuse triangularibus pubescentibus.—*De Cand. Prodr. v. 2. p. 329.*—*Hedysarum acuminatum*. *Mich. Am. v. 2. p. 72.* *Pursh, Fl. Am. v. 2. p. 483.* *Elliott, Carol. v. 2. p. 209.* *Bigel. Fl. Bost. ed. 2. p. 275.*

HAB. Upper Canada, Lake Huron. *Dr. Todd.*

4. *D. nudiflorum*; caule erecto simplici glabriusculo, foliis lato-ovatis acuminatis,

scapo paniculato glabro radicali caule foliifero altiore, leguminis articulis subtrotundo-triangularibus glabriusculis.—*De Cand. Prodr. v. 2. p. 330.*—Hedysarum nudiflorum. *Linn. Sp. Pl. p. 1053. Pursh, Fl. Am. v. 2. p. 483. Elliott, Carol. v. 2. p. 209. Bigel. Fl. Bost. ed. 2. p. 275.*

HAB. Canada. About Quebec. *Mr. Cleghorn.*

5. *D. pauciflorum*; caule decumbente humillimo-filiformi, foliis longissime petiolatis, foliolis lato-ovatis acuminatis pubescenti-ciliatis terminali rhomboideo, stipulis obsolete, racemo terminali pedunculato paucifloro folium vix excedente.—*De Cand. Prodr. v. 2. p. 330.*—Hedysarum pauciflorum. *Nutt. Gen. v. 2. p. 109.*

HAB. Canada. *Mr. Goldie.*—My specimen of this from Mr. Goldie exactly accords with an original one in my Herbarium, from Mr. Nuttall. In neither is the panicle shorter, but rather longer, than the leaves.

17. HEDYSARUM. *Jour. DC.*

Cal. 5-fida, laciniis lineari-subulatis subæqualibus. Cor. vexillo amplo, carina oblique truncata, alis carina multo brevioribus. Stam. diadelpa (9 et 1); genitalium fasciculus abrupte infractus. Legumen constans articulis plurimis compressis monospermis orbiculatis lenticularibus regularibus medio inter se connexis, et ideo ad utramque suturam convexis.—Herbæ aut suffrutices. Folia impari-pinnata. Pedunculi axillares simplices. Racemi spicati. Flores majusculi purpurei albi aut ochroleuci. *DC.*

SECT. LEIOLBIUM, *leguminum articuli leves, nec echinati, nec (manifeste) pilosi. Calycis laciniæ corolla breviores. DC.*

1. *H. boreale*; caule erecto stricto basi decumbente, foliis sessilibus, foliolis 8–12-jugis oblongis subtus pilosiusculis, stipulis coalitis vaginantibus laciniis subulatis, racemis elongatis longe pedunculatis, floribus numerosis subsecundis subimbricatim reflexis, vexillo alis carina multo brevioribus, leguminis articulis 3–4 suborbicularibus glabris pubescentibus reticulatis compressis.—*Nutt. Gen. v. 2. p. 110. De Cand. Prodr. v. 2. p. 349.*—*H. alpinum. Mich. Am. v. 2. p. 74. Pursh, Fl. Am. v. 2. p. 484. (var. β.) Rich. in Frankl. 1st Journ. ed. 2. App. p. 28. (non Linn.)*

HAB. Northern Canada. *Michaux.* Woody and barren grounds of North America, from the Saskatchewan to the Arctic Circle, *Dr. Richardson,* and to the Rocky Mountains, in lat. 54°. *Drummond.* Kotzebue's Sound, in Behring's Strait. *Mears. Lay and Collie.*—This is certainly distinct from the Siberian *H. alpinum,* being greatly taller, with much shorter stipules, nearly sessile leaves, vastly longer peduncles and racemes, and smaller, more deflexed flowers.—The "rugose" appearance noted in the joints of the lomeotum of this, by Mr. Nuttall, and of the following, by Dr. Richardson, appears to be owing to veins or bundles of vessels. Mr. Drummond observes that the bears are very fond of the roots of this plant.

2. *H. Mackenzii*; caulescens, decumbens, foliis pinnatis, foliolis oblongis utrinque canescenti-pilosis, stipulis vaginantibus, articulis lomenti transversim rugosis pilosis. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*—β. foliis supra ovariisque glabris.—*H. boreale?* *Rich. in Frankl. 1st Journ. ed. 1. App. p. 745.*

HAB. Barren grounds, north of lat. 64°, as far as the shores of the Arctic Sea. *Dr. Richardson, in the 1st Journ. In the 2d Journ.* it was found at the Saskatchewan, about Carlton-House, and thence westward to the mountains. *Drummond. Mr. Douglas* found it on the Eagle and Red-Deer Hills of the Saskatchewan.—

This has the largest and brightest coloured blossoms, perhaps, of any of the genus: the vexillum is about as long as the carina. *Raceme* short and broad, obtuse, of from 7 to 10 spreading *flowers*. It is fully described by Dr. Richardson, in the place above quoted, where it is observed that it is the *Liquorice* plant mentioned by Sir Alexander Mackenzie, in his *Voyage to the Arctic Sea*.

18. LESPEDEZA. Mich.

Cal. basi bracteolatus 5-partitus, laciniis subæqualibus. *Cor.* papilionacea, *carina* transverse obtusa. *Stamina* diadelpa (9 et 1.) *Legumen* lenticulare compresso-planum indehiscens monospermum inerme.—*Caules* herbacei aut suffruticosi. *Folia* 3-foliolata, *foliolis integris medio petiolato*. *Stipulæ caulinae setaceæ*. *Spicæ pedunculatæ aut subracemose*. *Bracteæ* 3-fidæ 2-floræ. *Flores violaceo-purpurei aut ochroleuci vexillo purpureo-maculato aut rarius albi*. DC.

1. *L. reticulata*; erecta, simplex vel ramosa, foliolis linearibus obtusis mucronatis subtus strigoso-pubescentibus, racemis subumbellatis axillaribus subsessilibus, leguminibus reticulatis calyce majoribus. *Pers. Syn. Pl. v. 2. p. 318. De Cand. Prodr. v. 2. p. 348.*—*L. sessiliflora. Mich. Am. v. 2. p. 70, (var.) Pursh, Fl. Am. v. 2. p. 480. (non Nutt.) Elliott, Carol. v. 2. p. 204. Bigel. Fl. Bost. ed. 2. p. 273.*—Hedysarum reticulatum. *Muhl. in Willd. Sp. Pl. v. 3. p. 1194.*

HAB. Canada. *Dr. Holmes, (Herb. Greville.)*

2. *L. polystachya*; erecta, ramosa, villosissima, petiolis brevissimis, foliolis rotundo-ovalibus obtusis, spicis oblongis axillaribus folio duplo longioribus pedunculatis, calycibus corollam æquantibus vix legumine sublongioribus. DC.—*Mich. Am. v. 2. p. 71. t. 40. Pursh, Fl. Am. v. 2. p. 480. Bigel. Fl. Bost. ed. 2. p. 272. De Cand. Prodr. v. 2. p. 349.*

HAB. Upper Canada. *Mr. Goldie. Common about Sandwich. Douglas.*

3. *L. prostrata*; prostrata, gracilis, glabra, petiolis subabbreviatis, foliolis ellipticis obtusis mucronatis subtus vix subpubescentibus, racemis axillaribus gracilibus dissitifloris folio longioribus, calycibus corolla brevioribus, leguminibus ovatis subpubescentibus. DC.—*Pursh, Fl. Am. v. 2. p. 481. Nutt. Gen. v. 2. p. 108. Elliott, Carol. v. 2. p. 208. Bigel. Fl. Bost. ed. 2. p. 274. De Cand. Prodr. v. 2. p. 350.*

HAB. Upper Canada. *Douglas.*—This appears to me to be a nearly glabrous var. of *L. procumbens*, *Mich. Am. t. 39.* Of this genus, eight species are given as inhabitants mostly of the middle States of North America; and six as growing in the vicinity of Boston. All the latter, it can scarcely be doubted, are equally indigenous to the southern parts of Canada; never extending, perhaps, beyond the great lakes. Hence it is that there is not a single species in Dr. Richardson's or Mr. Drummond's Collection; nor does any one of them inhabit Western America.

TRIB. IV. VICIÆ. Brown. DC.

19. VICIA. Tourn.

Cal. tubulosus, 5-fidus aut 5-dentatus, dentibus 2 superioribus brevioribus. *Cor.* papilionacea. *Stamina* diadelpa. *Stylus* filiformis, argulum fere rectum cum ovario conficiens, superne et infra apicem subtus villosus. *Legumen* oblongum, 1-loculare, polyspermum. *Semina* hilo laterali ovuli aut lineari.—*Herbæ sæpius scandentes. Folia*

abrupte pinnata pluri-juga, petiolo in cirrhum sæpius ramosum producto, stipulis sæpe sagittatis. Pedunculi axillares aut elongati multiflori, aut 1-flori breves.

* *Floribus pedunculatis.*

1. *V. Caroliniana*; glabriuscula, foliolis 8-10 elliptico-lanceolatis subalternis obtusis mucronatis, stipulis ovato-lanceolatis integerrimis parvis, pedunculis multifloris, floribus distantibus, dentibus calycinis brevibus, stylis apice villosis, leguminibus lanceolatis glabris oblique reticulatis. DC.—“*Walt. Fl. Carol. p. 182.*” *Pursh, Fl. Am. v. 2. p. 472.* *Elliott, Carol. v. 2. p. 224.* *De Cand. Prodr. v. 2. p. 355.*— γ . *parviflora. Mich. Am. v. 2. p. 69.*

HAB. Upper Canada, near the Lakes. *Douglas.*

2. *V. Americana*; glabriuscula, foliolis 8-12 elliptico-lanceolatis obtusis vel retusis nonnunquam denticulatis mucronatis, stipulis semisagittatis profunde dentatis, pedunculis folio brevioribus 6-8-floris, leguminibus lineari-oblongis compressis reticulatis glabris.—*Muhl. in Willd. Sp. Pl. v. 3. p. 1096.* *Pursh, Fl. Am. v. 2. p. 472.* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.* *De Cand. Prodr. v. 2. p. 355.*— β . *minor*; foliolis angustis lineari-lanceolatis subrigidis, pedunculis 2-4-floris.

HAB. Woody country from the Falls of Niagara to Bear Lake, *Dr. Richardson*: to the Rocky Mountains, *Drummond*. Near the source of the Columbia. *Douglas.* β . On the Saskatchewan about Carlton-House, *Drummond*; and at Red River. *Douglas.*—Flowers large, handsome, purple-blue.

3. *V. Cracca*; caulibus ramosis, foliis apice cirrhosis, foliolis numerosis oblongis alternis oppositisque puberulis mucronatis, nervis subparallelis simpliciusculis, stipulis semisagittato-linearibus, pedunculis multifloris folium æquantibus vel superantibus, racemis confertis secundis, dentibus calycinis inæqualibus, superioribus brevissimis inferioribus tubo brevioribus, stylis apice pilosis, leguminibus oblongis coriaceis reticulatis compressis glabris, seminibus globosis nigris. DC.—*Linn. Sp. Pl. p. 1095.* *Mich. Am. v. 2. p. 69.* *Pursh, Fl. Am. v. 2. p. 472.* *Bigel. Fl. Bost. ed. 2. p. 269.* *De Cand. Prodr. v. 2. p. 357.* *Engl. Bot. t. 1168.*

HAB. Canada. *Michaux*; *Lady Dalhousie*; *Mrs. Percival*; *Mr. Cleghorn.* Newfoundland. *Mr. Morrison.*

4. *V. gigantea*; subpubescens, siccitate nigricans, caule sulcato, foliolis 20-26 oblongis petiolulatis obtusis mucronatis, stipulis magnis semisagittatis basi profunde dentatis, pedunculis folio multo brevioribus 5-10-floris, floribus congestis, stylo vix barbato, leguminibus lato-oblongis glabris obscure reticulatis.

HAB. Open woods on the Columbia. *Dr. Scouler*; *Douglas.*—This is a very remarkable plant, with long, trailing, deeply sulcated stems, and one-third of an inch broad, hollow and herbaceous. The leaves are eight or nine inches long, excluding the tendrils; leaflets full two inches, and stipules an inch and a half in length. Flowers apparently purple when recent, about as large as those of *V. Americana*, consequently small in proportion to the size of the plant. Style linear, downy, but scarcely bearded below the stigma. Legumes three inches long, and three-fourths of an inch broad. The whole plant turns nearly black in drying, like the *V. nigricans*, (*Hook. and Arn. in Bot. of Capt. Beechey's Voy.*), from the western shores of South America; and others, from the Cordillera of the same country.

** *Floribus subsessilibus.*

5. *V. sativa*; foliis cirrhosis, foliolis 10-12 obovato-retusis vel oblongo-retusis mucronu-

latis pilosis vel glabriusculis, stipulis semisagittato-dentatis, floribus subgeminis sessilibus, calycibus cylindraceis, laciniis lanceolato-linearibus subæqualibus parallelis tubi longitudine, stylis apice barbatis, leguminibus compressis subtorulosis oblongis reticulatis erectiusculis, seminibus subglobosis subvelutinis. *De Cand. Prodr. v. 2. p. 360. Engl. Bot. t. 334. Mich. Am. v. 2. p. 69. Pursh, Fl. Am. v. 2. p. 471. Bigel. Fl. Bost. ed. 2. p. 270.*

HAB. Canada. *Mrs. Sheppard*. About Fort-Vancouver. *Douglas*.—Probably an introduced plant.

20. ERVUM. *Linn.*

Cal. 5-fidus, laciniis linearibus acutis, corollam subæquantibus. *Stigma* glabrum. *Legumen* oblongum. *DC.*

1. *E. hirsutum*; foliis cirrhosis, foliolis linearibus obtusis mucronulatis, stipulis semisagittatis angustis, pedunculis 3-6-floris folio brevioribus, laciniis calycinis lanceolato-linearibus æqualibus tubo longioribus, leguminibus oblongis compressis subtruncatis hirsutis tenuissime reticulatis dispermis nutantibus, seminibus globosis variegatis. *DC.*—*Linn. Sp. Pl. p. 1039. Engl. Bot. t. 971. De Cand. Prodr. v. 2. p. 366.*—*Vicia Mitchelli. Rafin.—Elliott, Carol. v. 2. p. 224. De Cand. Prodr. v. 2. p. 360.*

HAB. Cultivated in the garden of the Horticultural Society, from seeds gathered near Fort-Vancouver, (where it was probably introduced.) *Douglas*.—My specimens of *Vicia Mitchelli* from Mr. Elliott himself, prove it to be merely *E. hirsutum*.

2. *E. tetraspermum*; caulibus cæspitosis ramosis, foliis cirrhosis, foliolis 4-6 oblongis mucronulatis, stipulis lanceolato-semisagittatis, pedunculis 1-4-floris filiformibus, laciniis calycinis inæqualibus latiusculis tubo brevioribus, leguminibus oblongis compressis glabris enerviis subtorulosis, seminibus subglobosis atris.—*Linn. Sp. Pl. p. 1039. Engl. Bot. t. 1223. De Cand. Prodr. v. 2. p. 367.*—*Vicia pusilla. Muhl. in Willd. Sp. Pl. v. 3. p. 1106. Pursh, Fl. Am. v. 2. p. 471. Bigel. Fl. Bost. ed. 2. p. 270.*

HAB. Grassy meadows, Upper Canada. *Douglas*.

21. LATHYRUS. *Linn.*

Cal. campanulatus, 5-fidus, lobis duobus superioribus brevioribus. *Cor.* papilionacea. *Stam.* diadelpa. *Stylus* complanatus, apice dilatatus, antice villosus aut pubescens. *Legumen* oblongum, polyspermum, bivalve, 1-locul. *Semina* globosa aut angulata.—*Herbæ sæpius scandentes. Stipulæ semisagittate. Petioli apice in cirrhum ramosum abeuntes. Foliola 1-3-juga. Pedunculi axillares. DC.*

1. *L. pisiformis*; glabriusculus, foliolis 3-4-jugis ovalibus, stipulis inæquilateraliter cordato-hastatis angulis acutis foliolo æqualibus, pedunculis multifloris folio subbrevioribus, (corollis purpureis), laciniis calycinis duabus superioribus abbreviatis, leguminibus lineari-oblongis compresso-teretibus subfalcatis, apice ad suturam superiorem acuto.—*Linn. Sp. Pl. p. 1034. Willd. Sp. Pl. v. 3. p. 1093. De Cand. Prodr. v. 2. p. 371.*—*L. maritimus. Bigel. Fl. Bost. ed. 2. p. 268.* (fide specim. ab amiciss. *Boott*.)—*L. Californicus. Douglas, in Bot. Reg. t. 1144, (certe.) L. venosus. Sweet, Br. Fl. Gard. 2d. Ser. t. 37. (non Willd.) Bigel. Fl. Bost. ed. 1. p. 167, (non ed. 2.) Boott in Herb.*—*Pisum maritimum. Linn. et*

aliorum. Engl. Bot. t. 1047. Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.—Gmel. Fl. Sib. v. 4. p. 7. t. 1.

HAB. Throughout North America, in the plains (beyond lat. 40°?) from Lake Erie in the south, (*Dr. Todd; Douglas*), about Quebec and Montreal, (*Lady Dalhousie; Mrs. Percival*), Saskatchewan, (*Dr. Richardson; Douglas*), to the shores of the Arctic Sea, (*Dr. Richardson*), Newfoundland and Labrador on the east, *Mr. Cormack; Mr. Morrison*; and Murray Bay, mouth of the St. Lawrence. *Mrs. Sheppard*, North-West America, from the coast of California and the mouth of the Columbia, (*Dr. Scouler; Douglas*), to Kotzebue's Sound in Behring's Strait. *Messrs. Lay and Collie*.—Botanists will see with surprise, and, I fear too, with some suspicion of the correctness of the measure, that I have united the well-known *Pisum maritimum* of our shores with a Siberian *Lathyrus*, and have added to the same the most universally diffused Leguminose plant in all the temperate and colder parts of North America. I have not done so, however, without the most cautious scrutiny of numerous specimens. Let any one carefully examine the *style* of *Pisum maritimum*, and compare it with that of *Pisum sativum*, or any indisputable *Pisum*, and it will be at once seen that they are very different; the former wanting altogether the sharp carinated ridge on the superior side, (caused by the reflection of the margins,) on the upper part of which the down is produced. If, again, this *style* be compared with that of the true *Lathyrus*, it will be found to accord in every essential particular, though it is not so much dilated upwards as in many. It is a *stylus compressus sursum dilatatus antice villosus aut pubescens*: and it precisely corresponds with the same part of the flower in the American *Lathyrus* above quoted. This being determined, it remained for me to see what were the specific differences between the plants in question. I could find none. Upon the sandy and stony shores, the plant is humble in its growth, and compact; in the woody districts it becomes larger and more straggling. The stipules I always find to be cordato-hastate, with their sides, at the base, unequal (sometimes toothed,) rather than semi-sagittate. The legumes are slightly pubescent in British and American specimens. The leaves and calyx are mostly somewhat downy or hairy, the latter especially on the teeth; but at other times the whole plant is perfectly glabrous. My specimens from the West coast of North America are usually more lax, flaccid, and drawn up, as it were, as if inhabiting woods: others, again, from the same coast, are more compact, and of a firmer texture, exactly corresponding with cultivated specimens from the Horticultural Society's Garden, of which the representation in the *Botanical Register* is excellent. I acknowledge that in calling this plant by the name of *L. pisiformis*, Linn. and Gmelin, I have no other authority than the figure and description of the latter author: but our plant is so entirely in accordance with them, that I think there can hardly remain a doubt on the subject.

2. *L. ochroleucus*; glaberrimus, foliolis 3-4-jugis lato-ovalibus ovatisve, stipulis latis semi-cordatis subhastatis angulis obtusis nunc obtuse dentatis foliolo vix minoribus, pedunculis multifloris folium subæquantibus, (corollis ochroleucis,) laciniis calycinis duabus superioribus abbreviatis, leguminibus (nondum maturis) lineari-elongatis acuminatis compressis glaberrimis.—*L. pisiformis*, var. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 28.*

HAB. Hudson's Bay. *Mr. R. Wright*. From the Red River, in lat. 49°, (*Douglas*), through the whole woody country to Bear Lake, in lat. 66°. *Dr. Richardson; Drummond*.—This plant is, indeed, very nearly allied to the preceding; yet in all the specimens I possess, the stipules are rather smaller (often considerably so) than the leaflets, having at the base only one lobe; the flowers are smaller, ochroleucous, and the whole plant is more delicate and quite glabrous. In *Dr. Richardson's L. pisiformis*, which, indeed he referred doubtfully to the *L. pisiformis* of Willd., the lower stipules are as small as those of the following species; while the upper ones are very large.

3. *L. decaphyllus*; glaber vel pubescens, foliolis 4-6-jugis ellipticis rarius ovatis vel suboblongis, stipulis parvis semisagittatis lanceolatis lobo deflexo stipulam subæquante, pedunculis folii longitudine multifloris, calyce dense pubescente, dentibus duobus

superioribus valde abbreviatis, (corollis purpureis,) leguminibus—?.—*Pursh, Fl. Am. v. 2. p. 471.*

HAB. Banks of the Saskatchewan; abundant. *Dr. Richardson; Drummond.* Bushy places in North-West America. *Douglas.*—I doubted whether I might not refer this plant to the *L. venosus* of Muhl. in Willd., since it is described as being similar to *L. piriiformis*, "except in the stipules being much smaller:" but then their shape is different, the leaflets are described as much broader, and the whole plant as glabrous. Again, the *L. polymorphus* of Nuttall accords, in some respects; but it is said to be glabrous. In regard to its being the *L. decaphyllus* of Pursh, I can only say that the short description of that author, unsatisfactory as it is, agrees with it, except that the number of flowers upon a peduncle is greatly more than three or four. Still I have been very unwilling to swell unnecessarily the number of species of a genus already too much encumbered with questionable ones. The present individual is large and straggling; many of its leaflets two and a half to three inches long. *Stems* square, striated, and, as well as the whole plant, sensibly downy. *Calyx* thickly downy. The *stipules*, however, afford the most essential character by which this may at once be distinguished from the preceding. They are small, lanceolate, sagittate, the lobe so long and so deflexed that in general the stipule appears to be lanceolate, acuminate at both extremities, and attached by the margin at the middle. In the present, and all the foregoing broad-leaved species, the *style* is nearly linear, slightly dilated upwards, the lower margin a little recurved, just where it unites with the germeo, the rest plane, compressed, with the down occupying a considerable length of the upper and plane surface.

4. *L. stipulaceus*; glaberrimus, caule acute tetragono (vix alato), foliis 3-jugis ellipticis mucronatis, stipulis ovato-semisagittatis acuminatis magnis, pedunculis 4-6-floris folio longioribus, leguminibus (immaturis) linearibus acuminatis compressis glabris.—"*Le Conte in Cat. Pl. New York, p. 92.*" *De Cand. Prodr. v. 2. p. 371.*

HAB. Upper Canada. *Mr. Goldie.* Lake Huron. *Dr. Todd.*—In foliage, this is intermediate between the preceding broad-leaved species, and the following narrow-leaved one; in the stipules, between *L. ochroleucus*, and *L. decaphyllus*; and it is possible it may be included in the *L. polymorphus* of Nuttall. The stipules are not half the size of those of *L. ochroleucus*, while they are thrice the size of, and greatly broader than, those of the *L. decaphyllus*. I have received the same plant, without a name, both from Philadelphia and New York; but I have no specimen from the British Possessions, save from the localities above-mentioned. The plant well accords with the *L. stipulaceus* of Le Conte, only that its stem is rather acutely 4-angular, than winged, as it is in the following species.—I am still unacquainted with any North-American *Lathyrus* which will entirely agree with the *L. venosus* or *L. myrtifolius*, both of Muhl., in *Willd. Sp. Pl.*, and I introduce them here upon the authority of Mr. Douglas. All the North American *Lathyrus* have their leaves very, and almost equally, veiny.

5. *L. venosus*; caulibus tetragonis non alatis, foliis multijugis, foliolis ovatis obtusis suboppositis mucronatis glabris, cirrhis trifidis, stipulis semisagittato-cvatis, pedunculis multifloris folio brevioribus, leguminibus—? *DC.—Muhl. in Willd. Sp. Pl. v. 3. p. 1092. Pursh, Fl. Am. v. 2. p. 471. Nutt. Gen. v. 2. p. 96. De Cand. Prodr. v. 2. p. 371.*

HAB. Common throughout the great chain of lakes in Upper Canada: plentiful on the Red River and the River Winnipeg. *Douglas.*

6. *L. myrtifolius*; caule debili flexuoso tetragono non alato, foliis 2-3-jugis, foliolis oblongo-lanceolatis obtusiusculis mucronatis rigidiusculis glabris venoso-striatis, cirrhis trifidis, stipulis semisagittato-lanceolatis acuminatis margine scabris, pedunculis 3-4-floris folio longioribus, leguminibus—? *DC.—Muhl. in Willd. Sp. Pl. v. 3. p. 1091. Pursh, Fl. Am. v. 2. p. 471. Nutt. Gen. v. 2. p. 96. De Cand. Prodr. v. 2. p. 371.*

HAB. Near Fort-Erie, and on the banks of the Niagara to Queenstown. *Douglas.*

7. *L. palustris*; plerumque glaberrimus, caulibus erectiusculis alatis, foliis 3-jugis oblongo-lanceolatis obtusiusculis mucronatis rigidiusculis, stipulis parvis lanceolatis semi-sagittatis loboque acuminato deflexo acuminatis, pedunculis 3-5-floris, leguminibus lato-linearibus compressis acuminatis pubescentibus.—*Linn. Sp. Pl. p. 1034. Engl. Bot. t. 169. Mich. Am. v. 2. p. 66. Pursh, Fl. Am. v. 2. p. 471. Bigel. Fl. Bost. ed. 2. p. 269. De Cand. Prodr. v. 2. p. 371.*—*p. major*.

HAB. Abundant throughout Canada, and as far north as the Saskatchewan. *Lady Dalhousie, Mr. Goldie, Mr. Cleghorn, Mr. Todd.*—*ß.* Straits of De Fuca, North-West America, in lat. 48°. *Dr. Scouler.*—This species entirely agrees with our European *L. palustris*. The stipules resemble those of *L. decaphyllus*.

TRIB. V. PHASEOLEÆ. *Br. DC.*

22. AMPHICARPEA. *Ell. DC.*

Cal. campanulatus 4-dentatus basi ebracteolatus, dentibus æqualibus subulatis. *Corolla* papilionacea, *petalis* oblongis, *vexillo* lato incumbente subsessili. *Stam.* diadelph. *Stylus* filiformis. *Stigma* capitatum. *Ovarii stipes* vaginula cylindrica vestitus. *Legumen* compressum stipitatum 1-4-spermum.—*Caules herbacei volubiles. Folia pinnata 1-juga cum impari, foliolis ovatis glabris. Racemi axillares. Bracteæ bifloræ. Flores sæpe apicali, caulini steriles aut legumina radicalibus dissimilia gerentes, radicales sæpius fertiles. DC.*

1. *A. monoica*; racemis pendulis corollatis.—*Ell. Journ. Nat. Sc. Philad. v. 1. p. 373, Carol. v. 2. p. 233. Nutt. Gen. v. 2. p. 113. De Cand. Prodr. v. 2. p. 383.*—*Glycine monoica. Linn. Sp. Pl. p. 1023. Mich. Am. v. 2. p. 64. Pursh, Fl. Am. v. 2. p. 485. Bigel. Fl. Bost. ed. 2. p. 276.*

HAB. Upper Canada. *Mrs. Percival. La Grande Chaudière. Pursh, MSS.*

23. APIOS. *Boerh.*

Cal. campanulatus dentibus 4 obsoletis, 1 acuto sub carina elongato. *Cor.* papilionacea, *carina* falcata lineari vexilli apicem reflectente. *Stam.* diadelphia. *Ovarii stipes* tubulo vaginatus. *Stigma* emarginatum. *Legumen* polyspermum et (ex *Pursh*) biloculari, seminibus dissepimento interceptis.—*Herba scandens glabra. Radix tuberosa edulis. Folia impari-pinnata. Racemi axillares. Flores fusco-purpurei odori. Bracteolæ calyci adpressæ caducissimæ. DC.*

1. *A. tuberosa.*—*Mærch, Ludg. 2. p. 53. Elliott, Carol. v. 2. p. 232. Pursh, Fl. Am. v. 2. p. 473. De Cand. Prodr. v. 2. p. 390.*—*Glycine Apios. Linn.*—*Mich. Am. v. 2. p. 83. Bigel. Fl. Bost. ed. 2. p. 277. Sims in Bot. Mag. t. 1198.*

HAB. Canada, about Quebec. *Lady Dalhousie, Mrs. Percival.*

24. PHASEOLUS. *Linn.*

Cal. campanulatus bilabiatus, labio superiore bidentato, infer. tripartito. *Cor.* papilionacea, *carina* cum staminibus diadelphis styloque spiraliter contorta vel rarius incurva. *Ovarii stipes* toro vaginulatus. *Legumen* compressum aut cylindricum bivalve intus isthmis cellulosis subdistinctum polymorphum. *Semina* hilo ovali-oblongo.—*Herbæ aut suffrutices sæpius volubiles. Folia pinnato-trifoliolata, foliolis basi stipellatis. Racemi axillares. Pedicelli sæpius gemini, semper 1-flori. DC.*

1. *P. helvolus*; caule volubili, foliis deltoideo-oblongis subsinuatis, pedunculis folio longioribus apice trifloris, corollæ vexillis brevibus, alis expansis maximis, leguminibus teretibus erectis. DC.—*Linn. Sp. Pl.* p. 1017. *Mich. Am. v. 2. p. 60.* *Pursh, Fl. Am. v. 2. p. 470.* *De Cand. Prodr. v. 2. p. 390.*—Strophostyles helvola. *Elliott, Carol. v. 2. p. 230.*—*Glycine helvola. Elliott in Journ. Ac. Sc. Philad. 1818, p. 385.*—*Glycine umbellata. Willd. ? —Dill. Eth. t. 312. f. 300.*

HAB. Near Montreal. *Mr. Cleghorn, (in Herb. nostr.)*

25. LUPINUS. *Tourn.*

Cal. profunde bilabiatus. *Cor.* papilionacea, vexillo lateribus reflexis, carina acuminata. *Stamina* monadelphia, vagina integra, antheris 5 parvis subrotundioribus præcocioribus, 5 oblongis serioribus. *Stylus* filiformis. *Stigma* terminale subrotundum barbatum. *Legumen* coriaceum oblongum compressum oblique torulosum. *Cotyledones* crassæ, per germin. in folia conversæ.—*Herbæ aut suffrutices.* *Stipulæ petiolo adnate.* *Folia sæpius foliolis 5-9 digitatis constantia, rarius simplicia.* *Foliola ante explicat aut per somnum complicata.* *Pedunculi oppositifolii terminales.* *Flores racemoso-spicati alterni aut verticillati, pedicellati aut sessiles.* *Bractea sub pedicellis.*

* *Herbæ annuæ.* *Bracteolæ 2 lateraliter calyci adnatæ caducæ aut nullæ.* DC.

1. *L. bicolor*; annuus, caule ramoso procumbente folioso folisque pilosis vix sericeis, foliolis 5-7 lineari-spathulatis, verticillis paucifloris, calycibus sericeo-lanatis inappendiculatis, labio superiore bifido, inferiore elongato integro, alis vexillo longioribus, leguminibus polyspermis.—*Lindl. in Bot. Reg. t. 1109.*

HAB. Common under the shade of solitary Pine trees, near the ocean, on the North-West coast of America, and thence as far east as the vallies of the Rocky Mountains. *Douglas.*—A humble, procumbent, branching annual, with small purple or blue and white flowers. Specimens of it are in my Herbarium, gathered by Mr. Menzies in California.

2. *L. micranthus*; annuus, floribus subverticillatis sessilibus bracteolatis, calycis labio superiore bifido, inferiore integro, foliolis 5-7 lineari-spathulatis ciliatis, leguminibus 6-spermis transversim sulcatis, caule ramoso, radicibus granulatis.—*Douglas in Bot. Reg. t. 1251.*

HAB. On the gravelly banks of the southern tributaries of the Columbia, and barren ground in the interior of California.—Of this I possess no specimen, and Mr. Douglas himself observes, "that it has much affinity with the *L. bicolor*, differing in flowering from four to six weeks earlier, in being more slender, in the shortness of its ale, its nearly sessile flowers, fleshy leaves, granulated roots, larger pods, and the colour and size of the seeds."

3. *L. pusillus*; annua, parva, pilosissima, caulibus brevibus basi ramosis, foliolis 5-7-oblongo-lanceolatis obtusis inferne attenuatis, racemis axillaribus lateralibus terminalibusque sessilibus, floribus alternis ebracteolatis, bracteis longitudine calycis cujus labio superiore bifido, inferiore duplo longiore bidentato, leguminibus hispiddissimis dispermis, seminibus orbicularibus planis.—*Pursh, Fl. Am. v. 2. p. 468.* *Nutt. Gen. v. 2. p. 93.* *De Cand. Prodr. v. 2. p. 408.*

HAB. On the barren grounds of the Columbia. *Douglas.*—This is a very singular species, with short,

sessile, many-flowered racemes. The membrane of the filaments is very large, five of the stamens are elongated and barren, five shorter with linear orange-coloured anthers. Legumes about an inch long, each with two flat seeds.

* * *Herbæ perennes.*

† *Flores cærulei, purpurei, rarius albi.*

4. *L. lepidus*; herbaceous, perennis, floribus alternis pedicellatis ebracteolatis, calycis villosi labio superiore bipartito inferiore acuminato elongato, foliolis 5-7 lanceolatis utrinque sericeis, caule florido erecto subunifolio. *Lindl.—Douglas in Bot. Reg. t. 1149.*

HAB. About Fort Vancouver, on the Columbia, and in the valleys of the Blue Mountains, North-West America. *Douglas.*—This and the following species have the stem so bare of leaves, that it might almost be called a scape; whilst in almost all the succeeding species the stem is very leafy.

5. *L. minimus*; herbaceous, dense sericeo-pilosus, parvus, caule 1-2-foliato, foliolis 7-9 lanceolatis acutis inferne attenuatis, floribus alternis verticillatisque, pedicellis ebracteolatis, calycis labio superiore apice bifido, inferiore integro, radice parva subfusiformi.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. Mountain-valleys in North-West America, near the Kettle Falls; and very abundant towards the Rocky Mountains, along the course of the Columbia. *Douglas.*—This is a small species, scarcely a span high, and allied to the following, but differing in its very dense and silky foliage, in the stem bearing only one or two leaves, (but several radical ones,) and in the usually verticillate flowers.

6. *L. perennis*; herbaceous, floribus alternis pedicellatis bracteolatis, calycis labio superiore submarginato infer. integro, foliolis oblongis mucronatis subtus subvillosis, radice repente. *DC.—Linn. Sp. Pl. p. 1015. Mich. Am. v. 2. p. 55. Pursh, Fl. Am. v. 2. p. 467. Elliott, Carol. v. 2. p. 191. Curt. in Bot. Mag. t. 202. Bigel. Fl. Bost. ed. 2. p. 267. Rich. in Frankl. 1st Journ. ed. 2. p. 27.*

HAB. Canada. *Michaux.* Shores of the Arctic Sea. *Dr. Richardson.* Upper Canada, plentiful. *Douglas.* Cape Mulgrave, in Behring's Straits. *Messrs. Lay and Collie, in Captain Beechey's Collection.*—*Dr. Richardson's* specimens have the leaves more acute, and the plant itself somewhat more hairy than in *Dr. Boott's* specimens from the United States.

7. *L. Nootkatensis*; herbaceous, caulibus patenti-pilosissimis, floribus subverticillatis pedicellatis ebracteolatis, calycis valde hirsuti labio utroque integro, bracteis linearibus calyce longioribus pilosissimis, foliolis oblongo-lanceolatis obtusis mucronatis inferne attenuatis subtus sericeis. *Donn, Cat. Cant. Pursh, Fl. Am. v. 2. p. 458. Sims in Bot. Mag. t. 1311, and t. 2136.—β. glaber.*

HAB. α. North-West America. *Menzies, Douglas.* Nootka and Unalashka. (*Pursh, De Cand.*)—α. and β. Rocky Mountains, north of the Smoking River, in lat. 55°.—Of the only two specimens in Mr. Drummond's Collection, one is quite glabrous; the other densely villous and exactly corresponding with the *L. Nootkatensis*, cultivated in the Horticultural Society's Garden, from seeds brought home by Mr. Douglas, and which I consider to be the true state of the plant. It is well represented in the *Bot. Mag. t. 1311*, except that the raceme being in an advanced state, the bracteis are wanting, which appear to me to form an essential character in the species; for here they exceed in length the flower-buds, till these are fully expanded. The var. β. of *Bot. Mag. t. 2136*, is said to be fruticose and quite hardy.

8. *L. polyphyllus*; herbaceus, elatus, foliolis 11-15 lanceolatis subtus hirsutis, floribus alternis longissime racemosis rarius subverticillatis ebracteolatis, pedicellis bractea lanceolata decidua longioribus, calycis utroque labio integro, leguminibus densissime pilosis.—*Lindl. in Bot. Reg. t. 1097.*—*L. regius. Rudolphi.* (according to Mr. Douglas.)

HAB. Common in plains that are occasionally overflowed at the mouth of the Columbia, and at Puget Sound, sometimes with white flowers. *Douglas, Dr. Scouler.*—This is indeed a splendid plant; and one of the greatest ornaments to our gardens that has been introduced for a long time. It grows 3-4 feet high, with racemes a foot or more long.

9. *L. sericeus*; perennis, caule foliisque sericeo-tomentosis, foliis digitatis, foliolis 7-8 lanceolatis acutis utrinque sericeis, calycibus subverticillatis inappendiculatis, labio superiore inciso, inferiore integro. *Pursh, Fl. Am. v. 2. p. 468. De Cand. Prodr. v. 2. p. 408.*

HAB. Banks of the Kooakooskye, one of the southern branches of the Columbia. *M. Lewis.* On the undulating grounds of the Columbia? *Douglas.*—Flowers pale purple or rose-coloured. *Ph.*

10. *L. argenteus*; perennis, foliis digitatis, foliolis 5-7 lineari-lanceolatis acutis supra glabris subtus argenteo-sericeis, calycibus alternis inappendiculatis, labio superiore obtuso, inferiore integro. *Pursh, Fl. Am. v. 2. p. 468. De Cand. Prodr. v. 2. p. 408.*

HAB. Banks of the Kooakooskye. *M. Lewis.*—Flowers small, cream-coloured. *Ph.*

11. *L. ornatus*; perennis, floribus verticillatis appendiculatis, calycis labio superiore bifido, inferiore integro elongato, foliolis 7-12 lineari-lanceolatis undique argenteis sericeis, leguminibus 4-5-spermis. *Douglas in Bot. Reg. t. 1216.*

HAB. Near the source of the Columbia, sparingly; plentiful at Kettle Falls, and in the valleys of the Spokan river. *Douglas.*

12. *L. arbustus*; perennis, floribus alternis pedicellatis bracteolatis, calycis labio superiore bifido, inferiore integro acuto, foliolis 7-13 obovato-oblongis utrinque sericeis, leguminibus 3-5-spermis.—*Douglas in Bot. Reg. t. 1230.*

HAB. Under the shade of solitary Pine and Oak trees, near Fort Vancouver and the Plains of the Multnomak river, North-West America. *Douglas.*

13. *L. laxiflorus*; perennis, herbaceus, undique pilosus, floribus subalternis ebracteolatis, calycis labio superiore integro basi saecato, inferiore longiore ovato-acuminato, carina imberbi, vexillo obcordato, foliolis 7-9 lineari-lanceolatis, stipulis minimis subulatis. *Lindl.*—*Douglas in Bot. Reg. t. 1140.*—*β.* foliolis linearibus, calyce basi minus saecato.—*L. tenellus. Douglas, MSS. in Herb. nostr.*

HAB. *α.* and *β.* Frequent in gravelly soils about Fort Vancouver. *Douglas.*—The gibbous or saccate base to the calyx of this species is very remarkable; in the var. *α.* it almost becomes a spur, though not so represented in the figure above quoted, which on that account, as well as in the narrowness of the leaflets, agrees better with what I here make the var. *β.* than with my original specimen of *L. laxiflorus* received from Mr. Douglas.

14. *L. littoralis*; perennis, floribus verticillatis pedicellatis ebracteolatis, calycis labio utroque integro, foliolis 5-7 lineari-spathulatis utrinque sericeis, leguminibus 10-12-spermis

transversim sulcatis, radicibus granulatis.—*Douglas in Bot. Reg. t. 1198, in Bot. Mag. t. 2052.*

HAB. Common on the shores of the Pacific, between 40° and 49° north latitude, or from Cape Mendocino to Puget Sound. *Douglas*.—The granulated roots of this species, when roasted on the embers, yield a farinaceous substance, which is in high esteem among the Cheuook Indians as an article of food, and is called in their language "Somuchtan." *Douglas*.

15. *L. albicaulis*; caule elato foliisque numerosis minute pubescenti-sericeis pube subfulvescente, foliolis 7-9 spathulato-lanceolatis mucronatis, floribus plerisque verticillatis ebracteolatis, bracteis subulatis subpersistentibus pedicellos sericeos æquantibus, calycis fulvo-sericei labio utroque integro.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. About Fort Vancouver, on the Columbia. *Douglas*.—Specimens of this, exclusive of the root, are two feet long, erect, clothed (as is the whole plant) with a short tawny silky down, and bearing many short leafy branches. The racemes are from eight to ten inches long, remarkable for their numerous persistent bracteas, and the fulvous silky dense spreading hairs with which the calyx and pedicels are clothed. The petals appear to have been purple, and to have changed in drying to a tawny brown. This species is a very handsome and distinct one, although its character, and that of all of the genus, is very difficult to be described in words. On that account, I have much satisfaction in being able to refer to the numerous and excellent figures and descriptions in the Botanical Register, taken from the living plants, of so many of Mr. Douglas's discoveries. The present is one of the few, however, which does not appear to be in cultivation. In the dry state of the plant there is nothing to account for the specific name which its author has assigned to it.

16. *L. aridus*; herbaceus, (sericeo-) hirsutissimus, floribus verticillatis pedicellatis bracteolatis, calycis labio superiore bifido, inferiore integro, foliolis 5-9 lineari-lanceolatis villosis, stipulis subulatis.—*Douglas in Bot. Reg. t. 1242.*

HAB. Dry sandy barren deserts of the Columbia; extending from the Great Falls of that river to the sources of the Missouri. *Douglas*.

17. *L. leucophyllus*; herbaceus, villosissimus, floribus alternis pedicellatis bracteolatis, calycis labio superiore bifido, inferiore integro, foliis digitatis, foliolis 7-9 oblongo-lanceolatis, stipulis subulatis lanatis. *Lindl.*—*Douglas in Bot. Reg. t. 1124.*

HAB. Woodless sandy deserts from the Great Falls of the River Columbia, in North-West America, to the sources of the Missouri, among the Rocky Mountains. *Douglas*.—This is a very fine species, having white flowers, or tinged with pink, and the whole stem and foliage and dense racemes (save the corollas) clothed with compact silky hairs. Mr. Lindley observes that this species should rank next to the *L. alopecuroides* of Desrousseaux, a native of Quito.

18. *L. plumosus*; perennis, (sericeo-) villosissimus, floribus alternis breviter pedicellatis bracteolatis, calycis labio superiore bifido, inferiore integro, foliolis 5-7 lanceolatis, leguminibus glabris 3-5-spermis, bracteis floribus longioribus villosis deciduis.—*Douglas in Bot. Reg. t. 1217.*

HAB. "In North California, lat. 45°, growing in gravelly soil, at the sources of the Wallahwallah river, near the Blue Mountains." *Douglas*.—Allied to the preceding, "from which it is principally distinguished by its larger and less crowded flowers, and by the long, deciduous, shaggy bracteas, which clothe the upper unexpanded part of the raceme so closely as to give it a comose appearance." *Lindl.*

† † *Flores flavi.*

19. *L. Sabini*; erectus, (suffruticosus?) elatus, caule glabriusculo striato, foliis pilis brevibus fulvescentibus sericeis, foliolis 9-11 lanceolatis acuminatis basi attenuatis, floribus verticillatis (flavis) ebracteolatis, bracteis longis subulatis sericeis deciduis, calycis pilosissimi basi gibboso, labio superiore brevi bifido, inferiore integro reflexo, pedicellis elongatis, leguminibus sericeo-villosissimis fulvis subtetraspermis stylo persistente terminatis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the Blue Mountains of North-West America, and on the Dividing Ridge of the Rocky Mountains, near the confines of perpetual snow. *Douglas*.—I regret that I possess no notes from Mr. Douglas made from the recent plant of this beautiful species of *Lupine*, which its discoverer has honoured with the name of his friend and patron, Jos. Sabine, Esq. I have heard him incidentally regret that he was not able to send seeds of it to England, for that it was among the most beautiful of the genus, and from its elevated place of growth, near the limits of perpetual snow, very hardy. I think, too, to have heard him say that it was suffruticose.

20. *L. sulphureus*; erectus, caule erecto angulato-sulcato sparse folisque (valde) sericeis, foliolis 12-14 anguste lanceolatis basi apiceque acuminatis, bracteis subulatis deciduis, floribus verticillatis ebracteolatis, calycis valde sericei basi subgibboso labio superiore bifido, inferiore longiore integro.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the Blue Mountains of North-West America, and on elevated grounds near the source of Clarke's River. *Douglas*.—This has some affinity with the foregoing, yet appears to be a distinct species. It is a much slenderer and smaller plant in every respect; the leaves are whitish, the leaflets more numerous and narrower, the flowers smaller and of a pale sulphur-colour.

SUBORD. II. CÆSALPINEÆ. *Br.*TRIB. VI. CASSIÆ. *DC.*26. GYMNOCLADUS. *Lam.*

Flores abortu dioici. *Cal.* tubulosus 5-fidus. *Pet.* aequalia oblonga e tubo exserta. *Stam.* 10 inclusa. *Legumen* oblongum crassum intus pulposum.—*Arbores inermis, ramis apice obtusis.* Folia bipinnata, pinnis 4-7, inferioribus unifoliolatis, ceteris 6-8-jugis. *Flores racemosi.* Petala albida. *DC.*

1. *G. Canadensis.* *Lam. Dict.* 1. p. 733, *Illustr. t.* 823. *Mich. An. v.* 1. p. 241. *t.* 51. *Pursh, Fl. Am. v.* 1. p. 304. *De Cand. Prodr. v.* 2. p. 480.—*Guilandina dioica.* *Linm. Sp. Pl.* p. 546.

HAB. Canada, (*Linm.*); in the forests. *Michx.*

27. CERCIS. *Linm.*

Cal. sepala 5 concreta in urceolum obtuse 5-dentatum inferne gibbum. *Pet.* 5 unguiculata subpapilionacea omnia distincta, alis majoribus. *Stam.* 10 libera inaequalia. *Ovarium* substipitatum. *Legumen* oblongum tenue compressum 1-loc. 00-spermum, sutura supera seminifera subalata, altera dehiscente. *Semina* obovata, endopleura tumida pseudo-albuminosa. *Embryo* rectus, *radicula* brevi, *cotyl.* planis, *plumula* inconspicua.—*Arbores.* Folia simplicia basi cordata multinervia integra, post flores ortu. *Pedicelli uniflori e trunco ramisve fasciculati.* *DC.*

1. *C. Canadensis*; foliis acuminatis subtus ad nervorum axillas villosis. DC.—*Linn. Sp. Pl.* p. 534. *Mich. Am.* v. 1. p. 265. *Pursh, Fl. Am.* v. 1. p. 308. *Torrey, Fl. of Un. St.* v. 1. p. 441. *De Cand. Prodr.* v. 2. p. 518.

HAB. Canada. *Pursh.*

ORD. XXIX. ROSACEÆ. *Juss.*

TRIB. I. AMYGDALÆÆ. *Juss.*

1. PRUNUS. *Tourm.*

Drupa ovata aut oblonga carnosâ glaberrima, polline casio tecta, putamine compresso, utrinque acuto, ad margines subsulcato, cæterum lævi.—Folia juniora *convolutiva*. Florum pedicelli sæpius *umbellato-fasciculati 1-flori, ante aut post folia evoluti*. DC.

1. *P. spinosa*; ramis spinosis, pedunculis solitariis, calycibus campanulatis, lobis obtusis tubo longioribus, foliis obovato-ellipticis vel ovatis subtus pubescentibus argute duplicatoque dentatis, fructibus globosis. DC.—*Linn. Sp. Pl.* p. 681. *Engl. Bot. t.* 842. *Pursh, Fl. Am.* v. 1. p. 333. *De Cand. Prodr.* v. 2. p. 532.

HAB. In hedges: introduced from Europe.

2. CERASUS. *Juss.*

Drupa globosa aut basi umbilicata carnosâ glaberrima, polline casio cæcitata nucleo subgloboso lævi.—Folia juniora *conduplicata*. Flores *nunc pedicellis 1-floris e gemma squamosa plurimis umbellato-fasciculatis insidentes, et tunc foliis præcociores, nunc ramosis terminales et post folia evoluti*. DC.

SECT. I. CERASOPHORA. DC. *Flores umbellati, pedicellis unifloris e gemmis ortis.*

1. *C. pumila*; striata, ramis virgatis, floribus subumbellatis pedunculatis, calycibus campanulatis brevibus, foliis obovato-oblongis erectis subtus glaucis vix serrulatis glabris, fructu ovato nigro. *De Cand. Prodr.* v. 2. p. 537. (non *Mich.* fide *Seringe*.)—*Prunus pumila*. *Linn. Mant.* p. 73. “*Mill. Ic. t.* 89. f. 2.” *Pursh, Fl. Am.* v. 1. p. 331. *Torrey, Fl. of Un. St.* v. 1. p. 469.

HAB. Canada. (*De Cand.*)—As a native of Canada, I am unacquainted with this plant, unless, as I suspect, it be the same as the *Cerasus depressa*. My specimens from the Garden of the Horticultural Society, and one from M. Seringe, who prepared the specific characters of the genus in De Candolle's Prodr. Syst. Veget., are identical with what I here consider the true *depressa*. The last-mentioned author refers the *C. pumila* of Michaux to *C. depressa*, and says that it is not the same as the *Prunus pumila* of Linn.; yet he quotes it under both. He describes the fruit as black, while Torrey and Pursh say it is red. This plant is compared, by some authors, in its general habit, to *Amygdalus nana*, and such a comparison is equally applicable to *C. depressa*. The difficulties attending the American species of this genus can only be removed by carefully studying the plants in a living state, both during the season of the blossom and the fruit.

2. *C. nigra*; inermis, umbellis sessilibus paucifloris, lobis calycinis obtusis, foliis ovatis acuminatis, petiolis biglandulosis. DC.—“*Loisel. in Duham. ed. nov. v.* 5. p. 32.” *De Cand. Prodr.* v. 2. p. 538.—*Prunus nigra*. *Ait. Hort. Kew.* v. 2. p. 165. ed. 2. v. 3. p. 198. *Sims in Bot. Mag. t.* 1117. *Torrey, Fl. of Un. St.* v. 1. p. 469.

HAB. Canada. *Aiton*. From Fort-William, in lat. 48°, to the Saskatchewan. *Dr. Richardson, Drummond, Lake Huron, Dr. Todd*.—Newfoundland. *Sir Alexander Cochrane*. These specimens entirely agree with those I have received from Mr. Seringe. The fruit is as large as a moderately sized cherry, and apparently red, hence very nearly resembling the *Prunus Americana* of Marshall and Dr. Darlington, in *Ann. of Lyc. of N. H. of N. York*, but that has no glands to the petioles. The flowers are considerably larger than in the following species, and the leaves, when the fruit is ripe, more than three inches long.

3. *C. Pennsylvanica*; floribus subcorymbosis, pedicellis longiusculis, foliis ovali-oblongis acuminatis membranaceis glabris quasi eroso-denticulatis basi biglandulosis, fructibus subovatis pusillis rubris carne dulci. *De Cand. Prodr. v. 2. p. 539*.—*Prunus Pennsylvanica. Linn. Suppl. p. 252. Pursh, Fl. Am. v. 1. p. 331. Rich. in Frankl. 1st Journ. ed. 2. p. 18. Torrey, Fl. of Un. St. v. 1. p. 468*.—*Cerasus borealis. Mich. Am. v. 1. p. 286. De Cand. Prodr. v. 2. p. 539*.—*Prunus borealis. Pursh, Fl. Am. v. 1. p. 330. Bigel. Fl. Bost. ed. 2. p. 193*.—"P. lanceolata. *Willd. Arb. p. 240. t. 3. f. 3*."

HAB. Throughout Canada, as far as the Saskatchewan, and from Newfoundland, (*Dr. Morrison*), to Edmonton House in the Rocky Mountains.—*Dr. Torrey* is surely correct in uniting *Cerasus borealis* of Michaux with the *Prunus Pennsylvanica* of Linn. Suppl. Indeed Michaux does not appear to have been aware of a *P. Pennsylvanica* having been published, for he takes no notice of it in his *Fl. Bor. Amer.* In *De Candolle's Prodr.*, the *C. Pennsylvanica* is placed in the division "*floribus racemosis*," but the flowers are umbellate, as in *C. borealis*, Mich.

4. *C. depressa*; ramis angulatis depresso-prostratis, umbellis paucifloris sessilibus aggregatis, foliis cuneato-lanceolatis rariter serratis glabris subtus glaucis, fructibus ovatis. *De Cand. Prodr. v. 2. p. 538*.—*Prunus depressa. Pursh, Fl. Am. v. 1. p. 332. Bigel. Fl. Bost. ed. 2. p. 192. Torrey, Fl. of Un. St. v. 1. p. 470*.—*Cerasus pumila. Mich. Am. v. 1. p. 332*. (non *Prunus pumila. Linn. ?*)—*Prunus Susquehance. Willd. Enum. 519* (fide *Seringe*.)

HAB. Throughout Canada, as far as the Saskatchewan.—A low shrub, according to authors, with spreading branches, and growing in sandy ground. The fruit bears the name of *Sand-Cherries. (Ph.)*

5. *C. hyemalis*; floribus umbellatis glabris, calycis laciniis lanceolatis, foliis oblongo-ovalibus obovatisve abrupte acuminatis, fructibus subovatis. *De Cand. Prodr. v. 2. p. 538*.—*Prunus hyemalis. Mich. Am. v. 1. p. 284. Pursh, Fl. Am. v. 1. p. 331. Elliott, Carol. v. 1. p. 542*.

HAB. Canada. *Mich. La Grande Chaudière. Pursh. MSS.*—This species is unknown to me. The fruit is described as black, astringent, eatable only in winter, and called *Black Choke-Cherry*. But *Dr. Darlington* doubts if any American Plum is a winter fruit; and he is inclined to think that the *P. hyemalis* of Mr. Elliott at least is the *P. nigra* of authors, his *P. Americana*.

6. *C. Chicasa*; ramis subspinescentibus glaberrimis, floribus subgeminis, pedunculis brevissimis, calycibus glabris laciniis brevissimis, foliis oblongo-ovalibus acutis acuminateve, fructibus subglobosis parvis luteis. *DC.*—*Mich. Am. v. 1. p. 284. De Cand. Prodr. v. 2. p. 538*.—*Prunus Chicasa. Pursh, Fl. Am. v. 1. p. 332*.—*P. Insititia. Walt. Carol.*

HAB. La Grande Chaudière, according to a MSS. Catalogue of *Mr. Pursh*, communicated to me by Mrs. Perival. But it is not included in *Bigelow's* or *Torrey's Flora*, and seems to be a southern species. The fruit is said to be yellow, and known under the name of *Chicasaw Plum. (Ph.)*—A plant I have received from *Dr. Schweinitz* under this name, appears to me not different from *C. borealis*.

SECT. II. LAUROCERASUS. DC. Flores racemosi e ramis orti.

7. *C. emarginata*; racemis corymbosis, pedicellis elongatis segmentisque calycinis ovatis obtusis reflexis glabris, foliis ovalibus minute dentato-serratis glabris basi acutis biglandulosis apice obtusis sæpe emarginatis, fructu globoso.—*Douglas, MSS. apud Hort. Soc. Lond.*

HAB. On the upper part of the Columbia River, especially about the Kettle Falls, *Douglas*.—This, Mr Douglas describes as a "low shrub, 4-8 feet high, with very red wood marked with white spots, and an astringent fruit.—The leaves are about two inches long, quite glabrous, as is the whole plant. Racemes about the same length as the leaves, and produced at the same time with them, having lower pedicels especially so long as to be corymbose.

8. *C. mollis*; racemis breviusculis calyceque (segmentis reflexis) pubescenti-tomentosis, foliis obovatis-oblongis crenatis subtus pubescentibus, fructu ovato.—*Douglas, MSS.*

HAB. North-West coast of America, near the mouth of the Columbia, and on subalpine hills, near the source of that river. *Douglas, Fort Vancouver, Dr. Scouler*.—"A small tree, 12-25 feet high, bearing a considerable resemblance to the *C. pubescens* of Michaux." *Douglas, MSS.*—The young branches are dark brown and downy, the racemes and leaves very downy beneath. Racemes much shorter than in the following species.

9. *C. Virginiana*; racemis erectis elongatis, foliis deciduis ovali-oblongis acuminatis serratis supra nitidis utrinque nudis, petioli sub4-glandulosis, fructu globoso atro-rubro.—*Mich. An. v. 1. p. 283. De Cand. Prodr. v. 2. p. 539. Mich. N. Am. Sylv. ed. Am. v. 2. p. 204. t. 88.*—*Prunus Virginiana. Linn. Sp. Pl. p. 677. Pursh, Fl. Am. v. 1. p. 329. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18? Bigel. Fl. Bost. ed. 2. p. 192. Torrey, Fl. of Un. St. v. 1. p. 467.*

HAB. Canada?—This forms a large tree, according to Michaux, in the southern states attaining from eighty to one hundred feet in height. It is the *Tawquoy-meen-ahlik* of the Crees, according to Dr. Richardson, rising on the sandy plains of the Saskatchewan to twenty feet, but extending as far north as the Great Slave Lake, lat. 62°, where it attains the height of five feet only. Its fruit, termed *Tawquoy-meena*, (or *Choke-Cherry*), is not very edible in a recent state, but when dried and bruised, it forms an esteemed addition to *Pemmican*. As far as I can judge, however, from the numerous specimens I have received from Canada and the British Possessions, these observations will rather refer to the *C. serotina* than to the *C. Virginiana*: for the former is very abundant in the north, while the latter seems to abound in, if it be not wholly confined to, the middle and southern states.

10. *C. serotina*; racemis elongatis demum pendulis, foliis deciduis ovalibus obovatis breviter acuminatis opacis acutissime serratis, subtus in axillis barbatis, petioli subbiglandulosis, fructu globoso atro-rubro.—*Loisel. in Duham. ed. nov. 5. p. 3. De Cand. Prodr. v. 2. p. 540.*—*Prunus serotina. Ehrh. Willd. Sp. Pl. v. 2. p. 986. "Ejusd. Arb. p. 239. t. 5. f. 2." Torrey, Fl. of Un. St. v. 1. p. 467. Elliott, Carol. v. 1. p. 551.*—P. *Virginiana. Miu. et alior?*—P. *obovata. Bigel. Fl. Bost. ed. 2. p. 192.*—P. *Canadensis. Willd. Sp. Pl. v. 2. p. 986.*—*Cerasus Canadensis. De Cand. Prodr. v. 2. p. 539.*

HAB. Throughout Canada, and extending from Lake Huron (*Dr. Todd*) as far as north lat. 62°, and from Newfoundland (*Dr. Morrison, Mr. Cormack*) and Hudson's Bay on the east, to the mountain-valleys west of the Rocky Mountains; where, however, by the banks of streams, in sandy soils, it rarely rises more than 2-4 feet high. (*Douglas*).—That Michaux and others have confounded the *C. serotina* with the *C. Virginiana* is quite certain, but it is still with me a matter of great doubt how far the two are entitled to

be ranked as species. The serratures and tufts of hair on the underside of the leaves are undoubtedly variable, and we know how little dependence is to be placed upon the foliage of our own *Cerasus Padus*, a species so nearly allied to this, that M. Seringe (in De Candolle) seems to doubt if it be really distinct.

TRIB. II. SPIRÆACEÆ. DC.

3. PURSHIA. De Cand.

Cal. tubulosus 5-fidus, lobis ovatis obtusis. *Pet.* 5 obovata unguiculata cum staminibus 25 calycis ore inserta. *Ovarium* 1 ("2 ex Br.") oblongum liberum stipitatum pubescenti-glandulosum stylo subulato attenuatum. *Stigma* lineare laterale longitudine fere styli, pubescens. *Ovidum* unicum paulo supra basin insertum in parietem loculi descendens. *Achenium* (rima longitudinali dehiscens, DC.) oblongum utrinque attenuatum, stylo coronatum. *Semen* obovatum. *Integumentum* crassum. *Albumen*? tenue carnosum. *Embryo* erectus. *Cotyledones* ovales. *Radicula* infera.—*Frutex* ramis erectis, ramulis brevibus numerosis, geminis squamosis. *Folia fasciculata simplicia 3-dentata subtus albida*. *Flores terminales conferti*. *Petala filamentaque siccitate æruginosa*.

1. *P. tridentata*. (TAB. LVIII.) De Cand. in *Lin. Trans.* v. 12. p. 158, *Prodr.* v. 2. p. 541.—*Tigarea tridentata*. Pursh, *Fl. Am.* v. 1. p. 333. t. 15.

Frutex erectus, cortice cinereo rugoso glabro tectus. *Rami* stricti subvirgati, ramulis brevibus fasciculatis onusti. *Folia* fasciculata semper e gemmis elongatis ramosis squamosis orta, 6-8 lineas longa, cuneata, in petiolum brevem attenuata, apice tridentata, supra glabriuscula, subtus albo-tomentosa. *Stipule* minute triangulares. *Flores* solitarii vel congesti e fasciculis foliorum. *Pedunculus* brevis, glandulosus. *Calyx* extus tomentosus, tubo elongato glanduloso glandulis pedicellatis, limbo 5-fido, patetæ, segmentis ovalibus, obtusis. *Petala* 5, calyce inserta, laciniis alterna, patentia, obovata, obtusa, undulata, venosa, siccitate viridescens, basi in unguem attenuata. *Stamina* 25, ad orem tubi calycis inserta. *Filamenta* filiformia, siccitate sordide viridia. *Antheræ* subrotundæ. *Pistillum* solitarium, ad basin calycis insertum, et ejus tubo duplo longius, breviter stipitatum. *Germen* ovali-cylindraceum, pubescens atque glandulosum uni-ovulatum superne in stylo attenuatum. *Stigma* lineare, laterale, pubescens. *Capsula* (seu *Achenium*) 6-7 lineas longa, coriaceo-membranacea, pubescens, orata, basi apiceque attenuata, inferne calyce persistente tecta, indehiscens, (longitudinaliter dehiscens, DC.) uniloculare, monospermum. *Loculi* paries longitudinaliter striatus. *Semen* obovatum, nigro-purpureum, prope basin loculi insertum dein erectum. *Integumentum* crassum, extus minute punctatum: *Parenchyma* granulosum intense purpureum. *Albumen* carnosum-membranaceum, albidum. *Embryo* obovatus compressus carnosus albus. *Cotyledones* magne, crasse. *Radicula* infera.

HAB. In the Prairies of the Rocky Mountains, and on the Columbia River. *Lewis*. "Almost the only shrub to be seen through an immense tract of barren sandy soil from the head sources of the Missouri to the Falls on the Columbia, and from 38° to 48° of north latitude." *Douglas*.—It does not appear that any Botanist has ever gathered this highly interesting plant, except the travellers above-mentioned. From *Lewis'* specimens of the *Tigarea tridentata* of Pursh, preserved in Mr. Lambert's Herbarium, Professor De Candolle established the genus *Purshia* in the Linnaean Transactions. The figure given by Mr. Pursh is sufficiently faithful for the general appearance of a branch; but the details of the fructification were still a desideratum. This I have endeavoured to supply by the aid of the beautiful specimens collected by Mr. Douglas. The covering of the seed presents an appearance which I do not quite understand. It is double. The epidermis, which is thin and membranous, owes its colour to a deep purple granulated pulp lying between it and the inner lining, which latter is opaque and fleshy, whence I have been led to consider it as albumen. The two coats are easily separated from the intermediate pulpy and granulated substance.

TAB. LVIII. *Purshia tridentata*. Fig. 1, Flower from a gemma, natural size, with three leaves; fig. 2, Flower not quite expanded, magnified; fig. 3, Expanded flower, with the gemma and leaves; fig. 4,

Section of a flower, some of the stamens and petals being removed; *fig. 5*, Back view of a stamen; *fig. 6*, Front view of do.; *fig. 7*, Pistil; *fig. 8*, Pistil laid open to show the embryo; *fig. 9*, Capsule with its persistent calyx, *natural size*; *fig. 10*, Capsule, *magnified*; *fig. 11*, Capsule laid open to show the position of the seed; *fig. 12*, Seed; *fig. 13*, Transverse section of do.; *fig. 14*, Embryo:—all but *figs. 1* and *9*, *magnified*.

4. SPIRÆA. *Lin.*

Cal. 5-fidus persistens. Stam. 10-50 cum petalis toro calyce adhærente inserta. Carpella 1-00, distincta, rariter basi coalita, brevi apiculata, sessilia raro stipitata. Sem. 2-6, suturæ internæ affixa, exalbuminosa. Embryo inversus, cotyledonibus crassiusculis.—Frutices *inermes vel herbæ perennes. Rami alterni. Folia alterna simplicia raro decomposito-pinnatisecta, nervis pennatis vel ternato-palmatis. Flores albi aut rubicundi nunquam flavi. DC.*

SECT. I. PHYSOCARPUS. *Camb.*

1. *S. opulifolia*; foliis cordatis trilobis inciso-serratis petiolatis, corymbis hemisphæricis multifloris, pedicellis gracilibus longis, carpellis (3 v. 2) calyce triplo majoribus inflatis. *Lin. Sp. Pl. p. 702. Mich. Am. v. 1. p. 293. Pursh, Fl. Am. v. 1. p. 342. Elliott, Carol. v. 1. p. 560. Torrey, Fl. of Un. St. v. 1. p. 482. De Cand. Prodr. v. 2. p. 542.*—*α.* foliis pedicellisque glabris, calycis marginibus solummodo pubescentibus.—*S. opulifolia. α. Ser.*—*β.* foliis junioribus subtus pedicellis calycibusque pubescenti-tomentosis.—*S. opulifolia. β. tomentella. Ser.*—*S. capitata. Pursh, Fl. Am. v. 1. p. 342. De Cand. Prodr. v. 2. p. 542.*—*γ.* carpellis 2 pubescenti-tomentosis.—*S. monogyna. Torrey in Pl. of Rock. Mount. p. 194?*

HAB. α. Throughout Canada: from Lake Huron (*Dr. Todd*) to the Saskatchewan. *Dr. Richardson, Drummond.*—*β.* Fort Vancouver, (*Mr. Menzies, Dr. Scouler*) and upon rocky banks of streams near the Grand Rapids of the Columbia. *Douglas.*—*γ.* Kettle Falls of the Columbia. *Douglas.*—The hairs of the leaves on var. *β.* are beautifully fasciated.

SECT. II. CHAMÆDRYON. *Ser.*

2. *S. hypericifolia*; foliis obovato-oblongis 3-4-nerviis integris vel dentatis glabris puberulisve, nervis pinnatis, corymbis pedunculatis aut umbellis sessilibus, pedicellis glabris puberulisve, sepalis ascendentibus. *Ser.*—*Lin. Sp. Pl. p. 701. Pursh, Fl. Am. v. 1. p. 341. Torrey, Fl. of Un. St. v. 1. p. 480. De Cand. Prodr. v. 2. p. 543.*—*β.* Plukenetia. *Ser.* foliis integerrimis glabris, corymbis sessilibus.

HAB. β. Canada. *Pursh.*—I am unacquainted with this, nor, though stated on the same authority to be found in the swamps of New York, has *Dr. Torrey* ever seen an American specimen. It is probable that this, like so many of the species of this section, is exclusively a native of the Old World. The *S. capitata*, placed here by *M. Seringe*, unquestionably belongs to the first section, and to *S. opulifolia*.

3. *S. chamædrifolia*; foliis ovatis ellipticisve inæqualiter serratis rarius sublobatis glabriusculis, corymbis hemisphæricis pedunculatis, pedicellis lobisque calycinis reflexis pubescentibus. *Lin. Sp. Pl. p. 701. Pursh, Fl. Am. v. 1. p. 343. De Cand. Prodr. v. 2. p. 542.*—*α.* foliis ellipticis obtusis glabris vel subpubescentibus.—*S. chamædrifolia. Pall. Fl. Ross. p. 32. t. xv. (fig. med.)*

HAB. North-West coast of America, (but surely not "in Canada,") *Pursh.*—*β.* Sledge Island in Behring's Straits. *Mr. Menzies.* Chamisso's Island in Kotzebue's Sound, (*Chamisso*), and on the mainland

of Kotzebue's Sound. *Lay and Collie in Captain Beechey's Collection*.—This is, according to all accounts, a very variable species. Of the larger and sharp-leaved variety, (*S. ulmifolia*, Scop.) a good figure is given in the Bot. Reg., and that is, as Mr. Lindley justly observes, the original *S. chamadryos foliis* of Amman, St. Rar. p. 190.

SECT. III. SPIRÆIA. Ser.

4. *S. betulifolia*; foliis late ovalibus breve petiolatis glabris superne præcipue incisoserratis sublobatis subtus pallidis, corymbis compositis latis glabris foliolosis, floribus numerosissimis (parvis), ovariis 5 glabris.—*Pall. Fl. Ross. t. 16. Pursh, Fl. Am. v. 1. p. 342? Wats. Dendrol. t. 67. (fig. bona.) De Cand. Prodr. v. 2. p. 544.*—*S. lucida. Douglas, MSS. apud Hort. Soc. Lond.*—*β. foliis majoribus magis lobatis subtus pallidioribus.*

HAB. *α.* and *β.* Vallies of the Rocky Mountains, in lat. 52°-54°. *Drummond.* In the subalpine regions of Mount Hood, and in the Blue Mountains, near Lewis and Clarke's River, North-West America. *Douglas.*—Stems 1-2 feet high; branches erect, red, glabrous, as is every part of the plant. Leaves 2-3 inches long, membranaceous. Flowers very small and numerous, crowded, forming a flat, broad, compound corymb, white, (*Douglas,*) yellowish when dry. This agrees tolerably well with Pallas' figure of the Siberian *S. betulifolia*, as far as can be judged from the fruited state of the plant, which is alone given in the *Flora Rossica*. The leaves and inflorescence in Mr. Watson's representation are very characteristic of our plant. Muhlenberg's and Rafinesque's *S. corymbosa* (see Torrey's Fl. v. 1. p. 482,) seems to differ from this principally in being slightly downy.

5. *S. salicifolia*; glabriuaseula, foliis lanceolatis argute subduplicato-serratis, lobis calycinis triangularibus patulis, racemis elongatis, floribus densis, carpellis 5 glabris. *Linn. Sp. Pl. p. 700.*—*β. floribus albis.*—*S. salicifolia. Mich. Am. v. 1. p. 293. Pursh, Fl. Am. v. 1. p. 340. Torrey, Fl. of Un. St. v. 1. p. 481. Rich. in Frankl. 1st Journ. ed. 2. App. p. 19. De Cand. Prodr. v. 2. p. 544. Elliott, Carol. v. 1. p. 560.*—*S. alba. Ehrh.—Bigel. Fl. Bost. ed. 2. p. 197. Wats. Dendrol. t. 133.*—*S. sulcifolia, γ. paniculata. Ait. Hort. Kew.*

HAB. *β.* Throughout Canada, and as far north as the Saskatchewan. Newfoundland. *Sir Alexander Cochrane.*

6. *S. tomentosa*; ramis pedunculisque ferrugineo-tomentosis, foliis ellipticis duplicato-serratis sublobatis subtus ferrugineo-tomentosis, panicula confertiflora attenuata, floribus parvis, staminibus corolla rosea vix longioribus, lobis calycinis triangularibus reflexis, carpellis 5 tomentosis.—*Linn. Sp. Pl. p. 701. Mich. Am. v. 1. p. 293. Pursh, Fl. Am. v. 1. p. 341. Torrey, Fl. of Un. St. v. 1. p. 481. Bigel. Fl. Bost. ed. 2. p. 197. Elliott, Carol. v. 1. p. 560.*

HAB. Canada, (*Michaux, Mrs. Percival, Mrs. Sheppard,*) and as far as Lake Winnipeg. *Dr. Richardson, Mr. Drummond.*

7. *S. Douglasii*; ramis pedunculisque pubescentibus, foliis ellipticis superne grosse inæqualiter serratis subtus incano-tomentosis, panicula confertiflora oblonga obtusa, floribus parvis, staminibus corolla rosea duplo longioribus, lobis calycinis triangularibus reflexis, carpellis 5 glaberrimis nitidis.

HAB. North-West coast of America, about the Columbia and the Straits of de Fuca. *Dougl., Dr. Scouler.*—This is unquestionably different from *S. tomentosa*, being much larger in the branches and leaves, with a white (never ferruginous) tomentum. The leaves are serrated only in their upper half, and there very coarsely; the panicle is never attenuated, but very obtuse, the flowers are smaller, the stamens longer, and the capsules are quite glabrous and shining.

8. *S. Menziesii*; ramis superne pedunculis calycibusque triangularibus reflexis læviter pubescentibus, foliis ellipticis superne grosse inæqualiter serratis subtus concoloribus glabris, panicula confertiflora oblonga obtusa, floribus parvis, staminibus corolla rosea duplo longioribus, ovariis 5 glabris.

HAB. North-West coast of America. *A. Menzies, Esq.*—The only specimens I have ever seen of this plant are from my valued friend Mr. Menzies. In habit it quite agrees with the preceding species, but it is entirely destitute of the white tomentum on the underside of the leaves and older branches, which are wholly glabrous: the latter are glossy, deep purplish-brown.

9. *S. arizifolia*; foliis lato-ovatis obtuse lobatis inæqualiter mucronato-serratis subtus pallidioribus hirtis, panicula ampla ramosissima laxa pubescenti-hirsuta, pedicellis bracteatis, lobis calycinis acutis patentibus, carpellis 5 compressis marginatis patenti-hirsutissimis. —*Sm. in Rees' Cycl. De Cand. Prodr. v. 2. p. 544. Lindl. in Bot. Reg. t. 1365.*—*S. discolor. Pursh, Fl. Am. v. 1. p. 342. De Cand. Prodr. v. 2. p. 545. Torrey in Pl. of Rock. Mount. p. 195.*

HAB. Banks of the Kooskooskye River, North-West America. *Lewis.* Frequent along the coast of the Pacific, from lat. 40° to 49°, north, forming part of the underwood of the forests, (*Douglas*), and on the rocky banks of the Spokan, Flathead, Salmon, and M'Gillivray Rivers, in the interior. *Mr. Menzies, Douglas, Dr. Scouler.*—The leaves are more or less hairy, and more or less pale, but never so white as to be "*nicotomentosa*," or to justify the name of "*discolor*" being given to the plant, as far as our specimens are concerned; but in the *S. discolor* of Dr. Torrey, according to a sample in my Herbarium, the leaves are snowy white with hairs on the underside.

SECT. IV. SORBARIA. Ser.

10. *S. sorbifolia*; foliis pinnatis, foliolis lanceolatis oppositis duplicato-argute serratis sessilibus. *Linn. Sp. Pl. p. 702. Pall. Fl. Ross. t. 25. Pursh, Fl. Am. v. 1. p. 342. De Cand. Prodr. v. 2. p. 545.*

HAB. On the North-West coast of America, and "probably in Canada," (*Pursh*), but I have never seen a specimen from either of these widely separated regions.

SECT. V. ARUNCUS. Ser.

11. *S. Aruncus*; foliis tripinnatis, foliolis oblongo-ovatis acuminatis duplicato-serratis terminali ovato, spicis laxis valde paniculato-ramosis, carpellis glaberrimis.—*Linn. Sp. Pl. p. 702. De Cand. Prodr. v. 2. p. 544.*— β . *Americana. Mich. Am. v. 1. p. 294. Pursh, Fl. Am. v. 1. p. 343. Elliott, Carol. v. 1. p. 561. Torrey in Pl. of Rock. Mount. p. 194.*—*S. acuminata. Douglas, MSS. apud Hort. Soc. Lond.*

HAB. Moist woods, near the source of the Columbia. *Drummond.* Mouth of the Columbia, and at Puget Sound. *Douglas, Dr. Scouler.*—Mr. Douglas is disposed to consider this plant distinct from the *S. Aruncus* of the United States and of Europe; but I confess I can see no difference.

5. GILLENIA. Mæneh.

Cal. tubuloso-campanulatus ore contractus 5-fidus. Pet. 5, lineari-lanceolata, subinæqualia, ex apice tubi. Stam. 10–15 inclusa. Carfella 5 stylo filiformi erecto apice capitato superato, subconnata in capsulam 5 loc. Semina in loculis 2.—*Herbæ perennes, foliis trifoliolatis, foliolis petiolulatis serratis, floribus longe pedicellatis ex albo roseis axillaribus terminalibusque. Radices emetico-cathartice. DC.*

1. *G. trifoliata*; stipulis linearibus acuminatis integris. "Mærch, Suppl. p. 286." *De Cand. Prodr. v. 2. p. 546. Torrey, Fl. of Un. St. v. 1. p. 463.*—*Spiræa trifoliata. Linn. Sp. Pl. p. 702. Mich. Am. v. 1. p. 343. Elliott, Carol. v. 1. p. 562.*

HAB. Canada. *Pursh.*

TRIN. III. DRYADEÆ. *Vent.*

6. DRYAS. *Linn.*

Cal. 8-9-partitus extus nudus, tubo subconcavo. *Pet.* 8-9. *Stam.* 00. *Carpella* 00, stylo terminali demum in caudam barbato-plumosam desinente. *Semen* adscendens.—*Herbæ humillimæ, foliis indivisis subtus albo-tomentosis, floribus albis (rarius luteis.) DC.*

1. *D. octopetala*; foliis oblongo-ovatis profunde crenato-serratis basi obtusis subtus albo-tomentosis venis nudiusculis prominentibus, calycis segmentis linearibus, (floribus albis.)—*Linn. Sp. Pl. p. 717. Engl. Bot. t. 31. Pursh, Fl. Am. v. 1. p. 350. De Cand. Prodr. v. 2. p. 550. Torrey in Pl. of Rock. Mount. p. 195.*

HAB. High mountains in the North-West parts of Canada. *Pursh.* Rocky Mountains, between lat. 52°-56°, sometimes with double flowers. *Drummond.* Cape Lisburne, in Behring's Straits. *Lay and Collie in Captain Beechey's Collection.* It is found, according to Dr. Torrey, as far south upon the Rocky Mountains as lat. 30°. Shores and Islands of the Arctic Sea, (Captain Sir J. Franklin and Captain Sir E. Parry,) but much less frequent than *D. integrifolia*, from which it may always and readily be distinguished.

2. *D. integrifolia*; foliis oblongo-ovatis basi latioribus cordatis integerrimis seu inferne solummodo paucidentatis subtus albo-tomentosis vix venosis, calycis segmentis linearibus, (floribus albis.)—*Vahl, in Act. Soc. Hafn. v. 4. P. 2. p. 177. Fl. Dan. t. 1216. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21. Hook. Ex. Fl. t. 220. De Cand. Prodr. v. 2. p. 549. Torrey, Fl. of Un. St. v. 1. p. 492.*—*D. tenella. Pursh, Fl. Am. v. 1. p. 350.*

HAB. Island of Anticosti, in the Gulph of St. Lawrence. *Mr. Goldie.* Labrador. *Rev. Mr. Colnaster.* In dry rocky places from lat. 54° to the shores and islands of the Arctic Sea, where it is abundant. *Franklin, Richardson, Parry, Sabine, &c.* Extending westward to Behring's Straits. *Chamisso, Lay and Collie in Captain Beechey's Collection.* Rocky Mountains, between lat. 52° and 56°, especially on the more elevated ridges. *Drummond.*—Leaves much smoother (less impressed with veins), and the whole plant far less glandular than the preceding species. It retains its character for years in cultivation.

3. *D. Drummondii*; foliis ellipticis basi subattenuatis crenato-serratis subtus venisque prominentibus niveo-tomentosis, calycis segmentis ovatis, (floribus luteis.)—*Rich. MSS.*—*Hook. in Bot. Mag. t. 2972.*—*Dryas octopetala. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*

HAB. In the woody country between lat. 54° and 64°, and about Slave Lake and Bear Lake, as far as the mouth of the River Bear Lake on the shores of the Arctic Sea in lat. 68°. *Dr. Richardson.* Gravelly batters of alpine rivers, among the Rocky Mountains. *Drummond.*—This highly beautiful and little known plant is distinguished from the other species of *Dryas* no less by the colour of its flowers than by the form of its calycine segments.

7. GEUM. *Linn.*

Cal. tubus concavus, limbo 5-fido, extus 5-bracteolatus. *Pet.* 5. *Stam.* 00. *Carpella* exsueca caudata in capitulum disposita, stylo post anthesin geniculato, articulo superiore saepe deciduo. *Semen* adscendens.—*Herbæ, foliis varie pinnatisectis.*

* *Calyce reflexo.*

1. *G. strictum*; caule petiolisque patenti-hispidis, foliis radicalibus interrupte lyratopinnatis, pinnis ovatis obovatis cuneatisve inciso-lobatis serratisque terminali suborbiculari caulinis 5-3natis, stipulis incisiss, floribus erectis, petalis calyce paulo longioribus (flavis,) carpellis hispidis, stylo glabro, appendice piloso.—*Ait. Hort. Kew. v. 2. p. 217, ed. 2. v. 3. p. 280. Pursh, Fl. Am. v. 1. p. 351. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21. Bigel. Fl. Bost. ed. 2. p. 207. Torrey, Fl. of Un. St. v. 1. p. 492.—G. Canadense. Murr.—De Cand. Prodr. v. 2. p. 550.—G. aleppicum. Jacq. Ic. Rar. t. 93. (fig. nitidiss.)— α . omnibus partibus duplo majoribus.—*G. macrophyllum. Willd.?**

HAB. Throughout Canada, from Lake Huron (*Dr. Todd*) to the Saskatchewan; and from Newfoundland (*Mr. Cormack, Sir Alexander Cochrane*) to the alpine Prairies of the Rocky Mountains. *Drummond*.— β . Fort Vancouver, on the Columbia.—My var. β . entirely agrees with what is cultivated in our gardens as the *G. macrophyllum*, and sufficiently so with the description of authors; but I do not find that it differs from the *G. strictum*, (which is indeed a most variable plant,) except in size.

2. *G. Virginianum*; caule hirsuto, foliis radicalibus trifoliolatis interrupte pinnatisve, foliolis lato-ovatis ellipticisve lobatis crenatis inciso-serratisque, caulinis trifoliolatis, foliolis saepe obovato-numinatis incisiss, stipulis subintegris, pedunculis divergentibus, floribus erectis, petalis calyce vix longioribus (albis,) carpellis hispidis, stylo glabro, appendice subclavato basi piloso.—*Linn. Sp. Pl. p. 716. Mich. Am. v. 1. p. 301. Pursh, Fl. Am. v. 1. p. 351. Torrey, Fl. of Un. St. v. 1. p. 493. Bigel. Fl. Bost. ed. 2. p. 206. Elliott, Carol. v. 1. p. 572. De Cand. Prodr. v. 2. p. 550.—G. Canadense. Jacq. Hort. Vind. v. 2. t. 275, (fig. bona.)—*G. album. Gmel. et aliorum.—G. geniculatum? Mich.**

HAB. Canada. *Michaux, Pursh. Lake Huron. Dr. Todd*.—I have not myself seen specimens from any other part of the British Possessions than Lake Huron; but this is a frequent plant in the United States. The *G. album*, of which I have fine specimens from *Dr. Torrey*, cannot be distinguished from *G. Virginianum*; the leaves are frequently trifoliolate and pinnate from the same root. Professor *Bigelow* observes that there are intermediate states between the two species.

* * *Calyce erecto.*

3. *G. rivale*; pilosum, caule erecto simpliciusculo, foliis radicalibus interrupte pinnatis foliolis obovatis inciso-serratis, terminali maximo orbiculari-cordato caulinis trifoliolatis, floribus cernuis, petalis (rubicundis) erectis obcordatis unguiculatis calycis longitudine, carpellorum capitulo demum stipitato, stylis basi pilosis.—*Linn. Sp. Pl. p. 717. Engl. Bot. t. 106. Mich. Am. v. 1. p. 301. Pursh, Fl. Am. v. 1. p. 351. Bigel. Fl. Bost. ed. 2. p. 206. Torrey, Fl. of Un. St. v. 1. p. 493. De Cand. Prodr. v. 2. p. 551.*

HAB. Canada. *Michaux, Pursh. Lake Huron. Dr. Todd. Newfoundland. Sir Alexander Cochrane, Dr. Morrison.* Prairies of the Rocky Mountains. *Drummond.*

4. *G. pubescens*; caule simplici, foliis glabriusculis margine ciliatis, inferioribus pinnatis, caulinis pinnatifidis, superioribus palmatis, laciniis linearibus incisiss, floribus corymbosis. *Pursh, Fl. Am. v. 1. p. 352.*

HAB. On the banks of the Koooskooskye River, North-West America. *Lewis, (ex Pursh.)*—The flowers are said by *Pursh*, to whom alone this plant seems to have been known, to resemble those of the preceding species.

8. SIEVERZIA. Willd.

Cal. tubus concavus, limbo 5-fido, extus 5-bracteolatus. *Pet.* 5. *Stam.* 00. *Carpella* numerosa caudata in capitulum disposita, stylo recto persistente. *Semen* adscendens.—“*Habitus fere, nec omnino, Gei, quod differt stylis geniculatis articulo superiore dissimili sæpiusque deciduo.*” *Br.*

1. *S. anemonoides*; caule unifloro, stolonibus reptantibus, foliis pinnatis glabris, pinnis ensiformibus apice dentatis, floribus albis, stipulis filiformibus, petalis calyce longioribus, stylis barbatis. *DC.*—“*Willd. Berl. Mag. 5. p. 398.*”—*Geum anemonoides. Willd.—Pursh, Fl. Am. v. 1. p. 352. De Cand. Prodr. v. 2. p. 553.—Dryas pentapetala. Linn. Amen. Acad. v. 2. p. 353.*

HAB. On the North-West coast of America. *Merk, (ex Pursh.)*—With this species I am unacquainted. Though given as a native of Kamtschatka, it is not noticed by Chamisso among the *Rosacea* of that country described in the *Linnaea*, nor does it exist in Capt. Beechey's Collection.

2. *S. Rossii*; aristis nudis, foliis radicalibus interrupte pinnatis glabris, pinnis trilobis accessoriiis imisque nanis indivisis, caule unifloro subdiphylo, petalorum venis omnibus distinctis. *Br. in Parry's 1st Voy. App. p. cclxxvi.*—*Geum Rossii. De Cand. Prodr. v. 2. p. 553.*

HAB. Melville Island. *Capt. Sir Edward Parry.*

3. *S. humilis?* *Br. in Parry's 1st Voy. App. p. cclxxvi. in adnot. Cham. in Linnaea, v. 2. p. 6.*

HAB. Island of Unalashka. *Chamisso.*—No specific character appears to have been any where given of this plant. But Chamisso says it differs principally from *S. Rossii*, to which it is too nearly allied, by its hairiness.

4. *S. glacialis*; tota villo denso flavicante vestita, foliis pinnatis, pinnis ovato-oblongis summis imisque minimis, mediis majoribus subuidentatis, flore magno unico terminali, carpellorum aristis villosissimis.—*Br. in Parry's 1st Voy.—Geum glaciale. "Adams, Act. Mosk. 5. p. 96." De Cand. Prodr. v. 2. p. 553.*

HAB. Shores of the Arctic Sea, west of the Mackenzie River. *Capt. Sir J. Franklin.* Cape Lisburne in Behring's Straits. *Lay and Collie.*—The leaflets are often cuneate and 3-toothed; all of them beautifully silky with long fulvous hairs.

5. *S. triflora*; hirsuta, caule nudiusculo erecto simpliciter trifloro, foliis radicalibus interrupte pinnatis, pinnis cuneatis inciso-dentatis nunc pinnatifidis inferioribus sensim minoribus, petalis (rubicundis) calycem æquantibus, aristis longissimis sericeo-villosissimis.—*Br. in Parry's 1st Voy. App. p. cclxxvi. in adnot. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21. Hook. in Bot. Mag. t. 2858.—Geum triflorum. Pursh, Fl. Am. v. 2. p. 736. De Cand. Prodr. v. 2. p. 553. Torrey in Pl. of Rock. Mount. p. 125.—Potentilla nivalis. Torrey in Ann. of Lyc. of N. H. of N. York. v. 1. p. 32. t. 3. f. 1.*

HAB. Labrador. *Dr. Morrison.* Newfoundland. *Mr. Co-mack.* Plains of the Saskatchewan, Athabasca Lake, and valleys of the Rocky Mountains. *Dr. Richardson, Douglas, Drummond.*—The numerous specimens of this plant precisely accord with Mr. Bradbury's original ones in my Herbarium, and with others from the White Mountains, in the New England States.

6. *S. radiata*; hirsuta, simplex, foliis radicalibus lyrato-pinnatis, foliolis lateralibus paucis minutissimis, terminali maximo rotundato-cordato sinu angusto profundissime radiatim-nervoso sublobato crenato-serrato, caulinis (3-5) sessilibus cordatis inciso-lobatis, floribus paucis (2-3) erectis, corollis (flavis) calyce longioribus, aristis subpilosis.—*Mich. Am. v. 1. p. 300. Pursh, Fl. Am. v. 1. p. 352. De Cand. Prodr. v. 2. p. 554.*—*S. rotundifolia. Cham. in Linn. v. 2. p. 4.*—*Geum rotundifolium. Langsd.—De Cand. Prodr. v. 2. p. 552.*—*G. calthifolium. Sm. in Rees' Cycl.*

HAB. North-West coast of America. *Menzies. Uualaschka. Langsdorff, (ex Fisch.) Chamisso.*—Closely allied to *S. Pechii*, (Bot. Mag. t. 2863,) which has not hitherto been found beyond the limits of the United States; but this latter plant is of humbler growth, with a less leafy stem, and the terminal pinna of its radical leaf is truncate at the base.

9. COMAROPSIS. Rich.

Cal. tubus turbinatus, limbus 5-fidus extus non bracteolatus. Pet. 5 non unguiculata. Stam. 00. Carpella pauca apice stylum filiformem elongatum gerentia. Achenia sicca basi non coarctata. Semen erectum.—Herbæ habitu Waldsteinie sed calyx nudus. Foliis trisecta fere trifoliolata. DC.

1. *C. fragarioides*; carpellis glabriusculis, scapis ramosis, foliis trifoliolatis, foliolis luto-cuneatis breve petiolatis.—a. petalis calyce longioribus. *C. fragarioides. De Cand. Prodr. v. 2. p. 555.*—*Dalibarda fragarioides. Mich. Am. v. 1. p. 300. t. 28. Pursh, Fl. Am. v. 1. p. 351. Elliott, Carol. v. 1. p. 571. Bigel. Fl. Bost. ed. 2. p. 202. Torrey, Fl. of Un. St. v. 1. p. 491.*—*Waldsteinia frag. Tratt. Hss.*—s. petalis calyce brevioribus. *Dalibarda fragarioides. Sims in Bot. Mag. t. 1567.*—*Comaropsis Doniana. De Cand. Prodr. v. 2. p. 554.*

HAB. Canada, in Beech-woods. *Pursh.* About Montreal. *Mr. Cleghorn.*—The *Comaropsis pedata* of De Caudolle I refer to *Rubus*, on account of its truly drupaceous carpels and pendulous seeds; in which genus, indeed, Sir J. E. Smith, though unacquainted with the fruit, has correctly inserted it.

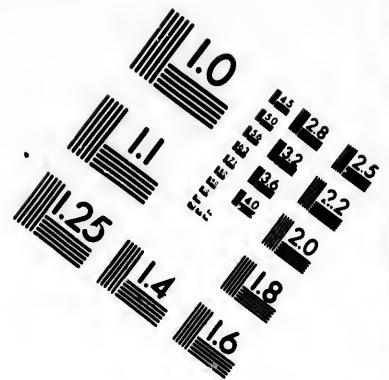
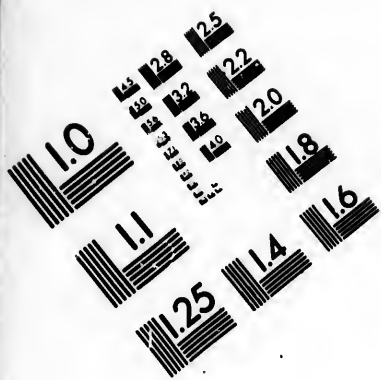
10. RUBUS. Linn.

Cal. fundo planiusculus 5-fidus nudus. Pet. 5 et stam. 00 calyci inserta. Carpella plurima in toro manifeste protuberante non carnosus capitata, stylo sublaterali superata, in drupellis carnosas conversa. Semen inversum.—Frutices varius herbæ peremes. Caulis biemes (an semper?) sæpe radicans, nunc inermes, nunc sæpius aculeati. Folia petiolatu nunc pinnata palmatave, pinnis sæpius petiolulatis, nunc simplicia lobata indivisave. Fructus edules. DC.

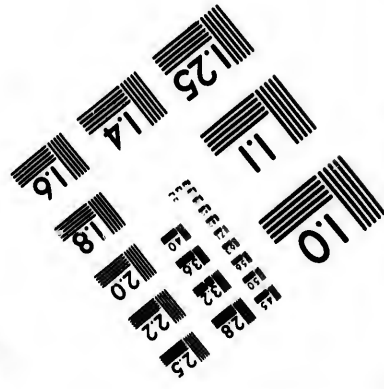
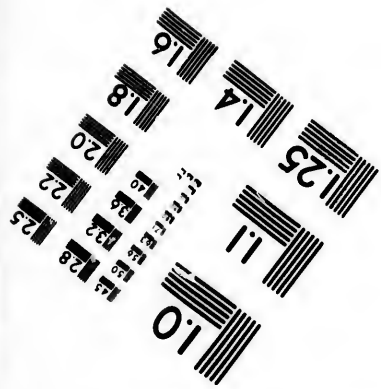
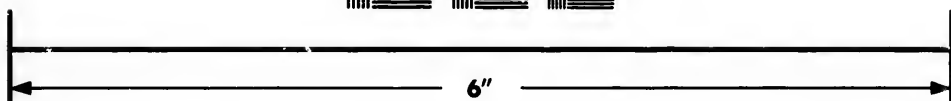
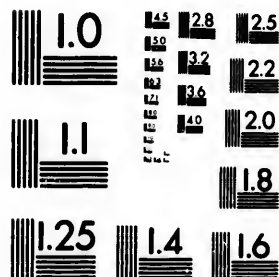
* Foliis pinnatis ternatisve.

1. *R. strigosus*; caule erecto, ramis teretibus petiolisque setoso-hispidis in ramis junioribus pedunculisque pilis rigidis glandulosis immixtis, foliis ternatis rarius quinato-pinnatis, foliolis ovatis luto-acuminatis sublobatis inciso-serratis subtus cano-tomentosis, panicula 4-6-flora, calycibus dense pubescentibus basi præcipue setosis.—*Mich. Am. v. 1. p. 297. Pursh, Fl. Am. v. 1. p. 346. Bigel. Fl. Bost. ed. 2. p. 198. Torrey, Fl. of Un. St. v. 1. p. 488. Rich. in Frankl. 1st Journ. ed. 2. App. p. 19. De Cand. Prodr. v. 2. p. 557.*—*R. Idæus, s. Rich. in Frankl. 1st Journ. ed. 1. App. p. 739, (excl. syn.)*—*R. Pensylvanicus. Poir.*





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" *Caules fusci, subteretes, setis parvis rigidis crebris. Stipula filiformes, basibus brevissime petiolis adnata. Pedunculi striati, setis glanduliferis obsiti, rarissime aculeis minutis sparsis. Minus clare Cel. Pursh dixit 'floribus in apice ramulorum axillaribus solitariis.' Flores reversa in paniculam terminalem, foliosam, paucifloram (4-6) congesti, pedicellis sæpe bifloris, flore tamen solitario pedunculato, axillari ad basin pedunculi."*
Rich.

HAB. Throughout Canada, from Lake Huron (*Dr. Todd*) to the Saskatchewan. *Dr. Richardson, Drummond, Newfoundland. Mr. Cormack.* Dry rocky shores on the Columbia River, North-West America. *Menzies, Douglas.*—Flowers larger than those of *R. Idaus*. Fruit round, with numerous small acini, not highly flavoured. (*Rich.*) *Dr. Torrey* says that the fruit is red, very agreeably tasted, and called the *Red Raspberry*. It seems to hold the place of *R. Idaus* in our country.

2. *R. occidentalis*; caulibus subteretibus, pedunculis petiolisque aculeatis glaucis, aculeis recurvis, foliis ternatis rarius quinato-pinnatis, foliolis ovatis oblongisque sublobatis inciso-serratis subtus incano-tomentosis, paniculis corymbosis 4-6 floris, pedunculis calycibusque tomentosis aculeatis.—*Mich. Am. v. 1. p. 297. Pursh, Fl. Am. v. 1. p. 347. Bigel. Fl. Bot. ed. 2. p. 198. Elliott, Carol. v. 1. p. 568. Torrey, Fl. of Un. St. v. 1. p. 489. Rich. in Frankl. 1st Journ. ed. 2. App. p. 19. De Cand. Prodr. v. 2. p. 558.—Dill. Ehrh. t. 247. f. 319.—*♂. foliis majoribus, subtus niveis. *R. leucodermis. Douglas, MSS. in Herb. Hort. Soc.*

HAB. Canada. *Michaux. Quebec. Mrs. Sheppard. Lake Huron. Dr. Todd.* Near the sources of the Columbia. *Douglas.*—♂. North-West coast of America; whence it has been introduced to the Garden of the Horticultural Society of London.—*Dr. Richardson* observes of this, that the flowers resemble those of the preceding species, and that the form of the leaves is scarcely different, but the branches and peduncles are purple-glaucous and glabrous. Fruit roundish, black and dark purple, sweet and well-flavoured, known as *Wild Raspberry* and *Thimbleberry*. (*Torrey.*)

3. *R. spectabilis*; caule erecto ramisque teretibus inermibus seu rarius subaculeatis, foliis ternatis glabrisculis, foliolis ovatis lobatis inciso-pinnatifidis serratis membranaceis, terminali majore longe petiolulato, lateralibus subsessilibus, stipulis lineari-setaceis, pedunculis unifloris solitariis, calycis segmentis villosissimis lato-ovatis breve acuminatis petalis oblongis (rubris) brevioribus, carpellis numerosis longe aristatis.—*Pursh, Fl. Am. v. 1. p. 348. t. 16. De Cand. Prodr. v. 2. p. 559. Cham. in Linnæa, v. 2. p. 7.—R. stenopetalus. Fischer, (in Herb. nostr.)*

HAB. Banks of the Columbia. *Mr. Menzies, M. Lewis. Unalaska. Chamisso.* Banks of streams and shady woods, North-West America; rarely seen farther than a hundred miles from the coast. *Douglas.*—"A strong white-wooded prickly shrub, from 6-10 feet high. Fruit large, oblong, yellowish-white, and well flavoured." *Douglas.* The calyx is very densely hairy at its base.

4. *R. macropetalus*; hirsutus, caule elato fruticoso, ramis angulatis gracilibus elongatis, petiolis costis subtus pedunculis calycibusque aculeato-setaceis, foliis trifoliolatis, foliolis ovatis inciso-lobatis serratis membranaceis, terminali majore longe (lateralibus brevi-) petiolulatis, stipulis lanceolatis, pedunculis bifloris, calycis segmentis longe acuminatis petala (alba) oblonga subæquantibus. (TAB. LIX.)—♂. foliolis acutis.—*R. macropetalus. Douglas, MSS. apud Hort. Soc. Lond.—*♀. foliolis obtusis.—*R. myriacanthus. Douglas, MSS. in Herb. Hort. Soc. Lond.*

Caulis fruticosus, elatus. Rami elongati, graciles, angulato-striati, magis minusve pilosi, aculeati, aculeis

parvis gracilibus subrecurvis uniformibus. *Folia* longe petiolata, trifoliolata; *foliola* late ovata, lobata, inciso-serrata, appresso-sparsim hirsuta, acuta, vel in *â*. obtusa, terminali majore, longe petiolulato, lateralibus breve petiolulatis, costa rubris, basi præcipue, aculeata, pubescenti-hirsuta. *Stipulae* lancoelate, majusculæ, 5-6 lineas longæ. *Pedunculi* folio breviores glanduloso-hirsuti valde aculeati, biflori. *Flores* magni. *Calyx* pubescenti-glandulosus, segmentis ovatis longe angustæque acuminatis nunc sub-lacinatis corollam subsequantibus. *Petala* oblonga, alba. *Stam.* numerosa. "*Fructus* oblongus ater." *Douglas*.

HAB. Banks of rivers and in low woods, in the Valley of the Columbia, North-West America. *Douglas*, *Dr. Scouler*.—Habit of *R. spectabilis*, but differing remarkably in its copious aculei, broad stipules, much acuminated calycine segments, white petals, and black fruit, which latter is well tasted.

Tab. LIX. *Rubus macropetalus.* *Fig. 1, Petal:—magnified.*

5. *R. Menziesii*; caule procumbente terete aculeato glabro, ramis brevibus pubescenti-tomentosis aculeatis, foliis 3-foliolatis, foliolis lato-ovatis sublobatis inæqualiter serratis brevipetiolulatis supra hirsutis subtus pallidioribus hirsutissimis, paniculis terminalibus paucifloris, pedicellis calycibusque aculeatis, segmentis calycinis ovatis acutis mucronatis tomentosis corolla (rubra) brevioribus.

HAB. North-West coast of America. *Menzies*.—This appears to be a small procumbent species, having red flowers, small shortly-petioled leaflets, which are exceedingly villous beneath, and very downy branches and peduncles. Its nearest affinity is perhaps with *R. spectabilis*.

* * *Foliis 3-seu pedatim 5-foliolatis.*

† *Fruticosi.*

6. *R. suberectus*; glabriusculus, caule suberecto angulato aculeato, aculeis sparsis uniformibus, foliis 3-5-foliolatis, panicula laxa pauciflora, segmentis calycinis ovatis acuminatissimis marginibus præcipue pubescentibus.—*And. in Tr. of Linn. Soc. v. 11. p. 218. t. 16. Engl. Bot. t. 243. Borr. in Hook. Brit. Fl. ed. 2. p. 243. De Cand. Prodr. v. 2. p. 556.*

HAB. Between Lake Superior and Lake Winipeg. *Dr. Richardson*. Newfoundland. *Mr. Cormack*.—Although more straggling in its growth and less aculeated than the *R. suberectus* of Europe, I do not see that this differs in other particulars from it. The fruit, *Dr. Richardson* says, is dark purple.

7. *R. villosus*; aculeatus, caule glabro angulato, ramis junioribus foliis racemisque ubique glanduloso-pubescentibus, aculeis sparsis parvis recurvis, foliis 3-5-foliolatis, racemis elongatis laxis simplicibus multifloris, pedicellis longis gracilibus basi bracteatis, calycis segmentis mucronatis tomentosis.—*Ait. Hort. Kew. ed. 1. v. 2. p. 210. Mich. Am. v. 1. p. 297. Pursh, Fl. Am. v. 1. p. 346. Bigel. Fl. Bost. ed. 2. p. 199, ejusd. Med. Bot. t. 38. Torrey, Fl. of Un. St. v. 1. p. 487. Elliott, Carol. v. 1. p. 567. De Cand. Prodr. v. 2. p. 563.*

HAB. Near Montreal. *Mr. Cleghorn*. Lake Huron. *Dr. Todd*.—This is no less distinguished from all the other Canadian species of *Rubus* by its copious clothing of down, mixed with glandular hairs, than by its long simple racemes of flowers, with their large linear-oblong bractæ, and long alternate and remote pedicels. I possess specimens from the United States, sent me by *Dr. Boott* and *Dr. Torrey*; and the species seems more universal in the south than in the north.

8. *R. setosus*; "caule basi erecto dein reclinato hispido, foliis ternatis quinatisve utrinque glabris concoloribus." *Bigel. Fl. Bost. ed. 2. p. 198. De Cand. Prodr. v. 2. p. 563.*

HAB. About Montreal. *Dr. Payne*, (ex *Bigel.*)—I have no authentic specimen of this plant, and cannot therefore offer an opinion upon it.

9. *R. trivialis*; caule procumbente sarmentoso aculeato, ramis subinermibus, foliis ternatis, foliolis ovalibus acutis inæqualiter serratis glabris, stipulis lineari-acuminatis, floribus axillaribus pedunculatis solitariis et terminalibus racemosis, calycis segmentis ovatis acutis marginibus albo-tomentosis corolla duplo brevioribus.—*Mich. Am. v. 1. p. 296. Pursh, Fl. Am. v. 1. p. 347. Bigel. Fl. Bost. ed. 2. p. 200. Elliott, Carol. v. 1. p. 569. Torrey, Fl. of Un. St. v. 1. p. 489?*—*R. hispidus*.^{*} *Linn.?* *De Cand. Prodr. v. 2. p. 564.*—“*R. flagelluris. Willd.*”?—*R. procumbens. Muhl. Cat.?* (*Ser.*)

HAB. Canada, near Quebec. *Mrs. Percival. Newfoundland. Dr. Morrison.*—My specimens of this plant are almost wholly destitute of aculei upon the young branches; but they agree in every respect with those I possess from Boston, gathered by *Dr. Boott*, which are the same as Professor *Bigelow's* plant. The flowers are remarkably large, and I find the calyx to have always a distinct white downy edge. I am inclined to think, judging from the specimens that I have received from *Dr. Torrey*, and from his description, that he has confounded the *R. trivialis* with the *R. obovatus*, *Mich.*

10. *R. Canadensis*; “foliis digitatis, foliolis 10–5 seu 3 lanceolatis acuminatis argute serratis petiolulatis, caule inermi.” (*Sm. in Rces' Cycl.*) *Linn. Sp. Pl. p. 707.* (excl. syn. *Mill. Ic.*) *Pursh, Fl. Am. v. 1. p. 347. Torrey, Fl. of Un. St. v. 1. p. 488?* *De Cand. Prodr. v. 2. p. 565.*—*Cylactis montana. Rafn. in Sill. Journ. v. 1. p. 377, et De Cand. Prodr. v. 2. p. 568.* (fide *Torrey.*)

HAB. Canada. *Linn.*—*Linnaeus* could not have well understood this plant, or he would scarcely have referred it to the *R. odoratus* figured in *Mill. Ic. t. 223.* *Sir James E. Smith* says that it is very unlike all the rest of the genus, having so many leaflets. The plant I have received from *Dr. Torrey* as the *R. Canadensis* is a var. of *R. triflorus*, *Rich.* with quinate leaves, which I have also from *Dr. Boott*, gathered near Boston, and whose leaflets, in a very luxuriant state, may be again divided, so as to accord with the Linnaean plant. *Michaux* does not notice it; nor do I possess any *Rubus* from Canada which quite agrees with *Linnaeus's* description.

11. *R. obovatus*; caule gracili longe procumbente aculeis setosis copiosis, ramis brevibus, foliis trifoliolatis vel pedatim quinatis sempervirentibus, foliolis breve petiolulatis vel subsessilibus obovatis grosse inæqualiter serratis, floribus terminalibus paniculatis parvis, calycis segmentis ovatis acutis corolla duplo brevioribus. (*Tab. LX.*)—*R. obovatis. Mich. Am. v. 1. p. 298. Pursh, Fl. Am. v. 1. p. 349. Elliott, Carol. v. 1. p. 590. Torrey, Fl. of Un. St. v. 1. p. 490.*—*R. sempervirens. Bigel. Fl. Bost. ed. 2. p. 201;* (according to a specimen from *Dr. Bigelow.*)

Caulis longissimus, procumbens, crassitie *penna passerinae*, teres, plerumque valde aculeatus. *Aculei* graciles, subsetacei, recurvi, uniformes. *Rami* numerosi, herbacei, erecti, breves, inferne squamosi parce foliosi, graciles. *Folia* longe petiolata, ternata seu pedatim quinata, sempervirentia; *foliola* parva, unciam vel sesquiunciam longa, coriaceo-membranacea, nitida, obovata, ad apicem præcipue subæqualiter serrata, utrinque glabra, breve petiolulata, terminali majore petiolulo longiore, lateralibus patentibus; *petiolis costaque* subtus foliis vestitioribus aculeatis. *Stipulae* lineari-lanceolatae, membranaceae, integerrime. *Pedunculus* inermis, subpubescens, gracilis, terminalis, flores 4–5 parvos subpaniculatum dispositos gerens. *Pedicelli* pubescentes, nudi, bracteati. *Calyx* pubescens, segmentis ovatis obtusis submucronatis, pubescentibus, mar-

* *Seringe*, in *De Caudolle*, refers the *R. trivialis* of *Mich.* to *R. hispidus* of *Linn.* But *Sir J. E. Smith* says that *Linnaeus's* plant is more nearly allied to *R. saxatilis*.

ginibus albis. *Petala* parva, lato-obovata, undulata, alba, calyce longiora. *Fructus* mihi desideratur: sed, teste Cel. Bigelovii, parvus, niger, acerbus.

HAB. Near Montreal. *Mr. Cleghorn*.—This is a very distinct species, of which I have also received specimens from Dr. Schweinitz, with very long slender procumbent shoots, densely covered with curved aculei, which often extend likewise to the petioles and back of the costa of the leaflets. Peduncles slender, and flowers very small. It is probably more common in the south than in the British Possessions. This has the most slender stem of any of the fruticose species, and almost unites the present groupe with the following. Sir James E. Smith has well remarked, in Rees' Cyclopaedia, that the name of this plant, and the definition of its leaves, "*foliis obovatis*;" as given by Michaux, are decidedly incorrect: an oval leaf being of the same breadth at each end. *Rubus obovatus* is unexceptionable, and expressive of the shape of the leaflets.

TAB. LX. *Rubus obovatus*. Fig. 1, Petal:—*magnified*.

12. *R. nivalis*; pusillus, frutescens, foliis cordato-trilobis argute dentatis glabris nervis petiolisque aculeatis recurvis, stipulis ovatis acutis, pedunculis brevibus 2-floris, laciniis lanceolatis pilosis. *Douglas, MSS. apud Hort. Soc. Lond.*

HAB. On the high snowy ridges of the Rocky Mountains.—Fruit red. Flowers red? Seeds few, large and wrinkled. A low species, not more than six inches high. *Douglas*.—Of this I have seen no specimens, and cannot be quite sure of its place in the genus.

† † *Herbacei vel suffruticosi*.

13. *R. pedatus*; caule filiformi repente subsimplice, foliis pedato-quinatis inciso-serratis, pedunculo solitario unifloro, calycis segmentis lanceolatis incisicis corollam (albam) æquantibus, carpellis paucis magnis. (TAB. LXI.)—*Sm. Ic. Pl. Ined. t. 63*.—"Dalibarda pedata. *Steph. Mem. Soc. Mosc. p. 92*."—*Comaropsis pedata. De Cand. Prodr. v. 2. p. 555*.

Caulis longissime repens, filiformis, inermis, raro divisus. *Rami* (seu gemmæ florum) brevissimi, erecti, squamosi, 1-3 folia gerentes. *Folia* alterna, erecta, longe petiolata, pedatim quinata; *foliola* obovata, tenui-membranacea, inciso-serrata, breve petiolulata, glabriuscula, vix unciam longa. *Petioles* glabri, vel parce pilosi, graciles, basi stipulis 2 ovato-rotundatis membranaceis fuscis suffulti. *Pedunculus* gracillimus, axillaris, solitarius, uniflorus, longitudine foliorum, medium versus bibracteatus, bracteis oppositis membranaceis, fuscis. *Calycis* profunde 5-partitus, segmentis lato-lanceolatis foliaceis planis glabriusculis, lineatis, demum reflexis. *Petala* calycis longitudine, oblongo-obovata, alba. *Stam.* numerosa. *Antheræ* subrotundæ. *Ovaria* 1-6, glabra, stylo triplo longiore terminata. *Fructus* ex acinis 1-4 seu 5, globosis, ratione floris magnis, valde pulposis rubris, styli basi persistente coronatis. *Nux* matura ovata. *Semen* obovatum, pendulum.

HAB. North-West coast of America. *Menzies*. Shores of the Columbia, about Fort Vancouver, and as far north as Observatory Inlet, lat. 55°. *Douglas, Dr. Scouler*. In shady woods at the roots of rotten trees, on the Rocky Mountains, between lat. 52° and 56°. *Drummond*.

TAB. LXI. *Rubus pedatus*. Fig. 1, Flower; fig. 2, Fruit; fig. 3, Single acinus; fig. 4, Nut cut open to show the seed; fig. 5, Embryo:—*magnified*.

14. *R. triflorus*; inermis, caulibus erectis herbaceis, flagellis suffruticosis cauliferis, foliis ternatis (rarissime pedato-5-natis) acute serratis, stipulis obovatis, panicula subtriflora glandulosa. (TAB. LXII.)—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 19*.—*R. saxatilis. ß. Canadensis. Mich. Am. v. 1. p. 298. Pursh, Fl. Am. v. 1. p. 349. Elliott, Carol. v. 1. p. 590. Rich. in Frankl. 1st Journ. ed. 1. App. p. 739. Bigel. Fl. Bost. ed. 2. p. 201. Torrey, Fl. of Un. St. v. 1. p. 490. De Cand. Prodr. v. 2. p. 565*.—*R. ægopodioides. Ser. in De Cand. Prodr. v. 2. p. 565*.—*R. Canadensis? Torrey, Fl. of Un. St. v. 1. p. 488*?—*R. purviflorus? Nutt. Gen. Am. v. 1. p. 308?*

Radix lignosa, dura, valde flexuosa, nigrescens. *Flagelli* procumbentes, teretes, longissimi, crassitie penno

columbinæ, puberuli, sæpe purpurascens, ad intervalla bipollicaria caules alternatim proferentes. *Caules* herbacei, erecti, e summo radice e flagellis orientes, basi squamis (stipulis) membranaceis, vel fuscis vel viridibus amplexicaulis obvelatis. *Folia* singulis caulibus 2-4, alterna, ternata, (vel rarius pedatim quinata,) elongato-petiolata. *Stipulæ* magnæ, obovate, nunc obtusæ, nunc acutæ, sæpius acuminæ brevi, basi attenuatæ. *Petioli* filiformes antice sulcati, plerumque foliolum impar longitudine superantes, primo glandulis pedicellatis mox deciduis ciliati. *Foliola* subduplicato-serrata, pallide virentia, subtus pallidiora, impar petiolatum, plerumque ovali-subrhomboidæ, utrinque sensim acuminatæ, acutum, rarissime obovatum et obtusum, semper basi attenuato integerrimo; lateralia subsessilia, inæqualia, sæpius extus incisio-lobata. *Pubescentia* caulium, petiolorum, foliorum et stipularum laxa, breviuscula, magis aut minus rara, et in foliis sæpe fere obsoleta. *Flores* erecti, terminales, raro axillares et terminales 2-4, (plerumque 3,) paniculati. *Pedunculi* unguiculares, stricti, singuli folioli caulinis conformi, vel tantum stipulis folii abortivi suffulti, plerumque ebracteati, laterales tamen interdum rudimento folii ut videtur ubi flos alter abortivi uni-vel bi-bracteati. *Calyx* basi 12-costato-angulatus, 5-6-fidus, extus cum pedunculis pube brevi acuta villosus, et glandulis minutis, pedicellatis, deciduis obtusis; laciniis sensim elongato-acuminatis intus versus apicem tantum pubescentibus, subanthesin reflexis, mox erectis. *Petalæ* 5-6, albæ, ovalia, obtusæ, passim emarginatæ, ungue lato brevi, calyce paulo altiora. *Fructus* ruber: *Acini* pauci, vix edules. *Rich.*

HAB. Throughout Canada, from Lake Huron to the Saskatchewan and the shores of Hudson's Bay, near York Factory, abundant.—Following this plant, so well described by Dr. Richardson, that excellent Naturalist observes, "*R. saxatilis*, *L.* in multis cum præcedente quadrat, at diversa videtur flagellis sterilibus, nudis aut folia tantum ferentibus, nec nisi ad apices radicantes anno secundo caules emittentibus, aculeis quamvis raris vix unquam nullis, floribus minoribus et calycibus pedunculisque eglandulosis."—I think the *R. ægopodioides*, the *R. parviflorus*, probably, and the *R. Canadensis*, *Torrey*, and *Linn.*? may be referred to the same species.

15. *R. mucronatus*; caule herbaceo piloso inermi, foliis ternato-palmatis concoloribus pilosis, foliolis rhombeis acutis serratis, stipulis ovato-lanceolatis acuminatis, floribus terminalibus geminis, laciniis calycinis lanceolatis acutis puberulis corolla brevioribus. *Ser. in De Cand. Prodr. v. 2. p. 565.*

HAB. Newfoundland. *Le Clerc*, (in *De Cand. Prodr.*)

16. *R. arcticus*; caule herbaceo erecto flexuoso subunifloro pubescente inermi, foliis ternatis glabriusculis obtuse serratis, stipulis ovatis obtusis, pedunculo unifloro, calycis segmentis ovato-lanceolatis, petalis rotundatis retusis, stylis liberis.—*Linn. Sp. Pl. p. 708, Fl. Lapp. p. 162. t. 5. f. 2. Engl. Bot. t. 1585. Curt. in Bot. Mag. t. 132. Pursh, Fl. Am. v. 1. p. 349. Cham. in Linnæa, v. 2. p. 8. De Cand. Prodr. v. 2. p. 565.*

HAB. Labrador (*Pursh, Rev. Mr. Kolmester* *) and Hudson's Bay. (*Pursh.*) *Dr. Wright*, in *Herb. nostr.* Bay of Good Hope and Chamisso's Island, Bay of Eschscholtz, in Behring's Straits. *Chamisso.*

17. *R. acutis*; glabriusculus, caule herbaceo erecto brevi unifloro, foliis ternatis acute serratis, stipulis oblongo-ovatis acutis, pedunculo unifloro, calycis segmentis lineari-subulatis, petalis oblongis integerrimis, stylis approximatis.—*Mich. Am. v. 1. p. 298. De Cand. Prodr. v. 2. p. 565.*—*R. pistillatus. Sm. Exot. Bot. v. 2. p. 53. t. 86. Pursh, Fl. Am. v. 1. p. 349. Rich. in Frankl. 1st Journ. ed. 2. App. p. 20.*—*R. propinquus. Rich. in Frankl. 1st Journ. ed. 2. App. p. 19* (fide ipsiss. *Rich.*)

HAB. In Sphagnum Swamps, Hudson's Bay, *Michaux*; whence I have also specimens from *Dr. Wright*. From the Saskatchewan, in lat. 53°, to Fort Franklin, in lat. 66°. *Dr. Richardson, Drummond*; and from

* For an interesting collection of Labrador plants, gathered by the Rev. Mr. Kolmester, I am indebted to my friend Thomas Davidson, Esq. of Nottingham.

Labrador, (*Smith, Dr. Morrison*.) to the woods and swamps of the Rocky Mountains, between lat 52°-56°, (*Drummond*); and to Kotzebue's Sound in Behring's Straits. *Lay and Collie*.—This is assuredly the *R. acaulis* of Michaux, a name which, though not strictly appropriate, it is needless to change. Dr. Richardson observes to me that his *R. propinquus* is the same with *R. acaulis*, growing in woods and producing flagelli which run among mosses, not upon the surface of the ground, and that the two-flowered peduncle appears to have been accidental. Chamisso justly observes how near this comes to *R. arcticus*, but I think the shorter, not sigsag, and slenderer stems, fewer leaves, larger flowers, and much longer and sharper calycine segments, with the larger and differently shaped petals of the present, will suffice to keep it distinct. I am not able to say whether the clustering together of the styles be constant. Flowers red, fragrant, (*Rich.*) Young flowering plants are scarcely a finger's length in height, but after blossoming, the stems are (especially in the woods) a span or more high, and the leaves much increased in size. The fruit, which I possess on Dr. Wright's specimens, resembles that of *R. arcticus*.

* * * *Foliis simplicibus.*

† *Herbacei.*

18. *R. stellatus*; caule simplice unifloro, foliis cordatis rugosis profunde trilobis tripartitis serratis, stipulis ovatis obtusis, pedunculo (brevis) unifloro, calycis segmentis linearisubulatis, petalis oblongis erectis (rubris).—*Sm. Ic. Pl. Ined. t. 64. Pursh, Fl. Am. v. 1. p. 349. De Cand. Prodr. v. 2. p. 564.*

HAB. Near Foggy Harbour, on the North-West coast of America. *Menzies, (ex Smith.)*—Of this very distinct *Rubus*, resembling, however, in habit and in its flowers, *R. acaulis*, but in the leaves more approaching *R. Chamæmorus*, I am indebted for excellent specimens to Mr. Menzies, who appears to be the only Botanist that ever met with it. The representation is excellent in the *Icones Plantarum ineditæ* of Sir J. E. Smith.

19. *R. Chamæmorus*; dioicus, radice repente, caule simplice unifloro, foliis reniformi-cordatis rugosis plicatis 5-lobis, stipulis ovatis obtusis, pedunculo unifloro, calycis segmentis late ovatis, petalis oblongis patentibus (albis).—*Linm. Sp. Pl. p. 708, Fl. Lapp. p. 163. t. 5. f. 1. Engl. Bot. t. 706. Mich. Am. v. 1. p. 298. Pursh, Fl. Am. v. 1. p. 349. Torrey, Fl. of Un. St. v. 1. p. 490. De Cand. Prodr. v. 2. p. 564. Rich. in Frankl. 1st Journ. ed. 2. App. p. 20.*

HAB. From Lake Winipeg, in lat. 52°, to the shores of the Arctic Sea; (*Dr. Richardson, Captain Sir J. Franklin, Drummond*;) and from Newfoundland (*Dr. Morrison, Mr. Cormack*) and Labrador (*Dr. Morrison, Meyer*) to the Rocky Mountains, between lat. 52° and 56° (*Drummond*), and to the shores of Behring's Straits and Unalashka. *Chamisso, Lay and Collie in Captain Beechey's Collection.*

†† *Fruticosi.*

20. *R. odoratus*; caule fruticoso erecto stricto glanduloso-piloso, foliis 5-lobis inæqualiter serratis subtus magis minusve glandulosis, corymbis compositis, calycibus setoso-glandulosis, cuspidatis petalis (roseis) subbrevioribus, stipulis liberis deciduis.—*Linm. Sp. Pl. p. 707. Mich. Am. v. 1. p. 297. Pursh, Fl. Am. v. 1. p. 348. Curt. in Bot. Mag. t. 150. Elliott, Carol. v. 1. p. 570. Bigel. Fl. Bost. ed. 2. p. 201. Torrey, Fl. of Un. St. v. 1. p. 490. De Cand. Prodr. v. 2. p. 566.*

HAB. Throughout Canada, and as far as the Saskatchewan. *Dr. Richardson, Drummond*.—A species nearly allied to this is described by Dr. Torrey, under the name of *R. deliciosus*, as inhabiting the more southern regions of the Rocky Mountains. It appears to differ in the absence of viscid glands.

21. *R. Nutkanus*; caule fruticoso erecto flexuoso stolonifero apice glanduloso-piloso basi

nudiusculo, foliis 5-lobis inæqualiter dentatis, corymbis simplicibus, calycibus subinermibus cuspidatis: laciniis corollæ albæ æqualibus, stipulis connatis persistentibus. *Lindl.—Moc. Pl. Nutk. Ic.—Ser. in De Cand. Prodr. v. 2. p. 566. Lindl. in Bot. Reg. t. 1368.*

HAB. Discovered by *A. Menzies, Esq.* in Queen Charlotte's Sound, lat. 51°, on the North-West coast of America, (*Herb. nostr.*) and probably about the same period at Nutka, by *Mocino*. Common from Cape Orford, on the same coast, in lat. 43°, in N. California, to Nutka Sound, lat. 50°, and from the coast, throughout the woody hills, to the head-springs of the Columbia, in lat. 52°. *Douglas, Dr. Scouler*. Mountain-woods on the east side of the Rocky Mountains. *Drummond*.—*Seringe*, in *De Candolle's Prodr.*, who appears to have first described this species, says that the calyx and peduncles are glabrous, which is by no means the case with our plants, for they are glandular and downy, but scarcely setose. *Mr. Lindley*, after pointing out the essential characters by which this is, in the cultivated plant, distinguished from *R. odoratus*, observes, that in the wild state some of these distinctions disappear. According to *Mr. Douglas*, its stems, near the ocean, attain to a height of from 4–10 feet, but in approaching the "Dividing Ridge" of the Rocky Mountains, dwindle to 12–18 inches. "The peduncles are covered with glandular hairs, though less copiously than *R. odoratus*, from which it differs in habit, in being of more slender growth and having larger flowers." These flowers are constantly white, sometimes emarginate: the fruit red, insipid.

11. DALIBARDA. *Linn.*

Cal. tubo brevi concavo, limbo 5-fido extus nudo, lobis dentatis. *Pet.* 5 et *stam.* 00 decidua. *Ovaria* 5–10, stylis brevibus terminalibus. *Achenia* calyce involucreta pauca sessilia sicca intus cartilaginea et subdrupacea. *Semen* appensum.—*Herbæ humiles, foliis petiolatis sapius indivisis, pedunculis scapiformibus 1-floris. DC.*

1. *D. repens*; caule repente, foliis cordatis obtusis crenatis pubescentibus, stipulis linearitate, calycibus pilosis reflexis.—*Linn. Sp. Pl. ed. 1. p. 491. Pursh, Fl. Am. v. 1. p. 350. Bigel. Fl. Bost. ed. 2. p. 202. De Cand. Prodr. v. 2. p. 568.—D. violæoides. Mich. Am. v. 1. p. 299. t. 27.—D. cordata. "Steph. Act. Soc. Mosc. 1. p. 92."—*Rubus Dalibarda. Linn. Sp. Pl. p. 708. Sm. Ic. Pl. Ined. t. 20.**

HAB. Canada. *Michaux.* About Quebec and Montreal. *Mrs. Percival, Mr. Cleghorn.* Lake Huron. *Dr. Todd.*

12. FRAGARIA. *Tourn.*

Cal. tubus concavus 5-fidus extus 5-bracteolatus. *Pet.* 5. *Stam.* 00. *Carpella* 00 ad receptaculum demum deciduum carnosum-succulentum sparsa exsucca. *Stylus* lateralis. *Semen* appensum.—*Herbæ flagellifera, foliis trifoliolatis, foliolis grosse dentatis, receptaculis (seu polyphoris) subrotundis succulentis rubris aut rarius albidis. DC.*

* *Carpellis numerosissimis superficialibus, staminibus numerosis, floribus hermaphroditis. Ser.*

1. *F. vesca*; stolonifera, foliolis plicatis tenuibus subtus pilosis, fructibus pendulis, sepalis post anthesin reflexis, pilis pedunculorum adpressis. *Ser.—Linn. Sp. Pl. p. 705. Engl. Bot. t. 1524. De Cand. Prodr. v. 2. p. 569.*

HAB. In woody situations on the North-West coast of America. *Douglas.* Cumberland-House Fort. *Drummond.*

** *Carpellis paucis in foveolis receptaculi immersis, staminibus paucis, floribus abortu sæpe dioicis. Ser.*

2. *F. Virginiana*; abortu dioica, serotina, floribus subcampanulatis, petalis ovatis,

foliis coriaceis non plicatis, petiolis brevibus, pedunculis pedicellisque longitudine foliorum, receptaculis valde tumidis pendulis, stylis longis. *Ser.*—*Mill. Dict. ed. 8. Sm. in Rees' Cycl.?* *Pursh, Fl. Am. v. 1. p. 357. Bigel. Fl. Bost. ed. 2. p. 202. Elliott, Carol. v. 1. p. 575. De Cand. Prodr. v. 2. p. 570. Torrey, Fl. of Un. St. v. 1. p. 500.*

HAB. Newfoundland, (*Dr. Morrison*), and throughout Canada, as far as the Slave Lake, in lat. 68°.—What I here call *F. Virginiana* is the same as I have received from *Dr. Torrey* under that name; but I must observe that I do not see how it is to be distinguished from the *F. elatior* of *Ehrh.* and *Smith*. It does not appear to me that any dependence can be placed on the direction of the hairs of the petioles and peduncles. I find them often variable on the same plant. If *Smith's F. Virginiana* (in *Rees' Cycl.*) be the true species, with the hairs of the petioles and peduncles erect, there are only two or three specimens in the whole Collection which have that character, and those were found in the most northern latitudes. The others accord in almost every particular with the *F. elatior* of *Smith*.

3. *F. Canadensis*; "major; foliolis amplo-ovalibus, lateralibus manifeste petiolatis; pedicellis longis, recurvo-pendulis; receptaculis seminum globosis, favoso-scribiculatis, villosis." *Mich. Am. v. 1. p. 299. Rich. in Frankl. 1st Journ. ed. 2. App. p. 20. De Cand. Prodr. v. 2. p. 571.*

HAB. Woods and hilly places, from Hudson's Bay to the United States. *Michaux*. Woody country between lat. 52° and 64°, north. *Dr. Richardson* (in *Frankl. 1st Journ.*)—This being the only *Fragaria* described as a native of Canada, it was natural that *Dr. Richardson* should refer his specimens to it. In this he has done correctly; but the species is probably not different from the *F. Virginiana*. *Smith* does not notice *Michaux's* plant. *Torrey* unites it, without hesitation, to *F. Virginiana*. To me it appears that the two may reasonably be considered as one species; and may not this be the origin of our *F. elatior*? which *Miller* declares to be a native of America.

4. *F. Chilensis*; floribus (magnis) patentibus, foliolis late obovatis obtusissimis grosse serratis coriaceis rugosis subtus sericeo-villosissimis, pedunculis calycibusque sericeis.—*Ehrh. Beitr.—De Cand. Prodr. v. 2. p. 571.—Fragaria sericea. Douglas, MSS. apud Herb. Hort. Soc. Lond.—Dill. Hort. Elth. t. 120. (e planta cult.)—α. pedunculis folium subæquantibus 1-4-floris.—β. pedunculis folio longioribus pluries dichotomis, cum pedicello in axillis.*

HAB. North-West coast of America, throughout California, and from Puget Sound to "Point Bodugo," common along the shores. *Douglas, Dr. Scouler*.—I have the same species gathered by *Mr. Macrae* in *Chili*, and *Mr. Douglas* has seen it also in *Juan Fernandez*.—This very distinct species of *Fragaria* seems to occupy a great extent of coast on the Pacific. In the really wild state, the flowers are very large, and the under-side of the leaves, as well as calyx and peduncles, are clothed with copious long silky hairs. Whether my var. *β*, which exists in *Dr. Scouler's* collection, be a cultivated specimen at *Fort Vancouver*, or whether its appearance arises from luxuriance of soil, I know not; but it is four times the size of the usual state of the wild plant, less silky, and with numerous flowers upon the tall panicles. In drying, the whole turns almost black, owing to its succulent nature, when recent.

13. POTENTILLA.* *Nestl. Lehm. De Cand.*

(*Potentilla, Comarum, et Tormentilla. Linn.*)

Cal. tubus concavus, limbus 4-5-fidus extus 4-5-bracteolatus. Pet. 4-5. Stam. 00 stylo

* For the determination of the individuals of this genus, and the characters and descriptions of the new species, I am indebted to my valued friend Professor *Lehmann* of *Hamburg*, the learned author of "Monographia Generis *Potentillarum*." These new species have already appeared in the "Stirpium ab *J. G. C. Lehmann*, primum descriptarum, *Pungillus secundus*," printed at *Hamburg*, 1830.

laterali donata, in receptaculo procumbente persistente exsucco capitato. Semen appensum. —Herbæ aut suffrutices, foliis compositis, stipulis petiolo adnatis, floribus albis luteis rariter rubris. DC.

* *Foliis pinnatis.*

1. *P. fruticosa*; caule fruticoso, foliis pinnatis, foliolis oblongo-lanceolatis integerrimis, petalis calyce longioribus.—Linn. *Sp. Pl.* p. 709. Mich. Am. p. 304. Engl. Bot. t. 88. Pursh, *Fl. Am.* v. 1. p. 355. Nestl. *Monogr. Pot.* p. 30. t. 1. f. A. Lehm. *Monogr. Pot.* p. 31. Torrey, *Fl. of Un. St.* v. 1. p. 498. De Cand. *Prodr.* v. 2. p. 579. Rich. in *Frankl. 1st Journ. ed. 2. App.* p. 20.— γ . foliis angustioribus densissime pilosis cinereis. Lehm. *Monogr. Pot.* p. 32. De Cand. *Prodr.* v. 2. p. 579.—*P. fruticosa*, β . Nestl. *Monogr. Pot.* p. 30.—*P. tenuifolia*. *Consp. Pot. Herb. Willd. in Mag. der Gesell. Natur. Freunde in Berlin Jahrg.* 7. p. 295.—*P. floribunda*. Pursh, *Fl. Am.* v. 1. p. 355. Bigel. *Fl. Bost. ed. 2. p.* 203.

HAB. Throughout Canada, from Lake Huron (var. γ , Dr. Todd) to the plains of the Saskatchewan and Bear Lake Rivers under the Arctic Circle (Dr. Richardson), and from Newfoundland (Dr. Morrison) to the vallies of the Rocky Mountains, on both sides. Douglas, Drummond. Kotzebue's Sound in Behring's Straits. Lay and Collie.

2. *P. arguta*; caule erecto pubescente superne viscoso, foliis impari-pinnatis, foliolis subrotundo-ovatis basi obliquis duplicato-inciso-dentatis, stipulis subintegerrimis, calycibus acutis corolla abbrevioribus. (TAB. LXIII.)—Pursh, *Fl. Am.* v. 2. p. 736. (fide exempl. Bradbury, Rich.) Rich. in *Frankl. 1st Journ. ed. 2. App.* p. 20. Lindl. in *Bot. Reg.* t. 137. —*P. confertiflora*. Torrey, *Fl. of Un. St.* v. 1. p. 499.—*P. obliqua*. Douglas, MSS. apud Hort. Soc. Lond.—*P. ferruginea*. ejusd. in *Herb. nostr.*—*Boottia sylvestris*. Bigel. *Fl. Bost. ed. 2. p.* 206.—*Geum agrimonioides*. Pursh, *Fl. Am.* v. 1. p. 351.

Tota planta pubescens, junior glanduloso-viscosa. Caules ex eadem radice plures, erecti, teretes, striati, fistulosi, 1-3-pedales. Folia impari-pinnata, radicalia longe petiolata, caulina breviter petiolata, summa ternata subsessilia. Foliola 7-11, opposita vel subopposita, superiora sensim majora, brevissime petiolata, subrotundo-ovata, basi obliqua grosse inciso-dentata, incisuris superioribus duplicatis. Stipule ovate, acutæ, inferiores integerrimæ, superiores subincisæ. Flores erecti, plus minusve pedicellati, in summo caule paniculam subdichotomam confertam constituentes. Calyx villosus-viscosus, (sub 5-angulatus,) foliola exteriora lanceolata, acuta, reliquis minora, interiora oblonga, acuta, subintegerrima: tubo subhæmisphærico concavo, ore staminifero. Petala pallide flava, rotundato-obovata, integerrima, calyce longiora. Stam. sub-25 basi intus annulo nectariformi cincta. Receptaculum villosum, [subsphæricum demum elongatum carnosum, fere ut iu *P. palustri*. Ovaria ovata, pallide rosea: stylo infra medium margine interiore inserto, subulato, flavo, carnoso, paululum glanduloso. Stigma acutum. Achenia ovata, levia, glabra, stylo persistente laterali donata. H.]

HAB. Woody country, as far as lat. 65°, north, and westward to the Rocky Mountains, on both sides of the "Dividing Ridge." Dr. Richardson, Drummond, Douglas. Fort Vancouver, on the Columbia. Dr. Scouler, Douglas.—I had long ago received beautiful specimens of this plant from Dr. Boott, gathered in the neighbourhood of Boston, as the *Geum agrimonioides* of Pursh, an acknowledged *Potentilla*, but which Mr. Lindley, who has examined an original specimen, "believes to be distinct," while Dr. Richardson says, "forsan hujus (*P. argute*) varietas, foliis ternis ultimis subrotundis, proportionatim minoribus." In the year 1824, the plant was published by Dr. Torrey, in his Flora of the Northern and Middle of the United States, as *P. confertiflora*, and by Dr. Bigelow, in his Flora of Boston, under the name of *Boottia*, the character of which consists in a "nectary forming a stellated cavity around the receptacle of the germens, having pits in its five points opposite the narrow segments of the calyx." These pits or cavities are very inconspicuous, and are little more than a depression in each of the sinuses of the five larger segments of the

calyx; while the nectary itself is what exists in most or all of the *Potentilla* in a greater or less degree; but is more distinct in our plant than in many others. It is represented in *Potentilla*, and in the allied genera, *Waldsteinia* and *Comaropsis*, in Nestler's "Monographia de *Potentilla*," t. 1. and is described by the same author in the character of the family L. c. p. 14. as the "materies staminifera (discus peristomicus) summum calycis tubum annulatum incrassans." The insertion of the stamens at the margin of this ring gives the stellated appearance. In *P. rupestris*, the staminiferous cup is small, but its nature is the same. A splendid new East Indian genus has now been dedicated to Dr. Boott by Dr. Wallich, who, like myself, "is proud to reckon so zealous and excellent a Botanist among the number of his best friends;"—(see *Boottia cordata* in Wallich's "Plantæ Asiaticæ Rariores," v. 1. p. 52. t. 65.)—Dr. Richardson, by a comparison with the Lambertian Herbarium, proved our plant to be the same with the *arguta* of Pursh, (not Lehmann,) which name is therefore to be adopted. A figure of the species is here given, and an analysis of the flowers, in order that it may be seen how little the genus *Boottia* of Dr. Bigelow is in reality at variance with *Potentilla*. Indeed the whole plant bears great affinity with our *Potentilla rupestris*, from which it cannot naturally be separated. [H.]

Tab. LXIII. *Potentilla arguta*. Fig. 1, Petal; fig. 2, Section of a calyx and receptacle of pistils; fig. 3, Front view of a stamen; fig. 4, Back view of do.; fig. 5, Pistil; fig. 6, Receptacle of achenia; figs. 7 and 8, Achenia; fig. 9, Section of an achenium:—magnified.

3. *P. supina*; caule decumbente dichotomo, foliis pinnatis, foliolis oblongis inciso-serratis, pedicellis axillaribus solitariis.—Linn. *Sp. Pl.* p. 711. *Mich. An.* v. 1. p. 304. *Jacq. Fl. Austr.* v. 5. t. 406. *Pursh, Fl. Am.* v. 1. p. 356. *Nestl. Monogr. Pot.* p. 38. *Lehm. Monogr. Pot.* p. 42. *Torrey, Fl. of Un. St.* v. 1. p. 498. *De Cand. Prodr.* v. 2. p. 580.

HAB. Plains of the Saskatchewan. *Dr. Richardson, Drummond.*

4. *P. effusa*; incano-tomentosa, caule adscendente debili, foliis interrupte pinnatis, foliolis oblongis inciso-serratis, floribus dichotome paniculatis, stipulis lanceolatis acuminatis integerrimis, petalis obcordatis calycem acuminatum æquantibus.—*Douglas, MSS.*

Radix lignosa, alba, cortice fusco. *Caulis* subpedalis, adscendens, debilis, teres, in paniculam dichotomam desinens. *Folia radicalia* longe petiolata, impari-et interrupte-pinnata, *caulina* brevius petiolata, summa sessilia, ternata. *Foliola* majora 5-9, sessilia, opposita, oblonga, inciso-serrata, serraturis obtusis, utrinque incano-tomentosa, superiora sensim majora, terminale sæpiissime bifidum, *minora* subcuneiformia, apice 2-3-dentata. *Calyx* incano-tomentosus, foliolis *exterioribus* linearibus minimis, *interioribus* ovato-lanceolatis, acuminatis, integerrimis. *Petala* aurea, obcordata, longitudine calycis. *Receptaculum* villosum: acheniis glaberrimis.

HAB. On elevated grounds of the Assinaboyné, and the higher parts of the Red Rivers, plentiful.

5. *P. palustris*; radice repente, caule adscendente, foliis pinnatis, foliolis lanceolatis acute serratis, petalis lanceolatis acuminatis calyce multo brevioribus.—*Scopol. Fl. Carn. ed.* 2. v. 1. p. 359. *Lehm. Monogr. Pot.* p. 52. *Torrey, Fl. of Un. St.* v. 1. p. 498. *De Cand. Prodr.* v. 2. p. 583.—*P. Comarum*. *Nestl. Monogr. Pot.* p. 36.—*Comarum palustre*. *Linn. Sp. Pl.* p. 719. *Fl. Dan.* t. 636. *Mich. An.* v. 1. p. 302. *Engl. Bot.* t. 172. *Pursh, Fl. Am.* v. 1. p. 356. *Bigel. Fl. Bost. ed.* 2. p. 203. *Rich. in Frankl. 1st Journ. ed.* 2. App. p. 21.

HAB. Throughout Canada, and as far north as the Bear Lake. *Dr. Richardson, Drummond.* Labrador. *Dr. Morrison.* Unalashka, and Bays of Eschscholtz and of Good Hope, in Behring's Straits. *Chamisso.*

6. *P. Pennsylvanica*; caule erecto stricto, foliis subinterrupte pinnatis tenuissime tomentosis, foliolis majoribus oblongis truncatis inciso-serratis, minoribus integerrimis lacinias

majorum æquantibus, stipulis subdivisis.—*Linn. Mant.* 1. p. 76. *Jacq. Hort. Vind.* v. 2. t. 189. *Mich. Am.* v. 1. p. 304. *Pursh, Fl. Am.* v. 1. p. 356. *Nestl. Monogr. Pot.* p. 36. (excl. syn. *Mench.*) *Lehm. Monogr. Pot.* p. 55. *Torrey, Fl. of Un. St.* v. 1. p. 409. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 20. *De Cand. Prodr.* v. 2. p. 581, (excl. syn. *P. arguta.*)—*P. strigosa*; foliis subpectinato-pinnatifidis, laciniis margine revolutis, stipulis laciniatis. *Pursh, l. c. Lehm. Monogr. Pot.* p. 55.—*P. pectinata. Fisch.* (sec. exempl. ab ipso auctore communicatum.)—*P. absinthifolia. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. About the Saskatchewan, and as far north as the Bear Lake, and from Hudson's Bay to the Rocky Mountains. *Dr. Richardson, Drummond, Douglas.* Kotzebue's Soand. *Lay and Collie.*—The second variety seems to be the more common and the North American specimens agree perfectly with those from Siberia. Less general is the original form of *α*, such as is delineated in the above-mentioned work of Jacquin, but the transitions between these two forms are as frequent as *β*, so that *α*, and *β*, may be esteemed the two extremes. Besides these, there occurs, though but rarely, another variety, or rather, more vigorous state of the plant, where the incisions of the leaflets have no entire margin, but appear here and there incised. Lastly, there exists another form, which, in regard to the leaves, holds an intermediate rank between our var. *α* and the *P. multifida*, but whose straight erect stem, peculiar pubescence, inflorescence, &c. unite it with *P. Pennsylvanica.*—If this species grows in a sterile dry soil, the leaves are not interruptedly pinnated. Thus, this separation of the lesser leaflets, which, in reality, are the inferior serratures of the larger leaflets, only takes place in consequence of a more vigorous growth. (*Lehm.*)—[*Dr. Torrey*, in the *Ann. of Lyc. of N. H. of N. York*, v. 2. p. 197, joins to *P. Pennsylvanica* the *P. confertiflora* of his *Flora of the Middle and Northern States*, and some other *Potentillas* which belong to the *P. arguta* of *Pursh* and of this work. The tomentum on the underside of the leaves often almost wholly disappears. *H.*]

7. *P. bipinnatifida*; caule erecto, foliis pinnatis, foliolis obovatis pectinatum-pinnatifidis, supra sericeo-argenteis subtus niveo-tomentosis, stipulis rhomboideis incisiss, floribus corymbose-confertis.—*Douglas, MSS. apud Herb. Hort. Soc. Lond.*—*P. arguta. Lehm. Monogr. Pot.* p. 62. (non *Pursh.*)

HAB. Plains of the Saskatchewan and Red Rivers. *Douglas, Drummond.*—This plant, though nearly allied to the foregoing, is certainly a good species. Besides the above marks, the incisions of the leaflets are deeper, narrower, not erect as in *P. Pennsylvanica*, but patent; the calyces are white, tomentose, and never, as in *P. Pennsylvanica*, mixed with glandular hairs. We have cultivated both plants for many years in the *Hamburgh Botanic Garden*, and both have proved constant in their form. (*Lehm.*)—[*Dr. Richardson* having satisfactorily ascertained what is the true *P. arguta* of *Pursh*, I have taken the liberty of altering the name which *Dr. Lehmann* had given to this plant, and adopting the *MSS.* one of *Mr. Douglas*. But I must confess, the plant seems to me only a state of *P. Pennsylvanica* with unusually deeply divided or pectinated leaflets. *H.*]

8. *P. Hippiana*,* (*Lehm.*); caule erecto, foliis pinnatis, foliolis lanceolato-oblongis, inciso-et connivente-serratis, supra sericeis subtus incano-tomentosis nitidulis, stipulis lanceolatis acuminatis integerrimis, panicula subdichotoma luxa, petalis orbiculatis calycem superantibus. (TAB. LXIV.)—*P. leucophylla. Torrey in Ann. of Lyc. of N. H. of N. York, March, 1827.* p. 197. (non *Pallas* it. 3. p. 194.)—*P. denibata. Douglas, MSS. apud Herb. Hort. Soc. Lond.* (non *Ledeb.*)

* "Hippianam cognominare liceat hanc stirpem,"—says *Dr. Lehmann*, in his 'Stirpium primum descriptarum Pugillus secundus:—' in honorem ejus viri, cui hunc libellum dedicavi; summo autem jure id tribui videtur viro cum litterarum ejusvis generis peritissimo, tum de juvenibus nature indagandis studio lucendendis optime merito et ad luc merente."

Pulchra et distinctissima species, habitu fere *P. Pennsylvanica*. *Caulis* ex eadem radice plures, 1-2-pedales, erecti, teretes, tomentosi, in paniculam laxam subdichotomam multifloram desinentes. *Folia radicalia* longe petiolata, impari-pinnata, sub-4-juga, *caulina* bijuga brevius petiolata: *foliola* opposita, approximata, sessilia, lanceolato-oblonga inciso-et connivente-serrata, supra sericea, subtus incano-tomentosa, nitida, venis elevatis lineata. *Stipula* lanceolata, acuminata, integerrima, sericeo-tomentosa. *Calyces* sericeo-tomentosi, foliolis aequali longitudine; *exterioribus* lanceolatis, *interioribus* ovato-lanceolatis. *Petala* obcordata, aurea, calycem paullo superantia. *Receptaculum* viliosum.

HAB. Plains of the Saskatchewan and Red Rivers, and Prairies of the Rocky Mountains. *Drummond, Douglas.*

TAB. LXIV. *Potentilla* Hippiana. *Lehm. Fig. 1, Flower:—magnified.*

9. *P. sericea*; caule ascendente paucifloro, foliis pinnatis, foliolis ovatis pinnatifidis utrinque tomentosis subtus incanis, stipulis lanceolatis integerrimis.—*Linn. Sp. Pl. p. 710. Nestl. Monogr. Pot. p. 34. Lehm. Monogr. Pot. p. 66. t. 6. De Cand. Prodr. v. 2. p. 582.—β. glabrata*; foliolis junioribus et senioribus apice tantum sericeis.

HAB. α. Rocky Mountains, between lat. 52° and 56°. *Drummond.*—Only this variety of the *P. sericea* exists in the Collection, which, except in the marks just given, appears exactly similar to the original Altaic species.—[Judging from the very few individuals in the Collection, it seems to be a very rare species in America. *H.*]

10. *P. anserina*; caule repente, foliis interrupte pinnatis, foliolis argute serratis sericeis, pedicellis axillaribus solitariis longitudine foliorum, stipulis multifidis.—*Linn. Sp. Pl. p. 710. Fl. Dan. t. 544. Engl. Bot. t. 861. Mich. Am. v. 1. p. 304. Pursh, Fl. Am. v. 1. p. 356. Nestl. Monogr. Pot. p. 35. Lehm. Monogr. Pot. p. 71. Torrey, Fl. of Un. St. v. 1. p. 498. De Cand. Prodr. v. 2. p. 582. Bigel. Fl. Bost. ed. 2. p. 203. Rich. in Frankl. 1st Journ. ed. 2. App. p. 20. Cham. in Linnæa, v. 2. p. 24.—δ. Grælandica*; glabriusculi, nana, foliis multo minoribus pauci-jugis, foliolis obovatis rubro-virentibus subtus niveis. *Hook. in Parry's 3d Voy. App. p. 125.*

HAB. Throughout the plains, from Lake Huron to the extreme Arctic regions; and from Labrador on the east, to Kotzebue's Sound on the west; and at the Columbia. 1. Whale Fish Islands. *Captain Sir E. Parry, and Captain James Ross.*—[This extensively distributed plant is, as may therefore be expected, very variable: the two opposite extremes may be considered the var. 1. above noticed, whose leaves are scarcely two inches long, and the state found at the Columbia, whose leaves are a foot or more in length, and whose roots are eaten by the Cherokee Indians. *H.*]

11. *P. Drummondii*, (*Lehm.*); caule herbaceo suberecto laxo, foliis radicalibus irregulariter subverticillatim pinnatis caulinis bijugis, foliolis obovatis truncatis basi cuneatis profunde inciso-serratis ciliatis glabriusculis, stipulis ovatis integerrimis, petalis obcordatis enlyce duplo longioribus venosis. (TAB. LXV.)

Caulis herbaceus, sesquipedalis, suberectus, laxis, teres, fistulosus, subpilosus, paucifolius. *Folia radicalia* longe petiolata, subverticillatim pinnata 3-5-juga. *Foliola* obovata, profunde inciso-serrata, dente terminali reliquis brevior, truncata, basi cuneata, ciliata, glabriuscula, parallele-venosa, *paria infima et superiora* opposita, *reliqua* terna quaternave verticillata, omnia magnitudine subæquali, semipollicaria. *Folia caulina* 1-3, valde distantia, breviter petiolata, 2-juga, *foliola* ut in radicalibus, *stipulae* ternata sessilia, foliolis lanceolatis acuminatis. *Stipule* magna, ovata, acute, integerrime. *Flores* in summo caule subpaniculati. *Pedicelli* graciles, pilosi, superne pilosissimi. *Calyces* *foliola* basi valde pilosa, ciliata, acuta, *exteriora* linearilanceolata, *interiora* lanceolata reliquis paullo longiora. *Petala* calyce duplo longiora, obcordata, aurea, venosa. *Receptaculum* pilosum.

HAB. Alpine woods in the Rocky Mountains, north of the Smoking River, in latitude 56°, scarce. *Drummond*.

TAB. LXV. *Potentilla Drummondii*. *Lehm.* Fig. 1, Flower; fig. 2, Stamen:—magnified.

* * *Foliis pinnato-digitatis.*

12. *P. diversifolia*, (*Lehm.*); caule adscendente, foliis radicalibus pinnatis subtrijugis quinatisque, caulinis bijugis digitatis ternatis, foliolis cuneiformibus superne grosse inciso-serratis apice sericeo-pilosis, stipulis ovato-lanceolatis integerrimis, petalis obcordatis calyce longioribus.

Radix crassa, lignosa, fusca, superne squamis, e rudimentis petiolorum stipularumque ortis tecta. *Caules* ex eadem radice plures, adscendentes, 3-12-pollicares, teretes, purpurascens, pilosi vel glabriusculi, in paniculam subdivisotomam pauci-vel multifloram abeuntes. *Folia radicalia* longe petiolata, impari-pinnata, subtrijuga vel quinato-digitata, *caulina* breviter petiolata, bijuga, vel digitata et ternata. *Foliola* approximata, sessilia, cuneiformia, lateralia sæpe obliqua, supra glabriuscula impressè venosa, e medio ad apicem grosse inciso-serrata, serraturis apice pilis densis longissimis albis, subtus plus minusve pilis longis sericosis instructa; *juniora* subtus sericeo-villosa. *Stipulae* ovato-lanceolatae, subfalcatae, acutae, integerrimae, inferiores subtus albidopilosae, superiores glabriusculae. *Flores* erecti, plus minusve longe pedicellati. *Pedicelli* teretes, graciles, subpurpurascens, superne præsertim tomentosi. *Calyces* pilosi, *folia exteriora* linearis acuta, interiora lanceolata acuminata reliquis duplo majora. *Corolla* aurea, petalis obcordatis calyce duplo longioribus. *Receptaculum* villosum: *Achenis* levibus glaberrimis.

HAB. Alpine Prairies, as well as on the higher summits of the Rocky Mountains, between lat. 52° and 56°. *Drummond*. This is one of the *Potentillas* which presents the most varied modifications. The radical leaves of one and the same plant are partly entirely pinnate, partly pedate or digitate; the leaflets either very close together, or less frequently, rather distant; and though the above-mentioned form of the leaflets remains the predominating one, they nevertheless appear often a little longer or narrower, those beneath either of the same length with the superior ones, or, more commonly, much smaller. The stem-leaves are found varying in the same manner. The pubescence of the plant is also very variable; that of the stem so indistinct that it appears at last almost entirely glabrous. The leaves offer all and every transitions from the sericeous with long hairs to the glabrous state; but even in those whose surface is most glabrous, the points of the segments are still covered with some sericeous hairs, such as are seen on *P. aurea*. The calyx and petals, too, are never glabrous, and the pubescence in general does not depend on the size of the plant, because both few and many-flowered ones are to be met with, exhibiting all the different forms in which this plant is known to us. Another peculiarity may be mentioned, relating to the growth of this plant. The smallest specimens, perhaps from a dry and elevated spot, do not exceed two inches in height, and have but a single stem-leaf and few flowers. From this form upwards to the height of one foot, with a panicle of 16-20 flowers, all intermediate ones may be seen. And indeed all the deviations now specified offer such insensible transitions, that it is quite impossible to fix any where the limits of a variety. The size of the flowers, however, (like those of *P. subacaulis*.) exhibits no variation at all: the stem, too, is always more or less tinged with red.

13. *P. pulcherrima*, (*Lehm.*); caule adscendente villosa, foliis impari-pinnatis, foliolis dense congestis ellipticis æqualiter serratis supra adpresse pilosis subtus niveo-tomentosis, stipulis ovatis acutis integerrimis lanatis, petalis obcordatis calyce longioribus.

Radix fusca, lignosa, superne squamis e petiolorum stipularumque rudimentis ortis tecta. *Caules* ut videtur ex eadem radice plures, adscendentes, teretes, sesquipedales et longiores, incano-villosi, subpurpurascens, in paniculam laxam desinentes. *Folia radicalia* 3-juga, longe petiolata, *caulina* bijuga et ternata, breviter petiolata. *Petiolis* supra profunde canaliculati, lanati. *Foliola* sessilia ita quidem approximata ut folium digitatum septenatumque constituere videantur, elliptica, æqualiter serrata, supra viridia adpresse

pilosa, subtus niveo-tomentosa, 1-3 pollices longa. *Stipula* ovato-lanceolata, acute, integerrime, subtus valde tomentosa. *Flores* erecti, pedicellati. *Calyces* villosi: pilis patentibus, foliolis calycinis acuminatis apice sphacelato-mucronulatis, *exterioribus* lineari-lanceolatis, reliquis lanceolatis paulo majoribus. *Corolla* aurea, petalis obcordatis calyce longioribus. *Receptaculum* dense lanatum, pilis acheniis longioribus.

HAB. In the Prairies, as well as on dry banks, in the Rocky Mountains, between lat. 52° and 56°. *Drummond.*

14. *P. rubricaulis*, (*Lehm.*); caule adscendente, foliis radicalibus pinnatis bijugis caulinis ternatis, foliolis approximatis oblongis pinnatifido-serratis supra glabris subtus tomentosus, stipulis integerrimis, petalis obcordatis calycem subsuperantibus, receptaculo glabriusculo.

Caules ex eadem radice plures, subpedales, adscendentes, teretes, pubescentes, purpurascetes. *Folia radicalia* impari-pinnata bijuga, *caulina* ternata. *Foliola* oblonga, pinnatifido-serrata, laciniis lineari-lanceolatis obtusis, supra læte viridia, glabra, subtus tomentosa, infima reliquis multo minora 3-4-loba, terminale maximum. *Petiolii* pilosi, foliorum radicalium 2-3 pollices longi. *Stipulae* ex ovato-lanceolatae, subfalcatae, acute, integerrime. *Flores* terminales, erecti, in paniculam subdichotomam dispositi. *Pedicelli* 1-2-pollicares, graciles, purpurei, pilosi. *Calyces* pilosi, foliolis *exterioribus* sublinearibus obtusiusculis, *interioribus* ovato-lanceolatis acutis, reliquis duplo majoribus. *Petala* obcordata, aurea, calycem subsuperantes. *Receptaculum* glabriusculum: acheniis lævibus.

HAB. About Bear Lake, in lat. 66°. *Dr. Richardson.*

15. *P. pulchella*; caulibus procumbentibus subunifloris, foliis pinnatis subbijugis subtus sericeo-tomentosis, foliolis bi-trilobis vel linearibus integerrimis margine revolutis impari-pinnatifido, stipulis vaginantibus, stylo basi glanduloso-dilatato.—*Br. in Ross's Voy. ed. 2. p. 193. Hook. in Parry's 2d Voy. App. p. 395. De Cand. Prodr. v. 2. p. 582.*

Caules ex eadem radice plures, procumbentes, teretes, purpurei, 1½-3 pollices longi, basi glabri, versus apicem densissime lanati. *Folia radicalia* impari-pinnata, subbijuga, *foliola* sessilia, margine revoluta, supra viridia, pilosa, impresso-venosa, subtus sericeo-tomentosa, infima minima, sublinearia, obtusa, integerrima, reliqua 2-3 lineas longa, bi- vel tri-loba, *impari* majore cuneato-obovato pinnatifido, laciniis oblongis vel linearibus, obtusis. *Folia caulina* 1-2-juga, *foliolis* lineari-lanceolatis, integerrimis, interdum in folium unicum 3-5-lobum confluentibus. *Stipulae* ovatae, caulem et pedicellos amplectentes, ochream fere formantes. *Flores* 1-2 terminales brevissime pedicellati, parvi. *Calyx* subtomentosus: foliolis marginatis, *exterioribus* lanceolatis obtusis, *interioribus* ovatis, acutis, reliquis longioribus. *Petala* lutea obovata, lævissime emarginata, venosa, longitudine calycis. *Stylus* erectus basi glanduloso-dilatatus. *Receptaculum* pubescenti-pilosum.

HAB. Islands of the Arctic Sea. *Capt. Ross, Capt. Sir E. Parry, Capt. Sabine.* Shores of the mainland between the Coppermine and Mackenzie Rivers. *Dr. Richardson.*

* * * *Foliis digitatis.*

16. *P. argentea*; caule adscendente, foliis quinatis, foliolis cuneiformibus superne incisim margine revolutis subtus candido-tomentosis, petalis retusis calyce longioribus. *Lehm.—Linn. Sp. Pl. p. 712. Pursh, Fl. Am. v. 1. p. 355. Nestl. Monogr. Pot. p. 48. Lehm. Monogr. Pot. p. 94. Engl. Bot. t. 289. Bigel. Fl. Bost. ed. 2. p. 204. Torrey, Fl. of Un. St. v. 1. p. 497.*

HAB. Canada. *Pursh.*

17. *P. opaca*; caule decumbente filiformi, foliis infimis septenatis quinq; foliolis lanceolato-cuneiformibus profunde serratis utrinque prolixè pilosis, petalis obcordatis

calycem æquantibus. *Lehm.*—*Linn. Sp. Pl.* p. 713. *Jacq. Ic. Rar.* t. 91. *Pursh, Fl. Am.* v. 1. p. 355. *Lehm. Monogr. Pot.* p. 105. *De Cand. Prodr.* v. 2. p. 575.

HAB. Labrador. (*Herb. Banks. fide Pursh.*)

18. *P. Canadensis*; caule adscendente debili, foliis radicalibus quinatis, foliolis sessilibus obovato-cuneiformibus superne acute serratis candicanti-sericeis, petalis orbiculatis subintegris longitudine calycis. *Lehm.*—*Linn. Sp. Pl.* p. 713. *Mich. Am.* v. 1. p. 303. *Pursh, Fl. Am.* v. 1. p. 354. *Nestl. Monogr. Pot.* p. 58. t. 10. f. 1. *Lehm. Monogr. Pot.* p. 118. *Elliott, Carol.* v. 1. p. 173. *Torrey, Fl. of Un. St.* v. 1. p. 426. *De Cand. Prodr.* v. 2. p. 575.—*P. pumila. Lam.*—*P. sarmentosa. "Muhl." et Bigel. in Fl. Bost. ed. 2.* p. 204. (fide specim. ab amiciss. *Boott.*)

HAB. Canada. *Michaux.*—Dr. *Boott's* specimens of "*P. sarmentosa* of Muhl.," (and Willd.?), precisely accord with Dr. *Torrey's*, and with *Nestler's* description and figure. It may be a state of *P. simplex* before the appearance of the runners, but the leaflets are broader and much paler, and silky beneath.

19. *P. simplex*; caule sarmentoso, foliis quinatis, foliolis oblongo-ovalibus serratis subtus subpilosus, pedicellis axillaribus solitariis longitudine foliorum, petalis rotundatis vix emarginatis calyce paullo longioribus. *Lehm.*—*Mich. Am.* v. 1. p. 303. *Pursh, Fl. Am.* v. 1. p. 354. *Nestl. Monogr. Pot.* p. 40. t. 9. f. 2. *Lehm. Monogr. Pot.* p. 142. *Elliott, Carol.* v. 1. p. 574. *Bigel. Fl. Bost. ed. 2.* p. 204. *Torrey, Fl. of Un. St.* v. 1. p. 497. *De Cand. Prodr.* v. 2. p. 575.—*P. sarmentosa. Willd.* (fide *Lehm.* ex specim. in *Herb. Willd.*) in *Muhl.?*—*P. Caroliniana. Poir.*

HAB. Canada. *Michaux.* About Quebec. *Mrs. F. Neal, W. Sheppard, Esq.*—This should be compared with authentic specimens, and in different states, of *P. Canadensis*, to see if they may not prove the same.

20. *P. gracilis*; caule erecto elato superne corymboso-paniculato molliter hirsuto, foliis longe petiolatis 5-natis superioribus solummodo sessilibus, foliolis lanceolatis profunde pinnatifido-serratis subtus albo-tomentosis, stipulis magnis lanceolatis integerrimis, petalis obcordatis calyce sericeo longioribus.—*Douglas, MSS. apud Hort. Soc. Lond.*—*Hook. in Bot. Mag.* t. 2984.

HAB. Banks of the Columbia and plains of the Multnomak Rivers. *Douglas, Dr. Scouler.*—In habit nearly allied to *P. pulcherrima* of *Lehm.* in this work; but here the leaflets are truly digitate, not pinnated in the slightest degree. [*H.*]

21. *P. flabelliformis, (Lehm.)*; caule erecto gracili, foliis novenatis septenatisve, foliolis profunde pinnatifidis supra adpresse pilosis subtus incano-tomentosis laciniis linearibus distantibus margine revolutis, floribus corymbosis, petalis obcordatis calycem superantibus. (TAB. LXVI.)

Caulis suberectus, sesquipedalis, gracilis, teres, fistulosus, subpurpurascens, incumbente pilosus. *Folia radicalia* longe petiolata novenata septenatave, *caulina* septenata et quinata brevius petiolata, *summa* ternata. *Foliola* sessilia seorsim sese tegentia, flabellum fere formantia, profunde pinnatifida, supra viridia adpresse pilosa, subtus incano-tomentosa, laciniis remotis, linearibus, obtusis, integerrimis, margine revolutis. *Petioles* lanati foliorum radicalium 3-6 pollices longi. *Stipule* angusto-lanceolatae, acuminatae, integerrime, subtus lanate. *Flores* pro planta parvi, breviter pedicellati, in summo caule congesti. *Calyces* incani sublanati, foliolis exterioribus linearibus, interioribus ovatis acuminatis reliquis multo majoribus. *Petala* aurea, obcordata, basi cuneata, calyce duplo majora. *Receptaculum* pilosum.

HAB. Plains of the Saskatchewan. *Dr. Richardson, Drummond.*

TAB. LXVI. *Potentilla flabelliformis.* Fig. 1, Flower:—*magnified.*

22. *P. dissecta*; erecta ramosa glabriuscula, foliis quinatis, foliolis pinnatifidis, laciniis integris acutis, floribus terminalibus subcorymbosis. *Pursh, Fl. Am. v. 1. p. 355. De Cand. Prodr. v. 2. p. 575.*

HAB. Near Hudson's Bay, (*Herb. Banks. fide Pursh.*)

23. *P. chrysantha*; caule ascendente, foliis septenatis quinatisve, foliolis ellipticis grosse serratis pubescentibus, stipulis superioribus subincisis, petalis obcordatis calyce duplo longioribus. *Trevir, In ind. sem. H. Wratissl. 1828.*

Proxima accedit ad *P. intermediam*, differt: caule simplice nec dichotome ramoso superne nudo, foliis magis ellipticis quam ovatis, stipulis latioribus superioribus plerumque incisis, foliolis calycinis inaequalibus, acheniis levibus nec rugulosis. Planta americana robustior et magis glabrescens quam Sibirica a Cl. Ledebourio mecum communicata.

HAB. Moist Prairies, near the Rocky Mountains. *Drummond.*

24. *P. concinna*; caule abbreviato paucifloro, foliis radicalibus septenatis quinatisve, foliolis cuneato-obovatis apice serratis subtus densissime niveo-tomentosis, petalis obcordatis calycem superantibus. (TAB. LXVII.)—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 20.*

Pulchra species. *Caules* ex eadem radice plures, bipollicares, debiles, uti et petioli et pedunculi lanati. *Folia radicalia* septenata vel quinata cum petiolo longitudine caulium. *Foliola* 3-5 lineas longa, supra pallide viridia, pilis copiosis adpressis subsericea, subtus densissime niveo-tomentosa, tomentum pilis longis mollissimis ultra marginem porrectis mixtum. *Folia caulina* 1-2, ternata: *foliolis* apice tridentatis, laterali-
bus saepe integerrimis. *Stipulae* sublanatae, foliorum *radicalium* membranaceae, subhyalinae, lanceolatae, acuminatae, nervoso-striatae, *caulinorum* ovatae, lanceolatae, acute, herbaceae. *Flores* 2-3, terminales. *Calyx* villosus, foliolis *exterioribus* linearibus obtusis, *interioribus* ovato-lanceolatis acuminatis reliquis longioribus. *Petala* obcordata, aurea, calycem superantia. *Receptaculum* hirsutum.

HAB. Plains of the Saskatchewan, about Carlton House. *Dr. Richardson, Drummond.*

TAB. LXVII. *Potentilla concinna.* Fig. 1, Flower:—*magnified.*

* * * *Foliis ternatis.*

25. *P. Norvegica*; caule erecto superne dichotomo, foliis ternatis petiolatis, foliolis oblongis acute serratis patente-pilosis, pedicellis axillaribus, petalis obovatis calyce brevioribus.—*Linn. Sp. Pl. p. 715. Fl. Dan. t. 171. Mich. Am. v. 1. p. 302. Pursh, Fl. Am. v. 1. p. 354. Nestl. Monogr. Pot. p. 66. Lehm. Monogr. Pot. p. 153. Torrey, Fl. of Un. St. v. 1. p. 496. Spreng. Syst. Veget. v. 2. p. 540. Rich. in Frankl. 1st Journ. ed. 2. App. p. 20. De Cand. Prodr. v. 2. p. 573.*—*P. millegrana*, et *P. grossa. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. Throughout Canada; and as far north as the Bear Lake. *Dr. Richardson, Drummond.* Hudson's Bay. *Douglas.* Labrador. *Dr. Morrison.* Shores of the Columbia, at Fort Vancouver, and towards the mouth of the river. *Douglas.*

26. *P. hirsuta*; laxe sericeo-hirsuta, caule erecto paucifloro, foliis ternatis petiolatis, foliolis obovatis profunde inciso-serratis, dentibus obtusiusculis, panicula pauciflora, petalis calyce brevioribus.—*Mich. Am. v. 1. p. 303. Pursh, Fl. Am. v. 1. p. 354. Lehm. Monogr.*

Pot. p. 155. *Nestl. Monogr. Pot. p.* 67. *t. 9. f. 1. Rich. in Frankl. 1st Journ. ed. 2. App. p. 21.*—*P. monspeliensis. Linn.*—*P. Morrisoni. De Cand. Cat. Hort. Monsp. p.* 135, *Prodr. v. 2. p.* 573.

HAB. Canada; from Quebec to the St. Lawrence. *Michaux.* Plains of the Saskatchewan. *Dr. Richardson, Drummond.*—Of this plant I find only two or three specimens in the Collection, and these, on a hasty glance, I confess I had been disposed to mingle with those of *P. Norvegica*. But I am now inclined to concur with Dr. Richardson in keeping them distinct. The figure of Nestler, above quoted, is very faithful, and the upright unbranched stems, with a few-flowered terminal panicle, are characteristic. [*H.*]

27. *P. nana, (Lehm.);* caule erecto unifloro, foliis ternatis, foliolis subrotundo-oboovatis obtuse dentatis utrinque pilosis subtus canescentibus, petalis obcordatis calyce triplo longioribus.—*Conspect. Pot. Herb. Willd. in Mag. der Gesell. Nat. Freunde Ber. Jahrg. 7. p.* 296. *Lehm. Monogr. Pot. p.* 181. *t. 17. De Cand. Prodr. v. 2. p.* 573.

HAB. On the most elevated of the Rocky Mountains. *Drummond.* Labrador. *Rev. B. Kohlmeister,* (in Herb. nostr.)* Kotzebue's Sound. *Lay and Collie.*—I possess the same plant, gathered in Spitzbergen by *Capt. Sir E. Parry.*—From all allied species the above may be easily discerned by the "foliola calycina exteriora subrotunda, obtusissima." *Lehm.*—May not this be the *P. emarginata*, Ph.?

28. *P. emarginata;* assurgens, hirsuta, stipulis ovatis integerrimis, foliis ternatis, foliolis sessilibus approximatis ambitu inciso-dentatis utrinque hirsutis, pedicellis paucis terminalibus elongatis unifloris, petalis cuneato-oblongis emarginatis calyce duplo longioribus. *Pursh, Fl. Am. v. 1. p.* 353.

HAB. Labrador. *Rev. B. Kohlmeister.*—A small species; flowers large in proportion. (*Pursh.*)

29. *P. fragiformis;* caule erecto paucifloro, foliis ternatis, foliolis obovato-subrotundis obtuse dentatis utrinque patenti-pilosis margine villosis, petalis obcordatis calyce paullo longioribus.—*Conspect. Pot. Herb. Willd. in Mag. der Gesell. Nat. Freunde Ber. Jahrg. p.* 294. *Lehm. Monogr. Pot. p.* 165. *t. 15. De Cand. Prodr. v. 2. p.* 587.

HAB. In the Aleutian Islands. (*Lehm. De Cand.*)

30. *P. villosa;* caule adscendente paucifloro, foliis ternatis, foliolis subrotundo-cuneiformibus serratis supra sericco-villosissimis nitidis subtus cano-tomentosis, petalis obcordatis calyce duplo longioribus.—*Pallas, ex Pursh, Fl. Am. v. 1. p.* 353. *Lehm. Monogr. Pot. p.* 166. *t. 16. De Cand. Prodr. v. 2. p.* 573.

HAB. North-West coast of America. *Menzies.* Dundas Island. *Dr. Scouler.* Unalashka, and about Behring's Straits, common. *Chamisso.* Kotzebue's Sound. *Lay and Collie.*

31. *P. Vahliana;* caule erecto subunifloro, foliis ternatis, foliolis lateralibus cuneiformibus trifidis, terminali rhomboideo, hirsutissimis subtus nitidis niveo-vel flavescenti-tomentosis, petalis reniformibus calyce duplo longioribus. *Lehm. Monogr. Pot. p.* 172. *Horn. in Nomencl. Fl. Dan. emend. p.* 66 et 118.—*P. hirsuta. Vahl. in litt. Horn. Fl. Dan. t.* 1390. (*fig. mala.*) *De Cand. Prodr. v. 2. p.* 573.—*P. Jamesoniana. Grev. in Mem. Soc. Wern. v. 3. p.* 417. *t.* 20.

* KOHLMEISTER is the correct spelling of this name, as I have lately ascertained; though it has been written KOLMASTER before in this work, and COLMASTER in Pursh's Flora. This gentleman, the Rev. BENJAMIN GOTTLIEB KOHLMEISTER, resided many years as a Moravian Missionary in Labrador, and made a beautiful collection of the plants, with the use of which I have been obligingly favoured by the Rev. P. Latrobe.

Affinis *P. nivea* sed certe species distincta, petalis reniformibus facile ab omnibus *P. nivea* formis discernenda.

HAB. Dry and elevated ridges of the Rocky Mountains, between lat 52° and 56°. *Drummond*. Shores of the Arctic Sea. *Dr. Richardson, Capt. Sir John Franklin*. Islands of the Arctic Sea. *Capt. Sir E. Parry, Capt. Sabine*.—This is a very beautiful species, with the flowers large in proportion to the size of the plant, and the petals very broad; but I possess many specimens of a *Potentilla* from the higher summits of the Rocky Mountains and from the Arctic regions, which appear to be quite intermediate between *P. Vahlbana* and *P. nivea*. The latter has in general much smaller flowers, but which are larger frequently as the plant becomes smaller, in very arctic or very alpine situations. [H.]

32. *P. nivea*; caule adscendente paucifloro, foliis ternatis, foliolis obovati-cuneiformibus margine planis inciso-serratis, supra subhirsutis, subtus niveo-tomentosis, petalis lato-obcordatis calyce paullo longioribus.—*Linn. Sp. Pl.* p. 715. *Fl. Dan.* t. 1035. *Nestl. Monogr. Pot.* p. 73. *Pursh, Fl. Am.* v. 1. p. 353. *Lehm. Monogr. Pot.* p. 184. *Rich. in Frankl. 1st Journ. ed. 2. App. p.* 20. *De Cand. Prodr.* v. 2. p. 572. *Hook. in Bot. Mag.* t. 2982. (var. *macrophylla*).—*P. micrantha et uniflora. Ledeb.* (*sic specimen ab ipso auctore mecum communicatorum*).—*P. Gunneri. Hartm. Fl. Scand.*— β . foliis utrinque villosiusculis paginis concoloribus. *Br.*

HAB. Labrador. *Rev. B. Kohlmeister* (in *Herb. nostr.*) Mountains and alpine Prairies, from Carlton House, to the Rocky Mountains, *Drummond*; and to the shores of the Arctic Sea (*Dr. Richardson*), and islands of the Arctic Ocean, (*Capt. Ross, Capt. Sir E. Parry, Capt. Sabine*), where also var. β . is found, as well as at Labrador. *Dr. Morrison*.—This species also, in North America, appears, in regard to the pubescence of the whole plant, size, and number of the flowers, a very variable one. Though the size of the petals is subject to many changes, it depends however on that of the calyx, in as much as a larger calyx has always in proportion larger petals.* Another deviation from the usual state of the plant I find in the North American plants of this species, namely, that sometimes (as in *P. subcaulis*) there are found some leaves quinate: these are apparent on vigorous specimens, the flowers of which are numerous and small. In other respects there is no difference. *Lehm.*

33. *P. tridentata*; radice repente, caule adscendente, foliis ternatis, foliolis oblongo-cuneiformibus apice tridentatis supra glabriusculis subtus pubescentibus glaucescentibus.—*Ait. Hort. Kew.* v. 2. p. 216. t. 9. *Engl. Bot.* t. 2389. *Nestl. Monogr. Pot.* p. 66. *Pursh, Fl. Am.* v. 1. p. 353. *Lehm. Monogr. Pot.* p. 190. *Bigel. Fl. Bost. ed. 2. p.* 205. *Torrey, Fl. of Un. St.* v. 1. p. 495. *De Cand. Prodr.* v. 2. p. 585.—*P. retusa. Retz, Fl. Dan.* t. 799 et 1875.

HAB. Labrador. *Rev. B. Kohlmeister, Dr. Morrison*. Newfoundland, *Sir A. Cochrane and Mr. Cormack*; in Canada, and throughout the woody country, from Lake Huron (*Dr. Todd*) as far as lat. 64°. *Dr. Richardson, Drummond*.

34. *P. biflora*; caule erecto apice subbifloro, foliis ternatis tenuissime pilosis, foliolis lateralibus profunde bipartitis terminali bipartito, segmentis linearibus integerrimis margine ciliatis. *Lehm. in Conspect. Pot. Herb. Willd. in Mag. der Gesell. Sieb. Jahrg.* p. 297, *Monogr. Pot.* p. 192. t. 20. *Rich. in Frankl. 1st Journ. ed. 2. App. p.* 21.

HAB. Barren grounds, from lat. 64° to the shores of the Arctic Sea. *Dr. Richardson, (in 1st Exped.) Kotzebue's Sound. Lay and Collie*.—For an accurate and full description of this species, taken from the recent plant, see *Dr. Richardson, loc. cit.* [H.]

* For some further particulars relative to the varieties of this species, see the *Bot. Mag.* under tab. 2982.—H.

NOTE.—In the Botanical Register t. 1412, has just appeared a *Potentilla* from Dr. Richardson, under the name of *P. Missouriica* of "Hornemann;" but which I am quite unable to distinguish from Dr. Richardson's original specimens of *P. Pennsylvanica*.—*H.*

14. SIBBALDIA. *Ledeb.* (SIBBALDIE SPEC. *Linn.*)

Cal. planiusculus decemfidus (laciniis alternis accessoriis.) *Cor.* pentapetala: *petala* lineari-spathulata. *Stam.* 5–10. *Styli* laterales, simplices, 5–10. *Caryopses* 5–10. *Receptaculum* subnudum.—*Eglandulosa, petalis albis vel flavidis. Ledeb.*

1. *S. procumbens*; foliis trifoliolatis, foliolis superne æqualibus cuneatis apice grosse dentatis pilosiusculis, floribus corymbosis, petalis calyce brevioribus. *Linn. Sp. Pl.* p. 406. *Pursh, Fl. Am. v. 1. p. 211. Torrey, Fl. of Un. St. v. 1. p. 330. Engl. Bot. t. 897. Cham. in Linnæa, v. 2. p. 28.*

HAB. High Mountains of Canada. *Pursh.* Prairies, and upon the heights of the Rocky Mountains, between lat. 52° and 56°. *Drummond. Unalashka. Chamisso.*

15. HORKELIA. *Cham. et Schlecht.*

Cal. campanulatus, semidecemfidus, laciniis alternis accessoriis. *Pet.* 5, (parva, *Cham.*) *Stam.* 10, biseriata, calycis parietibus inserta. *Receptaculum* conicum siccum, villosum. *Ovaria* indefinite numerosa. *Styli* simplices cum ovario articulati, subterminales. *Achenia* calyce inclusa. *Cham. et Schlecht.*

1. *H. congesta*; foliis radicalibus pinnatis, foliolis cuneato-oblongis apice incis, calycis laciniis exterioribus integerrimis, petalis calyce longioribus.—*Douglas, MSS. apud Herb. Hort. Soc. Lond.—Hook. in Bot. Mag. t. 2880.*

HAB. Cape Mendocino, and on the low hills of the Umtqua River, California, lat. 41°–42°. *Douglas.*

16. CHAMÆRHODOS. *Bunge.* (SIBBALDIE SPEC. *Linn.*)

Cal. campanulatus, 5-fidus. *Cor.* 5-petala: *petala* obovata. *Stam.* 5. *Styli* laterales, (rarius 5) plerumque 10 vel plures. *Caryopses* 5, 10 pluresve. *Receptaculum* villosum.—*Omnes glanduloso-pilosa, petalis albis purpureisve. Ledeb.*

1. *C. erecta*; herbacea pubescens, caulibus elongatis racemoso-paniculatis, foliis radicalibus biternato-multifidis, caulinis superioribus 3–5-fidisve laciniis lineari-filiformibus, floribus pentandris 5–20-gynis, petalis calycem excedentibus.—"*Bunge.*"—*Ledeb. Fl. Altaic. v. 1. p. 431.—Sibbaldia erecta. Linn. Sp. Pl. p. 406. Pursh, Fl. Am. v. 2. p. 211. De Cand. Prodr. v. 2. p. 586.—Ann. Ruth. p. 85. t. 25.*

HAB. About Carlton House on the Saskatchewan, (*Dr. Richardson*), and among the Rocky Mountains, between lat. 52°–56°. *Drummond.*

17. AGRIMONIA. *Tourn.*

Cal. tubus turbinatus foveolatus supra lappaceus, extus setis involucrififormibus onustus, fauce cum centrali foramine obturata, limbo 5-fido. *Pet.* 5. *Stam.* 15. *Carpella* 2, stylo terminali. *Achenia* tubo cal. indurato inclusa membranacea, semine appenso.—*Herbæ, foliis pinnatisectis, floribus racemoso-spicatis flavis, bracteis trifidis. DC.*

1. *A. Eupatoria*; glabriuscula vel hirsuta, foliis interrupte pinnatis, foliolis oblongo-ovatis grosse serratis, fructibus distantibus, tubo calycis campanulato superne setoso. *Linn.*

Sp. Pl. p. 643. *Mich. Am.* v. 1. p. 287. *Pursh, Fl. Am.* v. 1. p. 325. *Engl. Bot.* t. 1335. *Bigel. Fl. Bost. ed. 2.* p. 189. *Elliott, Carol.* v. 1. p. 526. *Torrey, Fl. of Un. St.* v. 1. p. 473. *De Cand. Prodr.* v. 2. p. 587.—*β. hirsuta. Torrey.*—*δ. parviflora*; racemis gracilibus, pedicellis longioribus, floribus remotioribus minoribus.—*A. parviflora. Ait. Hort. Kew. ed. 1.* v. 2. p. 130? *et aliorum?*—*A. striata. Mich. Am.* v. 1. p. 287? *et aliorum?*

HAB. Throughout Canada, as far as Lake Winipeg. *Dr. Richardson, Drummond.* *β.* and *γ.* Lake Huron. *Dr. Todd.*—What I take to be a small flowered variety of this is not uncommon in Upper Canada, and this, I strongly suspect, is the *A. parviflora* of Ait., and probably the *A. striata*, imperfectly described by Michaux, and which he says inhabits Canada; but he observes that the flowers are white. According to my specimens from Mr. Elliott, his *A. suaveolens* is this var., but whether it be the same with that of Pursh, I am not able to determine.

TRIB. IV. SANGUISORBEE. *Juss.*

18. ALCHEMILLA. *Tourn.*

Cal. tubulosus, tubo apice subcontracto, limbo 8-partito, lobis alternis (bracteolis) minoribus interdum minimis dentiformibus. Pet. 0. Stam. 1-4. Carpella 1-2 lateraliter stylum filiformem apice capitatum gerentia, demum sicca indurata monosperma. Semen inversum.—Herbæ, foliis palmatim lobatis aut sectis, floribus corymbosis parvis. Genus medium inter Sanguisorbeas et Dryadeas. *DC.*

1. *A. vulgaris*; foliis reniformibus plicato-concavis 9-lobis serratis, caule petiolisque glabriusculis, floribus dichotomis corymbosis. *DC.*—*Linn. Sp. Pl.* p. 178. *Engl. Bot.* t. 597. *De Cand. Prodr.* v. 2. p. 589.

HAB. Labrador. *Dr. Morrison, Rev. B. Kohlmeister.*—This species is known to inhabit Greenland, but, I believe, no other part of the continent of America than that I have now mentioned. *A. alpina*, too, is found in Greenland; but in America it is only doubtfully mentioned by Pursh as having been seen on high mountains in Vermont, and New Hampshire.

19. SANGUISORBA. *Linn.*

Flores hermaphroditæ. Cal. 4-fidus extus basi bisquamosus. Pet. 0. Stam. 4. Carpella 2 intra calycis tubum inclusa, stylo apice penicilliformi superata, in achenia sicca indehisc. 1-sperma conversa. Semen inversum.—Herbæ perennes, foliis impari-pinnatis, floribus in spicas densissimas ovatas cylindraceasve aggregatis. *DC.*

1. *S. media*; spicis elliptico-cylindraceis (atropurpureis) staminibus calyce subduplo longioribus, calycibus bracteis foliisque longioribus, foliolis cordato-ovatis obtusis grosse dentato-serratis.—*Linn. Sp. Pl.* p. 594. *Pursh, Fl. Am.* v. 1. p. 117. *Torrey, Fl. of Un. St.* v. 1. p. 176. *Sm. Engl. Fl.* v. 1. p. 219? *De Cand. Prodr.* v. 2. p. 594.—*β. minor.*

HAB. Canada. (*Linnaeus*), *Douglas, MSS.* Columbia River, on the North-West coast of America. *Mr. Menzies, Dr. Scouler.* *β.* At Port Wentworth. *Mr. Menzies.*—This is assuredly very nearly allied to our European *S. officinalis*; and was described by Linnaeus as a native of Canada, (from which country, however, I have never seen a specimen,) and distinguished by its longer cylindrical spikes, and longer stamens. In these characters, our plants from the North-West coast entirely agree; and I have a beautiful drawing, made on the spot by Mr. Menzies, in which these distinctions are faithfully represented. The spike is a very deep purple colour. At Fort Vancouver, on the Columbia, the leaves attain a length of twelve or fourteen inches, and the stem a height of two feet. At Port Wentworth, they scarcely reach the height of a span.—The style is single, according to Mr. Menzies's figure; the stigma a globose tuft of hairs; and there are three bractæ at the base of the calyx.

2. *S. Canadensis*; spicis longis cylindricis (albis), staminibus longe exsertis, filamentis superne dilatatis, foliis ovato-oblongis subcordatis grosse serratis.—*Linn. Sp. Pl.* p. 169. *Mich. Am.* v. 1. p. 100. *Pursh, Fl. Am.* v. 1. p. 126. *Elliott, Carol.* v. 1. p. 206. *Torrey, Fl. of Un. St.* v. 1. p. 176. *Bigel. Fl. Bost.* ed. 2. p. 62. *De Cand. Prodr.* v. 2. p. 594.—*β. latifolia*; foliis brevioribus latioribus.

HAB. Canada, about Quebec. *Michaux, Mrs. Sheppard, Mrs. Percival.* Newfoundland. *Dr. Morrison.* 3. Observatory Inlet, North-West coast of America. *Dr. Scouler.* Grassy pastures in the vallies of Unalakchka. *Chamisso.*

20. POTERIUM. *Linn.*

Flores monoici aut polygami. *Cal.* basi 3-squamosus, tubo apice coarctato, limbo 4-partito. *Pet.* 0. *Stam.* 20–30. *Ovaria* 2 stylo filiformi et stigmatibus penicilliformi superata. *Achenia* intra calycem induratum sicca 1-sperma. *Semen* inversum.—Herbæ aut suffrutices. *Folia impari-pinnata*, foliis serratis (vel profunde divisis.) *Flores in spicas globosas cylindraceas dense aggregati.* *DC.*

1. *P. Sanguisorba*; herbaceum, caule anguloso foliisque glabris, foliis 4–5-jugis ovatis subrotundis profunde serratis, capitulis subrotundis floribus inferioribus masculis.—*Linn. Sp. Pl.* p. 1411. *Engl. Bot.* t. 860. *De Cand. Prodr.* v. 2. p. 594.

HAB. Lake Huron. *Dr. Todd*, (in *Herb. nostr.*)

2. *P. annuum*; herbaceum annuum glabrum, caule erecto dichotomo, foliis 4–5-jugis ovatis profunde pectinato-pinnatifidis, laciniis lineari-angustissimis, capitulis ovalibus (unisexualibus?)—*Nuttall, MSS.* in *Herb. nostr.*

Radix parvas, annua. *Caulis* erectus, strictus, gracilis, pedalis ad bipedalem glaber, plerumque dichotome ramosus. *Folia* plurima, glabra. *Foliola* 4–5-juga, circumscriptione ovata, ad coetam usque pectinato-pinnatifida, laciniis angustissimis linearibus. *Capitula* terminalia, elliptica, ut videtur flavescens-purpurea, unisexualia?

HAB. Rocks near the "Grand Rapids," on the plains of the Multnomak, frequent. *Douglas.*—The same very distinct species I have received from Mr. Nuttall (who gathered it upon the Red River, in Louisiana) as the *P. annuum* of his MSS.: a name, therefore, which I gladly adopt.

TRIB. V. ROSEÆ. *DC.*21. ROSA. *Tourn.*

Calycis tubus apice contractus, limbo 5-partito, lobis per æstivationem apice subspiraliter imbricatis sæpe pinnatim sectis. *Pet.* 5. *Stam.* 00. *Carpella* plurima, calycis tubo demum baccato inserta, et in eo inclusa, sicca indehiscencia subrustacea, e latere interiore styli gerentia, stylis e calycis tubo coarctato exsertis, nunc omnino liberis, nunc in styli columnarem accretis. *Semen* in achenio solitarium exalbuminosum, inversum. *Embryo* rectus, *cotyledonibus* planiusculis.—Frutices aut Arbusculæ; foliis sæpius impari-pinnatis, foliis serratis, stipulis petiolo adnatis. *DC.*

DIV. I. CINNAMOMEÆ. *Setigeræ vel inermes bracteate.* *Foliola lanceolata eglanhdulosa.* *Discus tenuis nequaquam incrassatus.* *Lindl.*

1. *R. nitida*; pumila, armis confertissimis gracilibus, foliis nitidis anguste lanceolatis

planis. *Lindl.*—*Willd. Enum. p. 544. Pursh, Fl. Am. v. 1. p. 344, et in Suppl. p. 749. Lindl. Ros. p. 13. t. 2. De Cand. Prodr. v. 2. p. 603. Torrey, Fl. of Un. St. v. 1. p. 485.*—*R. blanda. Pursh, Fl. Am. v. 1. p. 344. (non Ait.)*

HAB. Newfoundland. (*Herb. Banks.*) *Dr. Morrison, Mr. Cormack, Sir Alexander Cochrane.*

2. *R. lucida*; compacta, aculeis ramorum stipularibus, foliolis oblongis imbricatis planis lucidis, fructu depresso-globoso. *Lindl.*—"Ehrh. Beitr. 4. 22." *Jacq. Frag. p. 71. t. 107. f. 3. Pursh, Fl. Am. v. 1. p. 344. Elliott, Carol. v. 1. p. 563. Lindl. Ros. p. 17. Torrey, Fl. of Un. St. v. 1. p. 485. De Cand. Prodr. v. 1. p. 602.*—*Dill. Elth. p. 325. t. 245. f. 316.*

HAB. Newfoundland. *Sir Alexander Cochrane.*—In those specimens which I have received from *Sir A. Cochrane*, the calyx-tube is naked.

3. *R. Woodsii*; stipulis sepalisque conniventibus, foliolis oblongis obtusis glabris. *Lindl. Ros. p. 21. De Cand. Prodr. v. 2. p. 604. Lindl. in Bot. Reg. t. 976.*

HAB. North of the Saskatchewan, as far as Bear Lake. *Dr. Richardson.*—Of this there is what *Mr. Borrer* considers a var., with the leaves downy beneath, gathered about Cumberland-House Fort by *Mr. Drummond.*

4. *R. Carolina*; stipulis convolutis, foliolis lanceolatis, sepalis patentibus. *Lindl.*—*Linn. Sp. Pl. p. 703. Pursh, Fl. Am. v. 1. p. 341. Elliott, Carol. v. 1. p. 565. Lindl. Ros. p. 23. t. 4. Torrey, Fl. of Un. St. v. 1. p. 486. De Cand. Prodr. v. 1. p. 605.*—*R. Caroliniana. Bigel. Fl. Bost. ed. 2. p. 197.*—*R. Pennsylvanica. Mich. Am. v. 1. p. 296.*

HAB. Canada, and as far as the Saskatchewan. *Dr. Richardson, Drummond.*

5. *R. blanda*; elatior, armis deciduis, foliolis oblongis planis, petiolo piloso. *Lindl.*—*Ait. Hort. Kew. ed. 1. v. 2. p. 202. Lindl. Ros. p. 25.*—*R. fraxinifolia, a. De Cand. Prodr. v. 2. p. 606.*

HAB. "North-West coast of America." * *Menzies, (in Lindl.) Hudson's Bay, (Herb. Banks.)* Canada, and as far north as the Bear Lake. *Dr. Richardson, Drummond.*—The specimens in the Collection accord with an authentic one in my Herbarium from *Mr. Lindley.* "It varies, however, in the abundance of glands on the underside of the leaves and stipules, nor do I know how *R. acicularis*, *Lindl. (Ros. p. 144. t. 8.)* is to be distinguished. There are specimens from Cumberland-House Fort, gathered by *Dr. Richardson*, in which the shoots are almost as large and prickly as in *R. ferox*, but not downy. There is, too, a var. *foliolis latioribus serraturis dorso crenatis*, gathered near Bear Lake by *Capt. Back* and *Lieut. Kendal.*—Mixed with *R. blanda*, and its broad leaved var. is a *Rose* unknown to me, of a similar pale hue, with very numerous nearly equal setaceous prickles, petioles slightly hairy, and with a few prickles and setae, leaflets very obtuse, coarsely, sharply, and simply serrated, and naked on both sides. It is probably a species." *Borrer.*

6. *R. fraxinifolia*; elatior inermis, ramis strictis glaucescentibus, foliolis opacis undulatis impubibus. *Lindl.*—"Bork. Holz. 301." *Ker. in Bot. Reg. t. 458. Lindl. Ros. p. 26. De Cand. Prodr. v. 2. p. 606.*

HAB. North-West coast of America. (*De Cand.*) *Menzies, (in Herb. nostr.) Douglas, Dr. Seouler.* Newfoundland, (*Herb. Banks.*)—In *De Candolle's Prodr.* this is stated to be exclusively a native of the North-West coast of America. My specimens are all from that country, and well accord with the figure in the *Bot. Register*, above quoted. *M. Seringe* unites the *R. blanda* of *Hortus Kewensis* with the present species.

* This station probably belongs to the following species.

7. *R. cinnamomea*; elatior cinerea, ramis strictis, aculeis stipularibus rectiusculis, stipulis dilatatis undulatis, foliis oblongis rugosis subtus tomentosis. *Lindl.*—*Linn. Sp. Pl.* p. 703. *Engl. Bot. t.* 2386. *Lindl. Ros. p.* 28. *t.* 5. *De Cand. Prodr. v.* 1. p. 605.

HAB. Shores of the Columbia, near its confluence with the sea. *Dr. Scouler.*—Mr. Borrer observes that the specimens resemble the European plant, except that the flower-stalks bear setæ.

8. *R. majalis*; humilior cæsia, ramis strictis coloratis, aculeis sparsis subæqualibus, stipulis linearibus, foliis oblongis planis subtus glaucis tomentosis. *Lindl.*—*Hetz, Obs. Bot. 3. p.* 33. *Lindl. Ros. p.* 34.

HAB. From the Saskatchewan to Mackenzie's River. *Dr. Richardson.*

DIV. II. PIMPINELLIFOLIÆ. *Setigeræ armis confertis subconformibus, v. inermes; ebracteata (rarissime bracteata.) Foliola ovata v. oblonga. Sepala conniventia persistentia. Discus subnullus.* *Lindl.*

9. *R. stricta*; ramosissima, ramulis inermibus, fructu elongato pendulo. *Lindl.*—*Muhl. Cat. p.* 42. *Lindl. Ros. p.* 42. *t.* 7. *De Cand. Prodr. v.* 2. p. 612.—*R. pendulina.* *Linn. Sp. Pl. p.* 705.—*R. Carolina.* ζ . *Ait. Hort. Kew. ed. 2. v.* 3. p. 260.—Var. β . foliis subtus pubescentibus.

HAB. β . On the Saskatchewan. *Drummond.*

DIV. III. BANKSIANÆ. *Stipulae subliberæ, subulata v. angustissima, sæpius deciduæ. Foliola sæpius ternata, nitida. Caules scandentes.* *Lindl.*

10. *R. levigata?* stipulis lineari-lanceolatis semiadnatis, petiolis inermibus, fructibus muricatis. *Lindl.*—*Mich. Am. v.* 1. p. 295. *Pursh, Fl. Am. v.* 1. p. 345. *Lindl. Ros. p.* 125.

HAB. Lake Huron. *Dr. Todd.*—Mr. Borrer observes that this species is probably the same as Pursh's *R. levigata*, since it agrees very well with his character; but the leaves are pubescent, and the leaf-stalks have no prickles.

I am indebted to my kind and valued friend Mr. Borrer for the determination of the above species of this most difficult genus. There are still some dubious ones in the Collection, and two or three that are probably new from the Pacific side of the Continent; but till we are supplied with more copious and better specimens, we shall not attempt to define them.

TRIB. VI. POMACEÆ. *Juss.*

22. CRATÆGUS. *Lindl.*

Cal. tubus urceolatus, limbus 5-fidus. Pet. patentia orbiculata. Ovarium 2-5 loc. Styli totidem glabri. Pomum carnosum ovatum dentibus calycinis vel disco incrassato clausum putamine osseo.—Frutices spinosi. Folia angulata aut dentata. Corymbi terminales. Bractew subulata deciduæ. *DC.*

1. *C. Crus Galli*; foliis obovato-cuneiformibus subsessilibus nitidis glabris tarde deciduis, cal. lobis lanceolatis subserratis, stylis 2. *DC.*—*Linn. Sp. Pl. p.* 632. *Mich. Am. v.* 1. p. 288. *Pursh, Fl. Am. v.* 1. p. 338. *Elliott, Carol. v.* 1. p. 548. *Bigel. Fl. Bost. ed. 2. p.* 194? *Torrey, Fl. of Un. St. v.* 1. p. 476. *Wats. Dendr. t.* 56. *De Cand. Prodr. v.* 2. p. 626.—*Mespilus lucida.* *Ehrh.*

HAB. Canada. *Pursh*. About Lake Erie. *Douglas*.—I have seen no Canadian specimens of this, which is, however, not unfrequent in the southern States. In the northern, I am disposed to think that *C. glandulosa* has been mistaken for it. I possess beautiful specimens from Dr. Schweinitz, gathered in Pennsylvania.

2. *C. elliptica*; foliis ellipticis inæqualiter serratis glabris, petiolis calycibusque glandulosis, laciniis calycis obtusis, bacis globosis 5-spermis. *Ph.*—*Ait. Hort. Kew. ed. 1. v. 2. p. 168. Pursh, Fl. Am. v. 1. p. 337. Elliott, Carol. v. 1. p. 549. Torrey, Fl. of Un. St. v. 1. p. 475. De Cand. Prodr. v. 2. p. 627.*

HAB. Canada. *Pursh*.—With this species I am unacquainted.

3. *C. punctata*; foliis obovato-cuneiformibus glabris serratis, calycibus subvillosis, lobis subulatis integris. *DC.*—*Ait. Hort. Kew. ed. 1. v. 2. p. 169. Jacq. Vind. v. 1. t. 28. Mich. Am. v. 1. p. 289. Pursh, Fl. Am. v. 1. p. 338. Torrey, Fl. of Un. St. v. 1. p. 476. Wats. Dendr. t. 57. Elliott, Carol. v. 1. p. 548. De Cand. Prodr. v. 2. p. 627.*—*Mespilus cuneifolia. Ehrh.*—*β.?* *brevispina. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. *β.* Common on the banks of streams on the North-West Coast of America. *Douglas, Dr. Scouler*.—Of the wood of this, and of *Pyrus rivularis*, the Indian tribes on the Pacific make their wedges for splitting trees. Mr. Douglas's plant, thus named, seems to come too near *C. glandulosa*, and its leaves are certainly not unfrequently lobed or angled. Two varieties are in Mr. Douglas's collection from the North-West coast; both, indeed, with short thorns; one is glabrous in every part, the other has the peduncles, calyces, and under-side of the leaves downy.

4. *C. pyrifolia*; foliis ovato-ellipticis inciso-serratis subhirtis, calycibus villosiusculis, lobis lineari-lanceolatis serratis, floribus 3-gynis. *DC.*—*Ait. Hort. Kew. ed. 1. v. 2. p. 168. Pursh, Fl. Am. v. 1. p. 337. Elliott, Carol. v. 1. p. 530. Wats. Dendr. t. 61. Torrey, Fl. of Un. St. v. 1. p. 475. De Cand. Prodr. v. 2. p. 627.*

HAB. La Grande Chaudière. *Pursh, MSS.*

5. *C. glandulosa*; foliis obovato-cuneatis angulatis glabris nitidis, petiolis stipulis calycibusque glandulosis, fructibus ovalibus 5-spermis. *DC.*—*Willd. Sp. Pl. p. 1002. (non Mich.) Pursh, Fl. Am. v. 1. p. 337. Torrey, Fl. of Un. St. v. 1. p. 474. De Cand. Prodr. v. 2. p. 627. Wats. Dendr. t. 58.*

HAB. Throughout Canada. From Lake Huron (*Dr. Todd*) to the Saskatchewan. *Dr. Richardson, Drummond, Douglas*.—Perhaps Mr. Douglas's *C. punctata, β.* ought to be referred hither; and if so, it inhabits also the North-West coast of America.

6. *C. coccinea*; foliis cordato-ovatis inciso-angulatis glabris acute serratis, petiolis calycibusque pubescentibus glandulosis, petalis orbiculatis, floribus 5-gynis. *DC.*—*Linn. Sp. Pl. p. 682. Mich. Am. v. 1. p. 288. Pursh, Fl. Am. v. 1. p. 337. Elliott, Carol. v. 1. p. 553. Torrey, Fl. of Un. St. v. 1. p. 474. Wats. Dendr. t. 62. De Cand. Prodr. v. 2. p. 627.*—*C. sanguinea. Pall. Fl. Ross. t. 11?*

HAB. Canada. *Michaux, Pursh*. Near Quebec. *Mrs. Sheppard, Mr. Cleyhorn*. Dry shores of Lake Erie, common. *Douglas*.—Fruit red, eatable.

7. *C. cordata*; foliis cordato-ovatis inciso-angulatis glabris, petiolis calycibusque glandulosis, floribus 5-gynis. *DC.*—*Willd. Sp. Pl. v. 2. p. 1000. Elliott, Carol. v. 1. p. 554. Torrey, Fl. of Un. St. v. 1. p. 474. De Cand. Prodr. v. 2. p. 628. Lindl. in Bot. Reg. t. 451.*—*C. polifolia. Walt. Carol.*—*Pursh, Fl. Am. v. 1. p. 337.*—*Mespilus acerifolia. Poir.*

HAB. Canada. *Pursh*. Shores of Lake Erie. *Douglas*. Carlton-House, on the Saskatchewan, to the Rocky Mountains, and at the sources of the Columbia. *Drummond*.

8. *C. flava*; foliis obovato-cuneiformibus sublobatis crenato-serratis, petiolis brevibus, stipulis ("cordatis") calycibusque glandulosis, floribus subsolitariis, baccis turbinatis 4-spermis. *DC.*—*Ait. Hort. Kew. ed. 1. v. 2. p. 169. Elliott, Carol. v. 1. p. 531. Wats. Dendr. t. 59. De Cand. Prodr. v. 2. p. 628.*—*C. glandulosa. Mich. Am. v. 1. p. 288.*—*C. Caroliniana. Poir.*—*Mespilus Michauxii. Pers. (De Cand.)*

HAB. Island of Orleans in the St. Lawrence. *Mr. Sheppard.*—The only specimen of this plant I have received from the Canadian possessions is destitute of flowers, but its petioles, winged with the decurrent base of the leaves, admirably distinguish the species. The stipules, indeed, are not cordate, nor are they so figured by Watson, nor described by Michaux, except in the young state. It were to be wished that the other American species of this genus were as distinctly marked as the present. But the whole of them require careful comparison, and to be described from recent specimens.

Dr. Morrison's collections from Newfoundland contain the *C. oxyacantha*; but it was probably introduced into that island from Europe.

23. AMELANCHIER. *Michx.*

Cal. 5-fidus. *Pet.* lanceolata. *Stam.* calyce subbreviore. *Ovarii* loculi 10 seu potius 5 bipartiti. *Ovula* 10 in loculorum partitionibus solitaria. *Styli* 5 basi subcoaliti. *Pomum* maturum 3-5-loculare. *Semina* 3-5, endocarpio cartilagineo.—Arbusculæ; foliis simplicibus serratis deciduis, floribus racemosis albis, bracteis lineari-lanceolatis deciduis. *DC.*

1. *A. Botryapium*; foliis oblongo-ellipticis cuspidatis, junioribus subvillosis demum glabris. *De Cand. Prodr. v. 2. p. 632.*—*A. grandiflora. Douglas, MSS. apud Herb. Hort. Soc. Lond.*—*Pyrus Botryapium. Linn. fl. Suppl. p. 255. Pursh, Fl. Am. v. 1. p. 339. Bigel. Fl. Bost. ed. 2. p. 196.*—*Mespilus Canadensis. Linn. Sp. Pl. p. 185.*—*M. Canad. 3.?* *Mich. Am. v. 1. p. 291.*—*M. glabra. Nutt. MSS. in Herb. nostr.*—*M. arborea. Mich. Arb. Forest. ed. Gall. v. 2. p. 70. t. 66.*—*Crataegus racemosa. Lam.*—*Aronia Botryapium. Pers. Syn. Pl. p. 39. Elliott, Carol. v. 1. p. 557. Torrey, Fl. of Un. St. v. 1. p. 479.*

HAB. Throughout Canada; frequent. Newfoundland. *Sir Alexander Cochrane, Dr. Todd.* Plentiful on the higher parts of the Columbia. *Douglas.*—In the North-West specimens of this plant, as of the following, the serratures of the leaves are sometimes confined to the extremity.

2. *A. ovalis*; foliis subrotundo-ellipticis acutis, junioribus subtus subvelutinis adultis glabris, racemo coarctato, petalis obovatis, calyce pubescente. *De Cand. Prodr. v. 2. p. 632.*—*Pyrus ovalis. Willd.—Pursh, Fl. Am. v. 1. p. 240. Bigel. Fl. Bost. ed. 2. p. 195.*—*M. Canadensis, α. obovalis. Mich. Am. v. 1. p. 291.*—*Crataegus spicata. Lam.*—*Aronia ovalis. Pers. Syn. Pl. v. 2. p. 40. Elliott, Carol. v. 1. p. 558. Rich. in Frankl. 1st Journ. ed. 2. App. p. 19. Torrey, Fl. of Un. St. v. 1. p. 479.*—*β. semiintegrifolia, foliis plerisque apice solummodo serratis.*—*A. parviflora. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. Throughout Canada, from Lake Huron (*Dr. Todd*) to the Saskatchewan and Mackenzie Rivers, and as far as the Rocky Mountains. (*Dr. Richardson, Drummond, Douglas.*) *β.* Plentiful about the Grand Rapids, and at Fort Vancouver, on the Columbia, and on the high grounds of the Multnomak River. *Douglas.*—I am sometimes disposed to agree with *Dr. Torrey*, who suspects this to be only a var. of the preceding. What I consider as the *A. Botryapium* has the young leaves slightly hairy, and the adult ones perfectly glabrous, of a thin texture, and turning black in drying. In my specimen of *A. ovalis*, even

the old leaves are more or less thickly clothed, especially beneath, with a compact yellowish tomentum, exactly as in our European *A. vulgaris*, from which it appears to me not easy to distinguish it. Michaux seems to have included these two and the following species under his *A. Canadensis*. Dr. Richardson observes that "this abounds on the sandy plains of the Saskatchewan. Its wood, named by the Crees *Meesasquat-aktick*, is prized for making arrows and pipe-stems, and is thence termed by the Canadian voyageurs *bois de sèche*. Its berries, about the size of a pea, are the finest fruit in the country, and are used by the Crees under the name of *Meesascootoom-meena*, both in a fresh and dried state. They form a pleasant addition to *Pemmican*, and make excellent puddings, very little inferior to plum-pudding."

3. *A. sanguinea*; foliis oblongis utrinque rotundatis argute serratis semper nudis, bracteis stipulisque plumosis, racemis capitatis, calycibus extus glabris. *Lindl. in Bot. Reg. t. 1171.*—*A.?* *sanguinea. De Cand. Prodr. v. 2. p. 633.*—*Mespilus Canadensis, γ. rotundifolia. Mich. Am. v. 1. p. 391.*—*Pyrus sanguinea. Pursh, Fl. Am. v. 1. p. 240.*—*Aronia sanguinea. Nutt.*

HAB. Canada. *Michaux, Pursh.* Hudson's Bay. *W. Williams, Esq. (in Bot. Reg.)* Columbia. *Pursh.* Lake Huron. *Dr. Todd.* Plains of the Saskatchewan. *Dr. Richardson, Drummond.* Newfoundland. *Dr. Morrison.*—What I here consider to be the *Pyrus sanguinea* of Pursh, is principally distinguished from our *A. Botryopium* by its fewer-flowered, much shorter racemes, and the shorter and broader or more ovate petals. The leaves are hairy when young, as in that species. Pursh describes the fruit as red; Mr. Lindley as blackish-purple.

24. PYRUS. *Lindl.*

Cal. tubus urceolatus, limbus 5-lobus. *Pet.* subrotunda. *Styli* sæpius 5, rarius 2-3. *Pomum* chusum 5-loc. putaminibus cartilagineis. *Semina* in loculo quoque 2, testa cartilaginea.—*Arbores frutescens. Folia simplicia vel pinnata. Cymæ patentés terminales multifloræ. Bracteæ subulatæ deciduæ. DC.*

SECT. 1. TORMINARIA. *DC.*

1. *P. rivularis*; foliis ovatis integris angulato-subtrilobisque subacuminatis acute serratis subtus pubescentibus, corymbis terminalibus simplicibus, calycibus hirsutis intus densissime tomentosis, stylis (3-4) basi coalitis. (TAB. LXVIII.)—*Douglas, MSS. apud Herb. Hort. Soc. Lond.*

Arbor 15-25-pedalis, ramis cortice cinereo obtectis, junioribus solummodo subpubescentibus. *Folia* ovata, acuta seu acuminata, subcoriacea, 2-4 uncias longa, magis minusve lata, integra vel subangulata nunc etiam trilobata, acuta et subinequaliter serrata, *juniora* pubescentia, *adultæ* superne glabrescunt subtus pubescenti-hirsuta nervis prominentibus. *Petiolæ* graciles unciam sesquinciamp longi, pubescentes. *Corymbi* terminales in ramis junioribus, simplices. *Pedicelli* longi, fusi, pubescenti-hirsuti. *Flores* majusculæ. *Calyx* extus hirsutus, lobis patentibus acuminatis intus densissime lanatis. *Petala* alba, rotundata, unguiculata, patentia, venosa. *Stamina* 20. *Styli* 4, basi coadunati. *Fructus: Pomum* parvum vix semiunciam longum, subglobosum, rubrum vel flavum, longum, primum calyce (demum deiduo) coronatum, 3-4-loculare, loculis nunquam abortivis.

HAB. Nootka Sound, and in other parts of the North-West coast of America. *Menzies, (in Herb. nostr.)* Abundant on the banks of streams near the ocean, from the mouth of the Columbia northwards. *Douglas, Observatory Inlet. Dr. Scouler.*—This is a small tree, of which the wood is employed for making wedges, and is so hard as to be susceptible of a fine polish. The fruit is used as an article of food, and called in the vernacular language of the Chenook tribe, *Pow-itch*. It flowers in April and May.

TAB. LXVIII. *Pyrus rivularis.* *Fig. 1,* Flower; *fig. 2,* Pistil; *fig. 3,* Stamen; *fig. 4,* Section of the germen; *fig. 5,* Corymb of fruit, (natural size); *fig. 6,* Single fruit:—magnified.

SECT. II. SORBUS. DC.

2. *P. Americana*; foliis pinnatis, foliolis oblongis acutis subæqualiter serratis demum glabris, pomis globosis (purpureis, *Ph.*, fulvis, *Torrey*.)—*De Cand. Prodr. v. 2. p. 637.*—*Sorbus Americana*. *Pursh, Fl. Am. v. 1. p. 241. Bigel. Fl. Bost. ed. 2. p. 194. Torrey, Fl. of Un. St. v. 1. p. 476.*—*Sorbus aucuparia*, β . *Mich. Am. v. 1. p. 290.*

HAB. Canada, (*Michaux*), and throughout the woody country. *Dr. Richardson*. Newfoundland. *Dr. Morrison*. North-West coast of America as far north as Observatory Inlet, (*Menzies, Dr. Scouler*), and in the subalpine regions of the high mountains. *Douglas*.—In the leaves and flowers I can perceive no difference between this and the European *P. aucuparia*: in the former plant they are doubtless very conspicuously downy when young. *Pursh* says the berries are purple, not scarlet, as in the European species. *Torrey* says they are fulvous. From the garden of the Horticultural Society of London, I possess a *Pyrus* of North America, which appears to hold the same relation to *P. Americanum*, that *P. pinnatifida*, Sm. and *De Cand.*, does with *P. aucuparia*, where the pinnules are combined so as to form a lobed or pinnatifid and simple leaf. Whether the *P. microcarpa* of *Torrey*, (*P. aucuparia*, α . of *Michaux*), which has red fruit, be different from this or its European prototype, I am unable to say.

SECT. III. ADENORACHIS. DC.

3. *P. arbutifolia*; foliis obovato-oblongis lanceolatisve crenato-serratis subtus pallidulis reticulatim venosis costa supra glandulosa, floribus corymbosis.— α . foliis subtus præcipue junioribus calycibusque tomentosis, fructu rubro. *P. arbutifolia*. *Linm. fil. Suppl. p. 256. Pursh, Fl. Am. v. 1. p. 339. Bigel. Fl. Bost. ed. 2. p. 195. De Cand. Prodr. v. 2. p. 637.*—*Crataegus pyrifolia*. *Lam.*—*Mespilus arbutifolia*. *Linm. Sp. Pl. p. 685.*— α . erythrocarpa. *Mich. Am. v. 1. p. 292.*—*Aronia arbutifolia*. *Elliott, Carol. v. 1. p. 356. Torrey, Fl. of Un. St. v. 1. p. 478.*— β . *pyrifolia*. *Pers.*— β . *melanocarpa*; foliis calycibusque glabris, fructu nigro. *Willd. Sp. Pl. v. 2. p. 1013.*—*Mespilus arbutifolia*, β . *Mich. Am. v. 1. p. 292.*—*Pyrus melanocarpa*. *Willd. Enum. p. 525. De Cand. Prodr. v. 2. p. 637. Pursh, Fl. Am. v. 1. p. 339.*—*Aronia arbutifolia*, β . *Torrey, Fl. of Un. St. v. 1. p. 479.*—*Aronia melanocarpa*. *Elliott, Carol. v. 1. p. 557.*

HAB. Throughout Canada, from Lake Huron to the Saskatchewan. Newfoundland. *Sir Alexander Cochrane, Dr. Morrison*.—I can by no means consider the *P. arbutifolia*, and *melanocarpa* of authors as really distinct species.

ORD. XXX. ONAGRARIÆ. *Juss.*

TRIB. I. ONAGRÆÆ.

1. EPILOBIUM. * *Linm.*

Calyx 4-phyllus deciduus. *Petala* 4. *Stamina* 8. *Capsula* linearis obtuse tetragona 4-ocularis 4-valvis polysperma. *Semina* numerosa, pendula, comosa. *Lehm.*—Herbæ. *Folia opposita vel alterna*. *Flores axillares, solitarii aut terminales, spicati, in spicis alterni et umbellati. Corollæ purpureæ, roseæ, subcarinæ, rariter luteæ. DC.*

* The arrangement of the individuals of this and the two following genera, *Gaura* and *Oenothera*, together with the descriptions of the new species, have been kindly undertaken by Professor Lehmann of Hamburg.

SECT. I. CHAMÆNERION. *Petala integra, genitalia declinata.*

1. *E. angustifolium*; caule erecto subsimplici glabro, foliis subsessilibus angusto-lanceolatis subintegerrimis undulatis pellucido-venosis, floribus spicato-racemosis bracteis, stylo reflexo basi piloso staminibus brevioribus. *Linn. Sp. Pl. p. 493. Engl. Bot. t. 1947. Pursh, Fl. Am. v. 1. p. 259. Rich. in Frankl. 1st Journ. ed. 2. App. p. 12.—E. spicatum. Lam. Dict. v. 2. p. 373. Torrey, Fl. of Un. St. v. 1. p. 391. Bigel. Fl. Bost. ed. 2. p. 147. De Cand. Prodr. v. 3. p. 40.*

HAB. From Lake Huron (*Dr. Todd*) to north lat. 69° (*Dr. Richardson*), and from Newfoundland on the east, (*Sir Alex. Cochrane, Dr. Morrison*), to the shores of the Pacific, at the mouth of the Columbia, (*Douglas, Scouler*.) Unalaska and Bay of Eschscholtz. *Chamisso*.—*Dr. Richardson* says that the young leaves, under the name of *L'Herbe Verte*, are used by the Canadian voyagers as a pot-herb.

2. *E. opacum*, (*Lehm.*); caule erecto pubescente, foliis subsessilibus anguste lanceolatis subintegerrimis opace venosis, floribus axillaribus solitariis pedunculatis, stylo reflexo glabro staminibus brevioribus.

Medium fere inter *E. angustifolium* et *latifolium*, floribus capsulisque cum *E. latifolio*, foliis cum *E. angustifolio* magis conveuentibus. *Caulis* erectus 1-1½ pedalis, teres, laxis, pubescens, simplex, ramulis sterilibus in axillis foliorum. *Folia* subsessilia, sparsa, approximata, anguste lanceolata, acuminata, subintegerrima, pellucido-punctata, opace nervoso-venosa, venis multo rarioribus quam in *E. angustifolio*, supra saturate viridia pilis brevissimis sub lente conspicuis obducta, subtus pallidiora, glabrescens. *Folia* ramulorum semper opposita. *Flores* pauci, in axillis foliorum superiorum pedicellati. *Calycis foliola* lineari-lanceolata, nervosa, tenuissime subciliata. *Petala* obovata, integerrima vel superne erosa. *Stylus* reflexus, glaber, staminibus ascendentibus brevior: *stigmatibus* 4-partito, revolutis. *Germen* incanum, pollicare. *Capsulan* maturam non vidi.

HAB. Banks of the Columbia, North-West coast of America, particularly about Fort Vancouver. *Douglas, Dr. Scouler.*

3. *E. latifolium*; caule suberecto subramoso, foliis ovato-lanceolatis subintegerrimis rigidis venosis, floribus axillaribus pedicellatis, stylo suberecto glabro staminibus brevioribus.—*Linn. Sp. Pl. v. 1. p. 494. Fl. Dan. t. 565. Pursh, Fl. Am. v. 1. p. 259. Rich. in Frankl. 1st Journ. ed. 2. App. p. 12. De Cand. Prodr. v. 3. p. 40.—E. venustum. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. Banks of rivers in the Rocky Mountains, between lat. 52° and 56° (*Drummond, Douglas*), to the shores and islands of the Arctic Sea, in every degree of longitude. Labrador. *Dr. Morrison*. Behring's Straits. *Chamisso, Lay and Collie*.—The figure given in the Flora Danica represents very exactly the North American plant, which differs from the Siberian only in the less copious pubescence of its leaves. Amongst the specimens sent by Mr. Douglas, there is one with the name of *E. venustum*, which, however, cannot be separated from the above plant, the differences consisting only in the smaller size of all the parts. In regard to its leaves, it is between *E. latifolium* α. and β. Pursh.

SECT. II. LYSIMACHION. *Petala obcordata, genitalia erecta.*

4. *E. alpinum*; caule basi repente bifarium pubescente paucifloro, foliis sessilibus oblongis obtusis subintegerrimis, stigmatibus indiviso, capsulis sessilibus glabris.—*Linn. Sp. Pl. v. 1. p. 495. Fl. Dan. t. 322. Engl. Bot. t. 2001. Pursh, Fl. Am. v. 1. p. 260. Bigel. Fl. Bost. ed. 2. p. 147. De Cand. Prodr. v. 3. p. 41.—β. nutans, caule majori apice nutante, foliis oblongis*

denticulatis.—*E. alpinum, nutans. Hornem. Nomencl. Fl. Dan. emend. p. 66. Fl. Dan. t. 1387.*—*E. Hornemanni. Reichenb. Ic. t. 180. De Cand. Prodr. v. 3. p. 42.*

HAB. Alpine rivulets in the Rocky Mountains. *Drummond. Labrador. Rev. Mr. Kohlmeister, Dr. Morrison.* $\alpha.$ and $\beta.$ Observatory Inlet, North-West America, lat. 56° .—Like Wallenberg and Hornemann, I am unable to separate the $\beta.$ (*E. Hornemanni* of Reichenbach) from *E. alpinum*, as a distinct species; especially as I possess, amongst several northern specimens, the most evident transitions. A very good figure of $\alpha.$ is given in English Botany, and the North American plant corresponds no less with that figure than with specimens from the Scottish Alps, which I owe to the kindness of Professor Hooker.

5. *E. origanifolium*; caule basi repente glabriusculo apice nutante, foliis subpetiolatis ovatis denticulatis superioribus acuminatis, stigmatibus indiviso clavato, capsulis pedunculatis glabris.—*Lam. Encycl. Bot. v. 2. p. 376. De Cand. Prodr. v. 3. p. 41.*—*E. alsinifolium. Vill. Fl. Dauph. v. 3. p. 511. Engl. Bot. t. 2000.*

HAB. Alpine woods, sides of rivulets, and shady elevated spots on the Rocky Mountains, from lat. 52° to 56° . *Drummond. Unalashka. Chamisso.*—In habit, especially the small specimens, more nearly allied to *E. alpinum* than to *E. montanum*. This is, in North America as well as in Europe, a very variable plant; it is found in the former country from about five inches to upwards of a foot and more in height, with red and with white flowers, the last often half as large again as in the common form.

6. *E. glandulosum, (Lehm.)*; caule simplici basi repente angulato glabro, foliis sessilibus ovato-lanceolatis subdecurrentibus acutis glanduloso-denticulatis, floribus erectis, stigmatibus clavato, capsulis sessilibus angulis tenuissime pubescentibus.

Caulis basi repens, dein erectus, simplex, subpedalis, angulatus, multiflorus. *Folia inferiora* ovato-lanceolata, opposita, repando-subdenticulata, *religiosa* alterna, sparsa, glanduloso-denticulata, *stomatia* basi subcordata, *omnia* sessilia, decurrentia, glabra, acuta, sub lente pellucido-punctata. *Calycis foliola* lanceolata, acuta, integerrima, subpilosa, colorata. *Petala* obovata, nervosa, alba, calycibus longiora. *Stamina* brevia, erecta. *Stigma* clavatum. *Capsula* (junior) sessilis, angulis tenuissime pilosis, pilis glanduliferis.

HAB. Cumberland-House Fort, on the Saskatchewan. *Drummond.*—This plant, as to specific character, is almost intermediate between *E. origanifolium* and *E. tetragonum*, approaching the first more in habit, but distinct by its sessile decurrent leaves and sessile capsules. This sessile capsule, which appears, moreover, only somewhat hairy at the angles, the leaves more toothed than serrated, and the simple stem, readily distinguish it from *E. tetragonum*.—[I possess, from the North-West coast of America, gathered by Mr. Douglas and Dr. Scouler, what I consider to be an unbranched variety of *E. tetragonum*; but which yet I am unable to distinguish from *E. glandulosum. H.*]

7. *E. tetragonum*; caule tetragono erecto ramoso, foliis oblongo-lanceolatis serrulatis decurrentibus, floribus erectis, stigmatibus clavato, capsulis breviter pedicellatis puberulis.—*Linn. Sp. Pl. v. 1. p. 493. Fl. Dan. t. 1029. Engl. Bot. t. 1948. Pursh, Fl. Am. v. 1. p. 259. De Cand. Prodr. v. 3. p. 43.*

HAB. Canada, throughout the plains to lat. 64° , and to the valleys of the Rocky Mountains, frequent. North-West coast, near the sea. *Douglas, Dr. Scouler.*—A very variable plant, with almost simple, or with much branched, totally glabrous or pubescent stems, of which the angular sides appear often more and often less rounded, and even entirely disappearing, on very vigorous specimens, at the base. Of the leaves sometimes only the two pair beneath are opposite, and again, sometimes all the leaves upwards to the head of the stem, are so.

8. *E. coloratum*; radice annua, caule tereti puberulo, foliis lanceolatis acutis serrulatis

subpetiolatis parce pilosis pellucido-lineolatis, floribus erectis, stigmatе clavato, capsulis pedicellatis glabriusculis. *Muhl.—Willd. Enum. Hort. Berol. p. 411. Pursh, Fl. Am. v. 1. p. 260. Torrey, Fl. of Un. St. v. 1. p. 392.*

Variat caule simplicissimo et ramoso, foliis serrulatis et magis denticulatis. *Folia colorata, venosa, sub lente pellucido-lineolata, lineis punctis rotundis pellucidis intermixtis.*

HAB. Plains of the Saskatchewan. *Dr. Richardson, Drummond.*—[Dr. Torrey observes how very closely this is allied to *E. tetragonum. H.*]

9. *E. minutum*; radice annua, caule suberecto tereti puberulo ramoso, foliis alternis elliptico-lanceolatis obtusis subintegerrimis pellucido-punctatis, floribus cernuis minutis, stigmatе clavato, capsulis breviter pedicellatis arcuato-reflexis glabriusculis.—*Lindl. in litt.—E. collinum. Douglas, MSS. in Herb. Hort. Soc. Lond. (non Flor. Friburg.)*

Radix annua, fibræsa. Caulis erectus vel ascendens, vario modo flexus, teres, puberulus, sæpissime ramossissimus: ramis patentibus, junioribus canescentibus. Folia petiolata, elliptico-lanceolata, obtusa, integerrima vel leviter repanda: piliis sparsis versus marginem crebrioribus, venoso-nervosa, nervo medio pallido ad apicem fere evanescente, sub lente pellucido-punctata. Flores cernui. Calycis foliola lanceolata, acuta. Petala obovata, pallide rosea, venosa. Stamina inæqualia. Stigma clavatum longitudine staminum. Germen breviter pedicellatum subcanescens. Capsula glabriuscula (brevior quam in reliquis Epilobiis) arcuato-reflexa.

HAB. North-West coast of America. *Menzies. Fort Vancouver. Dr. Scouler.* Near the Grand Rapids of the Columbia, and on moist rocks near springs, on the high mountains. *Douglas.*—In the spring of 1829, we received seed of this species from England, under the name of *E. minutum, Lindl.*

10. *E. palustre*; caule tereti ramoso subhirsuto, foliis sessilibus lanceolatis subdenticulatis oppositis alternisque glabris, stigmatе indiviso, fructu pubescente.—*Linn. Sp. Pl. p. 495. Engl. Bot. t. 346. Pursh, Fl. Am. v. 1. p. 260. De Cand. Prodr. v. 3. p. 43.—β. albiflora*; caule tereti simplici glabriusculo, foliis sessilibus linearibus subdenticulatis, floribus cernuis, stigmatе indiviso, capsulis pedicellatis elongatis canescentibus.—*E. palustre, var. albescens. Wahl. Fl. Suec. v. 1. p. 234. Rich. in Frankl. 1st Journ. ed. 2. App. p. 12, (E. palustre.) Cham. in Linnæa, v. 2. p. 554.—E. lineare. Muhl.—E. squamatum. Nutt.?—De Cand. Prodr. v. 3. p. 43?—E. rosmarinifolium. Pursh? Torrey?*

HAB. α. Labrador. *Dr. Morrison. β.* Throughout Canada, and as far north as lat. 64°, and among the Prairies of the Rocky Mountains. *Dr. Richardson, Drummond.*—Amongst several plants sent by Mr. Drummond, only the var. β. was found, distinguished from the primary form by its much smaller, almost white flowers and simple stem, but which is also seen in Northern Germany, in turfy soil, with all the intermediate transitions. *E. davuricum, Fisch. (De Cand. Prodr. v. 3. p. 42.)* appertains to this variety.—The var. β. corresponds with the *E. palustre* of Dr. Richardson, and is sometimes branched, when it is identical with the *E. lineare* of Muhl. Cat. and of Bigelow, which De Candolle refers to *E. squamatum, Nutt.*

11. *E. tenellum*; caule filiformi simplici superne pubescente, foliis oppositis sessilibus linearibus elongatis subintegerrimis pellucido-lineolatis glabris margine tenuissime ciliatis, floribus erectis, stigmatе indiviso, capsulis pedicellatis gracilibus canescentibus. *Rafin.—Desv. Journ. Bot. 1814. p. 271. De Cand. Prodr. v. 3. p. 43.*

Affinis *E. palustri*; differt caule strieto elatiore tenuiore, foliis integerrimis interdum repando-denticulatis multo longioribus (2-3 poll. long., 2 lin. lat.) pellucido-lineatis, capsulis gracilibus longe pedicellatis.

HAB. —? [I have not been able to ascertain what specimens in the Collection correspond to this species; the name having been by some accident omitted by Dr. Lehmann in the list which answered to our numbers of reference. H.]

12. *E. oliganthum*; pusillum, caulibus simplicissimis apice subunifloris, foliis oppositis linearibus integerrimis. *Mich. Am. v. 1. p. 223. De Cand. Prodr. v. 3. p. 43.*

HAB. Hudson's Bay, near Lake Mistissiny. *Michaux.*—Dr. Torrey is disposed to refer this to the *E. squamatum* of Nuttall, the latter author to *E. alpinum*, which seems the more probable since Michaux remarks that he has seen the same species from the Pyrenees.

13. *E. hteum*; caule tetragono pilosiusculo, foliis oppositis serrulatis, pedunculis axillaribus alternis elongatis, calycis lobis angustis longitudine petalorum, stylo exserto, stigmatate crasso 4-lobo. *DC.—Pursh, Fl. Am. v. 1. p. 259. De Cand. Prodr. v. 3. p. 44. Cham. in Linnæa, v. 2. p. 553.*

HAB. North-West coast of America. *Pallas, (in Pursh.)* Grassy places in the vallies of Unalashka. *Chamisso.*—With this I am unacquainted, but it is described as differing from all the Genus in the yellow colour of its flowers, which are said to be as large as those of *E. angustifolium*.

2. GAURA. *Linn.*

Calyx tubulosus 4-partitus deciduus. *Corolla* 4-petala. *Stamina* 8. *Nux* sub 4-gona 1-4-sperma. *Semina* nuda.

1. *G. parviflora*; caule herbaceo erecto piloso, foliis oblongis acuminatis remote denticulatis margine ciliatis junioribus subvelutinis, spicis elongatis, floribus minutis confertis, fructibus distantibus tetragonis basi apiceque attenuatis glabriusculis.—*Douglas, MSS.*

Caulis herbaceus, erectus, 1-1½-pedalis, angulatus, simplex, superne ramosus, pubescens, pilis copiosis patentissimis mollibus intermixtis. *Folia* sessilia, sparsa, oblonga, acuminata, remote denticulata, 2 poll. longa, margine et ad costam pilis longis ciliata, parallele nervosa, juniora utrinque velutina, adulta glabrinsecula. *Spicæ* terminales, elongatæ. *Rachis* inferne velutina, versus apicem sensim magis glabrescens. *Flores* conferti, minuti, bracteati. *Bracteæ* subulatæ, pilosæ, caduæ. *Calycis* tubus pubescens, germine brevior, cylindricus, apice inerassatus, laciniæ lineares glabriuscule. *Petala* laciniis calycinis breviora, linearispatulata, unguiculata. *Stigma* 4-lobum. *Germen* sublineare tetragonum, basi apiceque attenuatum, glabriusculum.

HAB. Sandy banks of the Wallawallah River, North-West coast of America. *Douglas.*

2. *G. coccinea*; caulibus herbaceis decumbentibus, foliis lineari-lanceolatis repando-denticulatis canescentibus junioribus integerrimis, spicis laxis floribus alternis, bracteis linearibus persistentibus, fructibus ellipticis basi teretibus apice tetragonis canescentibus.—*Fraser, Cat. 1813. Pursh, Fl. Am. v. 2. p. 733. Spreng, Syst. Veget. v. 2. p. 234. De Cand. Prodr. v. 3. p. 45.*

Planta tota cinereo-canescens. *Folia* caulina repando-denticulata, ramulorum integerrima. *Flores* non racemosi ut in *De Cand. Prodr. et Spreng, Syst. Veget.* sed revera spicati in hac et in omnibus speciebus quas examinavi, in protuberantibus rachidis sessiles. *Protuberantiæ* bractea terminatæ. *Petala* coccinea, obovata, basi emeata, unguiculata, integerrima, venosa. *Stigma* quadrilobum.

HAB. Plains of the Saskatchewan and Red Rivers. *Drummond, Douglas.*—[I possess an original specimen of this from Mr. Bradbury, gathered about Fort Mandan. H.]

3. *G. marginata, (Lehm.)*; caulibus adscendentibus basi suffruticosis, foliis lanceolatis repando-dentatis subrevolutis utrinque pube adpresso subcandicantibus, floribus in spicis terminibus verticillatim congestis, bracteis linearibus deciduis, fructibus candicantibus.

Caulis ex eadem radice plures, basi suffruticosi, adscendentes, teretes, puberuli, apice ramosi. *Folia* sessilia, *caulina* lanceolata, acuta, repando-dentata, margine subrevoluta, utrinque pube adpresso subcandicantia, *ramulorum* linearia, acuta, integerrima. *Spica* terminalis, elongata. *Flores* in rachide angulato verticillatim congesti. *Bractea* decidua, lineares, acuminatae, longitudine tubi calycis. *Calyx* canescens: laciniis linearibus tubo brevioribus. *Petala* spatulato-obovata, unguiculata, rubra, longitudine calycis. *Stigma* 4-lobum. *Germina* linearia, tetragona. *Fructus* —?

HAB. Plains of the Saskatchewan. *Drummond*.

4. *G. glabra*, (*Lehm.*); caulibus adscendentibus basi suffruticosis folisque anguste lanceolatis undulatis glaberrimis, spicis elongatis, floribus alternis, bracteis linearibus persistentibus, germinibus linearibus tetragonis glabris.

Caulis suffruticosi, adscendentes, teretes, uti tota planta glaberrimi. *Folia* crassiuscula, uninervia, avenia, brevissime petiolata, *caulina* et *ramea inferiora* sparsa, anguste-lanceolata, undulata, subdentata, 6–10 lineas longa, 2–3 lineas lata, *ramea superiora* conferta, linearia, subplana. *Flores* alterni in spica terminali elongata dispositi. *Bractea* lineares, persistentes, acutae, longitudine tubi calycis. *Calycis tubus* clavatus, 2 lineas longus; laciniis linearibus tubo longioribus. *Petala* rubra, spatulata, unguiculata, venosa, longitudine laciniarum calycis. *Stamina* erecta, filiformia; *anthera* lineares, jam in flore adhuc clauso latere dehiscentes. *Stylus* filiformis, erectus: stigmate demum quadrilobo. *Germina* tetragona, linearia.

HAB. About Carlton-House, on the Saskatchewan. *Drummond*.

5. *G. biennis*; caule herbaceo, foliis lanceolato-oblongis acutis denticulatis, floribus irregularibus, petalis obovatis adscendentibus patulis nudis, genitalibus deflexis, stylo staminibus longiore, fructibus obovato-tetraquetris sessilibus pilosis brevissimis acutis obtusiusculis, nervis crassis depressis et inferne rugis transversis notatis. *DC.*—*Linn. Sp. Pl.* p. 493. *Mich. Am. v. 1. p. 226.* *Curt. Bot. Mag. t. 389.* *Pursh, Fl. Am. v. 1. p. 260.* *Elliott, Carol. v. 1. p. 446.* *Torrey, Fl. of Un. St. v. 1. p. 391.* *De Cand. Prodr. v. 3. p. 44.*

HAB. About Montreal. *Mr. Cleghorn*.

3. GENOTHERA. *Linn.*

Calyx tubulosus quadripartitus deciduus. *Petala* 4. *Stamina* 8, polline viscoso. *Capsula* cylindrica vel prismatica 4-locularis 4-valvis. *Semina* numerosa nuda.

SECT. I. ONAGRÆ. *DC.*—*Stigma* quadrifidum. *Capsula* prismatico-cylindricæ obsolete tetragonæ, interdum basi, nunquam apice, crassiores.

§. 1.—*Calycis tubus elongatus cylindricus apice tantum dilatatus, laciniis et petala superans. Stigma luteum, laciniis linearibus.*

a. *Floribus luteis.*

1. *Æ. biennis*; caule erecto subramoso, foliis radicalibus oblongo-lanceolatis, caulinis ovato-lanceolatis dentatis glabris s. pubescentibus, petalis obovatis stamina superantibus, capsulis subcylindricis basi crassioribus valvis deliscentibus apice integris vel bifidis.—*Linn. Sp. Pl.* p. 492. *Engl. Bot. t. 1534.* *Pursh, Fl. Am. v. 1. p. 261.* *Elliott, Carol. v. 1. p. 441.* *Bigel. Fl. Bost. ed. 2. p. 148.* *Torrey, Fl. of Un. St. v. 1. p. 387.* *De Cand. Prodr. v. 3. p. 46.*—β. *muricata*; caule muricato-strigoso, floribus minoribus. *Æ. muricata. Murr. Comment. Soc. Gott. 1776. t. 6. p. 24. t. 1. Pursh, Fl. Am. v. 1. p. 261. Elliott,*

Carol. v. 1. p. 441. Torrey, Fl. of Un. St. v. 1. p. 388. Fl. Dan. t. 1752. De Cand. Prodr. v. 3. p. 47.

HAB. Throughout Canada, from Lake Huron (*Dr. Todd*) to north lat. 56°. *Dr. Richardson, Drummond.* Shores of the Columbia and Nutka, North-West America. *Douglas, Dr. Scouler.* β. Saskatchewan, (o sem. in *Hort. nostr. cult.*) *Drummond.* Straits of de Fuca. *Dr. Scouler.*

2. *Æ. albicaulis*; caule erecto superne ramoso albedo glaberrimo, foliis lineari-lanceolatis subintegerrimis subtus pubescentibus, petalis rotundatis integris (?) stamina æquantibus, capsulis prismatico-cylindricis truncatis.—*Fraser, Cat. 1813. Nutt. Gen. v. 1. p. 245.*

Caulis erectus, superne ramosus, 2-3 pedalis, albidus, nitidus, glaberrimus, ramis longis patentibus. *Folia* sessilia, lineari-sublanceolata, acuta, integerrima vel subremote denticulata, supra glabra subtus pubescentia, caulina 2-3 poll. longa. *Flores* axillares sessiles. *Calycis tubus* apice dilatatus laciniis puberulis paullo superans. *Petala* alba, rotundata, integra (?) calycis laciniis breviora. *Stamina* æqualia. *Antheræ* lineares. *Capsula* obtuse tetragono-cylindrica, truncata, subglabra.

HAB. Banks of the Saskatchewan. *Drummond.*—The above plant must not be confounded with *Æ. albicaulis*, (*Pursh, Fl. Am. v. 2. p. 733, De Cand. Prodr. v. 3. p. 51, the Æ. pinnatifida, Nutt. and Spreng. Syst. Veget.*) which belongs to another section, and has, according to the description, no resemblance at all with the *Æ. albicaulis*, Nutt.

3. *Æ. pallida*; radice repente, caulibus adscendentibus ramosis folisque lineari-lanceolatis ucinatis integerrimis s. dentatis glabris, petalis retusis crenulatis stamina superantibus, capsulis cylindricis contortis.—*Lindl. Bot. Reg. t. 1142.*

Radix repens. *Caulis* adscendens, 1-1½ pedalis, glaber, pallide virens, superne ramosus; ramis patentibus. *Folia* lineari-lanceolata, acuminata, plerumque remote serrata, rarius integerrima aut (e cl. *Lindl. l. c.*) pinnatifida. *Flores* in superiorum foliorum axillis sessiles, nocte oderatissimi. *Calycis tubus* coloratus, laciniis et petalis subæqualibus. *Petala* alba ungue flavo mox rubescentia, retusa, crenulata, stamina superantia, pistillum æquantia. *Stamina* æqualia. *Stigma* luteo-virens. *Capsula* cylindrica, curvata, contorta.

HAB. Common over all the dry sandy soil to the west of the Rocky Mountains. *Douglas.*

§. 2.—*Calycis tubus abbreviatus infundibuliformis s. obconicus, laciniis et petalis brevior. Stigmatis laciniæ lineares, oblongæ.*

α. *Floribus luteis, antheris adnatis.*

4. *Æ. leucocarpa*; caule ramoso, foliis rigidis serrulatis inferioribus spathulato-lanceolatis superioribus lanceolatis junioribus subsericeis, petalis læviter emarginatis apice crenulatis calycis tubum dimidio genitalia duplo superantibus, capsulis cylindricis incano-sericeis.—*Comien, MSS.*

Planta spithamea, habitu foliis floribusque *Helianthemum* simulans, partibus junioribus subsericeis. *Caulis* basi ramosus, ramis adscendentibus simplicibus vel ramosis. *Folia* rigida, glabriuscula, inferiora spathulato-lanceolata, superiora lanceolata, omnia serrulata, basi attenuata, obtusa aut acuta, plerumque mucronulata. *Calycis tubus* infundibuliformis, laciniis paullo superans. *Petala* late obovata, læviter emarginata, apice crenulata, calycis tubum dimidio, genitalia longiora fere duplo, superantia. *Stamina* inæqualia, quatuor petalis opposita ceteris breviora. *Antheræ* oblongæ, adnate. *Stigma* quadrilobum, luteum, lobis ovatis. *Capsula* cylindrica, albedo-sericea, truncata.

HAB. Dry banks of the Saskatchewan. *Drummond.* Common upon limestone rocks on the Red and Assinaboyno Rivers. *Douglas.*

β. *Floribus albis s. purpureis, antheris innatis.*

5. *E. viminea*; caule erecto ramoso foliisque lanceolatis subintegerrimis glaucis glabris, calycis tubo laciniis æquante, petalis integris denticulatis genitalia duplo superantibus, stigmatibus purpureis, capsulis cylindricis apice attenuatis sulcatis pubescentibus.—*Douglas, MSS. apud Herb. Hort. Soc. Lond. Hook. in Bot. Mag. t. 2873. Lindl. in Bot. Reg. t. 1220.*

Caulis erectus, 2-3 pedalis, glaber, pallide virens, ramosus, ramis longis tenuibus. *Folia* lanceolata, subintegerrima, glauca, glabra, inferiora in petiolum brevissimum attenuata. *Flores* in superiorum foliorum axillis sessiles. *Calycis* tubus infundibuliformis, laciniis æqualis. *Petala* lilacina, (7-8 lineas longa,) cuneato-rotundata, integra, margine superiore denticulata, calycis tubum laciniis et genitalia duplo superantia. *Stamina* inæqualia, quatuor petalis opposita ceteris breviora. *Filamenta* plana linearia: *antheræ* lanceolatæ apice curvatæ. *Pistillum* stamina longiora sublongior. *Stigmatis* laciniis intense purpureæ, patentibus, oblongæ. *Capsula* cylindrica, apice attenuata, truncata, 8-sulcata, glauco-pubescentis.

HAB. Near the River Aguilar, in North California, lat. 43°, north, in dry Prairies. *Douglas.*

6. *E. Lindleyi*; caule adscendente diffuso ramoso, foliis lineari-lanceolatis integerrimis glabris, calycis tubo laciniis triplo breviora, petalis integris denticulatis genitalia duplo superantibus, stigmatibus luteis, capsulis cylindricis elongatis utrinque attenuatis puberulis.—*Douglas, MSS. in Bot. Mag. t. 2832.*

Caulis pedalis bipedalisque adscendens, diffusus, ramosus, glaber, ramis numerosis, flexilibus, patentibus, junioribus puberulis. *Folia* lineari-lanceolata, basi attenuata, integerrima, glabra. *Flores* in axillis foliorum superiorum sessiles. *Calycis* tubus infundibuliformis, laciniis triplo brevior. *Petala* lilacina macula purpurea notata, ungue flavo, (7-8 lineas longa,) late obovata, integra, margine superiore denticulata, calycis laciniis tertia parte, genitalia duplo magis, superantia. *Stamina* inæqualia, quatuor petalis opposita ceteris breviora. *Filamenta* plana linearia: *antheris* lanceolatis apice curvatis. *Stigma* quadrifidum luteum, laciniis ellipticis. *Capsula* cylindrica, elongata, utrinque attenuata, puberula.—*Ons.* Descriptio caulis e plantis cultis desumpta est, in speciminibus spontaneis caulis videtur erectus strictus. In icone operis landati *Bot. Mag.*, genitalia sunt duplo longiora, quam in speciminibus spontaneis et cultis. Miro errore in eodem libro descriptione hujus et precedentis speciei character *Epilobii* generis ("semina comosa," etc.) pro *Enotheræ* charactero insertus est.

HAB. North-West coast of America, about Fort Vancouver, and at the Multnomak River. *Douglas.*

7. *E. decumbens*; caule adscendente, foliis glaucis integerrimis pubescentibus inferioribus late ovatis superioribus ovato-lanceolatis, petalis emarginatis crenulatis, stigmatibus purpureis laciniis reflexis, capsulis obtuse tetragonis a basi inde attenuatis villosis.—*Douglas, MSS. in Bot. Mag. t. 2889. Bot. Reg. t. 1221.*

Caulis 1-2 pedalis adscendens, pallide viridis, pilosus, ramosus; ramis diffusis. *Folia* glauca, integerrima, pubescentia, inferiora late ovata, obtusa, in petiolum brevissimum attenuata, superiora sessilia, lanceolata aut ovato-lanceolata, acuta. *Calycis* tubus infundibuliformis laciniis duplo brevior. *Petala* lilacina (3-4 lineas longa) obovata, margine crenulata, calycis laciniis duplo, genitalia longiora duplo magis, superantia. *Stamina* inæqualia: *antheræ* oblongæ apice curvatæ. *Stylus* stamina longiora æquans. *Stigma* crassum purpureum, laciniis reflexis appressis. *Capsula* obscure-tetragona, a basi crassiore ad apicem usque attenuata, villosa.—Ab omnibus speciebus affiibus stigmatibus forma differt.

HAB. Dry mountain vallies in North California. *Douglas.*

8. *E. purpurea*; glaucescens, foliis lanceolatis utrinque attenuatis obtusiusculis, tubo calycis brevi, petalis late obovatis crenulatis purpureis, genitalibus exsertis corollæ multo

brevioribus, stigmatibus crassis brevibus atro-purpureis, antheris flavis, capsulis ovato-tri-
quetris sessilibus angulatis pilosis, seminibus irregulariter lente punctato rugosis. *DC.*—
Curt. Bot. Mag. t. 352. De Cand. Prodr. v. 3. p. 49.

HAB. North-West coast of America. *Menzies*.

9. *Æ. Romanzovii*; subsericeo-glaucescens, caule inferne decumbens, foliis lanceolato-
oblongis mucronulatis in petiolum attenuatis, tubo calycis brevissimo, limbo corollæ duplo
breviore, petalis late obovatis crenulatis violaceis, staminibus corolla multo brevioribus, an-
theris viridibus, stigmatibus fere sessilibus inclusis atro-purpureis, capsulis oblongo-cylin-
dricis subtetragonis pilosis, seminibus lente subcubicis squamulosis canis subsessilibus. *DC.*
—*Ledeb. MSS. Hornem. Hort. Hafn. v. 1. p. 133. Don, in Bot. Reg. t. 562.*

HAB. North-West coast of America. *Chamisso*.—I possess no native specimens of this or the preceding
species of *Ænothera*; but, judging from the figures above quoted, they appear very distinct in the leaves, in
the flowers, and especially in the fruit. Mr. Don (see *Bot. Mag. t. 2424*) seems disposed to refer the *Æ.*
Romanzovii, which he had previously described in the *Bot. Itg.*, to the Chilian *Æ. tenella*, a totally different
plant; while Mr. Lindley (*Hort. Soc. Trans. v. 6. p. 94*) is inclined to consider the plant figured in the *Bot.*
Reg. the same as the *Æ. purpurea*, and the *Æ. Romanzovii* of Hornemann the same as *Æ. tenella*. Hornemann
himself says of it "admodum affinis *Æ. purpurea*."

SECT. II. *ÆNOTHERIUM*. *DC.*—*Stigma cruciatum profunde 4-fidum. Calycis tubus cylin-
dricus apice dilatatus. Capsulae obovata, clavata, angulata, costis altrenis prominentibus.*

(*Floribus luteis.*)

10. *Æ. fruticosa*; caule erecto (purpureo-fusco) foliisque lanceolatis denticulatis pilosis
v. glabris, racemis spicatis basi nudiusculis, petalis lato-obcordatis staminibus duplo lon-
gioribus, capsulis clavatis pilosis 8-angularibus, angulis 4 alatis.—*Linn. Sp. Pl. p. 492.*
Bot. Mag. t. 332. Elliott, Carol. v. 1. p. 442. Pursh, Fl. Am. v. 1. p. 262. De Cand.
Prodr. v. 3. p. 50.—*Æ. Canadensis. Goldie, Pl. of Canada, in E. Phil. Journ. 1821. p.*
7. De Cand. Prodr. v. 3. p. 52.

HAB. Island of Montreal. *Mr. Goldie*.—In habit allied to *Æ. pumila*, but larger, more rigid, though not
really fruticose, with flowers an inch and a half or two inches in diameter.

11. *Æ. pumila*; caule subsimplice herbaceo ascendente pilosiusculo, foliis lanceolatis
integerrimis obtusis subciliatis, floribus subspicatis breviter pedicellatis, petalis obcordatis
genitalia paullo superantibus, capsulis clavatis 8-angularibus, angulis 4 alatis.—*Linn. Sp.*
Pl. p. 493. Bot. Mag. t. 335. Pursh, Fl. Am. v. 1. p. 262. Elliott, Carol. v. 1. p. 444.
Bigel. Fl. Bost. ed. 2. p. 148. Torrey, Fl. of Un. St. v. 1. p. 390. De Cand. Prodr. v. 3.
p. 51.—*Æ. chrysantha. Michx. Am. v. 1. p. 225. (ex descr.)*—*β. minima*; *Æ. pusilla.*
Michx. Am. v. 1. p. 225. (ex descr.)

HAB. Throughout Canada. *Michaux, Mr. Goldie, Lady Dalhousie. Saskatchewan? Dr. Richardson,*
Drummond.—This plant is annual, and varies in size from three or four inches, and having, while young,
several spreading root-leaves, to the height of a foot or a foot and a half, and furnished only with stem-leaves.

12. *Æ. riparia*; caule erecto foliisque lanceolatis denticulatis subglabris, floribus sub-
spicatis breviter pedicellatis, petalis emarginatis genitaliu paullo superantibus, capsulis cla-

vatis 8-sulcatis costis alternis magis prominentibus.—*Nutt. Gen. v. 1. p. 247. De Cand. Prodr. v. 3. p. 52.*

Caulis erectus, pedalis, sesquipedalis, glabriusculus, subramosus. *Folia* lanceolata, basi in petiolum brevissimum attenuata, denticulata, subglabra, inferiora obtusiuscula, superiora acuta, floralia linearia. *Flores* parvi, ovario basi attenuato breviter pedunculati, subspicati. *Calycis tubus* tenuis, lacinias duplo fere superans. *Petala* parva, vix 2 lineas longa, emarginata, genitalia paulo superantia. *Stamina* pistillum æquantia. *Antheræ* lineares. *Capsula* clavata, basi in pedunculum brevem attenuata, octo-sulcata, costis alternis magis prominentibus, subalata.

HAB. Plains of the Saskatchewan. *Dr. Richardson, Drummond.*—May not this be referred to the *Æ. pumila* of Linn.? The leaves are very slightly toothed indeed.—[H.]

SECT. III. SPHEROSTIGMA. *Ser.*—*Stigma capitatum integrum aut læviter quadrilobum. Calycis tubus infundibuliformis s. obconicus. Capsula prismatico-cylindrica.*

13. *Æ. quadrivulnera*; caule adscendente subramoso debili folisque lineari-lanceolatis subdenticulatis puberulis, petalis integris margine crenulatis, capsulis tetragonis apice attenuatis villosis.—*Douglas, in Bot. Reg. t. 1119.*

Caulis 1-2 pedalis, suberectus, debilis, ramosus: ramis elongatis, junioribus pubescentibus. *Folia* glabriuscula denticulata aut integerrima, inferiora lineari-lanceolata, obtusiuscula, in petiolum brevissimum attenuata, superiora sessilia, linearia, acuta. *Calycis tubus* infundibuliformis brevissimus, lacinias duplo aut triplo magis brevior. *Petala* lilacina macula intensiore notata, 2-3 lineas longa, obovata, integra, margine crenulata, calycis lacinias dimidio, genitalia longiora duplo, superantia. *Stamina* inæqualia. *Antheræ* oblongæ innatæ. *Stigma* globosum, integerrimum. *Capsula* tetragona, apice valde attenuata, villosa.

HAB. Banks of streams, as well as in the open elevated country, west of the Rocky Mountains. *Douglas, Scouler.*

14. *Æ. Boothii*; caule ramoso, foliis ovatis dentatis superne glabris subtus hirtis inferioribus petiolatis, floribus secundis subspicatis, petalis parvis obovatis integris stamina æquantibus, stylo longe exserto, capsulis cylindricis sulcatis tortis.—*Douglas, MSS.*

Caulis spithameus ramosus, junior pubescens. *Folia* ovata, dentata, superne glabra, subtus hirta, inferiora petiolata, superiora sessilia. *Flores* secundi subspicati odorati (*Dougl.*) *Calyx*—? *Petala* alba (*Dougl.*) 1-1½ lineam longa, obovata, integra, stamina æquantia. *Stamina*? *Antheræ*? *Stylus* petala longe superans. *Stigma* capitatum. *Capsula* cylindricæ, sulcatæ, curvatæ, contortæ, pubescentes.

HAB. On low exposed gravelly hills, near the branches of Lewis and Clarke's River, lat. 46° north. *Douglas.*—This curious species was named by Mr. Douglas in compliment to Mr. M. B. Booth.

15. *Æ. pygmæa*; caule adscendente ramoso, foliis inferioribus petiolatis rhomboideis superioribus sessilibus lanceolatis omnibus dentatis pubescentibus, capsulis subsecundis cylindricis apice attenuatis torulosis.—*Douglas, MSS.*

Planta digitalis, habitu plane cum præcedente conveniens.

HAB. Barren sands of the interior of North-West America, near the Utalla River. *Douglas.*

16. *Æ. spiralis*; caule subsimplice decumbente incano, foliis lanceolatis obtusis integerimis strigoso-pilosis incanis inferne attenuatis, spicis foliosis, petalis stamina duplo superantibus, capsulis acute tetragonis acuminatis incanis subspiraliter tortis. (*H.*)

HAB. North-West coast of America. *Menzies.*—Allied to *Æ. Boothii*, but larger in all its parts, and very easily distinguished by its entire hoary leaves, and the acutely four-sided capsules, which are almost spirally twisted.—[H.]

17. *Æ. viridescens*; dense incano-tomentosa, caule erecto simplice, foliis ovatis acutis sessilibus grosse dentatis, spicis foliosis, petalis (siccitate atro-viridibus) stamina duplo superantibus, capsulis acute tetragonis subhirsutis tortis. (*H.*)

HAB. North-West coast of America. *Menzies*.—I possess only one specimen of this species, and that not in a very good state, but sufficient to show that, though naturally allied to *Æ. Boothii*, *contorta*, and *spiralis*, it is nevertheless abundantly distinct.—[*H.*]

18. *Æ. contorta*; caule debili ramoso foliisque linearibus integerrimis glabris, floribus minimis, capsulis cylindricis contorto-curvatis elongatis torulosis.—*Douglas*, *MSS.*

Planta digitalis, habitu *Epilobio* simillima. *Caulis* debilis, basi ramosus, glaber. *Folia* linearia, integerrima, glabra. *Flores* numerosæ, minimi. *Calyx* infundibuliformis, tubo laciniis æquante. *Petala* vix lineam longa calycis tubum æquantia. *Genitalia* —? *Capsula* cylindrica, elongatæ, pollicares et ultra, torulosa, contorto-curvata, *Epilobii* capsulis simillimæ. *Semina* ovata, angulata.

HAB. Sandy barren soil, on the interior banks of the Columbia River. *Douglas*.—Although the stamens and pistils in our specimens of *Æ. contorta* and *Æ. pygmaea*, are too imperfect to allow of our determining exactly their form, yet the habit of these plants convinces us that they should be ranged in this section.

4. CLARKIA. *Pursh.*

Calyx tubulosus, quadripartitus. *Petala* 4 unguiculata, cruciata, triloba, æstivatione convoluta. *Stamina* 8, alterna sterilia. *Stigma* quadrilobum, lobis petaloideis. *Capsula* cylindrica, sulcata, 4-locularis, 4-valvis. *Semina* ascendencia nuda.

1. *C. pulchella*; petalis profunde trilobis.—*Pursh*, *Fl. Am. v. 1. p. 260. t. 11. Lindl. in Bot. Reg. t. 1100. De Cand. Prodr. v. 3. p. 52. Bot. Mag. t. 2918.*— β . petalis minus profunde lobatis magis denticulatis. *Hook. in Bot. Mag. l. c.*

HAB. On the banks of the Kooakoosky and Clarke's Rivers, North-West America. *Lewis*. From the Great Falls of the Columbia to the Rocky Mountains: sometimes with white flowers. *Douglas*.

2. *C. rhomboidea*; petalis integris rhomboideis.—*Douglas*, *MSS. apud Herb. Hort. Soc. Lond.*

Caulis simplex, teres, gracilis, glaber, subpedalis. *Folia* lanceolata, integerrima, glabra. *Calycis* tubus brevis. *Petala* integra, rhomboidea, calycem longitudine æquantia, purpureo-rosea. *Filamenta* sterilia 2, 3, 4 (plerumque 4) basi barbata. *Antheræ* lineares. *Stigma* 4-lobum, petaloideum, purpureum. *Capsula* cylindrica, sulcata, subsessilis, axillaris. *Douglas*.

HAB. In the same places with the preceding. *Douglas*.

TRID. II. JUSSIEÆ. DC.

5. ISNARDIA.

Calycis tubus ovatus aut subcylindraceus brevis ovario adhærens; *limbus* 4-partitus. *Petala* nunc calyce alterna, interdum rudimentaria, nunc nulla. *Stam.* 4 ante lobos calycinos. *Stylus* a basi filiformis deciduus; *stigma* capitatum. *Capsula* obovata aut fere cylindracea tetragonæ 4-valvis 4-locul. polysperma, loculicido dehiscens.—*Herbæ aquaticæ aut paludosæ. Folia* integra alterna aut opposita. *Flores* axillares sessiles. *DC.*

1. *I. alternifolia*; caule erecto ramoso glabriusculo, foliis alternis lanceolatis subtus et margine subscabriusculis, capsulis obovato-globosis alato-tetragonis, lobis calycinis magnis

coloratis, petalis calyce paulo longioribus. *De Cand. Prodr. v. 3. p. 60.*—*Ludwigia alternifolia. Linn. Sp. Pl. p. 173. Bigel. Fl. Bost. ed. 2. p. 60.*—*L. macrocarpa. Mich. Am. v. 1. p. 89. Pursh, Fl. Am. v. 1. p. 110. Elliott, Carol. v. 1. p. 217. Torrey, Fl. of Un. St. v. 1. p. 180.*

HAB. Canada. *Mr. Goldie, (in Herb. nostr.)*

2. *I. palustris*; caule procumbente radicante glabro, foliis oppositis in petiolum attenuatis ovatis acutis, floribus axillaribus solitariis sessilibus apetalis. *DC.—Linn. Sp. Pl. p. 175. Hook. in Engl. Bot. Suppl. t. 2593. Torrey, Fl. of Un. St. v. 1. p. 182. Bigel. Fl. Bost. ed. 2. p. 61. De Cand. Prodr. v. 3. p. 61.*—*Ludwigia nitida. Mich. Am. v. 1. p. 87. Pursh, Fl. Am. v. 1. p. 111.*—*L. apetala. Walt. Carol.*

HAB. Canada, (*Pursh*) and as far north as the Saskatchewan. *Dr. Richardson, Drummond.*

TRIB. III. CIRCÆÆ. DC.

6. CIRCÆA.

Calyx brevis, limbo bipartito. *Petala* 2 obcordata. *Stamina* 2 petalis alterna. *Stigma* emarginatum. *Capsula* ovata pilis ucinatis hispida 2-locul. 2-valv. 2-sperma. *Semina* in loculis solitaria erecta.—*Herbæ. Folia opposita petiolata. Flores in racemos spicatos terminales et laterales dispositi, pedicellati, alterni, albi. DC.*

1. *C. Lutetiana*; caule erecto pubescente, foliis ovatis acuminatis dentatis opacis petiolo longioribus.—*Linn. Sp. Pl. p. 12. Engl. Bot. t. 1026. De Cand. Prodr. v. 3. p. 63. Bigel. Fl. Bost. ed. 2. p. 8.—β. Canadensis*; caule glabro. *Linn.—Mich. Am. v. 1. p. 17. Pursh, Fl. Am. v. 1. p. 21. Elliott, Carol. v. 1. p. 7. Torrey, Fl. of Un. St. v. 1. p. 29.*

HAB. β. Canada. *Linn. Lake Huron. Dr. Todd. About Montreal. Mr. Cleghorn.*

2. *C. alpina*; caule adscendente glabriusculo, foliis cordatis dentatis nitidis petiolorum longitudine.—*Linn. Sp. Pl. p. 12. Engl. Bot. t. 1057. Mich. Am. v. 1. p. 17. Pursh, Fl. Am. v. 1. p. 21. Torrey, Fl. of Un. St. v. 1. p. 30. De Cand. Prodr. v. 3. p. 63. Bigel. Fl. Bost. ed. 2. p. 11.*

HAB. Canada. *Michaux. From Lake Huron (Douglas, Dr. Todd) to the Saskatchewan. Dr. Richardson, Drummond. Rocky Mountains, near the sources of the Columbia. Drummond. Shady woods on the North-West coast of America. Douglas.*

ORD. XXXI. HALORAGEÆ. Br.

TRIB. I. CERCODIANÆ. Juss.—HYGROBIÆÆ. Rich.

1. PROSERPINACA. Linn.

Calycis tubus ovario triquetro adhaerens, limbus 3-partitus. *Petala* 0. *Stam.* 3. *Stigmata* 3 ad apicem ovarii sessilia. *Carpella* 3 in fructum trigonum concreta sicca indeliscencia 1-sperma. *Semen* ex apice loculi pendulum. *Albumen* carnosum seu endopleura tumida. *Embryo* rectus, teres, radícula longa supera, cotyledonibus brevibus.—*Herbæ aquaticæ Boreali-Americanae glabræ, radicibus repentibus, foliis oppositis, floribus axillari- bus glomeratis sessilibus interdum 4-fidis 4-andris. DC.*

1. *P. palustris*; foliis lineari-lanceolatis serratis infimis sæpe pinnatifidis, nucis angulis

acutis. DC.—Linn. in "Act. Ups. 1741. p. 81." Mich. Am. v. 1. p. 76. Pursh, Fl. Am. v. 1. p. 92. De Cand. Prodr. v. 3. p. 67. Elliott, Carol. v. 1. p. 81. Bigel. Fl. Bost. ed. 2. p. 48.

HAB. Canada. Pursh.

2. MYRIOPHYLLUM. Vaill.

Flores monoici aut rarius hermaphroditi. ♂. Calyx 4-partitus. Petala 4 lobis cal. alterna valde caduca ovata. Stam. 4, 6 aut sæpius 8. ♀. Calyx ovario adhærens, limbo 4-lobo. Petala 0. Carpella 4 subconcreta compressa aut subglobosa nucumentacea indehiscencia 1-sperma. Semina in loculis solitaria pendula, albumine nullo, embryone teretiusculo inverso, cotyledonibus obtusis, radícula longa.—Herbæ aquaticæ natantes, apicibus ad anthesin emersis. Folia opposita aut verticillata. Flores parvi ad axillas verticillati, aut foliis floralibus subabortivis verticillato-spicati, super. masculi, infer. fæminei. DC.

1. *M. spicatum*; foliis verticillatis pinnatipartitis, lobis capillaceis, spica terminali nudiuscula, foliis floralibus flore (8-andro) brevioribus, infimis subserratis plerisque integerrimis. DC.—Linn. Sp. Pl. p. 1409. Engl. Bot. t. 83. Mich. Am. v. 2. p. 190. Pursh. Fl. Am. v. 1. p. 274. Rich. in Frankl. 1st. Journ. ed. 2. App. p. 36. Bigel. Fl. Bost. ed. 2. p. 346. De Cand. Prodr. v. 3. p. 68.

HAB. In pools and still waters, Canada. Michaux; as far north as the Bear Lake. Dr. Richardson, Drummond.

2. *M. verticillatum*; foliis verticillatis pinnatipartitis, lobis capillaceis oppositis, spica terminali foliosa, foliis floralibus omnibus pinnatipartitis flores (8-andros) multo superantibus et a foliis vix distinctis. DC.—Linn. Sp. Pl. p. 1410. Engl. Bot. t. 218. Mich. Am. v. 2. p. 190. Pursh, Fl. Am. v. 1. p. 271. Elliott, Carol. v. 2. p. 588. De Cand. Prodr. v. 3. p. 68.

HAB. Stagnant waters, Canada. Michaux.

3. *M. tenellum*; caule simplice subaphyllo basi radicante erecto, foliis squamæformibus alternis integris, summis in axilla floriferis, spica terminali interrupta alterniflora. DC.—Bigel. Fl. Bost. ed. 2. p. 346. De Cand. Prodr. v. 3. p. 69.—*M. nudum*. Lapylaie, MSS. (DC.)—*Hylas aphyllus*. Bigel. MSS. in Herb. Boott, apud. nostr.

HAB. In watery places, Newfoundland. Lapylaie, in De Cand. Prodr.—Of this I have seen no specimen from the British Possessions of North America; but it has been found by M. de Lapylaie in Newfoundland, and in the Northern United States appears to be not unfrequent. I possess excellent specimens from Mr. Nuttall, Dr. Torrey, and especially from Dr. Boott, and I purpose to illustrate this interesting plant and its affinity *M. procumbens*, Bigel. Fl. (*Hylas pinnatus*, ejusd. MSS. in Herb. Boott,) by figures in the Botanical Miscellany.

TRIB. II. CALLITRICHINÆ. Link, DC.

3. CALLITRICHE. Linn.

Flores polygami, hermaphroditi, dioici aut sæpius monoici. Bractæ 2 oppositæ petaloideæ ad basin floris (petalu, auct.) Calyx non conspicuus, verosimiliter ovario basi adhærens limbo abortivo. Petala 0. ♂. Stam. 1. (rarius 2) filamentis filiformibus exsertis, anthera reniformi 1-loculari sutura transversa dehiscente. ♀. Ovarium bisulcum quadri-loculare, in quolibet loculo uniovulatum. Styli 2 filiformes, glandulosi. Capsula compressa

bisulca, constans carpellis 4 concretis per paria approximatis, indehiscenibus, 1-spermis, lenticulari-compressis. *Semina* cum carpella concreta, albumine carnosio, embryone inverso teretiusculo subincurvo, radice longa superna, cotyledonibus brevissimis.—Herbæ annuæ aquaticæ teneræ glabræ. Folia opposita. Flores in axillis solitarii, minimi. DC.

1. *C. verna*; foliis trinerviis superne aggregatis majoribus, fructibus sessilibus, carpellorum dorso obtusiusculo. DC.—*Linn. Sp. Pl. p. 2. Engl. Bot. t. 722.*— β . *intermedia*; foliis inferioribus linearibus obtusis aut emarginatis, superioribus ovalibus. *Hoffm.—De Caud. Prodr. v. 3. p. 70. Torrey, Fl. of Un. St. v. 1. p. 3.*—*C. verna. Mich. Am. v. 1. p. 2.*—*C. aquatica. Bigel. Fl. Bost. ed. 2. p. 2.*—*C. heterophylla. Pursh, Fl. Am. v. 1. p. 3.*

HAB. Lakes and pools, Canada. *Michaux. Saskatchewan. Dr. Richardson, Drummond. Bay of Eschscholtz, (a cespitose var.) Chamisso.*

2. *C. autumnalis*; foliis omnibus uninerviis per caulem sparsis æqualibus truncatis, fructibus sessilibus, carpellorum dorso alato-membranaceo. DC.—*Linn. Sp. Pl. p. 2. Mich. Am. v. 1. p. 2. Torrey, Fl. of Un. St. v. 1. p. 4.*—*C. linearis. Pursh, Fl. Am. v. 1. p. 3.*—*C. aquatica, γ . Engl. Bot. t. 722, (fig. dextra.)*

HAB. Still pools, Canada; about Hudson's Bay, and as far north as Bear Lake, lat. 66°. *Dr. Richardson, Drummond. Mouth of the Columbia. Dr. Scouler.*

3. *C. terrestris*; foliis omnibus approximatis brevibus oblongis obtusis subsucculentis, fructibus sessilibus latis brevibus emarginatis. DC.—"*Rafn. Med. Spec. xi. p. 358.*" *De Caud. Prodr. v. 3. p. 71. Torrey, Fl. of Un. St. v. 1. p. 4.*—*C. brevifolia. Pursh, Fl. Am. v. 1. p. 3.*

HAB. Muddy places, near the Saskatchewan. *Drummond.*—I fear this will prove to be only a variety of *C. verna*, growing in places less watery than usual. The specimens, however, entirely agree with those I have received from Drs. Torrey and Schweinitz, gathered in the United States.

TRIB. III. HIPPURIDÆ. Link.

4. HIPPURIS. Linn.

Calycis tubus ovario adnatus; limbus minimus integer. *Petala* 0. *Stamen* 1 calycis margini insertum. *Stylus* filiformis antheræ sulco receptus. *Nux* 1-sperma, calycis limbo marginato coronata; endopleura tumida carnosæ (ex *Rich.*); embryonis radice cylindrica cotyledonibus longior.—Herbæ aquaticæ, caule simplici, foliis verticillatis linearibus nectis, infimis longioribus, floribus axillaribus sessilibus minimis, nonnullis sæpe abortu feminis aut neutris.

1. *H. vulgaris*; foliis 8–12 linearibus nectis apice sphacelatis. *Linn. Sp. Pl. p. 3. Engl. Bot. t. 763. Mich. Am. v. 1. p. 1? Pursh, Fl. Am. v. 1. p. 3? Torrey, Fl. of Un. St. v. 1. p. 2. Rich. in Franckl. 1st Journ. ed. 2. App. p. 2.*— γ . foliis inferioribus pluries longioribus membranaceis apicibus intactis.

HAB. Pools of water and margins of lakes, from Canada as far north as lat. 60°. *Dr. Richardson, Drummond. Newfoundland and Labrador. Dr. Morrison. Cape Hope, in Behring's Straits. Chamisso. β . In deep water, plains of the Saskatchewan. Dr. Richardson, Drummond.*—The specimen from New-

foundland has almost setaceous leaves, and seems only to differ from Reichenbach's representation of the following species by its stouter stem. Dr. Richardson's specimens accord in every particular with those of Europe.

2. *H. montana*; tenella, foliis senis linearibus acutis. *Reichenb. Icon. Bot. v. 1. p. 71. t. 86. f. 184. Cham. et Schlecht. in Linnæa, v. 4. p. 507. De Cand. Prodr. v. 3. p. 71.*

HAB. Turfy places, Unalashka. *Eschscholtz, Chamisso*.—This is described and figured as having a stem so slender, that the plant has almost the habit of *Galium*.

3. *H. maritima*; foliis quaternis sensive lanceolatis obtusis apice vix sphacelatis. "*Hellen. Diss. cum Ic. Fl. Dan. t. 1261. Reichenb. Icon. Bot. v. 1. p. 71. t. 86. f. 182. De Cand. Prodr. v. 3. p. 72.*—*H. tetraphyllu. Linn. fil. Suppl. p. 81. Rich. in Frankl. 1st Journ. ed. 2. App. p. 2.*—*H. lanceolata. Retz, Obs. fasc. 3. p. 7. t. 1.*

HAB. Hudson's Bay? *Sherard's Herb. (v. Pursh, Fl. v. 2. p. 744.)* Mouth of Hayes's River, near York Factory, lat. 57°. *Dr. Richardson, Drummond.* Labrador. *Dr. Morrison*. Straits of Schismareff, and Bay of Eschscholtz. *Chamisso.* Kotzebue's Sound. *Lay and Collie*.—Not only are the leaves of this species much broader than in *H. vulgaris*; but, as Mr. Brown observes (in Richardson, App. l. c.), their extremities are not sphacelated, or they are so only in a very slight degree. The specimens from Hudson's Bay are a foot and a half tall, bearing leaves more than an inch long; while that from Labrador does not exceed a span in height, with leaves one-third of an inch long.

ORD. XXXII. CERATOPHYLLÆ. Gray.

Flores monoici. *Calyx* (seu *perigonium*) liber multi- (10-12-) partitus, lobis æqualibus. *Petala* 0.—Masc. *Stam.* 12-20, filamentis nullis, antheris ovato-oblongis bilocularibus apice 2-3-cuspidatis sessilibus in centro calycis congestis.—FÆM. *Ovarium* liberum ovatum 1-loculare. *Stylus* filiformis incurvus obliquus. *Stigma* simplex. *Nux* 1-locul. 1-sperma stylo apiculata indehiscens. *Semen* ex apice pendulum. *Albumen* 0. *Embryo* rectus, *radicula* supera, *cotyledonibus* 4 verticillatis duabus latioribus oppositis, *plumula* valde composita (ex Rich. Anal. Fr. p. 46 et 93.)—*Herbæ aquaticæ submersæ. Folin verticillatu, rigidula, in lobos filiformes acutos divisa, secus lobos subserrata. DC.*

1. CERATOPHYLLUM. Linn.

Character idem ac Ordinis.

1. *C. demersum?* nucæ trispinosa nempe 1 terminali et 2 lateralibus inæqualibus. *DC.*—*Linn. Sp. Pl. p. 1409. Engl. Bot. t. 946. Pursh, Fl. Am. v. 2. p. 370.*

HAB. In streams, Canada. *Mr. Cleghorn.* Near the Saskatchewan. *Dr. Richardson, Drummond.*—This being destitute of fructification, I am unable to say whether it should be referred to *C. demersum* or *C. submersum*.

ORD. XXXIII. LYTHRARIÆ. Juss.

TRIB. I. SALICARIÆ. DC.

1. LYTHRUM. Juss.

Calyx cylindricus striatus apice dentatus, dentibus 4-6 latioribus erectis, sinibus 4-6 alternis subulatis sæpe corniformibus interdum non productis, aut minimis. *Petala* 4-6 ex

apice tubi orta, dentibus erectis alterna. *Stamina* e medio aut basi calycis orta petalorum numero dupla aut æqualia aut abortu pauciora. *Stylus* filiformis. *Stigma* capitatum. *Capsula* oblonga calyce tecta, bilocularis, polysperma. *Placentæ* crasso septo adnatæ.—*Herbæ aut rarius frutices. Folia integra. Flores axillares purpurei aut albi. DC.*

1. *L. Salicaria*; foliis lanceolatis basi cordatis, floribus spicatis subsessilibus. *Linn. Sp. Pl. p. 600. Engl. Bot. t. 1061.*— β . pubescens. *Pursh, Fl. Am. v. 1. p. 334. De Cand. Prodr. v. 3. p. 83. Torrey, Fl. of Un. St. v. 1. p. 471.*

HAB. β . Canada. *Pursh.* Wet meadows, abundant, in Upper Canada. *Douglas.*

2. *L. alatum*; foliis oppositis ovato-oblongis acutis basi subcordatis arcte sessilibus aut subpetiolatis, ramis virgatis tetragono-alatis, floribus sessilibus minute bracteolatis erectis 6-petalis 6-andris. *DC.*—*Pursh, Fl. Am. v. 1. p. 334. Elliott, Carol. v. 1. p. 545. Bot. Mag. t. 1812. Nutt. Gen. Am. v. 1. p. 303? De Cand. Prodr. v. 3. p. 81.*—*L. Vulneraria. Schrank, Pl. Rar. Monac. t. 27.*—*L. Kennedyanum. Humb. et Kunth, Nov. Gen. v. 6. p. 194.*

HAB. Canada. *Mr. Goldie.*—The *L. Hyssopifolia* is also probably a native of the British Settlements, though I have not seen specimens, and have no authority for introducing it. I possess plants of it from the neighbourhood of Boston, U. S. gathered by Dr. Boott.

2. DECODON. *Gmel.*

Calyx hemisphærico-campanulatus basi ebracteatus, lobis 5 erectis, sinibus 5 alternis patentibus corniformibus. *Petala* 5 lobis erectis alterna. *Stamina* 10 quorum 5 longissima. *Ovarium* sessile subglobosum 3-loculare. *Capsula* calyce obtecta. *Semina* minuta aptera.—*Herba Boreali-Americana, pubescens. Folia opposita aut 3 verticillata. Pedunculi 3-aut pluriflori ad originem pedicellorum bibracteati. Petala purpurea. DC.*

1. *D. verticillatus. Elliott, Carol. v. 1. p. 544. De Cand. Prodr. v. 3. p. 90.*—*D. aquaticus. Gmel. Syst. Nat. p. 677.*—*Lythrum verticillatum. Linn. Sp. Pl. p. 641. Mich. An. v. 1. p. 281. Pursh, Fl. Am. v. 1. p. 334. Torrey, Fl. of Un. St. v. 1. p. 471. Bigel. Fl. Bost. ed. 2. p. 188.*—*Anonymos aquatica. Walt. Cat. p. 137.*—*Nesaea verticillata. Humb. et Kunth, Nov. Gen. Am. v. 6. p. 191.*

HAB. Marshy places, Canada. *Pursh.*

No plant of the NAT. ORD. *Melastomaceæ*, has, to my knowledge, been found in Canada. Boston seems to be the northern limit of the *Rhexia Virginica*.

ORD. XXXIV. PHILADELPHÆÆ. *Don, De Cand.*

1. PHILADELPHUS. *Linn.*

Cal. tubus obovato-turbinatus, limbus 4-5-partitus. *Petala* 4-5. *Stam.* 20-40 libera petalis breviora. *Styli* 4-5 nunc coaliti nunc plus minus distincti. *Stigmata* 4-5 oblonga aut linearia, sæpius distincta rarius concreta. *Capsula* 4-5-locularis polysperma. *Semina* scrobiformia incluso arillo membranaceo oblongo hinc fimbriato.—*Frutices floribus albis pedicellatis corymboso-cymosis subpaniculatis aut rarius axillaribus bracteatis. DC.*

1. *P. Lewisii*; foliis ovatis acutis subintegerrimis margine ciliatis, calycis laciniis acutis, stylo longitudine staminum 3-fido, stigmatibus tribus. *Pursh, Fl. Am. v. 1. p. 329. De Cand. Prodr. v. 3. p. 206.*—*P. nov. sp. Douglas, MSS.*

HAB. Common in open Pine-woods, on the North-West coast of America. *Douglas*.—The single specimen I possess of this plant has the flowers so far advanced, that the stamens and petals have fallen; and the description given by Pursh of *P. Lewisii* is so unsatisfactory, that I cannot be sure it is the same. Our plant has the branches slender, twiggy, brown, spreading horizontally, quite glabrous. The leaves are ovate or ovato-oblong, acute or acuminate, entire or slightly toothed, three or five nerves arising from very near the base which is woolly beneath, at the axils of those nerves. Flowers ternate at the extremity, and in the axils of the upper pair of leaves are two single-flowered pedicels, one in each axil. Calyx-segments ovato-lanceolate, acuminate, very woolly at the points. Free portion of the germen glabrous; Style 3- or 4-cleft.

ORD. XXXV. CUCURBITACEÆ. *Juss.*

1. SICYOS. *Linn.*

Flores monoici. ♂. *Cal.* 5-dentatus, dentibus subulatis. *Cor.* 5-partita. *Filamenta* 3? (potius 5, triadelpa.) ♀. *Stylus* trifidus. *Stigma* crassiusculum trifidum. *Fructus* abortu? monospermus sæpissime spinis obsitus, semine obovato.—*Pedunculi* masculi et feminei sæpe ex eadem axilla nascentes. *DC.*

1. *S. angulatus*; foliis cordatis angulatis denticulatis scabris lobis acuminatis 3-5, cirrhis umbellatis, floribus masculis corymboso-capitatis pedunculo communi longo, femineis sessilibus glomeratis apice pedunculi, fructibus ovatis spinescentibus tomentosisque, spinis obscabris, seminibus basi truncatis apice obtusissimis. *Linn. Sp. Pl. p. 1438. Mich. Am. v. 2. p. 217. Pursh, Fl. Am. v. 2. p. 44. Elliott, Carol. v. 2. p. 663. De Cand. Prodr. v. 3. p. 309. Dill. Elth. v. 1. t. 59.*

HAB. Canada. *Michaux.* Banks of the Columbin, from its mouth to the Kettle Falls. *Dr. Scouler. Douglas.*—The male inflorescence is sometimes in very elongated racemes, as in *Dr. Scouler's* specimens, and the flowers remote.

2. MOMORDICA. *Linn.*

Flores monoici lutei v. albi, pedunculo filiformi unibracteato (an semper?) ♂. *Cal.* 5-fidus, tubo brevissimo. *Cor.* 5-partita. *Stam.* triadelpa, antheris connatis. ♀. *Filamenta* 3? (potius 5, triadelpa.) sterilia. *Stylus* 3-fidus. *Ovarium* triloculare. *Fructus* sæpe muricatus (an semper?) maturus elastice dissiliens. *Semina* compressa reticulata (an semper?) *DC.*

1. *M. ? echinata*; pomis tetraspermis subrotundis setoso-echinatis, foliis cordatis quinquelobo-angulatis acuminatis integerrimis scabris. *Muhl. ex Willd. Sp. Pl. v. 4. p. 605. Pursh, Fl. Am. v. 2. p. 444. De Cand. Prodr. v. 3. p. 312.*—*Sicyos lobata. Mich. Am. v. 2. p. 217.*

HAB. Plains of the Red and Assiniboine Rivers, and banks of the Saskatchewan. *Douglas, Dr. Richardson, Drummond.*—If I am correct in referring this to the plant of Willdenow—and it well agrees with that author's description, so far as it goes—the segments of the corolla are remarkably long and attenuated, and the female flowers of rare occurrence. Of the six specimens in the Collection, possessing numerous racemes, from two to five or six inches long, of male flowers, only one raceme has at its base (as Willdenow

correctly remarks) a solitary female flower. The tube of the calyx is incorporated with the corolla, and the segments resemble slender and rather long bristles, set on to the corolla, and alternating with its segments. I have received the same plant from Dr. Torrey, gathered near New York, without a name. The flowers being in racemes, this plant would, I think, rank more naturally with *Sicyos* than with *Momordica*. But with the fruit I am unacquainted; and it must be confessed that the genera of *Cucurbitaceæ* are very imperfectly defined.

ORD. XXXVI. LOASEÆ. Juss.

1. BARTONIA. Nutt. et Pursh.

Calycis tubus cylindraceus arcte ovarium vestiens, sed forsan liber; *limbus* 5-partitus persistens. *Petala* 10 unguiculata calyce inserta. *Stam.* innumera (200-250) cum petalis inserta, iis breviora, filamentis liberis, externis interdum sterilibus, antheris oblongis. *Stylus* filiformis striis 3-7 spiralibus notatus et inde stylis 5-7 omnino connexis et spiraliter tortis constans. *Capsula* oblonga 1-locul. 3-7-valvis, placentis totidem seminum series 2 gerentibus. *Semina* compressa numerosa.—*Herbæ pilis barbatis rigidulis tenacibusque pubescentes. Folia alterna interrupte pinnatifida. Flores terminales solitarii ampli albi sub vespere expansi. DC.*

1. *B. levicaulis*; petalis 5, staminibus 5 petaloideis, bracteis nullis, caule levissimo, seminibus alatis. (TAB. LXIX.)—Douglas, MSS. apud Hort. Soc. Lond.

Caulis herbaceus, annuus, erectus, 2-3-pedalis, ramosus, levis, albidus, subnitidus. *Folia* lanceolata, sinuato-pinnatifida, sessilia; *inferiora* leviuscula; *superiora* sensim minor scaberrima. *Flores* terminales, subcongesti, magni, speciosi, "nitidi, flavi." *Bracteæ* nullæ, nisi folia suprema parva, integerrima. *Calycis segmenta* lanceolata-acuminata, longa, demum reflexa, extus scabra, intus glaberrima: tubo apice libero. *Petala* 5, erecto-patentia, 2½-uncialia, lanceolata, basi apiceque acuminata. *Stamina* numerosa, petalis breviora: *filamenta* 5 exteriora latiora, subpetaloidea; *reliqua* filiformia, glabra. *Antheræ* oblongæ, biloculares. *Germen* inferum, subcampanulato-cylindraceum, asperum, obscure 5-sulcatum. *Stylus* longitudine staminum, filiformis, versus apicem obscure 3-lobatus. *Stigma* obtusum. "*Capsula* scabra, glutinosa, 3-valvis. *Semina* alata, alba." (Dougl.)

HAB. On the gravelly islands and rocky shores of the Columbia, near the "Great Falls;" flowering in June and July. Douglas.—This is a very beautiful addition to the American Flora, scarcely at all inferior to the *B. ornata* of Pursh and Nuttall, (*B. decapetala*, Sims in Bot. Mag. t. 1487,) which Mr. Lewis and Mr. Nuttall found on the borders of the Missouri, and which the latter author has so well described in his valuable "Genera of North American Plants." From it our plant differs remarkably in the absence of the large, foliaceous, deeply pinnatifid, and lacinated bractæ, in its fewer petals, and winged seeds. Contrary to the habit of *B. ornata*, this and the following species never expand their blossoms in the evening, but during the bright sunshine.

TAB. LXIX. *Bartonia levicaulis.* Fig. 1, Lower leaf:—natural size; fig. 2, Stamen; fig. 3, Outer petaloid stamen; fig. 4, Calyx and pistil:—magnified.

2. *B. parviflora*; petalis 5, staminibus 5-7 petaloideis, bracteis nullis, caule scabro, seminibus alatis.—Douglas, MSS. apud Hort. Soc. Lond.

HAB. Abundant on calcareous rocky situations and micaceous sandy banks of streams, in the interior parts of the Columbia. Douglas.—The only specimen I have seen of this is in the Herbarium of Professor Lindley. The flowers are certainly somewhat smaller than in the preceding species, and the stem and

branches are rough: but I scarcely think it other than a var. From the *B. nuda* of Nuttall it differs in the number of its petals. The name would be more applicable to the following species.

3. *B. albicaulis*; petalis 5 obovatis (parvis), staminibus petaloideis nullis, bracteis nullis, caule lævissimo nitido albo. *Douglas, MSS. apud Hort. Soc. Lond.*—*Mentzelia albicaulis*. *Douglas, in Herb. nostr.*

Anna, parva, decumbens, basi præcipue ramis erectiusculis alternis, lævissimis, nitidis, albis. *Folia* remota, lanceolata, sinuata, scabra. *Flores* nunc in axillis solitarii, plerumque 3-5 congesti ad apices ramorum, parvi, ebracteati. *Calycis segmenta* subulata, scabra, erecto-patentia, vix 2-3 lineas longa. *Petala* 5, longitudine calycis, obovata, "mucronata," flava. *Stamina* 30 petalis subbreviora. *Filamenta* omnia conformia, filiformia, libera, basi dilatata. *Antheræ* subrotundæ, biloculares: *Loculi* appositi, ad marginem dehiscentes. *Germen* inferum, unciam longum, cylindraceum, hispidum, uniloculare; receptaculis tribus parietalibus. *Ovula* uniseriaria. *Capsula* sesquiunciam longa, cylindracea, calyce coronata. *Semina* plurima, tetragona, albuminosa. *Embryo* immersus, cylindraceus, curvatus; *radicula* ad hilum versa.

HAB. On arid sandy plains of the river Columbia, under the shade of *Purshia tridentata*. *Douglas*.—Mr. Douglas seemed to be doubtful whether this new plant should be referred to *Bartonia* or *Mentzelia*. It partakes, indeed, in some characters of the one, and some of the other. Mr. Nuttall, who has perhaps alone of any living Botanist had the opportunity of examining both *Bartonia* and *Mentzelia* in a recent state, and who may be considered to have established the former genus, says that "nothing essential separates *Bartonia* from *Mentzelia*, except the augmentation of petals, and the structure of the capsules and seeds." In regard to the augmentation of petals, Mr. Nuttall himself observes that in *Bartonia* their number varies from ten to fifteen. We have shown in the two preceding species, that it is reduced to five, but with five petaloid stamens, or imperfect petals. In the present plant, the petaloid stamens are wanting; and the number of petals exactly accords with *Mentzelia*. Again, in *Bartonia*, the seeds ought to be, according to Nuttall, "numerous, arranged horizontally in a double series;" in *Mentzelia*, the "seeds are 3-6, longitudinally arranged." In our plant, the seeds are numerous (25-40, *Dougl.*), placed in a single series.—For a knowledge of the structure of the flowers and seeds of this plant, I am indebted to a beautiful drawing which accompanied the specimen lent to me by Professor Lindley, and made by that admirable Botanist.

ORD. XXXVII. PORTULACEÆ. *Juss.*

1. PORTULACA. *Tourn.*

Cal. aut liber aut imo ovario adhærens, bipartitus, demum basi circumscissus et deciduus. *Pet.* 4-6 æqualia, inter se libera aut ima basi concreta, calyci inserta. *Stam.* 8-15, filamentis liberis interdum ima corolla adnatis. *Ovarium* subrotundum. *Stylus* apice 3-6-fidus, aut stylus 0 et stigmata 3-8 elongata. *Capsula* subglobosa 1-locularis medio circumscissa. *Semina* 00 placentæ centrali adfixa.—*Herbæ carnosæ humiles. Folia sparsa integerrima crassa, in axillis sæpe piligera, circa flores congesta aut subverticillata. Flores horis 9-12 matutinis sole expansi.—Genus heterogeneum et forsan dividendum, sed capsula circumscissa nunc facile distinctum. DC.*

1. *P. oleracea*; foliis cuneiformibus carnosis, axillis geniculisque nudis, floribus sessilibus. *Linn. Sp. Pl.* p. 638. *De Cand. Pl. Gras.* t. 123. *Elliott, Carol.* v. 1. p. 534. *Pursh, Fl. Am.* v. 2. p. 365.

HAB. About Norway House, and banks of the Hill River. *Dr. Richardson, Drummond.*

2. TALINUM. *Adans. Juss. (TALINUM et CALANDRINIA, DC.)*

Cal. 2-partitus. *Petala* 5. *Stamina* plurima. *Stylus* 1. *Stigmata* 3. *Capsula* 3-valvis, polysperma.—Frutices aut suffrutices (*herbaceæve.*) *Folia* alterna crassiuscula, interdum in axillis pilosa. *Flores* terminales, paniculati aut racemosi. *Juss.*

1. *T.?* (*Calandrinia?* Kunth,) *Menziesii*; caulescens, foliis lineari-spathulatis, inferioribus longe petiolatis, marginibus nudis, superioribus sepalisque acute carinatis dorso glanduloso-ciliatis, floribus pedunculatis axillaribus. (TAB. LXX.)

Radix parva, annua, subfusiformis, fibrosa. *Caules* erecti vel basi decumbentes, digitales, graciles, foliosi. *Folia* remota, inferiora et radicalia longe petiolata nuda, superiora glanduloso-ciliata: omnia lineari-spathulata. *Pedicelli* axillares, solitarii, in apices caulium, folio duplo breviores, superne angulati, angulis piloso-glandulosi. *Calyx* profunde bipartitus; *segmentis* seu *sepalis* ovatis, acutis, acute carinatis, carina marginibusque glanduloso-ciliatis. *Corollam* stamina pistillamque non vidi. *Capsula* 1-locularis, 3-valvis. *Semina* plurima, receptaculo centrali affixa.

HAB. North-West coast of America, south of the Columbia. *A. Menzies, Esq.*—Habit of a *Talinum*; but, without having seen the flowers, I am incompetent to refer it to the proper genus. It may be a *Claytonia*.

TAB. LXX. *Talinum?* *Menziesii.* *Fig. 1,* Root-leaf; *fig. 2,* Leaf from beneath a flower; *fig. 3,* Capsule, with the persistent calyx and peduncle:—*magnified.*

3. LEWISIA. *Pursh.*

Calyx 7-sepalus, sepalis submembranaceis. *Petala* 9-12, interiora sensim minora. *Stam.* 12-16 hypogyna. *Antheræ* lineares. *Germen* globosum. *Ovula* plurima receptaculo centrali libero affixa. *Stylus* profunde sexpartitus, laciniis filiformibus. *Stigmata* obtusa.—*Planta herbacea acaulis.* *Radix fasciculata.* *Folia teretia carnosa.* *Scapi uniflori.*

1. *L. rediviva.* *Pursh, Fl. Am. v. 2. p. 368.*— α . radice sanguineo, flore albo.— β . radice albo, flore roseo. *Hook. in Bot. Misc. v. 1. p. 345. t. 70.*

HAB. α . Banks of Clarke's River, North-West America. *Lewis.* β . Subalpine regions of the Rocky Mountains, on the west side, and abundant at the junction of the Spokan River with the Columbia, in dry stony soils; also on the Flathead and Salmon Rivers, in similar situations. *Douglas.*—The roots of this are gathered in great quantities by the Indians on the west side of the Rocky Mountains, and highly valued on account of their nutritive quality. They are boiled and eaten as *Salep*, or arrow-root, and are admirably calculated for carrying on long journeys: two or three ounces a-day being sufficient for a man, even while undergoing great fatigue.—Unfortunately, I have seen no complete flowers of this plant; so that, Pursh having described it imperfectly, we yet remain ignorant of the characters of the Genus; if, indeed, it should not merge into *Talinum*, which I think very probable.

4. CLAYTONIA. *Linn.*

Cal. discipalus persistens, sepalis ovatis oppositis. *Petala* 5, obcordata aut obovata hypogyna aequalia unguiculata, unguibus basi subconnatis. *Stam.* 5 ad ungues petalorum inserta. *Ovarium* sessile. *Stylus* 1 trifidus, ramulis intus stigmatosis. *Caps.* 1-locularis 3-valvis 3-sperma. *Fila conductoria* 3 ante fecundationem a placenta centrali ad styli basin directa. *Semina* sessilia.—*Herbæ glabræ subsucculentæ sæpius perennes.* *Folia integerrima, radicalia petiolata, summa sæpius opposita sessilia, interdum connata.* *Racemi terminales.* *Flores albi aut rosei.* *DC.*

* *Caule folioso, foliis omnibus alternis, (habitu ad Calandrinias accedens.)*

1. *C. linearis*; caulibus ramosis, foliis anguste linearibus obtusis alternis siccitate sub lente 3-nerviis, racemis terminalibus secundis basi bractentis, petalis integris. (TAB. LXXI.)—*Douglas, MSS. apud Hort. Soc. Lond.*

Radix annua, fibrosa. *Caules* plures ex eadem radice, debiles, assurgentes, filiformes, ramosi, foliosi. *Folia* omnia alterna, 2-3 uncias longa, superiora sensim minora, omnia anguste linearia obtusa subsucculenta, siccitate, sub lente, 3-nervia, nervis venis anastomosantibus. *Racemi* terminales flexuoso-curvedi, pedicello infero folio seu bractea lanceolata suffulto. *Calyx* disepalus; *sepalis* ovato-rotundatis obtusis. *Petala* calyce longiora obovata obtusa integra. *Stamina* 5.

HAB. Moist rocky places; on the *Great and Little Falls* of the Columbia, abundant. *Douglas*.

TAB. LXXI. *Claytonia linearis*. Fig. 1, Unexpanded flower; fig. 2, Flower expanded:—*magnified*.

2. *C. filicaulis*; caulibus ad basin ramosis, foliis inferioribus obovatis acutis reticulatim venosis in petiolum decurrentibus caulinis lineari-spathulatis, racemis terminalibus, floribus bracteatis, petalis integris. (TAB. LXXII.)—*Douglas, MSS. apud Hort. Soc. Lond.*—*C. parvifolia?* *Moc. Ic. Pl. Nootk. ined. in De Cand. Prodr. v. 3. p. 361.*

Radix parva, fibrosa, annua. *Caules* plurimi ex eadem radice, erecti, graciles, filiformes, ad basin solummodo ramosi. *Folia radicalia* plurima atque *caulina inferiora* obovata, acuta, carnosomembranacea, 3-5-nervia, nervis venoso-reticulatis, basi in petiolum latiusculum attenuata: *caulina superiora* plurima sensim minora lineari-spathulata. *Racemi* terminales. *Pedicelli* undique versi omnes basi unibracteati; *bractea* parva ovato-lanceolata. *Flores* majusculi. *Petala* calyce duplo triplove longiora, integra. *Stamina* 5.

HAB. Rocks; Nootka and Queen Charlotte's Islands, on the North-West coast of America. *A. Menzies, Esq. July, 1787.* Plentiful on moist rocks of the Columbia, near the ocean. *Douglas, Dr. Scouler.*

TAB. LXXII. *Claytonia filicaulis*. Fig. 1, Flower; fig. 2, Root-leaf:—*magnified*.

* * *Scapo foliis 2 oppositis nunc connatis (Claytoniæ veræ.)*

3. *C. Virginica*; radice tuberosa, foliis omnibus (radicalibus paucissimis) lineari-lanceolatis obsolete 3-nerviis venis anastomosantibus, racemo solitario nutante, pedicellis elongatis infimo bracteato, petalis integris. *Linn. Sp. Pl. p. 294. Bot. Mag. t. 941. Mich. Am. v. 1. p. 160. Pursh, Fl. Am. v. 1. p. 175. Elliott, Carol. v. 1. p. 306. Bigel. Fl. Bost. ed. 2. p. 98. Torrey, Fl. of Un. St. v. 1. p. 259. De Cand. Prodr. v. 3. p. 361.*—*C. grandiflora. Sweet, Br. Fl. Gard. t. 216.*— β . foliis latioribus fere ovato-lanceolatis in petiolum attenuatis. *Torrey, Fl. of Un. St. t. c.*— γ . spathulæfolia. *De Cand. l. c.*—*C. Caroliniana. Mich. Am. v. 1. p. 160.*—*C. spathulæfolia. Salisb. Parad. Lond. t. 71. Pursh, Fl. Am. v. 1. p. 174.*

HAB. α . Near Montreal. *Mr. Cleghorn. Saskatchewan. Drummond.*— β . Throughout Canada, and as far as the Saskatchewan. *Lady Dalhousie, Mrs. Sheppard, Drummond. St. John's, New Brunswick. Dr. Boott.* On the west side of the Rocky Mountains, under the shade of solitary Pines. *Douglas.*—The petals are very variable in breadth and bluntness. The var. β . appears to be more abundant in the British Possessions than α .; and this is observed by Dr. Torrey to be the case in the New England States.

4. *C. lanceolata*; radice tuberosa, foliis radicalibus (paucissimis) oblongis longe petiolatis, caulinis ellipticis sessilibus omnibus 3-nerviis venis anastomosantibus, racemo solitario nutante, pedicellis elongatis infimo bracteato, petalis profunde emarginatis. *Pursh, Fl. Am. v. 1. p. 175. t. 3. De Cand. Prodr. v. 3. p. 361.*

HAB. Vallies of the Rocky Mountains, in a rich soil. *Drummond*.—This is a very beautiful species, with the largest flowers of any, and the petals constantly notched. It is, however, in many respects, very similar to the preceding, especially to the var. β .: but here the cauline leaves are sessile. The root-leaves are of very rare occurrence, even in the most perfect specimens, and I have never seen more than one upon a root, though as many as three stems have arisen from that root. Very nearly allied to this is the *C. Vestiana*, Fischer, MSS. (*C. Joanniana*, Roem. et Schultes): but that has numerous radical leaves and a large fusiform root.

5. *C. Unalashkensis*; foliis nervosis summis oppositis sessilibus rhombeo-ovatis, radicalibus petiolatis lanceolato-ovatis acuminatis, racemis geminis, bracteis ovatis, pedicellis solitariis bractea duplo longioribus, petalis emarginato-bifidis. DC.—Fischer, in *Roem. et Schult. Syst. Veget. v. 5. p. 434. De Cand. Prodr. v. 3. p. 361.*

HAB. Unalaska. *Langsdorff*.

6. *C. perfoliata*; radice fibrosa, foliis reticulatim venosis, radicalibus numerosis longe petiolatis late rhombeis, caulinis in unum suborbiculare perfoliatum coalitis, racemis fasciculatis, petalis integris aut emarginatis.—*Donn, Cat. Hort. Cant. ed. 4. p. 50. Bot. Mag. t. 1336. Pursh, Fl. Am. v. 1. p. 176. De Cand. Prodr. v. 3. p. 360.—C. Cubensis. Bonpl. Ann. du Mus. v. 7. p. 82. t. 6. Pl. Equinoct. t. 26.—Limnia perfoliata. Haw.*

HAB. First discovered on the North-West coast of America by *Mr. Menzies*. Mouth of the Columbia, and vallies of the Rocky Mountains, (where, however, the specimens are very diminutive,) *Douglas, Dr. Scouler*.—This and the next species have very small flowers.

7. *C. parviflora*; radice fibrosa, foliis radicalibus numerosis lineari-spathulatis 3-nerviis venoso-anastomosantibus longe petiolatis, caulinis in unum ovale perfoliatum coalitis venoso-reticulatis, racemis solitariis subcompositis unibracteatis. (TAB. LXXIII.) *Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB. Abundant along the course of the Columbia, in open parts of the forest where wood has been burned, or the ground turned up by Deer. *Douglas*.—Flowers rose-coloured and white. This differs, as *Mr. Douglas* justly observes, from the preceding, in its linear radical leaves, ovate bractees, and the profusion of small flowers.

TAB. LXXIII. *Claytonia parviflora*. Fig. 1, Fruit:—natural size.

8. *C. alsinoides*; radice fibrosa, foliis reticulatim venosis rhombeis acutis, radicalibus plurimis longe petiolatis, caulinis sessilibus, racemis subsolitariis, pedicellis elongatis bracteatis, petalis emarginatis.—*Pursh, Fl. Am. v. 1. p. 176. Bot. Mag. t. 1309. De Cand. Prodr. v. 3. p. 360.— β . floribus roseis, foliis subnerviis. De Cand. Prodr. l. c.—C. Sibirica. Linn. Sp. Pl. p. 294? (non Pall.) Bot. Mag. t. 2243. Sweet, Br. Fl. Gard. t. 16.*

HAB. North-West coast of America. *Mr. Menzies, M. Lewis, Dr. Scouler*. At the sources of the Columbia, particularly plentiful about Indian villages, where it seems to hold the place of *Alsine media* in our country. *Douglas*.— β . Nootka. *Mocca*.—Whatever the *C. Sibirica* of Linneus may be, which I have no means of ascertaining, this plant is assuredly the same as the one so called in our gardens, in the *Bot. Magazine* (?) and in *Sweet's Brit. Fl. Garden*. *Gmelin*, who is quoted for the *C. Sibirica* of Linn., describes the root as being as thick as a goose-quill; *Sir James E. Smith* says it is tuberous; characters better according with *C. Joannina* of Roem. and Schultes, (the *C. Vestiana* of Fischer in *Herb. nostr.*) and I may

add, too, the *acutifolia* of Ledebour, which is a perennial plant, with a thick tap-root.—It has perhaps a claim to be considered as American; at least Gmelin's plant is said to be found at Mount St. Elias, and in the islands between Asia and North America.

9. *C. spathulata*; minuta, radice fibrosa, foliis radicalibus numerosis anguste lineari-subspathulatis, caulinis ovatis acutis sessilibus, racemo solitario unibracteato, petalis integris. (TAB. LXXIV.) *Douglas, MSS. apud Herb. Hort. Soc. Lond.*

Planta pusilla. *Radix* e fibris paucis, annua. *Caules* plurimi ex eadem radice debiles graciles adscendentes. *Folia radicalia* plurima subnunciam longa anguste linearia subspathulata: *caulina* 2 parva, opposita, ovata, acuta, sessilia. *Racemus terminalis* solitarius, 4-6-florus. *Pedicellus* infimus bractea parva lanceolata suffultus. *Corolla* calyce vix longior.

HAB. North-West coast of America. *A. Menzies, Esq.* in Herb. nostr.—In the valleys of the Rocky Mountains, common. *Douglas*.—This is the smallest species of the whole genus, and in regard to its character, it seems to hold the same relation to *C. alsinoides* as the *C. parviflora* does to *C. perforiata*; being essentially distinguished by its exceedingly narrow leaves.

TAB. LXXIV. *Claytonia spathulata*. *Fig.* 1, Leaf; *fig.* 2, Flower-stem; *fig.* 3, Flower; *fig.* 4, Fruit.—*magnified.*

ORD. XXXVIII. PARONYCHIEÆ. *St. Hil.*

1. ANYCHIA. *Mich.*

Cal. 5-partitus, sepalis conniventibus apice callosis subsaccatis. *Petala* et *Squamulæ* 0. *Stam.* 3-5, filam. distinctis. *Stylus* nullus. *Stigmata* 2 subcapitata. *Caps.* indehiscens 1-sperma calyce cincta.—*Herbæ Boreali-Americanae erectæ dichotomæ annua, facie Lini cathartici.* *Folia opposita, basi stipulis scariosis.* *Flores in axillis ramorum solitarii, ultimi ramis abbreviatis fasciculati.* *DC.*

1. *A. Canadensis*; caule retrorsum pubescente, foliis cuneato-oblongis, stipulis flore longioribus, floribus subfasciculatis. *DC.*—*A. Canadensis.* *Elliott, Carol. v. 1. p. 307.*—*A. dichotoma.* *Mich. Am. v. 1. p. 113.* *Pursh, Fl. Am. v. 1. p. 176.* *De Cand. Prodr. v. 3. p. 369.* *Torrey, Fl. of Un. St. v. 1. p. 273.*—*Queria Canadensis.* *Linn. Sp. Pl. p. 494.* *Bigel. Fl. Bost. ed. 2. p. 99.*

HAB. Canada. *Linn.*—I have not seen specimens of this from Canada: but being of frequent occurrence in the adjoining districts of the United States, it is in all probability, independent of the authority of Linnæus, a Canadian plant; though perhaps confined to the southern parts.—*Torrey*, and I think with justice, unites the *A. capillacea* of Nuttall with this, as a glabrous variety.

2. PARONYCHIA. *Juss.*

Cal. 5-partitus, sepalis dorso non incrassatis sæpius apice mucronatis subcucullatis. *Petala* seu *Squamulæ* 5 lineares sepalis alternæ. *Stam.* 5. *Stylus* 1. *Stigmata* 2. *Capsula* 1-sperma indehiscens aut 5-valvis, calyce tecta.—*Plantæ herbacæ aut suffruticentes, ramosissimæ.* *Folia opposita, stipulis scariosis utrinque inter folia binis.* *Flores cymosi aut glomerati.* *DC.*

1. *P. sessiliflora*; densissime cæspitosa, ramosissima, foliis lineari-subulatis acutis superioribus longioribus recurvis, stipulis folia subæquantibus bifidis, floribus terminalibus sessilibus, calycis segmentis apicibus interne fornicatis externe longe aristatis. (TAB. LXXV.)—*Nutt. Gen. Am. v. 1. p. 160.* *De Cand. Prodr. v. 3. p. 372.*

Radix lignosus fusiformis in terram longe descendens, superne divisa et caules vel ramos iterum dichotome divisos numerosos densissime cæspitosos undique foliosos gerens. *Folia* opposita, inferiora breviora, linearia, erecta, imbricata, obtusa, stipulis tecta; superiora longiora subulata, recurva, acuta et etiam mucronata stipulis breviora; omnia crassiuscula rigida striata vix nervosa, integerrima. *Stipulae* oblongæ profunde bifidae, albae, scariosæ, membranaceæ, sæpe lacerae. *Flores* omnino sessiles in apicibus ramorum, foliis fere immersi solitarii. *Calyx* profunde 5-partitus, cartilagineus, pallide viridis; segmentis seu lacinis oblongis canaliculatis, apice intus cucullato-incurvis extus in acumen longum seu aristam attenuatis. *Petala* (seu potius filamenta) abortiva 5, in axillis laciniarum staminibus alternantia. *Stamina* 5, lacinis opposita. *Filamenta* subulata. *Anthera* oblongæ. *Germen* globosum pubescens. *Ovulum* 1, ex apice funiculi longi erecti apice incurvi pendens. *Stylus* filiformis longitudine fere calycis. *Stigma* bifidum.

HAB. Dry banks of the north branch of the Saskatchewan: between Carlton House and Edmonton House: lat. 53°. North. *Drummond*.—Mr. Nuttall, who has admirably characterised this species of *Paronychia*, discovered it on the highest hills of the Missouri, near Fort Mandan, 4° or 5° south of the country where Mr. Drummond gathered it: it is therefore probably not uncommon on the eastern slope of the Rocky Mountains.—Professor De Candolle has not rightly understood Mr. Nuttall's expression, "internal points of the calyx arched, external capillary attenuated." It is not "calycis lobis internis arcuatis externis attenuatis," as in the *Prodromus*; whence our learned friend has been led to suppose that the segments were *unequal*, and to express an opinion that the species should belong to the third section, which is so characterised: whereas the segments are perfectly equal.

TAB. LXXV. *Paronychia sessilifera*. *Fig. 1*, Portion of a flowering-stem; *fig. 2*, Apex of a branch, with a flower; *fig. 3*, Flower laid open to show the stamens, abortive filaments, (petals, DC.) and pistil; *fig. 4*, Pistil, with the germen cut open to show the ovule and seed-stalk; *fig. 5*, Leaves from the lower part of the stem and stipules; *fig. 6*, Single leaf from the same; *fig. 7*, Leaves from near the extremity of a branch and stipules; *fig. 8*, Single leaf from the same:—more or less magnified.

ORD. XXXIX. CRASSULACEÆ. DC.

1. SEDUM. De Cand.

Calyx 5-partitus, sepalis ovatis sæpius turgidis foliiformibus. *Petala* 5 sæpius patentia. *Stam.* petalorum numero duplo. *Squamæ nectariferae* integræ aut vix ac ne vix emarginatæ. *Carpella* 5.—Herbæ aut suffrutices. *Caules* sæpius ad basin ramosi. *Surculi steriles folia conferta gerentes*. *Folia alterna rarius opposita, carnosa, teretia aut plana, integerrima, rarius dentata*. *Flores cymosi, nunc albi-purpurei aut cærulei nunc flavi, in nonnullis 4-aut 6-7-petali et ideo 8-aut 12-14-andri, sed tunc species Sempervivo distinctæ squamis integris et habitu.*

* *Planifolia, floribus luteis.*

1. *S. Rhodiola*; foliis oblongis apice serratis glabris, radice subtuberosa, caule simplici, floribus subcorymbosis sæpius tetrapetalis abortu dioicis. *De Cand. Fl. Fr. ed. 3. v. 4. p. 386. Pl. Grass. t. 143. Torrey, in Pl. of Rocky Mount. p. 206.*—*Rhodiola rosea*. *Linn. Sp. Pl. p. 1465. Engl. Bot. t. 508.*

HAB. Arctic Sea-shore, *Dr. Richardson*, and islands, *Sir E. Parry*. Newfoundland and Labrador. *Dr. Morrison*.—This was first ascertained to be a native of America by *Dr. Torrey*, on the authority of *Dr. James*, who found it in the more southern ranges of the Rocky Mountains.

2. *S. spatulifolium*; glabrum, caule erecto, foliis obovato-spatulatis planiusculis acutis

supremis linearibus, cyma terminali foliosa trichotoma, floribus pedicellatis 10-andris, petalis lineari-lanceolatis calyce multo longioribus.

HAB. Common on dry rocky places of the Columbia and Salmon Rivers. *Douglas*.—The lower decumbent part of the stem sends forth fibrous roots, the rest is erect, simple, leafy. *Leaves*, according to Mr. Douglas, for they are almost destroyed in drying, obovato-spathulate, gradually smaller and narrower upwards. *Flowers* yellow, very similar to those of *S. stenopetalum*, as far as can be judged from the dried state of the plant.

3. *S. Douglasii*; caule erecto superne ramis recurvis prolifero, foliis lineari-subulatis acutissimis intus planis dorso subcarinatis margine siccitate membranaceis, cyma dichotoma, floribus sessilibus decandris, petalis anguste lanceolatis calyce duplo longioribus.

HAB. Common on rocky places of the Columbia to the mountains. *Douglas*.—*Flowers* resembling those of *S. spathulifolium* and *S. stenopetalum*, as far as can be judged from the dried specimens; but the *leaves* are widely different, and of such a nature that I am doubtful whether the plant should be referred to this or to the third section: those at the base of the stem, and those on the numerous proliferous shoots on the upper part of the stem, remain attached by their broad and almost membranaceous bases, they are thickened in the middle, but thin and scarious at the margin. The root is annual: the plant a span high: the proliferous shoots, which are entirely confined to the upper half, an inch long.

* * *Planifolia, floribus albis.*

4. *S. ternatum*; foliis planis glabris integerrimis, inferioribus obovatis basi attenuatis ternato-verticillatis, summis sessilibus inordinatis, cyma trifida, floribus secus ramos sessilibus, petalis oblongis acutis. *DC.*—*Mich. Am. v. 1. p. 277. Pursh, Fl. Am. v. 1. p. 324. Elliott, Carol. v. 1. p. 529. Torrey, Fl. of Un. St. v. 1. p. 463. De Cand. Prodr. v. 3. p. 403. Bot. Mag. t. 1977. Bot. Reg. t. 142.*

HAB. Rocks on the Niagara and Lake Erie, common. *Douglas*.

* * * *Teretifolia, floribus flavis.*

5. *S. stenopetalum*; caulibus assurgentibus, foliis sparsis congestis adnato-sessilibus compresso-subulatis acutis, cyma terminali trichotoma dichotoma, spicis recurvatis, floribus sessilibus decandris, petalis linearibus calyce multo longioribus. *Pursh, Fl. Am. v. 1. p. 234. De Cand. Prodr. v. 3. p. 408.*

HAB. Banks of Clarke's River and the Kooskoosky. *M. Lewis*. Frequent on the east side of the Rocky Mountains. *Drummond*.—This very distinct species of *Sedum* has been cultivated in the Botanic Gardens of Edinburgh and Glasgow, from seeds brought home by Mr. Drummond.

(CRASSULACEÆ ANOMALÆ. *DC.*)

2. PENTHORIMUM. *Linn.*

Calyx 5-partitus. *Petala* 5. *Stamina* 10. *Squamæ* 0? *Carpella* 5 basi inter se concreta in capsulum 5-rostratam 5-locularem apice 5-gonam et sub rostris dehiscentem. *Semina* 00 minima, placentæ latiusculæ undique adfixa, forsân exalbuminosa.—Herbæ

erecta perennes. Folia sparsa membranacea oblongo-linearia inæqualiter serrata. Cymæ unilaterales apice subscorpioideæ. DC.

1. *P. sedoides*; caule subramoso, foliis lanceolatis, cymis plurimis paniculatis multifloris, seminibus scobiformibus. *Linn. Sp. Pl. p. 620. Mich. Am. v. 1. p. 241. Elliott, Carol. v. 1. p. 528. Pursh, Fl. Am. v. 1. p. 323. Bigel. Fl. Bost. ed. 2. p. 184. Torrey, Fl. of Un. St. v. 1. p. 463. De Cand. Prodr. v. 1. p. 414.*

HAB. La Grande Chaudière. *Pursh, MSS.*

ORD. XL. CACTEÆ. *Vent.*

It is greatly to be regretted, that of this interesting family, from the impossibility of drying them, no specimens were collected. Species were met with, if I mistake not, by Mr. Drummond in his route, and certainly by Mr. Douglas on the west side of the Rocky Mountains, as far as the 44th or 45th degree of north latitude, and at a considerable elevation upon the mountains. The species are probably the same as, or nearly allied to, those which Mr. Nuttall detected upon the high mountains of the Missouri, and in the Mandan country;—these are *Mammillaria simplex*, Haw., *M. vivipara*, Haw., and *Opuntia fragilis*, Nutt.

ORD. XLI. GROSSULARIÆ. *DC.*

1. RIBES. *Linn.*

Calyx 5-lobus, laciniis plus minus coloratis. *Petala* 5 parva albida lutea vel rubra. *Stamina* 5 rarissime 6, filamentis liberis. *Styli* 1-2-3-4-fidi. *Bacca* unilocularis, receptaculis lateralibus. *Semina* arillata (an in omnibus?) oblonga subcompressa. *DC.*

* *Caules aculeati. Pedunculi* 1-2-3 rarius multiflori. *Folia plicativa.* (Grossularia.)

† *Floribus rubris.*

1. *R. stamineum*; setoso-aculeatum vel nudum, spinis tripartitis, foliis suborbicularibus trilobis obtusis, pedunculis bifloris, bracteis late ovatis, calyce cylindræo 4-partito, laciniis erectis glandulosus, staminibus 4 longe exsertis, germine pedicellisque setoso-glandulosus.—*Sm. in Rees' Cycl.—De Cand. Prodr. v. 3. p. 477.*—*R. speciosum. Pursh, Fl. Am. v. 2. App. p. 731.*—“*R. fuchsoides. Fl. Mex. ined.*” (*De Cand.*)—*R. triacantha. Menz. MSS. cum Ic. nitidiss.*

HAB. North California. *Mr. Menzies. Monterey. Douglas, 1831.*—*Style* very long, entire. *Petals* cuneate, inserted on the very short tube of the corolla, as long as the segments, the margins involute. *Anthers* ovate.

2. *R. Menziesii*; aculeatissimum, spinis tripartitis, foliis cordatis basi truncatis 5-lobis serratis venoso-rugosis subtus pubescenti-tomentosis, pedunculo subunifloro, calyce cylindræo-campanulato profunde 5-fido glanduloso, staminibus 5 inclusis, stylo subexserto, germine pedunculoque aculeatis. *Pursh, Fl. Am. v. 2. App. p. 732. De Cand. Prodr. v. 3. p. 478.*—*R. ferox. Sm. in Rees' Cycl.—De Cand. Prodr. v. 3. p. 478.*

HAB. Port Trinidad, North California. *A. Menzies, Esq.*—The present and the preceding species are exceedingly beautiful, from their large bright red glandular flowers, and may be considered as holding the

same rank among the Gooseberry as the *R. sanguineum* does among the Currant-tribe. *R. Menziesii* is clothed with long fulvous aculei.

† † *Floribus viridescensibus.*

3. *R. oxyacanthoides*; aculeato-setosum, nudiusculum, spinis 1-3 nunc basi coalitis, foliis cordatis quinquelobis serratis subtus (sæpe) petiolisque pubescentibus, pedunculis brevissimis subbifloris, calycis glabri tubo cylindraceo intus hirsuto, limbo patente petalis obovatis longiore, germine pedicellisque nudis.—*Linn. Sp. Pl. p. 291. Pursh, Fl. Am. v. 1. p. 165, (non Mich.) Rich. in Frankl. 1st Journ. ed. 2. App. p. 9? Torrey, Fl. of Un. St. v. 270. De Cand. Prodr. v. 3. p. 478.*

HAB. Throughout Canada, and as far as the Saskatchewan. *Michaux. Pursh. Drummond. Newfoundland. Dr. Morrison.*—This varies considerably in the aculei and spines, in their number and colour (more or less bright or fulvous,) and in the more or less dense ramification, and pubescence. Of our plant, Mr. Drummond says the fruit is very similar to the common Gooseberry, equally agreeable, red and green.

4. *R. setosum*; ramis dense setosis, aculeis inæqualibus subulatis, foliis subrotundis basi cordatis pubescentibus 3-5-lobis alte crenatis, pedunculis bifloris subbracteatibus, calycibus tubulato-campanulatis, laciniis linearibus obtusis patentibus petalis integerrimis duplo longioribus, bacis hispida. *Lindl. in Hort. Trans. v. 7. p. 243. Bot. Reg. t. 1237.*

HAB. Banks of the Saskatchewan. *Douglas, (in Bot. Reg.)*—My original specimens of this, from the Horticultural Society, have few aculei upon the stem, and the germen generally quite destitute of setæ. The Bot. Register figure approaches much nearer to what I consider the true *R. oxyacanthoides*, only the fruit is hispid. I fear the pubescence and armature afford characters very little to be relied upon in this Genus.

5. *R. triflorum*; aculeis nullis, spinis subsolitariis, foliis cordatis 5-lobis serratis glabris, pedunculis elongatis 2-3-floris, calycis glabri tubo anguste cylindraceo, limbo patente demum reflexo, petalis calyce brevioribus, staminibus sublonge exsertis, germine nudo.—*Willd. Hort. Berol. t. 61. Pursh, Fl. Am. v. 1. p. 165. Bigel. Fl. Bost. ed. 2. p. 91. De Cand. Prodr. v. 3. p. 479.*

HAB. Mountainous situations to the west of the Rocky Mountains, rare. *Douglas.*—My specimens of this from Mr. Douglas, are from the Horticultural Society's Garden; they entirely agree with Willdenow's figure. As a species, it seems to be best distinguished from the following, by the constantly smooth fruit, very narrow flowers, and exserted stamens. I have not seen native specimens from the British Possessions; but I have received Pennsylvanian plants from Dr. Schweinitz, both under the name of *R. gracile*, and *R. trifidum*.

6. *R. Cynosbati*; caule inermi (raro aculeato), spinis subgeminis, foliis cordatis 5-lobis serratis subtus petiolisque magis minusve pubescentibus, pedunculis elongatis 2-3-floris, pedicellis divaricatis, calycis tubo ovato cylindraceo (intus basique styli hirsutis vel glabris), limbo patente, laciniis petala obovata superantibus, staminibus vix exsertis germine setoso-aculeato. *Mich. Am. v. 1. p. 111. Jacq. Hort. Vind. v. 2. t. 123. Pursh, Fl. Am. v. 1. p. 166. Bigel. Fl. Bost. ed. 2. p. 90. Torrey, Fl. of Un. St. v. 1. p. 270. De Cand. Prodr. v. 3. p. 479.*— β . fructu inermi. *R. oxyacanthoides. Rich. in Frankl. 1st Journ. ed. 2. App. p. 7.*— γ . ramis nunc aculeatis, pedunculis brevioribus, floribus pubescenti-hirsutis purpurascensibus, fructu aculeato.

HAB. Canada. Michaux. Mrs. Percival. Mrs. Sheppard. Mr. Cleghorn. A. Hudson's Bay. Dr. Richardson. γ. Lake Huron. Dr. Todd.—The figure of Jacquin well accords with my specimen received from Canada; but then some of the germens and young fruit, on the same individual specimens, are clothed with setæ, while others are destitute of them; thus, except in the broader tube of the corolla, if that be a constant character, and the shorter stamens, it scarcely differs from the following.

7. *R. divaricatum*; ramis divaricatis setosis demum nullis, spinis 1-3 axillaribus deflexis grossis, foliis subrotundis 3-lobis inciso-dentatis nervosis glabris, pedunculis 3-floris nutantibus, calyce infundibuliformi, laciniis demum patentibus tubo duplo longioribus, stylo staminibusque exsertis, baccis glabris. Dougl. in Hort. Trans. v. 7. p. 515. Bot. Reg. t. 1359.

HAB. A common bush on the banks of streams near Indian villages, on the North-West coast of America, from 45° to 52° north lat. Douglas. Scouler.—Mr. Douglas has observed that this ranks systematically next to *R. triflorum*, and indeed some of the wild specimens I can scarcely, if at all, distinguish from that species, while other wild ones have, like those in cultivation at the Horticultural Society's Garden, flowers twice or thrice as large, and spines under the gemmæ, which are remarkably large and stout, quite unlike those of any species with which I am acquainted. Berry black, smooth and spherical, one third of an inch in diameter, pleasant to the taste.—I have good reason for supposing, that in different soils and situations, this and all the other American individuals of the present groupe, vary exceedingly; and it is hardly possible to define their limits in words.

8. *R. irriguum*; aculeis axillaribus ternis, foliis cordatis subquincelobis dentatis ciliatis utrinque pilosis nervosis, pedunculis trifloris glanduloso-pilosis, calycibus campanulatis, laciniis linearibus tubum æquantibus, baccis glabris. Dougl. in Hort. Trans. v. 7. p. 516.

HAB. Moist mountain-rocks, near springs and streams on the Blue Mountains, in lat. 46° 33', and on the banks of the Spokane River, North-West America. Douglas.—Berries spherical, half an inch in diameter, smooth, juicy, well-flavoured. I only possess a native specimen of this in fruit; and judging from the foliage and spines, and from the withered calyx, as well as from the berry, it seems to me that it is closely allied to, if not the same as, *R. triflorum*.

9. *R. saxosum*; caule inermi rarius aculeato, spinis nullis vel solitariis binisve, foliis cordatis 5-lobis serratis glabrisculis, pedunculis brevissimis deflexis 1-2-floris, calycis glabri tubo campanulato, laciniis patentibus demum reflexis corolla duplo longioribus staminibus subæquantibus, germine nudo.—R. saxatile. Dougl. MSS. apud Hort. Soc. Lond. (non Pall.)—R. triflorum. Bigel. Fl. Bost. ed. 2. p. 90.

HAB. Common on the undulating grounds of the interior among stones, (N. W. Amer.?) Douglas. Lake Huron. Dr. Todd. Saskatchewan. Dr. Richardson. Mr. Drummond.—This has the same short peduncles as *R. oxyacanthoides*, but a very different and more campanulate calyx; in the latter respect coming near *R. cynosbati*. It is probably not uncommon in North America, and may have been confounded with some already described species, or it may itself belong to the following species of this groupe, which seems to be scarcely known except to Michaux, and on account of the vagueness of his character, not to be determined, except by reference to his Herbarium, if indeed it exists there. I have received it from Dr. Boott, gathered near Boston, under the name of *R. triflorum*, and hence, as well as from Dr. Bigelow's description, I suspect it to be the plant of the Florida Bostoniensis: where the fruit is described as resembling a common Gooseberry.

10. *R. hirtellum*; spinula subaxillari, ramis breviter ruriterque hispidulis, foliis parvis semitrifidis lobis paucidentatis, pedunculis unifloris, bacca glabra rubra. Mich. An. v. 1. p.

111. *Pursh, Fl. Am. v. 1. p. 165. Torrey, Fl. of Un. St. v. 1. p. 269. De Cand. Prodr. v. 3. p. 479.*

HAB. Stony places by the river Sagney. *Michaux.*

11. *R. lacustre*; caule valde aculeato, spinis multipartitis gracilibus, foliis cordatis profunde 3-5-lobis incis, racemis 5-8-floris laxis, calycibus rotatis, germinibus pedicellis que hispido-glandulosis. *Pursh, Fl. Am. v. 1. p. 161. Bigel. Fl. Bost. ed. 2. p. 91. Rich. in Frankl. 1st Journ. ed. 2. App. p. 8. Torrey, Fl. of Un. St. v. 1. p. 270. De Cand. Prodr. v. 3. p. 478.*—*R. oxyacanthoides. Mich. Am. v. 1. p. 111. Pers. Syn. Pl. v. 1. p. 252. (β.)*—*R. echinatum. Dougl. MSS. in Herb. Hort. Soc. Lond. et in Herb. nostr.*

HAB. Throughout Canada to Fort Franklin and Bear-Lake, near the Arctic circle. *Dr. Richardson. Drummond.* Mouth of the Columbia. *Scouler.* Mountains of the Columbia and of North California. *Douglas.*—This has the flowers of the Currant, and the prickly stems and spines of the Gooseberry tribe. The fruit is about the size of Black Currants, in pendulous racemes, purple-black, shining, clothed with hairs, unpleasant to the taste. *Rich.*—The *R. echinatum* of Mr. Douglas does not differ in any particular from *R. lacustre*. The tips of the calyx are not black, as described by Mr. Douglas.

* * *Inermia. Racemi plerumque multiflori. Folia plicativa. (Ribesia.)*

† *Floribus virescentibus.*

12. *R. rubrum*; inermis, foliis cordatis 5-lobis subtus pubescentibus, racemis nutantibus, bracteis obtusis pedicellis brevioribus, calycibus rotatis laciniis obtusis, petalis obcordatis, fructu glaberrimo.—*Linn. Sp. Pl. p. 290. Engl. Bot. t. 1289. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*—*R. albinervium? Mich. Am. v. 1. p. 110. Pursh, Fl. Am. v. 1. p. 163. Torrey, Fl. of Un. St. v. 1. p. 267.*

HAB. Throughout Canada to the mouth of the Mackenzie River. *Dr. Richardson. Drummond.*—This differs in no respect from our European *R. rubrum*: and it is so abundant in North America, that it must have been described by Authors, under some other name. The miserable description we have of *R. albinervium*, records sufficiently well, except that I find no evidently white or pale-coloured nerves.

13. *R. prostratum*; inermis, foliis profunde cordatis 5-7-lobis glabris lobis acutis incis duplicato-serratis utrinque glabris nudis, racemis erectis laxis gracilibus, bracteis parvis obtusis pedicello glanduloso-setoso multoties brevioribus, calycibus rotatis, germinibus baccisque (rubris) setoso-glandulosis.—*L'Hérit. Stirp. v. 1. p. 3. t. 2. Pursh, Fl. Am. v. 1. p. 163. Torrey, Fl. of Un. St. v. 1. p. 268. De Cand. Prodr. v. 3. p. 482.*—*R. glandulosum. Ait. Hort. Kew. ed. 1. p. 279. (non Ruiz et Pav.)—R. rigens. Bigel. Fl. Bost. ed. 2. p. 9.*—*R. glandulosum. Rich. in Frankl. 1st Journ. ed. 1. App. p. n. 74.*—*R. laxiflorum. Rich. in Frankl. 1st Journ. ed. 2. App. p. 7.*—*β. racemis pubescentibus, pedicellis divaricatis.*—*R. affine. Douglas, MSS. in Herb. Hort. Soc.—R. laxiflorum. Pursh, Fl. Am. v. 2. p. 731.*

HAB. Newfoundland. (*L'Hérit.*) *Sir Alex. Cochrane.* Throughout Canada, and as far north as lat. 57°. *Dr. Richardson.* Woods in the Rocky Mountains. *Drummond.*—*β.* North-West coast of America. *Menzies. Douglas. Drummond.*—This is a truly distinct species, and very constant to its character. *Berries* rather large, red.

14. *R. trifidum*; inermis, foliis glabriusculis modice lobatis, racemis laxe multifloris

pubescentibus, floribus parvis, laciniis calycinis subtrifidis, baccis hirsutis rubris. *Mich. Am. v. 1. p. 110. Pursh, Fl. Am. v. 1. p. 163. De Cand. Prodr. v. 3. p. 481.*

Foliorum lobi subacuti, inferne non angustati. *Racemi* debiles, fere *R. rubri*, sed floribus minoribus. *Calyx* viridulo-pallens. *Petala* purpurea, spatulata, rotundato-obtusa. *Mich.*

HAB. Near Quebec, and at Hudson's Bay. *Michaux.*—May not this be the same as *R. prostratum*?

15. *R. bracteosum*; inerme, foliis longe petiolatis cordatis profunde 5-7-lobis, lobis acuminatis incisus duplicato-serratis supra hispidulis subtus resinoso-punctatis, racemis saepe terminalibus demum deflexis, pedicellis (quoad axin) erecto-patentibus pubescentibus bracteis spatulatas excedentibus, calyce rotato glabro, petalis minutis rotundatis, germinibus baccisque resinoso-punctatis.—*Douglas, MSS. apud Hort. Soc. Lond.*

Species insignis, 5-8-pedalis, ramis erectis, glabris, inermibus. *Folia* juniora nunc 3-lobata, adulta et tunc longe petiolata 5-plerumque 6-loba, circumscriptione cordata, ampla, supra hirsutula, subtus glabra pallidiora, punctis resinosis adspersa, lobis acuminatis, subregulariter incisus duplicato-serratis. *Racemi* saepe in ramulis terminalibus primum erecti, fructiferi deflexi, valde elongati spithamæi. *Rachis* robusta glabriuscula. *Pedicelli* semi-unciam longi pubescentes, erecto-patentes, stricti, non raro oppositi, bractea spatuliformi nunc ad basin racemi foliosa lobata distincte petiolata, lobis acutissimis. *Flores* purpurascenti-flavi. *Calyx* rotatus; lobi obtusissimi petalis rotundatis 3-plo majores. *Germen* globosum, punctis majusculis resinosis adspersum. *Bacca* nigra magnitudine (vix matura) *R. rubri*, resinoso-punctata.

HAB. North-West coast of America, at the confluence of the Columbia with the ocean. *Dr. Scouler. Douglas.*—This is a very remarkable species, with leaves nearly as large as, and resembling those of *Acer Pseudo-platanus*: these, as well as the fructified racemes, have a very strong resemblance to the *R. macrobotrys* of Ruiz, et Pav., Fl. Per. t. 232: but the flowers are widely different.

16. *R. Hudsonianum*; inerme, ramis erectis, foliis trilobis supra glaberrimis subtus resinoso-punctatis petiolisque villosis, racemis erectis pubescentibus, bracteis brevibus, calycis campanulati laciniis patentibus villosis, germinibus punctatis, baccis globosis glabris (nigris.) *Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*—*R. nigrum. Rich. in Frankl. 1st Journ. ed. 1. n. 75. (excl. syn.)*— β . racemis longioribus, calycibus glabriusculis. *R. petiolare. Douglas, in Hort. Trans. v. 7. p. 514.*

Frutex tripedalis, inermis. *Cortex* brunnescens, cuticula incano-grisea levigata decidua tectus. *Folia* vix ad medium triloba, paulo latiora quam longiora, inaequaliter grosseque argute serrata, basi integerrimo fere horizontaliter secto, vix unquam cordata, supra glaberrima, venosa, subtus pallidiora pilis brevissimis mollibus albescens villosa, et sparsiter punctis resinosis exiguis flavis adspersa. *Petiolus* diametrum folii vix longitudine æquans, antice sulcatus, tenuissime villosus. *Bractea* parva, membranacea, subulata. *Pedicelli* villosi, longitudine fere florum, bracteis duplo longiores. *Flores* parvi, campanulati. *Lacinia calycinæ* albæ, ellipticæ, obtuse, patentis, extus villosæ, nervis tribus anastomosantibus. *Petala* exigua, alba, erecta, spatulata. *Germen* obovatum, utrinque læviter sulcatum, glandulis flavis exiguis adspersum. *Stylus* etiam sulcatus, quasi ex duobus connatis formatus, stigmatibus binis glandulosus. *Rich.*

HAB. From Hudson's Bay to the Rocky Mountains, in the west, and as far north as lat. 57°. *Dr. Richardson. Drummond. Douglas.* β . Mountains of the Columbia, above the Kettle Falls. *Douglas.*—*Dr. Richardson* is quite correct in separating this from *R. nigrum*, to which its fruit, and the peculiar odour of the plant, are very similar. The flowers are much smaller, whiter, with a shorter tube, and with more erect, and, except in the var. β , very downy, narrower segments.

17. *R. floridum*; inerme, foliis resinoso-glandulosus 3-seu 5-lobis cordatis duplicato-serratis, racemis pendulis pubescentibus, bracteis linearibus pedicello longioribus, calycibus

tubuloso-campanulatis glabris laciniis obtusis demum reflexis, germinibus baccisque nigris ovali-globosis glabris.—*L'Hérit. Stirp.* 1. p. 4. *Pursh, Fl. Am. v. 1. p. 164. Rich. in Frankl. 1st Journ. ed. 2. App. p. 7. Torrey, Fl. of Un. St. v. 1. p. 267. De Cand. Prodr. v. 3. p. 483.*—*R. recurvatum. Mich. Am. v. 1. p. 109, (fide Torrey.)—R. Pennsylvanicum. Lam. Dict. v. 3. p. 49. (DC.)—Ribesium nigrum, &c. Dill. Elth. v. 2. t. 244. f. 315.*

HAB. Throughout Canada, to lat. 54°.—This is, in many respects, allied to *C. nigrum*, of which Mr. Nuttall suspected it to be a "permanent variety;" but its more copious, denser flowers, and especially the long bracteæ and more tubular calyx, will always distinguish it: the solitary pedicel, too, at the base of the flower-stalk, is wanting.

18. *R. cereum*; inerme, foliis (parvis) cordatis lobatis serratis glanduloso-pubescentibus glabris glaucis superne albo-glandulosis, racemis pendulis subcapitatis 3-5-floris, bracteis ovatis germini glabro adpressis, floribus subsessilibus cylindraceo-subangulatis, laciniis calycinis parvis reflexis.—*Douglas, in Hort. Trans. v. 7. p. 512. Bot. Reg. t. 1263. Bot. Mag. t. 3008.*

HAB. Banks of the Columbia and its southern tributary streams, from the Great Falls to the Rocky Mountains, in gravelly or sandy soils. *Douglas*.—In the small foliage and few-coloured racemes, this resembles the *Grossularia*-tribe; but it is quite destitute of thorns or aculei. The flowers are rather large, white, with a slight tinge of green, slightly downy. White waxy dots, like scales, clothe the upper-side of the leaf, whence the specific name.

19. *R. viscosissimum*; inerme, foliis cordatis obtusis 3-5-lobis inciso-crenatis undique pubescenti-glandulosis viscidis, racemis erectis corymbosis, bracteis lineari-obovatis pedicellis glanduloso-hirsutis subbrevioribus, calycibus tubuloso-campanulatis laciniis erecto-patentibus obtusis, germinibus fructibusque ovato-oblongis viscido-hirsutis. (TAB. LXXXVI.)—*Pursh, Fl. Am. v. 1. p. 163. De Cand. Prodr. v. 3. p. 482. Douglas, in Hort. Trans. v. 7. p. 511.*

Frutex 4-8-pedalis, cortice atro-cinereo obducta. Folia cordato-rotundata, utrinque sed subius præcipue petiolisque pilis brevibus glanduloso-viscidis tecta, 3-5-loba, lobis rotundatis obtusis inciso-crenatis. Stipulae magne, membranaceæ, fusca. Racemi erecti, subcorymbosi. Flores maximi, pallide flavo-virides. Pedicelli elongati bracteis lineari-obovatis membranaceis glabris longiores, glanduloso-hirsuti. Calyx tubuloso-campanulatus, inferne glandulosus, superne glaber, laciniis submembranaceis, erecto-patulis, oblongo-ovatis, obtusis. Stamina inclusa. Stigma bifidum. Germen ovale, viscido-hirsutum. Bacca oblongo-ovata, nigra, glanduloso-hirsuta.

HAB. Rocky Mountains, *Lewis*.—Common in the recesses of the Rocky Mountains, and on dry plains in partially shaded places towards the sources of the Columbia; also on the summits of the hills near the Spokane and Kettle Falls, at an elevation of 8000 feet above the sea. *Douglas*.—A very fine and remarkable species.

TAB. LXXXVI. Fig. 1, Flower:—magnified.

† † *Flores intense rosei.*

20. *R. sanguineum*; inerme, foliis cordatis subquinguelobis serratis venosis supra glabriusculis subtus villosa-tomentosis, racemis laxis pubescentibus folio duplo longioribus, calycibus tubuloso-campanulatis laciniis oblongis obtusis patentibus petala (rubra) integerrima superantibus, bracteis obovato-spathulatis, baccis turbinatis hirsutis. *Douglas*.—*Pursh, Fl. Am. v. 1. p. 164. Sm. in Rees' Cycl.*—*Douglas, in Hort. Trans. v. 7. p. 509. t. 13. Bot. Reg. t. 1349.*—*R. malvaceum. Sm. in Rees' Cycl.*

HAB. Abundant on the coast of North-West America, from lat. 38° to 52°, usually growing in rocky

situations by the sides of streams. *Menzies. Lewis. Douglas. Dr. Scouler.*—This is perhaps the most highly ornamental of the Genus, bearing a profusion of large racemes of deep rose-coloured flowers. The fruit is brownish-black, bitter, having a tough, leathery, thick skin, with numerous minute angular seeds, adhering together by a small portion of limpid, viscid mucus, and completely destitute of the pulpy substance common to most species of the tribe. *Douglas.*

* * * *Inermia. Racemi pluriflori. Folia in gemmis ambientia. (Flores aureo-flavi.)*

21. *R. aureum*; inerme, glaberrimum, foliis trilobis, lobis divaricatis inciso-paucidentatis petiolo basi ciliato brevioribus, racemis laxis dense multifloris, calycibus tubulatis pedicello longioribus, tubo gracili, laciniis oblongis obtusis, petalis linearibus laciniis calycinis duplo brevioribus, bracteis linearibus longitudine pedicellorum, (stylo integro), baccis glabris. *Pursh, Fl. Am. v. 1. p. 164. Bot. Reg. t. 125. De Cand. Prodr. v. 3. p. 483.*

HAB. Falls of the Columbia River. *M. Lewis.* In light gravelly soils, from the Great Falls of the Columbia to the mountains, and on the southern branches. *Douglas.*—Fruit yellow, seldom black, and of exquisite flavour. *Douglas.*

22. *R. tenuiflorum*; inerme, foliis subrotundis trilobis farinosis, lobis apice obtuse dentatis, racemis pendulis multifloris, calycibus tubulatis glabris pedicello longioribus coloratis, petalis integerrimis calycis laciniis linearibus obtusis duplo brevioribus, baccis glabris. *Lindl. in Hort. Trans. v. 7. p. 242. Bot. Reg. t. 1274.*—*R. aureum.* “*Colla, Hort. Rip. v. 3. t. 1. A. nec aliorum. (Lindl.)—R. flavum. Bert. in De Cand. Prodr. v. 3. p. 483.*—*R. aureum, var. tubiflorum. Dougl. MSS. apud Hort. Soc. Lond.*

HAB. Common on the rocky tracts of the Columbia, to the Mountains, near the head-water of the Missouri. *Douglas.*—“In habit, this species is more erect than *R. aureum*, and has the young wood more thinly clothed with leaves: its whole appearance is also paler during the early part of the year. The leaves are nearly round, 3-or 5-lobed; when young, covered with a kind of mealy bloom; when more advanced, cordate at the base; and at all times, in the plants that I have examined, wholly destitute of pubescence. The flowers are not more than half the size of those of *R. aureum*, and have entire, not notched petals. The fruit is the size of the Red Currant, with a thick skin, and a dense mucilaginous pulp, of an agreeable flavour, but possessing little acidity, and far inferior to our cultivated Currants.—There are two varieties, the one bearing black, and the other yellow fruit: the former changes from yellow to red, and finally acquires a deep blackish-purple hue; the latter always retains its yellow colour.” *Lindl.*—In the dried state of the specimens, I can perceive no essential difference between this and *R. aureum*.

ORD. XLII. SAXIFRAGEÆ. *J. ss. De Cand.*

(TRIB. IV. *Saxifragæ veræ. De Cand.*)

1. HEUCHERA. *Linn.*

Calyx persistens 5-fidus æstivatione imbricata. *Petala* indivisa subinæqualia. *Stamina* 5. *Styli* 2 longissimi distincti longitudine staminum, juniores approximato-subconcreti, dein divergentes. *Capsula* flore emarcido coronata, inferne calyci adnata, inter stylos dehiscens, 1-locularis, placentis 2 adnatis polyspermis. *Semina* aspero-punctata rugosave. —Herbæ. *Folia radicalia petiolata palmatinervia lobato-dentata. Caulis* aphylli. *Flores paniculati aut racemosi. DC.*

1. *H. mucrantha*; scapo inferne petiolisque pilis longis patentibus fulvis villosissimis, foliis subrotundo-cordatis obtuse lobatis mucronato-crenatis nudiusculis, bracteis infimis foliosis incisus superioribus setaceis, panicula laxa, petalis linearibus staminibus longe exsertis duplo brevioribus. *Douglas, in Bot. Reg. t. 1302.*

HAB. North-West coast of America. *Dr. Scouler.* Steep rocky banks of the Columbia, near the Grand Rapids. *Douglas.*

2. *H. villosa*; scapo inferne petiolisque pilis mollibus deflexis villosissimis, foliis cordatis acute lobatis mucronato-serratis subincisisque supra nudiusculis subtus ad nervos præcipue villosissimis, panicula laxa, pedunculis capillaribus dichotomis, bracteis linearibus ciliatis, floribus pusillis, petalis longissimis angustissime spathulatis staminibusque longe exsertis.—*Mich. Am. v. 1. p. 172. Pursh, Fl. Am. v. 1. p. 188. De Cand. Prodr. v. 4. p. 52.*

HAB. Upper Canada. *Mr. Goldie.*—The leaves of this are very different from those of *H. Americana*; the flowers, too, are smaller, and the petals singularly long and narrow, their upper or broader part becoming spirally twisted in the dried state.

3. *H. glabra*; scapo folioso, foliis cordatis acute lobatis glabris inæqualiter acute serratis, supremis seu bracteis inferioribus incisus, panicula laxa, floribus parvis, calycibus pubescenti-scabriusculis, petalis linearibus staminibus exsertis subduplo brevioribus. (TAB. LXXIX.) *Willd. in Schultes, Syst. Veget. v. 6. p. 216. De Cand. Prodr. v. 4. p. 52.*—*Tiarella colorans. Graham, in Ed. N. Phil. Journ. July, 1829.*

Radix perennis, elongata, obliqua, reliquis petiolorum veterum vestita. *Folia radicalia* longe petiolata, cordata, fere omnino glabra, acute lobata, acuteque inæqualiter serrata, serraturis nunc basi dilatatis; *caulina* seu *scapi* breviter petiolata, superiora varie incisa. *Petioles* graciles, basi stipulati; *stipule* adnate, ut in genere *Roseæ*, apicibus liberis acuminatis ciliatis. *Scapus* seu *Caulis* spithameus ad pedalem et ultra, glaber, superne paniculatus. *Panicula* laxa. *Pedunculi* graciles, patentes, dichotomi, ramis divaricatis, bracteis, bracteis lineari-subulatis. *Flores* parvi, minute pubescenti-scabri. *Calyx* turbinatus; tubus fere omnino basi germinis adharens, limbo quinquefido erecto, laciniis oblongo-ovalibus obtusis inæqualibus. *Corolla* 5-petala. *Petala* parva, alba, linearia vel lineari-spathulata inæqualia, lobis calycinis alternantia iis subduplo longiora. *Stamina* 5 lobis opposita, triploque longiora erecta. *Antheræ* subrotundate, loculis ad margines dehiscentibus. *Germen* apice liberum, stylis 2 attenuatis, primum coherentibus demum liberis subdivergentibus: *Stigmata* capitata. *Capsula* recurvata, oblonga, membranacea, stylis duobus persistentibus terminata, inferne calyce persistente ampliato tecta, unilocularis, inter stylos dehiscens. *Receptacula* 2 opposita, brevia, parietalia seminibus plurimis gerentia. *Semina* oblongo-elliptica, intense fusca, lineatim punctata.

HAB. North-West coast of America. (*Pallas.*) Nootka. (*De Cand.*) In the vicinity of the Columbia River. *Dr. Scouler. Douglas.* Rocky Mountains, at Providence and Portage Rivers, in lat. 54°. North. *Drummond.*—I have referred this to the *H. glabra* of *Willd.*, which appears to come from the same country, and which differs, according to the short character given, only in the "panicula simplex," which is probably the case with small or starved specimens.

TAB. LXXIX. *Heuchera glabra.* Fig. 1, Flower; fig. 2, The same laid open; fig. 3, Capsule, fig. 4, Section of do.; fig. 5, Seeds:—magnified.

4. *H. cylindrica*; scapo omnino nudo petiolisque patentim hirsutis, foliis cordatis alte rotundato-lobatis crenatis ciliatis dentibus piliferis basi truncata supra glabriusculis subtus

ad venas præcipue pilosis, panicula compacta cylindracea subspicata, floribus (majusculis) apetalis, staminibus inclusis. *Douglas, MSS. in Herb. Hort. Soc. Lond.*

Radix descendens, elongata, crassa, squamosa. *Folia* omnia radicalia, longe petiolata, cordata, alicubi lobata, 2 uncias longa, supra glabriuscula subtus præcipue ad venas hirsuta, lobis obtusis, rotundatis, crenato-dentatis, dentibus acutis pilo apiculatis. *Petioles* patentim hirsuti. *Scapus* omnino nudus, pedalis ad sesquipedalem, pilis numerosis patentibus obsitus. *Panicula* terminalis, digitalis, vix 8 lineas lata, compacta, cylindracea, subspicata, ramis brevissimis bi-trifloris, bracteam pedicellis longiores lineari-subulata, ciliatæ. *Flores* majusculi, sed minores quam in *H. Richardsonii*. *Calyx* pubescenti-hirsutus, turbinatus, 5-lobus: *tubus* inferne germini adnatus; lobis erectis obtusis inæqualibus. *Petala* nulla. *Stamina* 5 lobis opposita: *Filamenta* brevissima: *Antheræ* rotundata.

HAB. On the declivities of low hills, and on the steep banks of streams on the west side of the Rocky Mountains. *Douglas*.—This is most allied to the following; but abundantly distinguished by the truncate base to the leaves, and the spicate panicle, by having less oblique calyces, very short stamens, and by the absence of petals.

5. *H. Richardsonii*; scapo nudo petiolisque subpilosis, foliis cordatis sinu profundo obtuse lobatis ciliatis crenatis dentibus piliferis utrinque sparsim pilosis, panicula laxè thyrsoiden, (floribus magnis), calyce ore obliquo, petalis obovato-cuneatis vix calyce longioribus, staminibus subexsertis.—*Br. in Frankl. 1st Journ. ed. 1. App. p. 766. t. 29*, (figura nitidissima.) *De Cand. Prodr. v. 4. p. 52*.

HAB. Dry banks of Rivers, from lat 54°. to 64°. North. *Dr. Richardson*: and west to the Rocky Mountains. *Drummond*.

6. *H. Menziesii*; piloso-hispida, caule folioso, foliis cordatis acute lobatis inciso-serratis, floribus racemosis apetalis, calycibus cylindraceo-infundibuliformibus, staminibus exsertis, ovario libero. (TAB. LXXX.)—*Tiarella Menziesii?* *Pursh, Fl. Am. v. 1. p. 313. De Cand. Prodr. v. 4. p. 50.*— β . minus hirsuta. T. triandra. *Douglas, MSS. apud Hort. Soc. Lond.*

Radix fibrosa, ramosa. *Caulis* 1-2-pedalis, erectus, simplex vel subramosus, patenti-pilosus, foliosus. *Folia* omnia petiolata, præcipue radicalia, profunde cordata, acuta, tenui-membranacea, 5-7-lobata, lobis acutis, acute inciso-serrata, superne pubescenti-scabriuscula, subtus ad venas solummodo subhirsuta. *Petioles* pilosi, basi stipulata; stipulis majusculis adnatis membranaceis fusciscentibus. *Racemus* terminalis elongatus, solitarius, multiflorus. *Rachis* pubescens. *Pedicelli* 3-4 lineas longi, basi glabri, unibracteati, bractea parva ovato-lanceolata. *Calyx* fere semiuunciam longus, infundibuliformis, glaber, vel superne solummodo leviter pubescens basi hinc gibbosus, superne patentim 5-fidus. *Stamina* 3 exserta. *Antheræ* (polline emisso) quadratæ, angulis rotundatis. *Petala* 5, linearia, reflexa. *Pistillum*: *Germen* oblongum liberum pubescens, basi attenuatum. *Styli* 2, filiformes, exsertæ. *Stigma* obtusum. *Capsula* membranacea, omnino libera pistilli forma sed major, calyce persistente et sæpe longitudinaliter rupta circumvoluta, semibivalvis, *stylis* persistentibus terminata. *Semina* numerosa, subglobosa, punctata, atro-fusca.

HAB. North-West coast of America; at Banks' Isles. *Menzies*. From the Columbia to Puget Sound. *Douglas, Scouler*. β . Shady woods. *Douglas*.—I have quoted the *Tiarella Menziesii* of Pursh, with a mark of doubt, chiefly because he describes the "raceme filiform and spicate," which is by no means the case. Ours is a remarkably distinct species.

TAB. LXXX. *Heuchera Menziesii*. *Fig. 1*, Flower; *fig. 2*, Capsule burst, surrounded by the floral coverings; *fig. 3*, Capsule removed from the floral coverings; *fig. 4*, Seed:—magnified.

7. *H. longipetala*; scapo pubescente, panicula secunda, petalis linearibus apice revolutis calyce longioribus. *DC.*—"Moc. Pl. Nootk. Ined. Icon." *De Cand. Prodr. v. 4. p. 52*.

HAB. North-West coast of America. (*De Cand.*)

2. TIARELLA. Linn.

Calyx 5-partitus persistens imo ovario basi adhærens, lobis obtusis. *Petala* 5 calyci inserta unguiculata integra lobis calycis alterna. *Stamina* 10. *Styli* 2 liberi. *Ovarium* 2-ocularare. *Capsula* 1-ocularis, imo calyci adnata membranacea 2-valvis, valvis inæqualibus (carpello uno interdum abortivo) inter stylos dehiscens. *Semina* in fundo capsulæ secus margines carpellorum adfixa.—*Herbæ perennes* Mitellæ facie. *Caules erecti nudi aut oligophylli*. *Folia pleraque radicalia petiolata*. *Racemi terminales, simplices, floribus distantibus pedicellatis, fructigeris pedicello post anthesin incurvo pendulis*. DC.

* *Foliis simplicibus.*

1. *T. cordifolia*; caule aphylo, stolonibus reptantibus, foliis cordatis acutis inciso-lobatis serratis dentibus mucronatis, racemo simplici. Linn. *Sp. Pl.* p. 590. Mich. *Am. v. 1.* p. 271. Pursh, *Fl. Am. v. 1.* p. 313. Torrey, *Fl. of Un. St. v. 1.* p. 444. Bigel. *Fl. Bost. ed. 2.* p. 178. *Bot. Mag. t.* 1589.

HAB. Canada. Pursh. About Montreal Mrs. Percival. Lake Huron. Dr. Todd.

2. *T. unifoliata*; glabriuscula, caule unifoliato, foliis omnibus petiolatis triangulari-cordatis obtuse dentatis dentibus brevi-mucronatis, panicula laxa, floribus nutantibus, calycibus campanulatis, petalis abortivis. (?) (TAB. LXXXI.)

Caulis pedalis, glaber vel superne solummodo pubescens, erectus, gracilis supra medium unifoliatus. *Folia* omnia sub longe petiolata triangulari-cordata, membranacea, 3-5-lobata, acuta, lobis acutis dentatis, dentibus obtusis brevi-mucronatis, superne sparse pilosa. *Panicula* oblonga laxa, pedunculis dichotomis pedicellis sub ebracteatis. *Flores* mediocres sæpe deflexi. *Calyx* campanulatus, pubescens, profunde 5-fidus, segmentis obtusis. *Stamina fertilia* 10, (an plura?) exserta; abortiva (an petala?) 5. *Capsula* oblonga, stylis nunc persistentibus, nunc acutis. *Semina* obovato-oblonga, levia, fusco-castanea, nitida.

HAB. Height of land in the Rocky Mountains, near the source of the Columbia, and at Portage River. Drummond.—This new species of *Tiarella* has much of the habit of *Heuchera glabra*; but the flowers are smaller, the stem has constantly only one leaf, and that nearly as large as those of the root, and the fruit is truly that of a *Tiarella*. I find constantly ten perfect stamens, and about as many apparently abortive ones, which may be abortive petals. Perfect petals, if any exist, must be very fugacious, as I have never been able to detect them.

TAB. LXXXI. *Fig. 1*, Flower; *fig. 2*, Capsule; *fig. 3*, Seeds—*magnified*.

3. *T. ? Menziesii*; foliis ovatis cordatis acutis dentatis, caulibus alternis distantibus, racemo filiformi subspicato, calycibus tubulosis. Pursh, *Fl. Am. v. 1.* p. 313. De Cand. *Prodr. v. 4.* p. 50.—An *Heuchera Menziesii* nobis?

HAB. "North-West Coast. A. Menzies, Esq."—This, I suspect to be the *Heuchera Menziesii* of the present work; but the character of the inflorescence is at variance with that plant, which leaves me in doubt on the subject.

* * *Foliis compositis.*

4. *T. trifoliata*; caule 1-2-foliato (rarius nudo), foliis omnibus trifoliolatis, foliolis rhombeo-ovatis inciso-dentatis dentibus mucronatis, panicula laxa, floribus nutantibus, calycibus (parvis) lato-campanulatis, petalis obovato-lanceolatis. Linn. *Amæn. Acad. v. 2.* p. 351. Pursh, *Fl. Am. v. 1.* p. 313.

HAB. North-West coast of America. *A. Menzies, Esq.* Common on the coast, and in the Rocky Mountains on the west side of the ridge. *Douglas.* Height of land near a large glacier, upon the Rocky Mountains. *Drummond.*—This has very much the habit of our *T. unifoliata*; but the *leaves* are constantly ternate, the *leaflets* petiolulate, and the *stem* itself is sometimes a leafless scape, at other times, furnished with one or two leaves, and the *flowers* are smaller. The alpine specimens, found by Mr. Drummond, differ in no respect from those of the coast, except in being smaller. They are glabrous, as are many of those from the coast, while others are more or less pubescenti-hirsute. Two panicles are occasionally produced on the same stem.

5. *T. laciniata*; hirsuta aspera, caule subtrifoliato, foliis trifoliolatis, foliolo medio trifido, lateralibus bifidis omnibus lato-lanceolatis laciniato-pinnatifidis, panicula laxa, floribus nutantibus, calycibus brevi-campanulatis, petalis nullis? (TAB. LXXVII.)

Radix subhorizontalis, crassiuscula, fibrosa. *Caulis* spithamæus ad pedalem, erectus, flexuosus, hirsuto-scaber, foliosus. *Folia* caulina 2-3, omnia petiolata, radicalia longe petiolata, petiolis gracilibus flexuosis, ternata, foliolis circumscriptione ovatis, seu ovato-lanceolatis, intermedio profunde trifido, lateralibus bifidis, omnibus laciniato-pinnatifidis, hirsutis, pilis appressis albis rigidis; *superiora* sensim minorâ, minus incisa. *Panicula* solitaria, nuno bina, terminalis, oblonga, laxa, pubescenti-scabra, ebracteata; pedunculis dichotome ramosis divaricatis. *Calyx* brevi-campanulatus, 5-fidus, segmentis acutis. *Petala* (an stamina abortiva?) filiformia, 10? *Stamina* 10, calyce 4-plo longiora. *Filamenta* erecta, filiformia. *Anthera* rotundata. *Pistillum* liberum. *Styli* 2, elongati, liberi: *Stigmata* obtusa. *Capsula* oblonga, obtusa, membranacea, bivalvis, valvis valde inæqualibus, singulo stylo terminato, unilocularis. *Semina* in fundo loculi secus margines valvarum adfixa, 6-8, globosa, lævia; alia abortiva.

HAB. North-West coast of America. *A. Menzies, Esq.*

TAB. LXXVII. *Tiarella laciniata.* Fig. 1. Flower; Fig. 2, Pistil; Fig. 3, Capsule; Fig. 4. Base of the capsule laid open to show the seeds.

3. TELLIMA. *Br.*

Calyx basi ovario adnatus, parte libera inflata ovata 5-dentata, parte adhærente conica. *Pet.* 5, calyci inserta laciniata. *Stam.* 10. *Styli* 2 (3) a basi distincti. *Stigmata* subcapitata, angulata. *Capsula* calyci semiadnata, dimidio supero floris persistente vestita, unilocularis, apice 2-(3)-valvis, placentis parietalibus polyspermis.—Genus medium, ex R. Brown, inter *Heucheram* et *Vahliam*, a *Mitella* stylis distinctis et habitu diversum.—Herba *perennis*. *Folia radicalia rotundato-cordata obtuse lobata (nunc composita) dentata hinc inde hispida.* Flores livido-rosei majusculi in spicam (potius racemum secundum) dispositi. DC.

1. *T. grandiflora*; foliis cordatis lobatis dentato-serratis, racemo elongato, petulis oblongo-linearibus laciniato-pinnatifidis, stylis 2.—*Douglas in Bot. Reg. t. 1178. De Cand. Prodr. v. 1 p. 49.*—*Mitella grandiflora. Pursh, Fl. Am. v. 1. p. 314.*

HAB. North-West coast of America. *A. Menzies, Esq.* In shady Pine woods, near springs, along the sea-shore. *Douglas, Dr. Scouler.*—This is a very fine plant, with leaves as large as those of *Malva rotundifolia*, and flowers with inflated calyces, which may be reckoned among the largest of its groupe. The *stems* and *petioles* are generally thickly clothed with fulvous hairs.

2. *T. parviflora*; hirsuto-scabra, foliolis inciso-pinnatifidis, racemo brevi, petalis unguiculatis 3-fidis, stylis 3. (TAB. LXXVIII. A.)

Radix parva, subfusiformis, magis minusve fibrosa, tuberifera; tuberibus granulatis. *Caulis* pedalis et ultra, erectus, gracilis, simplex, parce foliosus, scaber. *Folia* omnia (nisi supremum) petiolata, ternata,

parva, utrinque pilis brevibus appressis scabra; foliis ovato-lanceolatis, inciso-pinnatifidis, lacinii obtusis: caulina 2-3, superne sensim minorâ. Racemus terminalis, curvatus. Flores mediocres, secundi, densi, ebracteati, nisi bractea minutissima ad basin pedicellorum inferiorum. Pedicelli calycis longitudine, demum recurvi, semper simplices. Calyx turbinatus, aequalis, 5-fidus, basi tubi cum ovario adhærente, extus glanduloso-hirsutus, intus ad lacinias ovatas acutas erectas pubescens. Petala 5 patentia, unguiculata, lacinii calycinis alternantia, lamina late obovata, profunde 3-fida, segmentis linearibus obtusis. Stamina decem ad oram tubi calycis inserta, inclusa; Filamenta perbrevia, fere nulla. Anthera rotundatæ. Ovarium semi-inferum, uniloculare, receptaculis 3 parietalibus seminiferis, parte superiore libero conico, in stylis 3 brevibus liberis attenuata: Stigmata capitata.

HAB. North California. *Mr. Menzies*. Abundant in light gravelly soils, under the shade of sapling Pines, near Fort Vancouver; plentiful on the low hills at the Grand Rapids, and also at Spokane River. *Douglas*. *Dr. Scouler*.—This is a very curious and distinct plant, with something of the habit of slender specimens of *Saxifraga granulata*.

TAB. LXXVIII. A. Tellima parviflora. Fig. 1, Flower laid open; fig. 2, Stamens; fig. 3, Section of a germen:—magnified.

4. MITELLA. Tourn. (MITELLA et DRUMMONDIA. DC.)

Calyx campanulatus 5-lobus magis minusve ovario adhærens. Petala 5 calyce inserta laciniosa vel dentata calyce longiora. Stam. 10 (nunc 5 et tunc petalis opposita). Styli 2 in unicum brevem coaliti. Stigmata vix distincta. Capsula 1-locularis bivalvis imæ calycis basi paulo adhærens. Semina plurima, erecta, in fundo capsulæ.—Herbæ perennes. Folia petiolata, cordata, pleraque radicalia. Flores breves pedicellati in racemum spicatum terminalem laxum digesti, albi aut rosei. DC.

1. *M. diphylla*; foliis cordatis subtri-quinquelobatis dentato-serratis radicalibus longe petiolatis, caulinis binis oppositis subsessilibus, capsula basi solummodo infera, petalis fimbriato-pinnatifidis. *Linn. Sp. Pl.* p. 580. *Mich. Am.* v. 1. p. 270. *Pursh, Fl. Am.* v. 1. p. 313. *Schkuhr, Handb.* v. 1. t. 120. *Torrey, Fl. of Un. St.* v. 1. p. 446. *Bigel. Fl. Bost. ed. 2.* p. 178. *De Cand. Prodr.* v. 4. p. 49.

HAB. Canada. *Michaux*. About Quebec. *Mrs. Percival*. *Mrs. Sheppard*. Lake Huron. *Dr. Todd*.—This seems to be confined to the southern parts of the British Possessions.

2. *M. nuda*; sæpe stolonifera, decandra, foliis radicalibus reniformi-cordatis teneris obtuse lobatis crenatis subciliatis, scapo tenui aphylo, calyce patente, petalis pectinato-laciniosis, ovario seminifero.—*Linn. Sp. Pl.* p. 580. *Gmel. Fl. Sib.* v. 4. t. 68. f. 2. *Rich. in Frankl. 1st Journ. ed. 2.* App. p. 14. *De Cand. Prodr.* v. 4. p. 49.—*M. reniformis*. *Lam. Ill. t.* 373. f. 2. *Pursh, Fl. Am.* v. 1. p. 314.—*M. cordifolia*. *Lam. Dict.* v. 4. Ill. t. 373. f. 2. (maln.) *Mich. Am.* v. 1. p. 270. *Pursh, Fl. Am.* v. 1. p. 314. *Torrey, Fl. of Un. St.* v. 1. p. 446. *De Cand. Prodr.* v. 4. p. 49.—*M. prostrata*. *Mich. Am.* v. 1. p. 270. *Pursh, Fl. Am.* v. 1. p. 314. *Bigel. Fl. Bost. ed. 2.* p. 179. *De Cand. Prodr.* v. 4. p. 49.

HAB. From Lake Huron to the shores of the Arctic Sea; and from Hudson's Bay to the Rocky Mountains. *Dr. Todd*. *Dr. Richardson*. *Drummond*. *Douglas*.—The plant here characterised, is the acknowledged *T. cordifolia* of all American Authors. A comparison of it with the figure of Gmelin, will show that it is the same with his species; consequently the *M. nuda* of Linnæus, and among the numerous specimens gathered by the Travellers just-mentioned, many throw out runners, which, again, bearing leaves and scapes, the plant becomes the *M. prostrata* of Michaux.

3. *M. pentandra*; pentandra, foliis radicalibus cordatis obtuse lobatis crenato-serratis, scapo aphylo, calyce patente, petalis pectinato-pinnatifidis, ovario omnino infero. *Hook. in Bot. Mag. t. 2933. Graham, in Ed. N. Phil. Journ. July, 1829.*—*Drummondia mitelloides. De Cand. Prodr. v. 4. p. 50.*

HAB. Moist alpine woods in the Rocky Mountains. *Drummond.*—I can by no means agree with my learned and valued friend, De Caudolle, that this should form a genus distinct from *Mitella diphylla* and *M. nuda*. In habit, they so entirely correspond, that it would be offering a violence to nature to separate them. Our plant only differs, generically, in the suppression of the five stamens that are opposite the lobes of the calyx, and in the union of the ovary for nearly its whole length; which latter circumstance is very variable, as we have shown in the allied genus *Heuchera*: and the reduced stamens exist equally in the following species, where the ovary is only half inferior:—there is this difference, however, that while in *M. pentandra*, the five remaining stamens are opposite the petals, in *M. trifida* they alternate with them: but even if the present should prove a distinct genus, the name *Drummondia* was previously established as a genus of Mosses. (*Musc. Americani. v. 1, 1828, n. 62.*)

4. *M. trifida*; pentandra, foliis radicalibus cordatis obtuse lobatis crenatis, scapo aphylo, calyce campanulato, limbo apice patente, petalis trifidis, ovario semiinfero. (TAB. LXXXII.)—*Graham, in Ed. N. Phil. Journ. June, 1829.*—*M. parviflora. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

Radix perennis, crassa, fibrosa. *Folia* omnia radicalia, longe petiolata, cordato-rotundata, lobata; lobis brevibus obtusis crenatis, supra pilis albis rigidis appressis, subtus nuda. *Petiolis* pilis rigidis deflexis asperis. *Scapus* spithamæus ad pedalem et ultra, aphylla, nuda vel squama parva una alterave instructa. *Racemus* subspicatus, gracilis, demum elongatus. *Pedicelli* brevissimi, bractea minutissima lineari quandoque suffulti. *Calyx* campanulatus, parvus, tenuissime pubescens: tubo superne libero 5-fido, laciniis ovatis fere albidis, ad apices patentibus. *Stamina* ad oram tubi inserta, inclusa, laciniis opposita. *Filamenta* brevissima. *Antheræ* subglobosæ. *Petala* patentia, parva, unguiculata, cuneata, profunde bifida. *Ovarium* semi-superum: *Styli* 2 breves. *Stigmata* capitata. *Capsula* calyce tecta, unilocularis, bivalvis, polysperma: valvis arcte reflexis. *Semina* nigro-fusca.

HAB. Alpine rivulets, North of the Smoking River, on the East side of the Rocky Mountains, in lat. 56°, rare. *Drummond.* Plentiful in woody situations on the low ridge of the Blue Mountains of Lewis and Clarke's River, West of the Rocky Mountains, in lat. 46°. *Douglas.*—This has petals similar to those of *Tellima parviflora*. Here, as I have already intimated, the five stamens are opposite to the segments of the calyx: and sometimes they are wholly wanting. Again, in other plants cultivated in the Botanic Garden, the petals were wanting altogether, so that little dependence can be placed on the number of these parts in constructing the generic characters.

TAB. LXXXII. *Mitella trifida.* *Fig. 1,* Flower; *fig. 2,* Flower laid open; *fig. 3,* Section of the germen; *fig. 4,* Upper and free part of the germen, with the styles and stigmata; *fig. 5,* Capsule, burst open and exposing the seeds:—*magnified.*

5. CHRYSOSPENIUM. *Tourn.*

Calycis tubus ovario adherens, limbus 4-5-lobus, lobis obtusis. *Stam.* 8-10 sepalis alterna oppositaque. *Styli* 2. *Capsula* 2-rostra 2-valvis demum unilocularis polysperma. *Semina* levissima fundum versus capsulae nascentia.—*Herbæ annuæ?* *Folia crassiuscula simplicia: petiolata dentata.* Flores *subcorymbosi, flavescens. DC.*

1. *C. alternifolium*; foliis alternis reniformi-cordatis crenato-lobatis floribus corymbosis.—*Linn. Sp. Pl. p. 569. Engl. Bot. t. 54. Br. in Parry's 1st Voy. Suppl. App. p. cclxxv.*

Rich. in Frankl. 1st Journ. ed. 2. App. p. 13. Hook. in Parry's 2d Voy. App. p. 395. De Cand. Prodr. v. 4. p. 48.

HAB. In the woody, and principally the barren country of British North America, (*Dr. Richardson*) to the extreme Arctic Islands. *Captain Sir E. Parry*. On the Rocky Mountains. *Drummond*.—This species seems to be unknown to the Botanists of the United States.

2. *C. oppositifolium*; caulibus floriferis erectis, foliis oppositis reniformi-subcuneatis crenatis, floribus corymbosis.—*Linn. Sp. Pl. p. 569. Engl. Bot. t. 490.*—*β. Scouleri*; foliis profunde crenato-serratis.

HAB. *α.* Columbia River, on the North-West coast. *Dr. Scouler*.—The leaves of this are exactly similar to those of *C. Nepalense* of Don's Prodr., as well as of Wallich's Cat. n. 48, and I should have referred it to that species, only that the flowers are more distinctly corymbose.

3. *C. Americanum*; caulibus gracilibus decumbentibus laxis superne dichotomis, foliis oppositis cordato-rotundatis obscure crenato-lobatis floribus axillaribus distantibus.—*Schweinitz, MSS. in Herb. nostr.*—*C. oppositifolium, Mich. Am. v. 1. p. 269. Pursh, Fl. Am. v. 1. p. 269. Elliott, Carol. v. 1. p. 311. Bigel. Fl. Bost. ed. 2. p. 154. Torrey, Fl. of Un. St. v. 1. p. 445. (non Linn.)*

HAB. Canada. *Pursh. Lady Dalhousie. Mr. W. Sheppard. Lake Huron. Dr. Todd. Saskatchewan, (which seems to be its northern limits.) Dr. Richardson. Drummond.*—This is assuredly a distinct species from the European *C. oppositifolium*, with which it has long been confounded. Pursh alone, of any author that I have been able to consult, suggesting that if it were compared in a living state with the true *C. oppositifolium*, it would probably prove different. It is a much more inconspicuous plant, of a slender procumbent habit, the upper leafy and flowering branches never forming corymbs, but lengthened out, and bearing distant small leaves, and solitary flowers in their axils. It retains all its characters when cultivated in the Glasgow Botanic Garden. *Dr. Schweinitz* has sent me the present species, marked *C. Americanum*: but I am not aware that it is any where published under that name.

I have followed Jussieu and De Candolle in referring *Adoxa*, which usually stands next to *Chrysopterygium* in the *Saxifragæ*, to *Araliaceæ*.

6. SAXIFRAGA. * *Linn.*

Calyx 5-sepalus, sepalis plus minus inter se et sæpe cum ovario coalitis. *Petalæ* 5 rariter irregularia, breviter unguiculata integra. *Stamina* 10, 5 sepalis, 5 petalis opposita; *antheræ* biloculares. *Capsula* calyci adnata vel libera; *carpella* 2 sæpe usque ad stylum coalita. *Semina* numerosa, rugosa vel lævia, in plurimis seriebus disposita. *Spermodermium* ultra nucleum ovoideum non productum.—*Herbæ perennes vel annuæ, sæpissime valde polymorphae in eadem specie. Flores sæpius paniculati vel corymbosi, abortu solitarii. DC.*

SECT. I. PORPHYRION. *Tausch.*—*Seringe, in De Cand. Prodr.*

1. *S. oppositifolia*; viridi-purpurascens, foliis ramorum steriliū quadrifarium imbricatis rariter remotis obovatis carinatis ciliatis apice oblique truncatis et 1-3-porosis, floribus

* In the determining of the species of this difficult genus, as well as in the drawings and in the descriptive matter, I have been kindly aided by my valued friend, *Dr. Greville*.

solitariis terminalibus, calycibus ovario non coalitis, lobis obtusis ciliatis, staminibus corolla brevioribus, seminibus oblongo-triquetris rugosis. DC.—*Linn. Sp. Pl.* p. 595. *Engl. Bot. t. 9. Pursh, Fl. Am. v. 1. p. 311. Rich. in Frankl. 2d Journ. ed. 2. App. p. 13. Don, Saxifr. in Linn. Trans. v. 13. p. 400. De Cand. Prodr. v. 4. p. 19.*—*Antiphylla spathulata. Haw. Enum. Saxifr. p. 45.*

HAB. Newfoundland and Labrador. *Sir Joseph Banks. Dr. Morrison.* Antiscoti, in the Bay of St. Lawrence. *Mr. Goldie.* Rocky Mountains, near the highest summits, between latitudes 52° and 56°. *Drummond.* Arctic sea-shore, and Islands. *Captain Sir John Franklin and Dr. Richardson, Captain Sir E. Parry.* Bay of Eschscholtz. *Chamisso.*—Some of the specimens gathered upon the Arctic Sea-shore, near the mouth of the Mackenzie River, have the flowering stems very much elongated, and so bare of leaves as to give the idea of a peduncle, with flowers remarkably large; while those from the Rocky Mountains have their stems exceedingly short and densely tufted.

2. *S. Eschscholtzii*; parvula dense cæspitosa, foliis actissime imbricatis obovatis concavis pectinatis ciliatis, floribus solitariis brevissime pedunculatis, petalis (calycibus *Sternb.*) cochleatis ciliatis.—*Sternb. in Rev. Saxifr. Suppl. p. 9. t. 10. f. 2. De Cand. Prodr. v. 4. p. 18.*—*S. fimbriata. Don, Saxifr. in Linn. Trans. v. 13. p. 404. (non Wallich.)*

HAB. Cape Newnham, North-West coast of America, lat. 59°. *David Nelson* (in *Herb. Banks.*) Behring's Straits. *A. Menzies, Esq.*—A single specimen of this we detected amongst the stems of *Arenaria laticifolia*, gathered by *Captain Sir John Franklin* and *Captain Back*, on the Arctic sea-shore, to the west of the Mackenzie River.—This most remarkable and beautiful little plant, although first described by Sternberg, from Asiatic specimens, in the year 1822, was first discovered by Mr. Nelson, and then during the voyage of *Captain Vancouver*, in the year 1787, by Mr. Menzies. The tufts do not exceed an inch in height, and in the dry state are of a silvery grey colour. The leaves are thin and scariose when dry, especially at their margins. There is a central nerve, and there arise two opposite lateral ones near the middle, which diverge and meet again just below the point. Our specimens do not possess perfect flowers, but the calyx which surrounds the base of the capsulo is not remarkably fringed: hence we are led to consider what Sternberg has described as the segments of the calyx, to be the true petals, which he represents as singularly concavo or cochleate, strongly fringed at the extremity.

SECT. II. AIZOONIA. *Tausch.*—*Seringe, in De Cand. Prodr.*

3. *S. Aizoon*; pedunculis calycibusque piloso-glandulosis viscidis, foliis rosularum spatulatis obtusis cartilagineo-serratis, floribus paniculato-corymbosis, lobis calycinis latis tubi hemisphærici longitudine, petalis obovatis subcontiguibus basi ssepissime rubro vel lutco punctatis, stylis divergentibus calyce longioribus, seminibus ovato-triquetris punctato-rugosis. DC.—*Jacq. Austr. v. 5. t. 438. Pursh, Fl. Am. v. 1. p. 310. Don, Saxifr. in Linn. Trans. v. 13. p. 392. Seringe, in De Cand. Prodr. v. 4. p. 19.*

HAB. Labrador. *Kohlmeister. Dr. Morrison.* Saskatchewan. *Dr. Richardson. Drummond.*—The specimens differ in no respect from those of Europe.

4. *S. serpyllifolia*; surculis repentibus, foliis rosulatis imbricato-reflexis oblongis obtusis in petiolum attenuatis coriaceis glaberrimis, caule filiformi oligophyllo glanduloso-pubescente unifloro, calycibus obtusis ovario non adherentibus, petalis lato-obovatis subtrineriis. —*Pursh, Fl. Am. v. 1. p. 310. Don, Saxifr. in Linn. Trans. v. 13. p. 405. De Cand. Prodr. v. 4. p. 25.*—*S. Fischeri. Seringe, in De Cand. Prodr. v. 4. p. 22.*—*S. Eschscholtzii. Cham. in Litt. (fide Seringe.)*—*S. planifolia. Cham. in Herb. nostr.*—*S. bicolor. Sternb. in Herb. nostr.*

HAB. Cape Newnham. *David Nelson*. Behring's Straits. *Mr. Menzies*. Unalashka. *Chamisso*.—This species has had the misfortune to receive various names, and, indeed, to the above list may be added *S. diapensioides* of Fischer, according to Mr. Seringe. It is a singular and well marked species, evidently allied to *S. diapensioides* and *S. casia*, wanting, however, altogether, the remarkable glaucous incrustation of those species, and being destitute of pores. The flowers, too, are totally different; solitary upon the extremity of a slender few-leaved glandular stalk, large in proportion to the size of the plant, and apparently of a yellow colour. The calyx is wholly inferior, the petals broad, with three strong nerves, of which the lateral ones are sometimes branched.

SECT. III. DACTYLOIDES. *Tausch*.—*Seringe*, in *De Cand. Prodr.*

5. *S. androsacca*; caule subaphyllo 1-4-floro piloso, pilis acutiusculis sæpe capitellatis, foliis herbaceis obovato-spathulatis integris rariter tridentatis, lobis calycis ovatis ovatis, petalis obovato-subretusis calyce longioribus albis, stylis per anthesin parallelis, rostris longitudinaliter nervosis, seminibus ovato-subglobosis lævibus carinatis. *DC.*—*Linn. Sp. Pl. p. 571?* *Jacq. Austr. v. 5. t. 389?* *Pursh, Fl. Am. v. 1. p. 310.*

HAB. North-West coast of America. *David Nelson*.—We insert this upon the authority of Mr. Pursh, who, indeed, quotes the figure of Jacquin with a mark of doubt, so that it is in all probability a very different species from the true plant.

6. *S. venosa*; subcaulis, foliis simplicibus trifidisque nervosis, scapo unifloro folioso, foliis scapi linearibus integris. *Haw. Enum. Saxifr. p. 28.*

HAB. Melville Island. *Lieutenant Hopper*.—We fear this will prove to be the variety *uniflora* of *S. cæspitosa*, which was described as a native of Melville Island, by Mr. Brown, and who, indeed, has expressed the same opinion.

7. *S. cæspitosa*; cæspitosa, foliis tri-quinquefidis supremis linearibus integris glanduloso-pubescentibus segmentis lato-linearibus obtusis muticis, caulibus floriferis sparse foliosis pubescenti-glandulosis uni-tri-floris, ovario calycis pubescentis tubo adhærente, petalis obovatis trinerviis calyce duplo longioribus.—*α. cæspitosa*; caulibus bi-tri-floris.—*S. cæspitosa*. *Linn. Sp. Pl. p. 578.* *Gunn. Fl. Norv. t. 7. f. 3. 4.* *Don, Saxifr. in Linn. Trans. v. 13. p. 428.* *Pursh, Fl. Am. v. 1. p. 312.*—*S. Grænlantica*. *Linn. Sp. Pl. p. 578.* *De Cand. Prodr. v. 4. p. 27.*—*β. uniflora*; caulibus unifloris. *S. uniflora*. *Br. in Parry's 1st Voy. App. Sp. cclxxiv. (non Sternberg.)*—*S. cæspitosa*. *Engl. Bot. t. 794.* *Seringe, in De Cand. Prodr. v. 4. p. 27.*—*S. cæspitosa* var. vulgo *S. Grænlantica*. *Gunn. Fl. Norv. t. 7. f. 1.*—*S. venosa*. *Haw. Enum. Saxifr. p. 28?*

HAB. North-West coast of America. *Pursh, in Herb. Banks*. Kotzebue's Sound. *Messrs. Lay and Collie in Captain Beechey's Voyage*. Arctic Sea-shore. *Dr. Richardson*.—*β. Arctic Islands*. *Captain Sir E. Parry*. *Captain Sabine*.—We refrain from quoting many synonyms under this and the following species of *Saxifraga*, because of the great difficulty of ascertaining them correctly. Though we believe them to be truly distinct, and though they are readily distinguished by the eye, yet it seems hardly possible to define their characters in words. The present has a stouter habit than *S. exarata*; the leaves are broader, and, what appears to us the most constant character, the flowers (fewer in number) are of a much larger size. In almost all our specimens the upper part of the stem, and especially the calyx, assume a dark purple or frequently sooty colour, which appearance is well represented in Gunner's figures, above quoted.

8. *S. exarata*; cæspitosa, foliis tri-quinquefidis supremis linearibus integris glanduloso-pubescentibus segmentis linearibus acutiusculis, caulibus floriferis gracilibus sparse foliosis

tri-quinquefloris floribus (parvis) corymboso-racemosis, ovario calycis pubescentis tubo adhærente, petalis obovatis trinerviis calyce vix duplo longioribus.—*Vill. Dauph. v. 3. p. 674. t. 44. Don, Saxifr. in Linn. Trans. v. 13. p. 432. Seringe, in De Cand. Prodr. v. 4. p. 27.*—*S. nervosa. Lapeyr.—Sternb. Rev. Saxifr. p. 52.*

HAB. Frequent upon the Rocky Mountains between latitudes 52° and 56°. *Drummond.*—This entirely agrees with our European specimens of this plant, and we have, under the preceding species, mentioned how difficult it is to distinguish the two.

9. *S. sileniflora*; caulibus cæspitosis stolonibus brevibus foliis rigidis rosulatis densis tri-quinque-septemfidis nitidissimis quasi vernicosis plurinerviis hirsuto-pubescentibus rogentibus linearibus acutiusculis, caulibus floriferis elongatis pubescenti-glandulosis superne paniculatis, floribus majusculis ovario calyci, pubescenti-glandulosis tubo adhærente segmentis obtusis petalis obovatis trinerviis calycem duplo excedentibus.—*β. uniflora. S. sileniflora. Cham. in Herb. nostr.*

HAB. Behring's Straits. *A. Menzies, Esq.*—This species differs considerably from any with which we are acquainted. Its inflorescence a good deal resembles that of *S. hypnoides*, but its foliage is quite peculiar, being extremely harsh and rigid, shining as if varnished, and at the same time springy, clothed with apparently viscid hairs. We had called this *S. vernicosa* in our own manuscript, but having received specimens of the single-flowered state under the name of *S. sileniflora*, we gladly adopt the name, though it does not appear to be any where published. It has indeed been referred incorrectly, in the Botany of Captain Beechey's Voyage, to *S. cæspitosa*.

10. *S. petraea*; annua, glanduloso-pilosa, foliis carnosis trilobis, radicibus cordatis, lobis incisive sublonge petiolatis, caulibus subcæpitis, supremis indivisis, pedunculis ovarisque inferis glanduloso-hispidis, laciniis calycinis oblongis erectis, petalis obovatis retusis.—*Linn. Sp. Pl. p. 578. Jacq. Ic. Rar. v. 1. t. 81. Don, Saxifr. in Linn. Trans. v. 13. p. 443. Seringe, in De Cand. Prodr. v. 4. p. 34. Hook. in Bot. Mag. t. 3026.*—*S. rupestris. Willd. Sp. Pl. v. 2. p. 653.*—*S. Ponnæ. Sternb. Saxifr. p. 47. t. 18. et t. 11. f. 6.*

HAB. Alpine Rivulets upon the Rocky Mountains. *Drummond.*

11. *S. Laurentiana*; multiceps, foliis radicalibus longe petiolatis reniformibus 5-7-lobato-crenatis longitudinaliter reticulato-venosis glabris, caulibus et pedunculis pilis longis intricatis onustis, floribus paucis subcapitatis, bracteis 3-5-lobato-crenatis subinvolveratis, lobis calycis ovatis obtusis corolla brevioribus, petalis medium versus trinerviis. *DC.*—*Seringe, in De Cand. Prodr. v. 4. p. 35.*

HAB. Island of St. Lawrence, in Behring's Straits, between Asia and America. *Chamisso.*

12. *S. exilis*; cæspitosa, radiculis capillaribus, foliis radicalibus palmato-5-lobis petiolatis, caulibus linearibus integris, petalis obovato-oblongis calyce 5-fido multo longioribus. *DC.*—*Steph. in Sternb. Rev. Saxifr. Suppl. p. 8. t. 3. f. 1. Seringe, in De Cand. Prodr. v. 4. p. 35.*

HAB. Kotzebue's Sound. (*Fischer in De Cand. Prodr.*)—May not this be a state of *S. cernua*? We possess no authentic specimens, and judge only from Sternberg's figure.

13. *S. cernua*; glabriuscula non glutinosa caule debili ramoso vel simplici, foliis inferioribus reniformibus late dentatis mediis superioribusque bulbillos (abortu florum) gerentibus,

flore sæpe subsolitario terminali pendulo, sepalis oblongo-lanceolatis inter se vix coalitis, petalis obovato-oblongis vel obovato-retusis calyce longioribus stylis imperfectis deformatis. DC.—*Linn. Sp. Pl. p. 577. Fl. Lapp. t. 2. f. 4. Engl. Bot. t. 664. Don, Saxifr. in Linn. Trans. v. 13. p. 364. Seringe, in De Cand. Prodr. v. 4. p. 36.*

HAB. Arctic Sea-shore and Islands, abundant, where it was found by all the Arctic travellers. Common on the Rocky Mountains. *Drummond. Kotzebue's Sound. Messrs. Lay and Collie in Captain Beechey's Voyage.*—The specimens from the Rocky Mountains are more leafy, especially on the stem amongst the bulbs, which are very numerous.

14. *S. Sibirica*; caule filiformi adscendente debili, foliis radicalibus reniformibus palmatis petiolatis 7-lobis pilosulis, lobis ovatis, caulinis sessilibus, pedunculis elongatis nudis, lobis calycis ovato-linearibus striatis glabris, petalis cuneato-obovatis, stylis ovario brevioribus. DC.—*Linn. Sp. Pl. p. 577. Pursh, Fl. Am. v. 1. p. 313. Sternb. Rev. Saxifr. p. 23. et 57. t. 25. Don, Saxifr. in Linn. Trans. v. 13. p. 365. Seringe, in De Cand. Prodr. v. 4. p. 36.*

HAB. Labrador and Newfoundland. (in *Herb. Banks*, fide *Pursh*.)

15. *S. rivularis*; pygmæa, caule debili adscendente, foliis radicalibus subreniformibus crenato-lobatis, petiolis basi dilatatis, superioribus subintegris lanceolatis, lobis calycis ovatis latis tubum æquantibus dein brevioribus, petalis ovatis calyce vix longioribus, stigmatibus globoso-depressis, capsula crassa calycem valde excedente stylis divergentibus brevissimis coronata. DC.—*Linn. Sp. Pl. p. 577. Fl. Lapp. t. 2. f. 1. Engl. Bot. t. 2275. Sternb. Rev. Saxifr. p. 19. t. 12. f. 3. Don, Saxifr. in Linn. Trans. v. 13. p. 367. Seringe, in De Cand. Prodr. v. 4. p. 37.*—*β. hyperborea*; caule lanato subbifloro. *S. hyperborea. Br. in Parry's 1st Voy. App. p. cclxxiv. Seringe, in De Cand. Prodr. v. 4. p. 37.*

HAB. Labrador. *Chataux in Herb. Banks.* Arctic Sea-shore and Islands, abundant. *Kotzebue's Sound. Messrs. Lay and Collie in Captain Beechey's Voyage.* Elevated places in the Rocky Mountains. *Drummond.*

16. *S. nutans*; caespitosa, caule unifoliato, racemo nutante paucifloro, foliis radicalibus reniformibus longe petiolatis grosse inciso-dentatis pilis rigidis brevibus adpressis onustis, pellicellis brevibus calyceque piloso-glandulosis, lobis calycis lanceolatis acutis trinerviis petalis obovatis triplinerviis, nervis flexuosis ramosissimis. DC.—*Don, Saxifr. in Linn. Trans. v. 13. p. 368. Seringe, in De Cand. Prodr. v. 4. p. 37.*

HAB. Unalaska. *David Nelson, in Herb. Banks.*

17. *S. ranunculifolia*; subglanduloso-pubescentis gracilis, foliis inferioribus longissime petiolatis reniformibus tripartitis segmentis lato-cuneatis inciso-lobatis, caulinis paucis, floribus corymbosis pentandris, petalis obovatis calyce acuto glanduloso duplo longioribus. (TAB. LXXXIII.)

Radix ut videtur perennis, fibrosa. *Caulis* subpedalis, gracilis, erectus, flexuosus. *Folia inferiora* longissime petiolata, petiolis radicalibus ad basin bulbiferis, vix unciam longa, duas uncias fere lata, circumscriptione reniformia, profunde tripartita, venosa, membranacea; segmentis lato obovato-cuneatis, bi-trilobis, incis; *Caulium* pauca, sensim minor, trifida, petiolo latissimo dilatato, *Suprema* minuta, oblonga, integerrima, bracteiformia. *Panicula* terminalis, compacta, corymbosa. *Flores* albi, magnitudinis *S. stellaris*. *Calyx* semi-superus, extus glandulosus, segmentis ovatis acutis. *Petala* obovata, obtusissima, brevi-unguiculata, calycem duplo superantia, venosa. *Stamina* quinque. *Filamenta* longitudine pistilli, erecta. *Anthera* subglobosæ. *Styli* erecto-patentes.

HAB. Common on the high grounds around the Kettle Falls of the Columbia, and on the Rocky Mountains. *Douglas*.—*S. ranunculifolia* differs in so many points from all the known individuals of the genus, that we scarcely know which to mention as its nearest ally: perhaps the European *S. granulata*. The leaves are deeply tripartite, a very unusual character in the broad-leaved *Saxifrages*; and this, together with the mode in which the segments are divided, and the long petioles, give them the appearance of some species of *Ranunculus*; while the arrangement of the flowers reminds us of those of the genus *Spiræa*.

TAB. LXXXIII. *Saxifraga ranunculifolia*. Fig. 1, Flower; fig. 2, More expanded do.; fig. 3, Flower from which the petals have been removed:—*magnified*.

18. *S. Jamesii*; pubescenti-glandulosa, foliis sublonge petiolatis reniformi-cordatis crenato-lobatis obscure venosis superioribus cuneatis subsessilibus, racemis subcompositis secundis, bracteis lanceolatis pedicellis calycibusque glandulosis, petalis spatulatis acutis segmenta calycina acutiuscula vix superantibus. (TAB. LXXXIV.)—*Torrey, Pl. of Rocky Mountains in Ann. of Lyc. N. York, p. 204.*

Radix perennis, subfusiformis, descendens, rariter fibrosa. *Caulis* palmaris, erectus, foliosus, pubescens, pilis glandulosis parvis immixtis, inferne vestigiis petiolorum vetustorum squamosus. *Folia* sublonge petiolata, reniformi-cordata, subcoriaceo-membranacea, vix distincte venosa, crenato-lobata, dentibus acutis, utrinque sparsim piloso-glandulosa; *superiora* sensim minora; *suprema* ad basin racemi flabelliformia vel cuneata, subsessilia, profunde crenata. *Racemus* terminalis, tres uncias longus, subcompositus, floribus majusculis, secundis. *Bractææ* oblongæ, obtusæ, integerrimæ. *Pedicelli* breves calycesque purpurei dense glandulosi. *Calyx* campanulatus, tubo ovato inferne cum ovario adherente, laciniis ovatis acutiusculis erecto-patentibus intus etiam glandulosus. *Petala* spatulata, valde acuta, segmentis calycinis vix longiora, patentia, purpurascens, obscure venosa. *Stamina* decem: *filamenta* brevissima. *Anthere* oblongæ, pubescentes, vix filamentis longiores. *Pistillum* basi solummodo calyci accretum. *Styli* erecto-patentes.

HAB. Dry rocky situations upon the more elevated of the Rocky Mountains. *Drummond*.—*S. Jamesii* is certainly amongst the most beautiful of its tribe, and appears to have been seen in a growing state by no other Botanists except Dr. James and Mr. Drummond; the former found it in more southern latitudes upon the same ridge of mountains, and it has been well characterised by Dr. Torrey in the work above quoted. Its affinity is unquestionably with *S. Richardsonii*: it has the same habit, nearly the same foliage, and similarly acute petals, but the whole plant is much smaller; its more copious glands are almost entirely confined to the racemes and calyces; the petals are smaller, more decidedly unguiculate, the stamens double in number, and the anthers are oblong.

TAB. LXXXIV. *Saxifraga Jamesii*. Fig. 1, Flower; fig. 2, The same, more expanded; fig. 3, Petal; fig. 4, Flower laid open, the petals only being removed; fig. 5, Flower with young fruit; fig. 6, Pistil:—*magnified*.

19. *S. Richardsonii*; caule glanduloso folioso superne pubescente, foliis longe petiolatis orbiculari-cordatis crenato-lobatis venosis margine venisque subtus glandulosis, glandulis pedicellatis, racemis compositis subspiciformibus, bracteis lanceolatis pedicellisque glandulosis, petalis obovato-ellipticis brevi-unguiculatis acutissimis nervosis segmenta calycina acuminata subduplo superantibus staminibus 5.—*S. Nelsoniana*. *Hook. et Arn. in Bot. of Beech. Voy. p. 124. t. 29. (non Pursh.)*

HAB. Arctic Sea-shore between the Mackenzie and Copper-Mine Rivers, (not Rocky Mountains, as stated by mistake in the "Botany of Beechey's Voyage.") *Dr. Richardson*. Kotzebue's Sound. *Messrs. Lay and Collie*.—This truly handsome plant, the finest of the genus with which we are acquainted, and meriting the name of "*pulcherrima species*," we are now satisfied is quite different from the *S. Nelsoniana* of Mr. Don; which, however, we regret to say, we still know only from description. It is, indeed, in habit, in the presence of copious glands, and more especially in the extremely acute petals, unlike any of the species of the genus, except the preceding, *S. Jamesii*; and the two might form a distinct little group.

SECT. IV. MICRANTHES. *Tausch*.—*Seringe*, in *De Cand. Prodr.*

20. *S. nivalis*; foliis ovatis obovatisve coriaceis crenatis in petiolum latum attenuatis, scapo nudo, floribus capitatis sessilibus, capitulis rarius ramosis, ovario seminifero, segmentis calycinis erectis obtusis, petalis persistentibus obovatis albis calyce vix dimidio longioribus.—*α*. floribus dense capitatis. *Linn. Sp. Pl.* p. 573. *Engl. Bot.* t. 440. *Pursh, Fl. Am.* v. 1. p. 310. *Br. in Parry's 2d Voy. App.* p. cclxxv. *Don, Saxifr. in Linn. Trans.* v. 13. p. 387. *Seringe, in De Cand. Prodr.* v. 4. p. 38.—*β*. capitulis laxis ramosis.

HAB. Arctic Sea-shore and Islands, abundant. Rocky Mountains. *Drummond*. Labrador and Canada. (*Pursh*).—The American specimens of this plant, it must be acknowledged, are very variable, and in many instances so closely approach some of the varieties of the following species, that we find it difficult to distinguish them. The present is best recognised by its stiff and rigid habit, by the broad persistent petals, which, remaining amongst the deep purple capsules, form a singular contrast with them. Mr. Brown observes, that the *S. longiscapa* of Don, scarcely differs from the variety of *S. nivalis* with a simple few-flowered corymb, figured by Linnæus in the Flora Lapponica, (t. 2. f. 5.)

21. *S. vernalis*; foliis oblongis obovatisve submembranaceis nervosis profunde crenato-dentatis in petiolum latum attenuatis, scapo nudo, floribus paniculato-corymbosis ovario fere omnino supero, segmentis calycinis erectis obtusis, petalis oblongo-obovatis calyce plusquam duplo longioribus.—*α*. floribus laxè paniculatis, scapo longiore.—*S. vernalis*. *Willd. Hort. Berol.* t. 43. *Bigel. Fl. Bost.* p. 177.—*S. Virginienis*. *Torrey, Fl. Un. St.* v. 1. p. 44.—*β*. floribus compactis subthyrsoides.—*γ*. gracilis, corymbo laxo subpaucifloro.—*S. elongata*. *Sternb. Saxifr.* p. 9. t. 4.

HAB. *α*. and *γ*. Canada, and to the Mountains. *Lady Dalhousie*. *W. Sheppard, Esq. Dr. Richardson Drummond*.—*α*. On the Columbia, and from Fort Vancouver to the Kettle Falls. *Douglas*.—*β*. Saskatchewan. *Dr. Richardson and Mr. Drummond*. Canada. *W. Sheppard, Esq. Mrs. Perceval*.—Although Willdenow, in describing his *S. vernalis*, considered it to be identical with the *S. Virginienis* of Michaux, we are inclined to a different opinion: the arrangement of the flowers in the panicle being very different in the two: in the present they form an imperfect corymb or a thyrsus: in *S. Virginienis*, as is well described by Michaux, the branches of the panicle have sessile and alternate, and somewhat unilateral flowers. It is our variety *β*. which in its general aspect bears so considerable a resemblance to *S. nivalis*; but the leaves are of a less coriaceous texture; the flowers are, almost the whole of them, more or less distinctly pedicellate; the petals are longer and narrower, and a much smaller portion of the ovary is adherent with the tube of the calyx.

22. *S. Virginienis*; foliis ovatis coriaceo-membranaceis profunde crenato-dentatis in petiolum latum attenuatis, scapo nudo superne dichotome paniculato, ramis elongatis ascendentibus, floribus spicato-racemosis unilateralibus, ovario libero, segmentis calycinis erectis obtusis, petalis oblongis calyce plusquam duplo longioribus.—*Mich. Fl. Am.* v. 1. p. 269. *Pursh, Fl. Am.* v. 1. p. 310. *Elliott, Carol.* v. 1. p. 311. *Torrey, Fl. Un. St.* v. 1. p. 444. *Don, Saxifr. in Linn. Trans.* v. 13. p. 386. *Seringe, in De Cand. Prodr.* v. 4. p. 39.

HAB. Saskatchewan. *Dr. Richardson and Drummond*. Near Montreal. *Dr. Holmes*.—This we consider, from Michaux's description, to be his *S. Virginienis*, and there is something so remarkable in the arrangement of the flowers upon the panicle, resembling that of *Penthorium sedoides*, that we cannot at present but consider it to be distinct from *S. vernalis*. Future observations, however, may prove it to be a variety. It appears to have been found very sparingly during Captain Sir John Franklin's journey, and only upon the Saskatchewan. We have received it from the United States, in two or three instances and from Canada mixed with *S. vernalis*.

23. *S. reflexa*; cano-pubescentis, foliis ovatis subcoriaceis opacis inciso-serratis in petiolum attenuatis, scapo nudo, panicula glaberrima compacta corymbosa, petalis obovatis bimaculatis calyce reflexo obtuso vix duplo longioribus, filamentis plurimis abortivis dilatatis petaloideis, ovario libero. (TAB. LXXXV.)

HAB. Shores of the Arctic Sea, between the Mackenzie and Coppermine Rivers. *Dr. Richardson.*—Together with the harsh and rigid foliage of *S. nivalis*, the present species has a panicle more resembling that of *S. vernalis*; but the petals have two orange spots, similar to those of *S. leucanthemifolia*, and the free calyx is at all times remarkably reflexed. The pubescence gives a whitish or hoary appearance to the whole plant, the panicle excepted; but much dependence cannot probably be placed upon this character, since we find it to be very variable in all the species of the present section.

TAB. LXXXV. *S. reflexa.* Fig. 1, Flower; fig. 2, The same, more fully expanded.

24. *S. integrifolia*; tota planta pubescenti-viscidissima, foliis radicalibus ovatis submembranaceis obtusissimis integerrimis vel lævissime sinuato-crenatis copiose reticulatim venosis, scapo elongato nudo ad apicem paniculato, panicula laxa lata vel contracta bracteata, petalis obovatis calyce patente glaberrimo demum subreflexo duplo longioribus, staminibus brevibus, ovario omnino libero, stylis divergentibus. (TAB. LXXXVI.)

HAB. Near the mouth of the Columbia, North-West coast of America. *Dr. Scouler.*—The present species appears to us very distinct from any other: it is clothed with a copious pubescence or tomentum, which *Dr. Scouler* observed, in a recent state, to be extremely viscid. The root is perennial, somewhat woody, throwing out numerous slender black wiry and branching fibres. The leaves are short in proportion to the height of the plant, about an inch long, suddenly tapering into a slender petiole of the same length. The scape is from eight to ten inches in height, quite leafless, rather stout and rigid. In one of our two specimens the panicle is contracted, oblong, with the flowers rather compact upon the primary peduncles: in the other the panicle is very lax, patent, and broad, the main peduncles or branches being two inches in length, slender, and filiform. The stamens are peculiarly short, not half the length of the nearly ripened capsules, which latter have the styles singularly patent, and even recurved. The stigmas are capitate.

TAB. LXXXVI. *S. integrifolia.* Fig. 1, Flower; fig. 2, The same, fully expanded; fig. 3, Petal; fig. 4, Pistil; fig. 5, Fruit:—magnified.

25. *S. hieracifolia*; scapo stricto subpiloso, foliis petiolatis obovato-spathulatis repandodentatis ciliatis coriaceis, floribus spicatis subsessilibus calycis, lobis ovatis latis tubi longitudine, petalis ovatis rubellis marcescentibus, calycem vix æquantibus, filamentis purpureis, capsula prominente purpurea, carpellis apice divaricatis, stylis brevissimis, stigmatibus subhemisphæricis. DC.—*Waldst. et Kit. Pl. Rar. Hung. v. 1. p. 17. t. 18. Sternb. Rev. Saxif. p. 9. et Suppl. p. 5. Don Saxifr. in Linn. Trans. v. 13. p. 383. Seringe, in De Cand. Prodr. v. 4. p. 39.*—*S. plantaginifolia.* *Hook. in Parry's 2d Voy. App. p. cccxciv.*

HAB. Arctic Islands. *Capt. Sir E. Parry.* Shores of the Arctic Sea, between the Mackenzie and Coppermine Rivers. *Dr. Richardson.*—The figure in *Waldstein and Kitaibel* is a very excellent representation (though rather luxuriant) of our Arctic specimens. It is a species, indeed, which appears exactly intermediate between *S. Pennsylvanica* and *S. nivalis*, more, however, allied to the former.

26. *S. Pennsylvanica*; caule stricto striato, striis numerosis parvis, foliis in petiolum attenuatis obovato-spathulatis dentatis ciliatis obtusis flaccidis pilosis non punctato-rugosis, floribus paniculato-corymbosis, lobis calycis ovato-lanceolatis tubo multo longioribus, petalis

angustissimis flavidis calyce longioribus, stigmatibus globosis, ovariis depresso-subdiscoides, capsulis latis brevibus, stylis minimis abrupte divergentibus. *DC.—Linn. Sp. Pl. p. 571. Mich. Fl. Am. v. 1. p. 269. Pursh, Fl. Am. v. 1. p. 211. Bigel. Fl. Bost. ed. 2. p. 177. Torrey, Fl. of Un. St. v. 1. p. 444. Don, Saxifr. in Linn. Trans. v. 13. p. 384. Seringe, in De Cand. Prodr. v. 4. p. 39.—Dill. Ellh. t. 253. f. 328.*

HAB. Canada. (*Linnæus*).—We have never seen specimens of this plant ourselves from British North America, and only give it as a native upon the authority of *Linnæus*.

27. *S. Dahurica*; glaberrima, foliis cuneato-flabelliformibus in petiolum decurrentibus superne profunde inciso-dentatis, scapis aphyllis laxè paniculatis bracteatis, bracteis linearibus integerrimis, petalis bipunctatis obovatis calyce reflexo subduplo longioribus, filamentis sæpe petaloideis.—*Pall. Itin. ed. Gall. p. 647. t. 32. et. 33. f. 1. Don, Saxifr. in Linn. Trans. v. 13. p. 388. Sternb. Rev. Saxifr. Suppl. t. 5. f. 2. Seringe, in De Cand. Prodr. v. 4. p. 38. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 124.*

HAB. Behring's Straits. *Mr. Menzies*. Alpine rivulets of the Rocky Mountains, between latitudes 52° and 56°. *Drummond*. Kotzebue's Sound. *Lay and Collie in Capt. Beechey's Voyage*.—The broadly cuneate, or rather flabelliform outline of the foliage of *S. Dahurica* is very remarkable. Our specimens exactly correspond with *Pallas'* figure, and equally with that of *Sternberg* above quoted. We possess specimens from *Chamisso* which he gathered in the Bay of *St. Lawrence*.

SECT. V. ARABIDIA. *Tausch*.—*Seringe, in De Cand. Prodr.*

28. *S. leucanthemifolia*; pubescenti-viscosa, foliis radicalibus oblongo-cuneatis inferne attenuatis grosse inciso-serratis, scapo nudo, panicula ampla laxa ramosa ramis divaricatis, pedicellis capillaribus, petalis inæqualibus unguiculatis tribus majoribus bipunctatis.—*Mich. Am. v. 1. p. 268. Pursh, Fl. Am. v. 1. p. 311. Hook. in Bot. Mag. t. 2959. Don, Saxifr. in Linn. Trans. v. 13. p. 358.—S. Clusii. Seringe, in De Cand. Prodr. v. 4. p. 40. Gouan. Ill. p. 28. (fide Seringe,) excl. mult. syn.—S. ferruginea, Graham, in ed. Phil. Journ. July, 1828. p. 348.—β. tota pubescenti-tomentosa.*

HAB. Behring's Straits. *A. Menzies, Esq.* Rocks on the "Height of Land," in the Rocky Mountains, and at the Portage, near the source of the Columbia. *Drummond*. β. Dundas Island, in Queen Charlotte's Sound; North-West coast of America. *Dr. Scouler*.—The specimens gathered by *Mr. Drummond* on the Rocky Mountains are in a very advanced and imperfect state; but seeds which he brought to Europe have flourished in the Botanic Garden of Edinburgh and Glasgow, and from the former the specimens were derived which were figured in the Botanical Magazine.

29. *S. stellaris*; glabriuscula, caule firmulo vix striato, foliis obovato-cuneiformibus in petiolum brevem desinentibus crassiusculis dentatis, bracteis linearibus, floribus corymboso-paniculatis, pedunculis longis filiformibus rigidulis adscendentibus pilos longos raros gerentibus, petalis oblongis acutis, capsulis subvesiculososis nervosis, stylis brevissimis divergentibus, seminibus ovato-globosis fuscis. *DC.—Linn. Sp. Pl. p. 572. Pursh, Fl. Am. v. 1. p. 310. Engl. Bot. t. 167. Seringe, in De Cand. Prodr. v. 4. p. 40.*

HAB. Labrador. *Kohlmeister. Dr. Morrison*. Also in Canada, according to *Pursh*.—We consider it doubtful if the true *Saxifraga stellaris* has been found any where in North America, except at Labrador. From Canada we have never seen specimens, though stated to have been found there by *Kohlmeister*,

according to Mr. Pursh. In the Arctic Islands, the *S. foliosa* of Brown seems to occupy its place, and upon the Rocky Mountains, and on the North-West coast, the *S. leucanthemifolia*.

30. *S. foliolosa*; foliis radicalibus cuneatis subdentatis, (scapis divisis), ramis apice unifloris infra tectis foliolis nanis fasciculatis, calycibus inferis obovatis, petalorum laciniis cordato-lanceolatis. *Br.*—Brown, in *Parry's 1st Voy. App. p. cclxxv.*—*S. stellaris*. γ . *Linn. Fl. Lapp. ed. Sm. p. 144. t. 2. f. 3.*—*S. stellaris*. β . *carcosa*. *Willd. Sp. Pl. v. 2. p. 644. Seringe, in De Cand. Prodr. v. 4. p. 40.*

HAB. Arctic Islands. *Capt. Sir E. Parry. Mr. Edwards. Capt. Sabine.*—How far this may be entitled to rank as a permanently distinct species, we are not able to say. In habit it has many points of agreement with *S. stellaris*, yet we have seen no specimens approaching so near to that plant as to render it by any means difficult to distinguish them. On the continent of North America it does not appear to have been found, but it has been detected as far north as Spitzbergen.

SECT. VI. HYDATICA. *Tausch.*—*Seringe, in De Cand. Prodr.*

31. *S. spicata*; subpubescens, foliis radicalibus longe petiolatis orbiculari-cordatis grosse acute serratis, petiolo superne dilatato, scapo nudo, racemo subcomposito elongato spiciformi, ovarii liberis, calycibus reflexis.—*Don, Saxifr. in Linn. Trans. v. 13. p. 354. Seringe, in De Cand. Prodr. v. 4. p. 41.*—*S. Geum, Pursh, Fl. Am. v. 1. p. 311. (non Linn.)*

HAB. Sledge Island, on the North-West coast of America. *David Nelson, (in Herb. Banks.) Behring's Straits. A. Menzies, Esq.*

32. *S. punctata*; foliis radicalibus longe petiolatis reniformi-cordatis rotundatis membranaceis pilosis reticulatis profunde grosse æqualiter dentatis immarginatis, dentibus integris discretis (plerumque) acutis, scapo nudo, floribus (parvis) paniculatis, panicula glandulosa bracteata, bracteis minutis linearibus, filamentis sæpissime abortivis petaloideis, calyce reflexo.—*Linn. Sp. Pl. p. 574. Sternb. Saxifr. Suppl. p. 7. t. 4. Sm. in Rees' Cycl. Ledeb. Fl. Alt. v. 2. p. 118. Hook. et Arn. Bot. of Beech. Voy. p. 114.*—*S. hirsuta*, β . *punctata, Seringe, in De Cand. Prodr. v. 4. p. 42.*—*S. gracilis. Sternb. Saxifr. Suppl. p. 7. t. 5. f. 1.*—*S. æstivalis. Fisch. in Herb. nostr. Gmel. Fl. Sib. v. 4. p. 161. t. 65. f. 1.*

HAB. Summits of the Rocky Mountains, between latitudes 52° and 56°. *Drummond.*—This exactly accords with our specimens from Capt. Beechey's Voyage, and those gathered by Chamisso in Kamtschatka, as well as others sent us by Dr. Fischer from the Altaic Mountains.

33. *S. Nelsoniana*; subcæspitosa, scapo simplicissimo villis longis mollibus undique tecto, thyrsos ovato, foliis orbiculato-cordatis subpeltatis inciso-serratis subtus hirsutis, petiolis longissimis filiformibus, sepalis triangulari-ovatis acutis, petalis ovulibus parvis albis. *DC.*—*Don, Saxifr. in Linn. Trans. v. 13. p. 355. (non Hook. et Arn.) Seringe in De Cand. Prodr. v. 4. p. 41.*

HAB. Cape Newnam, on the North-West coast of America. *David Nelson, (in Herb. Banks.)*—Upon comparing their specimens of *S. Nelsoniana*, described in the Botany of Capt. Beechey's Voyage, the authors now hesitate in considering it the same with the plant so named by Mr. Don; hence we have excluded that synonym, and their plant will be here found described under the name of *S. Richardsonii*.

34. *S. arguta*; scapo glabro, panicula simplicissima, foliis reniformi-rotundatis inciso-

serratis glabris, petiolis filiformibus, sepalis oblongis acutis, petalis ovatis multinerviis pistillis brevissimis. DC.—*Don, Saxifr. in Linn. Trans. v. 13. p. 356. Seringe, in De Cand. Prodr. v. 4. p. 40.*

HAB. North-West coast of America. *Mr. Menzies*.—"Panicula simplicissima. Flores albi magnitudine *S. stellaris*. Petala ovalia unguiculata, multinervosa, punctata? Pistilla brevissima."

35. *S. nudicaulis*; scapo erecto nudo tereti, foliis remiformibus palmatis glabris, lobis ovatis mucronatis, floribus paniculatis, lobis calycis triangulari-ovatis acutis, petalis obovatis calyce paulo longioribus. DC.—*Don, Saxifr. in Linn. Trans. v. 13. p. 37. Seringe, in De Cand. Prodr. v. 4. p. 37.*—*S. gracilis. Steph. in Sternb. Rev. Saxifr. Suppl. p. 7. t. 5. f. 1.*

HAB. North-West coast of America. *David Nelson. Behring's Straits. A. Menzies, Esq.*—Judging of this from the specimens we have received from Mr. Menzies, it appears to be very closely allied to small states of *S. punctata*, and almost exactly to resemble *S. gracilis* of Stephan, above quoted.

36. *S. heterantha*; subpubescens, foliis radicalibus longe petiolatis reniformi-cordatis membranaceis venosis multi-lobatis, lobis breviusculis subtridentatis, dentibus acutis muticis, scapo nudo, floribus paniculatis sæpe abortivis, filamentis aliis clavatis uliis petaliformibus, ovario libero, calycibus reflexis, ramis non raro inferne bulbiferis. (TAB. LXXVIII. B.)

Radix perennis, fibrosa, tota planta pubescens. *Folia* omnia radicalia, longe petiolata, cordato-reniformia sinu profundo, membranacea, venosa, multi-lobata; lobis rotundatis, plerumque tridentatis, dentibus acutis. *Petioles* digitales et ultra, graciles, erecti, basi longe membranaceo-vaginati. *Scapus* solitarius, spithameus et ultra, gracilis, nudus, superne paniculatus. *Panicula* oblonga, vel ovato-oblonga, laxa; *rami* nonnunquam elongati, et tunc partem versus inferiorem bulbiferi, bulbis seu gemmis in rosulam dispositi, ovati, oblongi, sæpissime ad apicem, ut videtur, lacerati. *Calyx* quinque-partitus, laciniis oblongis, obtusis, cito reflexis. *Petala* oblonga, obtusa, venosa calyce subduplo longiora. *Flores* plurimi, abortivi. *Stamina* numero incerta, nonnunquam omnia imperfecta, filamentis filiformibus; nonnunquam, ut videtur, perfecta, filamentis clavatis; quandoque filamenta petaloidea antheris nullis. *Ovarium* omnino liberum, subrotundum, stylis brevibus erecto-divergentibus.

HAB. Common on moist rocks of the River Columbia, from its source to its confluence with the sea. *Douglas. Cape Disappointment. Dr. Scouler*.—This has leaves considerably resembling those of *S. rotundifolia*, but they are furnished with a long membranous sheathing base, and altogether radical. The scape resembles that of *S. punctata*, but the panicle and flowers are widely different.

TAB. LXXVIII. B. *S. heterantha. Fig. 1*, Flower with abortive stamens, and the filaments filiform; *fig. 2*, Stamen from the same flower; *fig. 3*, Flower with abortive petaloid filaments; *fig. 4*, A petaloid filament; *fig. 5*, Flower with perfect stamens, having clavate filaments, and with petaloid abortive filaments; *fig. 6*, Stamen; *fig. 7*, Petaloid filament; *figs. 8 and 9*, Gemmæ, or bulbs from the pannicle:—*magnified.*

SECT. VII. HIRCULUS. *Tausch.*—*Seringe, in De Cand. Prodr.*

37. *S. hirculus*; pedicellis pilosis, foliis lanceolatis nervosis non ciliatis, sepalis sæpissime ciliatis, petalis obovatis nervosis, ovarii oblongis, stylis subnullis, stigmatibus spathulatis junioribus inflexis dein divaricatis. DC.—*Linn. Sp. Pl. p. 575. Engl. Bot. t. 1009. Sternb. Rev. Saxifr. p. 24. Don, Saxifr. in Linn. Trans. v. 13. p. 372. Brown, in Parry's 1st Voy. Suppl. p. cclxxiii. Seringe, in De Cand. Prodr. v. 4. p. 45.*—*S. propinqua. Brown, in Ross' Voy. ed. 2. v. 2. p. 192.*

HAB. From the Saskatchewan to the Arctic Sea-shore and Islands, where it seems most abundant: Behring's Straits; Cape Hope. *Chamisso*. Kotzebue's Sound. *Messrs. Lay and Collie*, in *Captain Beechey's Voyage*.

38. *S. flagellaris*; flagellis filiformibus, caule erecto simplici 1-3-floro calycibusque glanduloso-pubescentibus, foliis radicalibus caulinisque inferioribus obovato-spathulatis ciliatis; superioribus villosiusculis, petalis persistentibus capsula semisupera longioribus. *Br.—Willd. ex Sternb. Rev. Saxifr. p. 25. t. 6. Brown, in Parry's 1st Voy. Suppl. p. cclxxiii. Don, Saxifr. in Linn. Trans. v. 13. p. 373. Seringe, in De Cand. Prodr. v. 4. p. 45. Torrey, Pl. of Rocky Mount. in Ann. of Lyc. N. York. p. 203.—S. setigera. Pursh, Fl. Am. v. 1. p. 312. (TAB. LXXXVII.)*

α. caule 1-5-floro, ovario omnino libero, sepalis oblongis.—*S. flagellaris. Willd. ex Sternb. Saxifr. p. 25. t. 6. Bieb. Fl. Taur. Caucas. v. 3. p. 291. Ledeb. Fl. Alt. v. 2. p. 121. Ejusd. "1c. Pl. Fl. Ross. Alt. Illustr. t. 321." Seringe, in De Cand. Prodr. v. 4. p. 45. Torrey, Pl. of Rocky Mount. in Ann. Lyc. N. York. p. 203.—S. aspera. "Bieb. Fl. Taur. Caucas. v. 1. p. 314. (excl. syn)."—S. myosotifolia. *Pall. in Spreng. Syst. Veget. v. 2. p. 364? (Ledeb.)—β.* caule sub-1-floro, ovario basi adhærente, laciniis calycinis ovatis.—*S. flagellaris. Br. in Ross' Voy. ed. 2. v. 2. p. 192. Don, in Linn. Trans. v. 13. p. 373. Br. in Parry's 1st Voy. App. p. cclxxiii. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 154.—S. setigera. Pursh, Fl. Am. v. 1. p. 312.**

"*Radix* perpendicularis, fibras longas subsimplices demittens, elevans caulem unicum, simplicissimum, 2-4-unciale, foliatum, pubescentem, pilis brevibus strictis purpureo-capitatis, sursum crebrioribus, basi demum glabratum. *Folia* indivisa, *radicalia* et *caulina inferiora* confertissima, patentia, *superiora* sparsa: *radicalia* cucuato-obovata et subspathulata, acutiuscula, plura, basi angustata in petiolum brevem latiusculum, immerge nervosa, nervis lateralibus dichotomis ramis interioribus in extimum margini folii approximatum desinentibus, apicibus mox infra apicem folii confluentibus, ibique callo subovali in pagina superiore parum elevato aucta, marginibus longitudinaliter ciliatis, pilis subulatis strictis rigidulis brevibus albicantibus, capitulo glanduloso purpurascente demum deciduo apiculatis, terminali dilatato pariter apiculato; *caulina inferiora* conferta, radicalibus subsimilia figura, ciliis marginalibus et paginis glabris; *superiora* sparsa, paulo minora, oblonga, acutiuscula, basi vix attenuata, subsessilia, utraque pagina marginibusque pilis brevibus glanduloso-capitatis iisque calycis et caulis similibus. *Flagella* ex alis foliorum radicalium et inferiorum caulis solitaria, filiformia, 3-5-uncias longa, angulato vel anguste marginata, arenato-deflexa, pilis glandulosis rarissimis conspersa, aphylla, apice sobolifera: *gemmula* parva, turbinata, e foliolis nanis numerosis conniventibus, arcte imbricatis, obovatis acutiusculis, immerge nervosis, glabris, marginibus ciliis nonnullis brevibus ornatis; et in ipsa basi radiculis 2-3 simplicibus singulis e vagina (colcarhiza) membranacea, primo clausa dein lacerata erumpentibus." *Br.—Flores* terminales, erecti, plerumque solitarii in *α.*, 1-5 in *β.*, pedicellati, majusculi, aurci, speciosi. *Pedicelli* laterales, seu exteriores, bracteati. *Calyx* dense glanduloso-pubescent, sæpe purpureus, in *α.* 5-sepalis, omnino liberis, sepalis oblongis; in *β.* monophyllis campanulatus, tubo cum basi ovarii adhærente, laciniis erectis ovatis obtusis. *Petala* elliptica seu obovata, obtusa, patentia, sessilia, nervosa, nervis subdichotome ramosis. *Stamina* 10, longitudine fere pistilli. *Filamenta* subulata, erecto-patentia, basilibus approximatis fore connexis. *Antheræ* subcordate, bilobæ, flavæ, deciduæ, loculis appositis, basi divaricatis. *Ovarium*, in *α.* liberum seu omnino superum; in *β.* basi cum calycis tubo adhærente, late ovatum, subcompressum, utrinque sulcatum, stylis vel rostris 2 brevibus, erecto-patentibus terminatum. *Stigmata* crassa, obtusa. *Capsula* pistillo simillima sed major, calyce corollaque submarcescente filamentisque persistentibus tecta, bilocularis, intra rostra (vacua) dehiscent, ore membranaceo. *Semina* oblongo-obovata, numerosa, levia, fusca.

HAB. North-West coast of America. *David Nelson*. Behring's Straits. *Menzies*. Arctic Islands, gathered by all the Arctic Voyagers. Summits of the Rocky Mountains. *Drummond*. Kotzebue's Sound. *Messrs. Lay and Collie* in *Beechey's Voyage*.—It is observed in the *Linnaean Transactions*,* that this most remarkable plant was first discovered, according to Mr. Don, at Cape Newulm, on the North-West coast of America, by Mr. Nelson, during Captain Cook's third voyage; and his specimens still exist in the Banksian Collection. Mr. Don farther observes, that Pursh, who named the plant *setigera* after those individuals, is wrong in stating the flower to be small and white, which is indeed quite at variance with the true character, for the blossoms are large and yellow. Dr. Adams found it upon the Caucasian Alps; and both in Baffin's Bay and in Melville Island this species is tolerably abundant; and so familiar was its appearance to the sailors of those expeditions, that they gave it the very appropriate name of *Spider Plant*. Upon the Rocky Mountains it has probably an extensive range, as Dr. James met with it in a latitude far south of the sources of the Columbia. We find a remarkable difference between our Arctic Seashore and Island specimens, and those from the Rocky Mountains of the interior; the former having almost universally a single-flowered stem, an ovary partly inferior and broad calycine segments; while the latter have several flowers on the stem, a free ovary, and narrow sepals or at least a deeply 5-partite calyx; and appearing to correspond in almost very particular with the European state of the plant, as far as can be judged by the figure of Sternberg; still we have only considered the two as varieties.

TAB. LXXXVII. A. A. *S. flagellaris*, α . and B. B. *S. flagellaris*, β . *natural size*. Fig. 1, Leaf; figs. 2, 3, Flowers of var. α .; fig. 4, Flower of var. β .; fig. 5, Fruit of var. α . surrounded by the floral covering:—*natural size*. Fig. 6, the same, the petals being removed; fig. 7, Transverse section of the capsule; fig. 8, Seeds:—*more or less magnified*.

39. *S. brouchialis*; caule ascendente tenui, ramulis brevibus evolventibus, foliis subcoriaceis linearibus tenuissime ciliatis mucronatisque, floribus paniculato-sulcorymbosis vel solitariis, pedunculis longis debilibus, sepalis lanceolatis acutiusculis, petalis obovato-oblongis punctis mucronosis croceis notatis calyce longioribus, stylis stigmatibusque per anthesin convergentibus, DC.—*Linn. Sp. Pl.* p. 572. *Sternb. Rev. Saxifr.* p. 13. t. 10. *Don, Saxifr. in Linn. Trans.* v. 13. p. 376. *Seringe, in De Cand. Prodr.* v. 4. p. 47.

HAB. North-West coast of America. *David Nelson*. (in *Herb. Banks.*) Behring's Straits. *Mr. Menzies*. Kotzebue's Sound. *Messrs. Lay and Collie*, in *Captain Beechey's Voyage*. "Height of Land," at the Portage of the Columbia River, on the West side of the Rocky Mountains. *Drummond*.—This is extremely nearly allied to *S. tricuspidata*, but destitute of the two lateral segments of the leaves.

40. *S. tricuspidata*; caule stricto crasso, foliis inferioribus densis coriaceis oblongis tricuspidatis margine tenuissime ciliatis, apicibus cartilagineo-mucronatis, floribus subcorymbosis, pedunculis brevibus rigidiusculis, sepalis ovatis subcoriaceis petalis obovato-oblongis albis immaculatis calyce longioribus, capsulis ovoidicis in stylis conicis divergentibus desinentibus, stigmatibus subcapitatis. DC.—*Retz, Prodr. Fl. Scand. ed. 2. No. 522. Sternb. Rev. Saxifr.* p. 54. *Don, Saxifr. in Linn. Trans.* v. 13. p. 440. *Vahl. Fl. Dan. t. 976. Seringe, in De Cand. Prodr.* v. 4. p. 47.— β . omnibus partibus minor; *S. Chamissoi. Sternb. Rev. Saxifr. Suppl.* p. 12. t. 10.

HAB. Hudson's Bay (in *Herb. Banks.*) From Lake Winipeg, in lat 50° to the Arctic Sea and Islands, and from Hudson's Bay to the Rocky Mountains. Kotzebue's Sound. *Messrs. Lay and Collie*, in *Captain Beechey's Voyage*.— β . Unalashka. *Chamisso*. Subalpine regions of Mount Hood, lat. 46°, North-West

* Account of a Collection of Arctic Plants, by Dr. Hooker. *Linn. Trans.* v. 14. p. 369.

coast of America. *Douglas*.—We can perceive no difference between the *S. Chamissoi* of Sternberg, and a small state of *S. tricuspidata*. Our specimens from Mount Hood, gathered by Mr Douglas, precisely accord with Sternberg's figure and description.

41. *S. aizoides*; caulibus cespitosis foliosis, foliis linearibus plus minusve ciliatis vix mucronatis crassiusculis, floribus paniculatis raro solitariis patentissimis, sepalis ovatis, petalis oblongis calyce longioribus flavis vel aurantiacis sæpe punctulato-maculatis, stigmatibus depressis, capsulis crassiusculis longitudine stylosum, seminibus ovato-triquetris rugulosis. DC.—*Sm. Engl. Bot. t. 39. Sternb. Rev. Saxifr. p. 25. Don, Saxifr. in Linn. Trans. v. 13. p. 376.*—*S. autumnalis. Linn. Sp. Pl. p. 575.*

HAB. Newfoundland and Labrador, (*Herb. Banks.*) *Dr. Morrison*. Barren country, from lat. 64° to the Arctic Sea and Islands, frequent. Swamps and alpine rivulets on the Rocky Mountains. *Drummond*.

7. ERIOGYNIA.

Calyx turbinatus, quinquefidus. *Petala* quinque vix unguiculata. *Stamina* viginta, ad orem tubi inserta, basi monadelphæ. *Antheræ* biloculares, subrotundæ. *Pistilla* quatuor ad sex, a calyce et inter se libera, lana densissima connexa. *Styli* elongati, decidui, filiformes. *Carpella* tot quot pistilla, libera, oblonga, acuta, versus apicem recurva, intus longitudinaliter dehiscentia. *Semina* scobiformia ad marginem versus apicem valvarum inserta, pendientia. *Nucleus* oblongus. *Albumen* nullum.—*Herbæ perennes Americæ borealis, locis frigidis provenientes, Habitu fere Saxifragearum hypnoidearum, stolonifera. Folia rigidissima, coriacea, uninervia, glaberrima. Flores albi, racemosi, plerumque bracteati.*

1. *E. pectinata*; (TAB. LXXXVIII.)—*Saxifraga pectinata. Pursh, Fl. Am. v. 1. p. 312. Seringe, in De Cand. Prodr. v. 4. p. 33.*

Caules steriles cæspitiosi, decumbentes, graciles, rigidi, elongati, stoloniferi; *Folia* rosulata, unciam fere longa, horizontaliter patentia, rigida, subcoriacea, e basi elongata anguste, lineari, trifida, glaberrima, uninervia, nervo tenui superiore exarato, segmentis tri-quadrifidis, laciniis linearibus, acutissimis, erecto-patentibus: *Caulibus* floriferis erectis, spithameis, foliosis, foliis supremis, ut in sterilibus, divisis. *Racemus* terminalis, elongatus, multiflorus, pubescenti-hirsutus: *pedicellis* inferioribus foliosis, superioribus nudis. *Calyx* glaber, quinquefidus, segmentis acutis, tubo brevi obconico. *Stamina* 20 ad orem tubi inserta, basi monadelphæ. *Filamenta* subulata, alba. *Antheræ* subglobosæ, didymæ, biloculares, loculis appositis, longitudinaliter dehiscentibus. *Pistilla* 4 ad 6 fundo calycis inserta, libera, lana copiosa, alba, demum decidua, solummodo connexa. *Germen* oblongum. *Stylus* germinis longitudine. *Stigma* obtusum. *Carpella* 4 ad 6, erecta, coriacea, nitida, fusca, oblongo-teretia, apice recurva, acuta, intus longitudinaliter dehiscentia, bivalvia. *Semina* scobiformia, lineari-oblonga, flexuosa, pendula, ad margines valvarum apicem versus inserta. *Nucleus* oblongus, lateraliter affixus, in arillo pendens, alba. *Testa* tenuis, alba. *Albumen* nullum. *Embryo* cylindraceus. *Cotyledones* lineari-oblongæ; *radicula* ad hilum seminis versa.

HAB. Behring's Straits. *Mr. Menzies*. "Height of Land" upon the Rocky Mountains, on the West sides, near the sources of the Columbia. *Drummond*.—That the present highly curious and interesting plant is the *Saxifraga pectinata* of Pursh, we have no reason to doubt, since it not only agrees sufficiently well with his description, but our specimens from Mr. Menzies are from the same station. A slight examination of the flower and fruit, however, will satisfy any one that, notwithstanding the habit and foliage bear a considerable resemblance to an extensive group of true Saxifrages, it can nevertheless not possibly rank with that genus. Even the foliage has some remarkable peculiarities: the texture is extremely rigid, opaque and coriaceous, but not thick, plane on both sides, except that the slender nerve, which is pellucid when the leaf is held up between the eye and the light, is slightly channelled on the upper side; nor does the nerve pass through the centre of the segments at their bases, but traverses them in an oblique direction from sinus to

sinus, in a manner that will be better understood by a reference to the magnified figure, than by a description. In regard to fructification, this plant will hold a middle rank between *Saxifraga* and the following genus, *Leptarrhena*; differing from the former in its free ovaries (connected only by an external woolly substance) and in the arillated seeds,—from the latter, in the two-celled anthers, the diducous styles, the pendant seeds; and from both, in the number of stamens and carpels. It is from the copious woolly substance, connecting the carpels, that we derive the generic name.

TAB. LXXXVIII. *E. pectinata*. Fig. 1, A flower and bractea; fig. 2, Flower fully expanded; fig. 3, Ovaries; fig. 4, Ovary laid open to shew the insertion of the ovules; fig. 5, Cluster of carpels; fig. 6, Single carpel; fig. 7, Seed with its arillus; fig. 8, Seed or nucleus taken from the arillus; fig. 9, Section of do. showing the embryo; fig. 10, Leaf:—all more or less magnified.

8. LEPTARRHENA. *Dr.*

Calyx campanulatus brevis quinquefidus, tubo lato. *Stamina* decem ad orem tubi inserta. *Antheræ* uniloculares bivalves. *Petala* quinque lineares. *Pistilla* duo, libera, in stylum brevem persistentem attenuata. *Stigma* obtusum. *Carpella* duo, intus longitudinaliter dehiscentia. *Semina* scobiformia ad marginem versus basin valvarum inserta, erecta.—*Herbæ habitu fere* *Pyrolæ locis frigidis Americæ borealis*. *Scapus nudus*. Flores racemoso-paniculati. *Folia coriacea perennantes integra grosse serrata, petiolis latis vaginantibus*.

1. *L. pyrolifolia*; (TAB. LXXXIX.) *Br. in Parry's 1st Voy. Suppl. p. cclxxiii. Seringe, in De Cand. Prodr. v. 4. p. 48.*—*L. amplexifolia. Seringe, in De Cand. Prodr. v. 4. p. 48.*—*Saxifraga pyrolifolia. Don, Saxifr. in Linn. Trans. v. 13. p. 389.*—*S. unplexifolia. Sterub. Rev. Saxifr. Suppl. p. 2. t. 2.*—*S. micrantha et S. coriacea. Fischer MSS. (fide Seringe.)*

Radix perennis, subfusiformis, elongatus, fibrosus. *Caulis* brevis, ascendens, simplex vel ad basin ramosus, duas ad tres uncias longus foliosus, petiolis membranaceis latis omnino tectus. *Folia* elliptica, obtusa, coriacea, plana, duplicato-serrata, nervosa, nervis obliquis, supra nitida viridia, subtus pallida. *Petiolis* subunciam longi, insigniter dilatati, canaliculati, subciliati, membranacei, vaginati. *Scapus* spithameus ad pedalem et ultra, erectus, rigidus, foliis parvis vel squamis duabus oblongis serratis instructus, pubescens superne præcipue. *Racemus* compositus, subcorymboso-paniculatus. *Flores* parvi, inconspicui. *Calyx* profunde quinquefidus, pubescens: *Tubus* brevis, segmentis oblongis, obtusis, erecto-patentibus. *Petala* linearia, obtusa, vix calycem superantia. *Stamina* decem longitudine petalorum, quinque petalis et quinque segmentis calycinis opposita, distincta. *Filamenta* subulata. *Antheræ* subgloboso-tetragone, dorso affixæ, uniloculares, bivalves. *Pistilla* 2, distincta, libera. *Germen* ovatum, uniloculare, pluri-ovulatum, ovulis lineari-elongatis, erectis, prope basin ad marginem valvarum insertis. *Styli* attenuati, subdivergentes. *Stigmata* obtusa. *Carpella* 2, oblongo-ovata, stylis attenuatis terminata, intus longitudinaliter dehiscentia. *Semina* non vidimus, sed, (fide H. Brown.) scobiformia, testa utrinque ultra nucleum ovalem elongata, subulata.

H. A. Unalaska. (*David Nelson in Herb. Banks.*) *Chamisso. Behring's Strait. Menzies in Herb. nostr.* "Height of Land" on the West side of the Rocky Mountains, in lat. 52°. *Drummond.*—The accurate Mr. Brown distinguished this plant as a genus, in his valuable paper on the plants of Melville Island above quoted; and its habit as well as fructification, amply justify him in so doing. We regret that we have not seen perfect seeds. Our specimens from Chamisso and Mr. Menzies are in flower, and the only fertile one from Mr. Drummond, though in fruit, has shed its seeds.

TAB. LXXXIX. *L. pyrolifolia*. Fig. 1, Flower; fig. 2, Back view of a stamen; fig. 3, Front view of do.; fig. 4, Pistil; fig. 5, A pistil laid open to show the insertion of the ovules; fig. 6, Ovule; fig. 7, Carpels surrounded by the persistent floral coverings:—magnified.

ORD. XLIII. UMBELLIFERÆ. Juss.

Subord. I. ORTHOSPERMÆ. *Albumen intus planum aut planiusculum.** *Umbellis simplicibus aut imperfectis; Vittis fructus nullis.*Trib. I. HYDROCOTYLEÆ. *Fructus a latere compressus; mericarpiis dorso convexis aut acutis.*

1. HYDROCOTYLE. Linn.

Calycis tubus subcompressus, limbus margo obsolete. *Petala* ovata integra acuta apice recto. *Fructus* a latere plano-compressus biscutatus. *Mericarpiis* evittata, jugis 5 filiformibus, carinali et lateralibus sæpe obsolete, intermediis 2 accretis. *Semen* carinato-compressum.—*Herbæ rarius suffrutescens, sæpius tenues, aquaticæ. Umbellæ simplices. Involucrum oligophyllum. Flores sessiles aut pedicellati albid.* DC.

1. *H. Americana*; glaberrima, foliis orbiculato-reniformibus sublobatis duplicato-crenatis 9-nerviis, umbellis cupitatis 5-floris, superioribus subsessilibus, inferioribus breve pedunculatis. DC.—*Linn. Sp. Pl. p. 234. Rich. Hydrot. n. 19. f. 10. Mich. Am. v. 1. p. 162. Pursh, Fl. Am. v. 1. p. 190. Elliott, Carol. v. 1. p. 348. Bigel. Fl. Bost. ed. 2. p. 109. Torrey, Fl. of Un. St. v. 1. p. 303. De Cand. Prodr. v. 4. p. 64.*

HAB. Canada. Lake Huron. Dr. Todd.

2. *H. vulgaris*; foliis peltatis orbiculatis duplicato-crenatis 9-nerviis, petiolis apice pilosis, umbellis cupitatis subbifloris, fructu basi submarginato concolori. DC.—*Linn. Sp. Pl. p. 338. Engl. Bot. t. 751. Mich. Am. v. 1. p. 161. Elliott, Carol. v. 1. p. 345. Pursh, Fl. Am. v. 1. p. 191. Torrey, Fl. of Un. St. v. 1. p. 303. De Cand. Prodr. v. 4. p. 59.*

HAB. Canada. Pursh.

Trib. II. SANICULÆ. *Fructus ovato-globosus.*

2. SANICULA. Linn.

Calycis tubus echinatus; lobi foliolosi persistentes. *Petala* erecta conniventia obovata emarginato-infracta in lucinulam longitudine petali. *Fructus* subglobosus non sponte partibilis. *Mericarpiis* ejugata multivittata, aculeis uncinatis dense tecta, carpophoro nullo distincto, seminibus semiglobosis.—*Herbæ perennes. Folia radicalia petiolata palmatilobis, lobis cuneatis apice inciso-dentatis. Caulis nudus aut parce foliosus. Umbella generalis pauciradiata; involucri foliolis paucis sæpe divisis. Umbellula pluriradiata, involucri foliolis pluribus integris. Flores in eadem umbellula masc. fem. aut hermaphr.*—DC.

1. *S. Marylandica*; foliis quinato-digitatis inciso-serratis inferioribus pedatis longe petiolatis, floribus polygamis, masculis pedicellatis, calycis lobis integris.—*Linn. Sp. Pl. p. 339. Jacq. Ic. Itar. t. 348. Mich. Am. v. 1. p. 162. Pursh, Fl. Am. v. 1. p. 191. Bigel. Fl. Bost. ed. 2. p. 109. Elliott, Carol. v. 1. p. 348. De Cand. Prodr. v. 4. p. 84.—S. Canadensis. Linn. Sp. Pl. p. 339. Pursh, Fl. Am. v. 1. p. 191. De Cand. Prodr. v. 4. p. 84.*

HAB. Throughout Canada, and as far as the Saskatchewan. Drummond. Newfoundland. De la Pylaie. Undulating gravelly soils, near Fort Vancouver. Douglas.—The accurate Dr. Torrey has, in my opinion,

correctly united the *S. Canadensis* of Linnæus, with *S. Marylandica*. I do not see the necessity even of making a variety of it; and the Linnæan character is equally applicable to the one as to the other plant.

2. *S. Menziesii*; caulescens, foliis longe petiolatis cordatis profunde trifidis, segmentis lato-obovatis cuneatis varie lobatis inciso-serratis serraturis acutissimis mucronato-ciliatis, umbellis subcompositis, involuelli foliolis lanceolatis acutis umbellam æquantibus. (TAB. XC.)—Hook. et Arn. in Bot. of Beech. Voy. p. 142.

Radix fusiformis. *Tota planta* glaberrima. *Caulis* erectus, spithamæus ad sesquipedalem et ultra, erectus, stratus, superne subpaniculatim ramosus. *Folia radicalia et caulina inferiora* longe petiolata, circumscriptio cordata, profunde trifida, fere tripartita segmentis late obovatis, obtusis cuneatis, varie lobatis, inciso-serratis, serraturis ciliato-mucronatis; *caulina* suprema sessilibus, segmentis lanceolatis, incis. *Umbelle* subcompositæ, basi plerumque foliatæ. *Umbellule* globosæ, involucellatæ, involuelli foliolis lanceolatis acutis umbellulam subæquantibus. *Flores* masculi brevissime pedicellatæ: *femine* sessiles. *Fructus* aculeatus, ut in genere.

HAB. North-West coast of America. *A. Menzies, Esq.* On the banks of the Columbia, in dry sandy soils. *Dr. Scouler, Douglas.*—This is a very distinct species from the *S. Marylandica*, but very nearly allied to the *S. Libertia* of Chamisso in Linnæus, v. 1, p. 253, a native of Chili. If it should prove to be the same, it has then a very extensive geographical range; for that author states it to be the "*S. Marylandica*, of Willdenow's Herbarium, an Humboldtian plant, found at Caripe." The Naturalists of Captain Beechey's Voyage, gathered our plant in California.

TAB. XC. *S. Menziesii*. Fig. 1, Flower; fig. 2, Fruit:—*magnified*.

3. *S. arctopoides*; subcaulis, foliis longe petiolatis profunde 3-partitis, laciniis elongato-cuneatis lateralibus bifidis intermedio trifido omnibus subciliato-pinnatifidis, pedunculo foliis vix longiore, involucri foliolis foliaceis lanceolatis integerrimis umbella compuncta simplicis longioribus. (TAB. XCI.)—Hook. et Arn. in Bot. of Beech. Voy. p. 141.

HAB. North-West coast of America. *A. Menzies, Esq.*—This plant has very much the appearance of the genus *Arctopus*, the leaves and segments of the leaves being curiously pinnatifid at the margin, with crowded, acuminate, unequal teeth. The umbel is nearly simple, and scarcely rises above the foliage. The root is fusiform.

TAB. XCI. *S. arctopoides*. Fig. 1, Flower; fig. 2, Abortive pistil:—*magnified*.

4. *S. bipinnatifida*; caulescens, foliis bipinnatifidis inferioribus longe petiolatis segmentis remotis obovatis seu obovato-lanceolatis acutis inciso-serratis serraturis acutissimis, rachide acutissime dentata, pedunculis elongatis, umbellis compositis subproliferis, umbellulis globosis. (TAB. XCII.)—Douglas, MSS.

Radix fusiformis. *Caulis* erectus, gracilis, ramosus, glaber, ut et tota planta, subpedalis. *Folia* bipinnatifida, *inferiora* et *radicalia* longe petiolata, petiolo basi dilatato vaginato; segmentis (primariis præcipue) remotis, obovatis, obovato-lanceolatis, varie lobatis inciso-serratisque, serraturis acutissimis. *Rachis* linearis, profunde dentata, dentibus horizontalibus acutissimis. *Folia* superiora sessilia, segmentis omnibus angustis, acuminatis. *Pedunculi* elongati. *Umbelle* subcompositæ, involuero laciniato, laciniis inæqualibus acuminatis; radiis gracilibus non raro proliferis. *Umbellule* globosæ, densifloræ. *Flores* femineæ ut videtur, sessiles.

HAB. Fort Vancouver, on the Columbia. *Douglas, Dr. Scouler.*

TAB. XCII. *S. bipinnatifida*. Fig. 1, Male flower; fig. 2, Female flower:—*magnified*.

3. ERYNGIUM. Linn.

Calycis tubus squamulis vesiculisque asper, lobi 5 foliolosi. Petala erecta conniventia oblongo-obovata emarginato-infraeta in lacinulam longitudine petali. Fructus sect. trans. subteres obovatus squamatus tuberosusve, mericarpiis ejugatis evittatis semiteretibus, carpophoro per totam longitudinem seminibus adnato.—Herbæ sæpius perennes et spinosæ. Folia radicalia et caulina basi petioli plus minus vaginantia. Flores aggregati in capitula subrotunda aut oblonga. Bracteæ inferiores sæpius majores involucrium conficientes, cæteræ seu paleæ inter flores mixtæ. DC.

1. *E. petiolatum*; caule superne dichotomo, foliis parallelis nervosis lanceolatis in petiolum longum attenuatis remote ciliato-spinosis supremis angustis sessilibus, involucri foliolis paleisque subulatis ciliato-spinosis rigidis capitulo globoso duplo longioribus.

HAIR. Moist soils on the plains of the Multnomak River. Douglas.—Of this I possess but one, and that an imperfect specimen; but sufficient to show that the species is very different from any with which I am acquainted, and from any which I find described in books. The petioles are very long, 4–6 inches in length, linear, dilated into a sheath at the base, slender, above gradually passing into a lanceolate blade with parallel nerves. The heads are quite spinous with the long rigid involucries and paleæ, which much exceed the flowers in length. The calyx is large, with leafy sepals. The germen covered with white, ovate, acute, somewhat imbricated minute vesicles.

* * *Umbellis compositis seu perfectis; Vittis in fructu variis, rarissime nullis.*

† *Paucijugata, nempe jugis primariis tantum donata.*

Trib. III. AMMINEÆ. *Fructus a latere compressus aut didymus. DC.*

4. CICUTA. Linn.

Calycis margo 5-dentatus foliolosus. Petala obcordata cum lacinula inflexa. Fructus subrotundus a latere contractus didymus. Mericarpia jugis 5 pluriusculis æqualibus, lateralibus marginantibus. Valliculæ 1-vittatæ; vittæ valliculas replentes in sicco, jugis paulo magis elevatis. Commissuræ 2-vittatæ, vittis submembrana soluta. Carpophorum bipartitum. Semen sectione transv. teres.—Herbæ perennes glabræ aquaticæ venenatæ. Caulis teres fistulosus. Folia tripinnati-aut ternatisecta. Involucrum nullum aut oligophyllum. Involucella polyphylla. Flores albi. DC.

1. *C. virosa*; radicis trunco cavo septis transversalibus celluloso fibris cylindraceis verticillato-fasciculatis, foliis tripinnatisectis segmentis lanceolatis serratis, umbellis oppositifoliis et terminalibus. DC.—Linn. Sp. Pl. p. 368. Engl. Bot. t. 479. Rich. in Frauhl. 1st Journ. ed. 2. App. p. 10. De Cand. Prodr. v. 4, p. 99.

HAIR. Woody country of North America, between lat. 54° and 64° North. Dr. Richardson. Drummond.

2. *C. maculata*; radicis fibris oblongis tuberoso-carnosis, foliis biternatis segmentis lanceolatis aut ovato-lanceolatis acuminatis mucronato-serratis, umbellis terminalibus et lateralibus, caule maculato. DC.—Linn. Sp. Pl. p. 367. Pursh, Fl. Am. v. 1. p. 195. Elliott, Carol. v. 1. p. 357. Bigel. Fl. Bost. ed. 2. p. 114. ejusd. in Med. Bot. t. 12. Rich. in Frauhl. 1st Journ. ed. 2. p. 10. Torrey, Fl. of Un. St. v. 1. p. 308. De Cand. Prodr. v. 4. p. 99.—3. *angustifolia*; foliolis angustioribus.

HAB. Woody country of North America, between lat. 54° and 64° North. *Dr. Richardson, Drummond.* Canada. *Mrs. Sheppard.* Lake Huron. *Dr. Todd.* Straits of Do Fuca, lat. 48°, on the West coast. *Dr. Scouter.*—*β.* On the Saskatchewan, frequent. Canada. *Mr. Clegborn.*

3. *C. bulbifera*; radicis fibris oblongis tuberoso-carnosis, foliis biternatisectis, laciniis lineari-lanceolatis subserratis, umbellis terminalibus et axillaribus, axillis radiisque bulbiferis. *DC.—Mich. Am. v. 1. p. 165. Pursh, Fl. Am. v. 1. p. 195. Torrey, Fl. of Un. St. v. 1. p. 308. Bigel, Fl. Bost. ed. 2. p. 115. De Cand. Prodr. v. 4. p. 99.*

HAB. Canada. *Michaux.* Lake Huron. *Dr. Todd.* Saskatchewan and York Factory, Hudson's Bay. *Drummond.*

5. ZIZIA. Koch.

Calycis margo obsoletus aut brevissime 5-dentatus. *Petala* elliptica in acumen longum inflexum attenuata. *Fructus* a latere contractus subdidymus subrotundus vel ovalis. *Mericarpia* jugis 5 filiformibus prominulis æqualibus, lateralibus marginantibus. *Vallecula* 1-vittatæ. *Commissura* 2-vittata. *Carpophorum* bipartitum. *Semen* tereti-convexum antice vix planiusculum.—Herbæ perennes *Boreali-Americane.* Caulis subsimplices erecti. Folia uni-*aut* bi-ternatisecta, segmentis oblongis oratis cordatisve. Involucrum nullum; involucella oligophylla varia. Flores flavi, rarius albi aut atro-purpurei. Differt a *Smyrnio semine non involuto et ab Apio petalis longe acuminatis. DC.*

1. *Z. aurea*; foliis biternatisectis foliolis oblongo-lanceolatis basi attenuatis incisoserratis, involucellis triphyllis unilateralibus. *DC.—Koch. Umb. p. 129. De Cand. Prodr. v. 4. p. 106.—Smyrniium aureum. Linn. Sp. Pl. p. 377. Mich. Am. v. 1. p. 171. Elliott, Carol. v. 1. p. 359. Pursh, Fl. Am. v. 1. p. 196. Bigel, Fl. Bost. ed. 2. p. 113.—Thaspium aureum. Nutt. Gen. Am. v. 1. p. 196.—Sison aureum. Spr.—Torrey, Fl. of Un. St. v. 1. p. 304.*

HAB. Canada. *Mrs. Percival, Mr. Sheppard.* Lake Huron. *Dr. Todd.*

2. *Z. cordata*; foliis radicularibus indivisis cordatis crenatis petiolatis, caulibus subsessilibus trisectis, segmentis petiolulatis ovatis cordatis serratis, involucellis submonophyllis. *DC.—Koch. Umb. p. 129. De Cand. Prodr. v. 4. p. 100.—Smyrniium cordatum. Walt. Fl. Carol. p. 114. Mich. Am. v. 1. p. 170. Pursh, Fl. Am. v. 1. p. 196. Elliott, Carol. v. 1. p. 359. Torrey, Fl. of Un. St. v. 1. p. 306.—Smyrniium trifoliatum. Nutt. Gen. Am. v. 1. p. 195. Ric. in Frankl. 1st Journ. ed. 2. App. p. 10.*

HAB. Plains of the Red River. *Douglas.* Saskatchewan, and the River Winnipeg, and Prairies of the Rocky Mountains. *Drummond.*

6. HELOSCIADIUM. Koch.

Calycis margo 5-dentatus obsoletusve. *Petala* ovata integra apice recto vel inflexo. *Styli* breves. *Fructus* a latere compressus, ovatus vel oblongus. *Mericarpia* jugis 5 filiformibus prominulis æqualibus, lateralibus marginantibus, valleculis 1-vittatis. *Carpophorum* integrum liberum. *Semen* gibbo-vel tereti-convexum antice planiusculum.—Herbæ. Umbellæ compositæ. Flores albi. Involucra varia. *DC.*

1. *H.?* *Californicum*; procumbens? foliis pinnatis, pinnis 6–10 jugis cum impari ovatis

acutis inciso-serratis inferioribus pinnatifidis vel pinnatis, pinnulis paucis, umbellis lateralibus terminalibusque, involucri involucrellisque plurifoliolatis, stylis elongatis. *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 142.*

HAB. On the low moist soils of the Columbia. *Douglas.*—This is the same plant with that described in the Botany of Capt. Beechey's Voyage. Mr. Douglas remarks that the "stems are from two to three feet high," from which expression it may probably be inferred that it is not a procumbent plant.

7. AMMI. *Lim.*

Calycis margo obsoletus. *Petala* obovata cum lacinula inflexa, emarginato-biloba, lobis inæqualibus irregularia, exteriora umbellæ sæpius majora. *Fructus* a latere compressus ovato-oblongus. *Mericarpia* jugis 5 filiformibus æqualibus, lateralibus marginantibus, valleculis 1-vittatis. *Carpophorum* liberum bipartitum. *Semen* tereti-convexum, antice planiusculum.—Herbæ habitu *Dauci*, radice fusiformi, foliis pinnatisectis aut multipartitis. Umbellæ compositæ multiradiatæ. Involucrea polyphylla, universale foliolis trifidis pinnatifidisve constans. Flores albi. *DC.*

1. *A. majus*; caule glabro, foliis pinnatisectis, omnium lobis margine cartilagineo argute serrulatis, inferiorum lanceolatis, superiorum multifidis linearibus. *DC.—Linn. Sp. Pl. p. 319. Sibth. Fl. Græca. t. 273. De Cand. Prodr. v. 4. p. 112.*

HAB. Newfoundland. *De la Pylaie, (in De Cand. Prodr.)*

8. CARUM. *Koch.*

Calycis margo obsoletus. *Petala* regularia obovata emarginata cum lacinula inflexa. *Stylopodium* depressum. *Styli* deflexi. *Fructus* a latere contractus ovatus aut oblongus. *Mericarpia* jugis 5 filiformibus æqualibus, lateralibus marginantibus. *Commissura* plana bivittata. *Vallecule* 1-vittatæ. *Carpophorum* liberum apice furcatum. *Semen* tereti-convexum antice planiusculum.—Herbæ glabræ et sæpius perennes. Radix tuberosa edulis. Folia pinnatisecta, segmentis multifidis. Involucrum utrumque varium. Flores albi. *DC.*

1. *C. Carui*; radice fusiformi, foliis bipinnatisectis, segmentis infimis ramorum decussatis omnibus multifidis, involucro utroque nullo. *Linn. Sp. Pl. p. 378. Engl. Bot. t. 1503. De Cand. Prodr. v. 4. p. 115.—β. foliorum segmentis lineari-elongatis.*

HAB. β. Canada. *Mrs. Perciva!*—This is probably introduced; but the foliage is considerably different from that of the European plant, the segments being remarkably long and slender.

9. CRYPTOTANIA. *DC.*

Calycis margo obsoletus. *Petala* obovata subintegra in lacinulam inflexum angustata. *Fructus* a latere contractus lineari-oblongus stylopodio brevi et stylis rectis coronatus. *Mericarpia* jugis 5 æqualibus filiformibus obtusis, 2 lateralibus ante marginem positis. *Fittæ* plurimæ pericarpio subcorticoso, sed arcte adnato, tectæ et carpello transversim scisso tantum visibiles. *Semen* tereti-convexum antice planiusculum. *Carpophorum* liberum apice bifidum.—Herbæ pereans glabræ erectæ. Radix non bulbosa. Folia trisecta segmentis ovatis grosse dentatis, dentibus mucronatis. Umbellæ numerosæ in paniculam fere dispositæ. Radii umbellæ et umbellulæ pauci, valde inæquales. Involucrum nullum. Involucrella oligophylla. Flores albi. *DC.*

1. *C. Canadensis*; umbellis infimis ex foliorum superiorum axillis ortis, fructibus oblongis. *De Cand. Prodr. v. 4. p. 118.*—Sison Canadense. *Linn. Sp. Pl. p. 363. Mich. An. v. 1. p. 168. Bigel. Fl. Bost. ed. 2. p. 114.* Sium Canad. *Lam.*—Chærophyllum Canad. *Pers.*—Myrrhis Canad. *Moris.*—*Torrey, Fl. of Un. St. v. 1. p. 310.*—Conopodium Canad. *Koch.*

HAB. Canada. Lake Huron and Quebec. *Dr. Todd, Mrs. Percival.*—It is chiefly confined to the more southern parts of Canada in British North America.*

10. SIUM. *Koch.*

Calycis margo 5-dentatus subinde obsoletus. Petala obovata emarginata cum lacinula inflexa. Stylopodium pulvinatum margine depressum. Styli divergenti-reflexi apice capitulati. Fructus a latere compressus vel contractus et subdidymus, stylopodio stylisque coronatus; mericarpia jugis æqualibus filiformibus obtusiusculis, valleculis et commissura multivittatis. Carpophorium bipartitum, cruribus mericarpio adnatis, stylopodio pulvinato margine depresso. Semen subteres.—Herbæ plerumque aquaticæ. Folia pinnatisecta segmentis ovatis oblongis dentatis aut multipartitis. Umbellæ terminales multipartitæ; involuero polyphylo, rarius submonophylo. Umbellulæ multifloræ, involucello polyphylo. Flores albi. *DC.*

1. *S. latifolium*; radice repente, caule sulcato-angulato, foliis pinnatisectis segmentis lanceolatis acuminatis basi inæqualibus serratis rarius pinnatifidis, involuero polyphylo, dentibus calycis elongatis. *DC.*—*Linn. Sp. Pl. p. 361. Engl. Bot. t. 204. Bigel. Fl. Bost. ed. 2. p. 111. Torrey, Fl. of Un. St. v. 1. p. 311. De Cand. Prodr. v. 4. p. 124.*—β. foliis profunde inciso-serratis.

HAB. Watery places, Saskatchewan. *Drummond.* β. Straits of De Fuca, North-West coast of America. *Dr. Scouler.*—I find it scarcely possible to distinguish some narrow-leaved states, of what I consider to be this plant, from the following; and I am here again much disposed to concur with Dr. Torrey in thinking they may be only varieties of each other. The present seems to me identical with the European *S. latifolium*.

2. *S. lineare*; caule angulato sulcato, foliis pinnatisectis segmentis 4-5-jugis lineari-lanceolatis acute et tenuiter hinc inde serratis, involuero oligophylo lineari. *DC.*—*Mich. An. v. 1. p. 167. Pursh, Fl. Am. v. 1. p. 194. Torrey, Fl. of Un. St. v. 1. p. 312. De Cand. Prodr. v. 4. p. 125.*

HAB. Watery places, Lake Huron. *Dr. Todd.* Canada, to the mountains and the Saskatchewan. *Drummond.* Moist and overflowed grounds of the Columbia. *Dr. Scouler, Douglas.*—The young submerged leaves of this plant are deeply multiid or tripinnate, with very narrow linear-subulate segments.

* This appears, like many other Canadian plants, to be not unfrequent about Boston, U. S.—The nature of this work only admits of my mentioning, under the respective species of plants, the names of those persons who have favoured me with them from the British Possessions. But I am unwilling to wait till the introductory pages of this work go to press, without expressing my acknowledgments to my valued friends, Dr. Boott of London, and B. D. Greene, Esq. of Boston, U. S. A., for the valuable assistance rendered me in the numerous and beautifully preserved plants they have sent me from the New England States, which, as may be expected from the vicinity of the two countries, are intimately connected with those of Upper Canada: whilst those from the White Mountains, sent me by the same gentlemen, are almost identical with many from the Rocky Mountains, and from the Arctic regions.

3. *S.?* *Douglasii*; caule tereti, foliis pinnatisectis segmentis infimis trisectis cæterisque petiolulatis ovato-oblongis grosse serratis, umbellis oppositifoliis et terminalibus pedunculatis exinvolucratis multiradiatis. *De Cand. Prodr. v. 4. p. 125.*

HAB. North-West America. *Douglas*.—This plant is characterised by Professor De Candolle from a specimen gathered in the Garden of the Horticultural Society of London; and the lower leaves are said to be a foot and a half long. May it not be a luxuriant plant of *Cicuta maculata*?

11. BUPLEURUM. Linn.

Calycis margo obsolete. *Petala* subrotunda integra arcte involuta lacinula lata retusa. *Fructus* n latere compressus vel subclivus, stylopedio depresso coronatus. *Merispermia* jugis 5 alatis acutis filiformibus aut obsolete, lateralibus marginalibus, valleculis vittatis aut evittatis lævibus granulatisvc. *Semen* tereticonvexum antice planiusculum.—*Herbæ aut frutices glaberrimi. Folia rarius secta sæpius limbo abortivo et petiolo dilatato mutata in phylloidi integerrima. Umbellæ compositæ. Involucra varia. Flores flavi. DC.*

1. *B. ranunculoides*; foliis radicalibus lineari-lanceolatis, caulinis amplexicaulibus cordato-oblongis striatis, involuero sub-3-phylo inæquali, involucelli foliolis 5 ovatis mucronatis nervosis distinctis. *DC.—Linn. Sp. Pl. p. 342. De Cand. Prodr. v. 4. p. 131.—B. angulosum. Spreng. in Schultes, Syst. Veget. v. 6. p. 366. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 124. Cham. et Schlecht. in Linnæa, v. 1. p. 283.*

HAB. Cape Mulgrave, in Behring's Straits. *Messrs. Lay and Collie, in Captain Beechey's Voyage.*

Trib. IV. SESELINEÆ. *Fructus sectione transversali teres aut teretiusculus aut merispermis dorso subcompressis.*

12. SESELI. Linn.

Calycis margo 5-dentatus, dentibus brevibus crassiusculis interdum subobliteratis. *Petala* obovata, in lacinulam inflexam coarctata, emarginata, vel subintegra. *Fructus* ovalis vel oblongus, sectione transversali subteres, stylis reflexis coronatus. *Merispermia* jugis 5 prominulis filiformibus vel elevatis crassis corticosis, lateralibus marginantibus et sæpe paulo latoribus. *Vallecule* 1-vittatæ, exteriores rarius 2-vittatæ. *Commissura* bivittata, rarius 4-vitt. *Semen* subsemiteres.—*Herbæ sæpius glauce, biennes aut perennes. Folia pinnatisecta aut ternato-decomposita. Involucrum subnullum; involuella polyphylla. Flores albi, rurrissime flavi. DC.*

1. *S. leiocarpum*; foliis longe vaginantibus triternatis seu triternato-pinnatis, foliolis petiolulatis oblongis integerrimis integris trifidisve glaucis, caule nudiusculo, umbellula composita radiis universalibus valde inæqualibus, umbellis capitatis, floribus dioicis seu polygamis? fructu (immature) levissimo oblongo-cylindraceo, involucris involucellisque nullis. (TAB. XCIII.)

Radix? *Caulis* spithameus, simplex, basi solummodo foliosus. *Folia* longe vaginantia, ad vaginam usque ternata, pinnis seu foliolis primariis divergentibus, longe petiolatis, ternatis seu quinato-pinnatis; pinnulis sesquiuncialibus, oblongis, integris seu bi-trifidis, integerrimis, glaucis, sub lente reticulatim venosis. *Umbella* solitaria (an semper?) composita; radiis valde inæqualibus; aliis vix unciam longis, aliis 3-4 pollicaribus. *Involucra involucellaque* nulla. *Umbellæ* multifloræ, capitato-globose, flavescentes. *Flores* dioici seu polygami. *Fructus* (immature) oblongo-subcylindraceus, levissimus, ad commissuras carinatus. *Styli* reflexi.

HAB. On gravelly soils, near Fort Vancouver on the Columbia, North-West America. *Douglas. Dr. Scouler*.—The young fruit is drawn from a recent plant which flowered in the Garden of the Horticultural Society. The flowers of the native specimens appear to be all abortive.

TAB. XCIII. *S. leiocarpum*. Fig. 1, Male flower; fig. 2, Abortive pistil of the same; fig. 3, Umbellule of immature fruits; fig. 4, Fruit (immature); fig. 5, Section of do.:—*magnified*.

2. *S. triternatum*; foliis longe vaginantibus ternatis foliolis integris seu bi-triternatis elongatis lineari-lanceolatis linearibusve integerrimis petiolulatis, caule inferne præcipue folioso, umbella composita, radiis universalibus subæqualibus, umbellis capitatis, floribus dioicis seu polygamis? fructu (immature) oblongo subcylindraceo, mericarpis jugis 5 elevatis acutis notatis, involucri involucrellisque nullis. (TAB. XCIV.) *Pursh. Fl. Am. v. 1. p. 197. De Cand. Prodr. v. 4. p. 146.*

HAB. Columbia River. *M. Lewis*. Common on the dry gravelly soil near Fort Vancouver. *Douglas. Dr. Scouler*.—Cultivated in the Garden of the Horticultural Society, in 1828, from seeds sent home by Mr. Douglas.—This has much of the habit of the last species; but the leaves and young fruit are very different. The root is fusiform. The petals involute, entire. Styles divaricated. Calyx-teeth obsolete. Fruit with five sharply keeled primary ridges.

TAB. XCIV. *S. triternatum*. Fig. 1, Portion of a leaf; fig. 2, Flower; fig. 3, Immature fruit; fig. 4, Section of do.:—more or less *magnified*.

3. *S. divaricatum*; caule dichotomo folioso, foliis petiolatis breve-vaginantibus bi-tripinnatifidis laciniis lineari-oblongis acutis brevibus, pedunculis lateralibus terminalibusque, umbellarum radiis equalibus, involucrellis lineari-subulatis, fructu subrotundo-ovato dentibus calycinis coronato, mericarpis asperis costis 5 elevatis multivittatis.—*Pursh, Fl. Am. v. 2. p. 732. Sims, Bot. Mag. p. 1742. Nutt. Gen. An. v. 1. p. 194. De Cand. Prodr. v. 4. p. 146.*

HAB. About Carlton House upon the Saskatchewan. *Drummond, Douglas*.—The root is large, tuberous, subfusiform. Stems about a span high. Flowers yellow. Fruit slightly laterally compressed, ovate, rough, with small elevated points; each *achenium* or *mericarpium* is crowned with five conspicuous broadly subulate teeth, the surface marked with five prominent elevated lines, two of which are marginal. The styles are deciduous. The *carpophorum* has two short branches. The *vittæ* are numerous, and appear to anastomose very frequently, and they abound in a powerfully aromatic oil.

13. CNIDIUM. *Cusson*.

Calycis margo obsoletus. *Petala* obovata emarginata cum lacinula inflexa. *Fructus* sectione transversali subteres. *Mericarpia* jugis 5 æqualibus alatis, ala submembranacea, lateralibus marginantibus. *Falliculæ* 1-vittate. *Commissura* bivittata. *Semen* semiteres. *Albumen* hinc applanatum.—*Herbæ perennes rarius suffrutices*. *Folia* pinnati-aut ternatisecta, segmentis multifidis, lobis linearibus. *Involucrium* varium, involucrella polyphylla. *Flores* albi aut rosei. *Proxime accedit ad Scseli, sed jugis fructus membranaceo-alatis et calycis margine obsoleto differt. DC.*

1. *C. Canadense*; caule angulato flexuoso, foliis bipinnatisectis lucidis segmentis multipartitis, laciniis lanceolatis, involuero utroque oligophyllo. *DC.—Sprucey. in Schultes Syst. Veget. v. 6. p. 415. De Cand. Prodr. v. 4. p. 153. Torrey, Fl. of Un. St. v. 1. p. 306.—*

Selinum Canadense. *Mich. An. v. 1. p. 155. Pursh, Fl. Am. v. 1. p. 192. Nutt. Gen. Am. v. 1. p. 180.*—Apium bipinnatum. *Walt. Carol. p. 115. (fide Pursh.) DC.*

HAB. Mouth of the St. Lawrence, Canada. *Michaux.*—Of this plant, I regret to say, I know nothing. Pursh speaks of it as having white flowers, and as inhabiting the mouths of large rivers from Canada to Carolina.

14. THASPIUM. *Nutt.*

Calycis margo 5-dentatus. *Petala* elliptica in acumen longum inflexum attenuata. *Fructus* a latere non contractus subellipticus. *Mericarpia* convexa jugis 5 alatis, alis subæqualibus, vallecule striatis 1-vittatis. *Commissura* 2-vittata. *Semen* teres.—Herbæ perennes Boreali-Americanae. Involucrum nullum. Involucellum 5-phyllum 1-laterale.—Genus a Smyrnio et Zizia distinctissimum, Conilio evidenter ex fructu affine, sed distinctum calyce 5-dentato, petalis non emarginatis, involucellis triphyllis et habitu. *DC.*

1. *T. actæifolium*; foliis biternati-sectis, segmentis ovalibus æqualiter dentatis, umbellis subverticillatis, lateralibus sterilibus. *DC.*—*Nutt. Gen. Am. v. 1. p. 197. De Cand. Prodr. v. 4. p. 154.*—Ligusticum actæifolium. *Mich. An. v. 1. p. 166. Pursh, Fl. Am. v. 1. p. 193.*

HAB. Near Tadoussach, on the banks of the St. Lawrence, Canada. *Michaux.*

15. LIGUSTICUM. *Koch.*

Calycis margo 5-dentatus vel obsoletus. *Petala* obovata acuta emarginata cum lacinula inflexa, brevissime unguiculata. *Fructus* sectione transversali subteres vel a latere parum compressus. *Mericarpia* jugis 5 argutis subalatis æqualibus, lateralibus marginantibus. *Vallecule* et commissura multivittatæ. *Semen* subsemiteres.—Herbæ pteræque perennas. Folia decomposita aut ternatisecta. Involucrum varium; involucella polyphylla. Flores albi. *DC.*

1. *L. Scoticum*; caule simpliciusculo striato, foliis biternatis opacis, segmentis subrhombicis dentato-serratis, involucris lineari-lanceolatis 5-7-phyllis. *DC.*—*Lin. Sp. Pl. p. 359. Engl. Bot. t. 1207. Mich. An. v. 1. p. 157. Pursh, Fl. Am. v. 1. p. 193. Torrey, Fl. of Un. St. v. 1. p. 313. Cham. et Schlecht. in Linnea, v. 1. p. 390. De Cand. Prodr. v. 4. p. 157. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 115. et p. 125.*

HAB. Shores of the St. Lawrence. *Michaux. Mrs. Sheppard. Labrador. Dr. Morrison. Newfoundland. Miss Brenton. Mouth of the Columbia. Douglas. Observatory Inlet. Dr. Scouler. Behring's Straits. Chamisso. Messrs. Lay and Collie in Capt. Beechey's Voyage.*

16. CONIOSELINUM. *Fisch.*

Calycis margo obsoletus. *Petala* obovata aut obovata cum lacinula inflexa. *Styli* demum divergentes reflexi. *Fructus* a dorso compressiusculus aut convexus. *Mericarpia* jugis 5 alatis, lateralibus subduplo latioribus marginantibus. *Vallecule* laterales 3-vittatæ, dorsales sæpe 2-vittatæ. *Commissura* 4-8 vittatæ, vittis inæqualibus. *Carpophorum* bipartitum. *Semen* line planum.—Herbæ biennes glabræ. Caules ramosi fistulosi. Folia bipinnatisecta, segmentis pinnatifidatis, lobis oblongo-linearibus. Umbellæ terminalis multiradiatæ, involucri nullo aut oligophyllo. Involucelli foliola 5-7 lineari-subulata umbellæ

subæqualia aut longiora. Flores albi.—*Ambigit inter Peucedaneas et Seselinas; ad priores mericarpiis alatis, ad posteriores mericarpiis magis convexis accedens. DC.*

1. *C. Fischeri.*—“*Wimm. et Grab. ex Fl. 1828. App. p. 215.*” *De Cand. Prodr. v. 4. p. 164. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 124.*—“*C. Tataricum. Hoffm.*”—“*Ligusticum Gmelini. Cham. et Schlecht. in Linnaea, 1826. p. 394. Gmel. Fl. Sib. v. 1. p. 195. t. 44.*”

HAB. Arctic Sea-coast, between the Coppermine and Mackenzie Rivers. *Dr. Richardson. Labrador. Dr. Morrison. Straits of de Fuca, on the North-West coast. Dr. Scouler. Kotzebue's Sound. Messrs. Lay and Collie in Capt. Beechey's Voyage.*

Trib. V. ANGELICÆ. *Fructus a dorso mericarpiorum compressus, raphe subcentrali, marginibus mericarpiorum in alam (ideo duplicem) expansis. DC.*

17. SELINUM. *Hoffm.*

Calycis margo obsoletus. *Petala* obovata emarginata. *Fructus* a dorso compressus, raphe centrali utrinque bialatus. *Mericarpia* jugis 5 membranaceo-alatis, ala jugorum lateralium duplo latiore. *Falliculæ* 1-vittatae, exteriores sæpe 2-vittatae. *Commissura* bivittata. *Carpophorum* bipartitum.—*Herbæ glabræ perennes. Folia ternato-decomposita, segmentis pinnatifidis. Umbellæ compositæ. Involucrum oligophyllum; involucella polyphylla. Flores albi. DC.*

1. *S. terebinthinum;* ubique glabra, foliis decomposito-pinnatifidis rigidis glaucis laciniis brevibus linearibus acutis, pedunculis elongatis, involuero nullo, involucelli foliolis linearibus brevibus, mericarpiis singulis alis 5 latissimis undulatis. (TAB. XCV.)—*Laserpitium terebinthinum. Dougl. MSS. in Herb. Hort. Soc. Lond.*

“*Radix* crassa, fusiformis, gummum terebinthinum copiosum viscidum stillans.” (*Dougl.*) *Caulis* erectus brevis, firmus, teres, vix ramosus. *Folia* petiolata, sublonge vaginantia, decomposito-pinnatifida, rigida, glauca, laciniis lineam seu sesquilineam longis, acutis, rachide petioloque teretibus striatis. *Pedunculi* (fructiferi) elongati, crassi, folia excedentes. *Umbellæ* composita, radiis valde inæqualibus. *Involucrum* nullum. *Involucellum* parvum, foliolis linearibus. *Flores* specimen meo absunt. *Pedicelli* plurimi, abortivi. *Calycis* dentes subfoliacei, decidui. *Fructus* majusculus, ovalis, compressus. *Mericarpia* 5-alata, alis latissimis membranaceis undulato-crispatis. *Vitte* numerosæ.

HAB. Common on the sandy grounds of the Wallawallah River, North-West coast of America. *Douglas.*—Of the Genus of this remarkable plant, I am very doubtful. I possess only one specimen, and that is in fruit: but I do not find that this fruit corresponds accurately with any described Genus.

TAB. XCV. *S. terebinthinum. Fig. 1, Involucellum; fig. 2, Young fruit; fig. 3, Mature fruit; fig. 4, Mericarps separating from the carpodium; fig. 5, Section of a mericarp:—more or less magnified.*

18. ANGELICA. *Hoffm.*

Calycis margo obsoletus. *Petala* lanceolata integra acuminata, acumine recto vel incurvato. *Fructus* a dorso compressus, raphe centrali utrinque bialatus. *Mericarpia* jugis tribus dorsalibus filiformibus elevatis, 2 lateralibus in alam membranaceam multo aut paulo latiore dilatatis. *Falliculæ* 1-vittatae. *Semen* subsemiteres. *Carpophorum* bipartitum liberum.—*Herbæ perennes bienneses. Folia bipinnatisecta. Umbellæ terminales. Involucrum nullum aut oligophyllum, partiale polyphyllum. Flores albi. DC.*

1. *A. lucida*; caule tereti glabro, foliis bipinnatisectis, segmentis æqualibus ovatis inciso-serratis, vaginis dilatatis, involucre involucellisque 5-phyllis. DC.—*Linn. Sp. Pl.* p. 360. *Jacq. Vind.* v. 3. p. 24. *Pursh, Fl. Am.* v. 1. p. 193. *Elliott, Carol.* v. 1. p. 353. *Torrey, Fl. of Un. St.* v. 1. p. 316. *De Cand. Prodr.* v. 4. p. 168.

HAB. Canada. *Pursh.*

2. *A. triquinata*; caule tereti superne pubescente, foliis bipinnatisectis, segmentis ramorum petioli inferioribus trisectis, omnibus ovalibus utrinque acuminatis argute serratis, umbella florente pubescenti-velutina. DC.—*Mich. Am.* v. 1. p. 167. *Pursh, Fl. Am.* v. 1. p. 193. *Elliott, Carol.* v. 1. p. 352. *Torrey, Fl. of Un. St.* v. 1. p. 315. *De Cand. Prodr.* v. 4. p. 168.—*Pastinaca triquinata.* *Spreng. Sp. Umb.* p. 68. t. 6. f. 2.—*Ferula villosa.* *Walt. Carol.* p. 115. *Pursh, Fl. Am.* v. 1. p. 192. (excl. syn. *Cicutæ venenatæ*, ex *Torrey.*)

HAB. Canada. *Michaux. Pursh.*

3. *A. atro-purpurea*; caule lævi colorato, foliis bipinnatisectis, segmentis ovatis acutis inciso-serratis sublobatis terminalibus confluentibus, petiolis late dilatatis, ramis et umbellis pubescentibus. DC.—*Linn. Sp. Pl.* p. 360. *Pursh, Fl. Am.* v. 1. p. 193. *Torrey, Fl. of Un. St.* v. 1. p. 316. *De Cand. Prodr.* v. 4. p. 168.—*Angelica triquinata.* *Bigel. Fl. Bost. ed. 2.* p. 68.—*Archangelica atro-purpurea.* *Hoffm. Umb.* p. 169.

HAB. Canada. *Pursh.*—I have myself seen no Canadian specimens of any of the three species of this Genus.

19. ARCHANGELICA. Hoffm.

Calycis margo breve 5-dentatus. *Petala* elliptica integra acuminata, acumine incurvato. *Fructus* a dorso subcompressus, raphe subcentrali, utrinque bialatus. *Mericarpia* jugis crassiusculis carinatis, 3 dorsalibus elevatis, 2 lateralibus in alam duplo latiore dilatatis. *Semen* tegumento non adhærens. *Carpophorum* bipartitum.—*Herbæ perennes.* Folia pinnatisecta, segmentis late ovatis acutis grosse dentatis terminalibus lobatis. Petioli ampli vaginanti-saccati. Involucrum univ. subnullum, partiale dimidiatum polyphyllum. Flores albi aut subvirescentes. DC.

1. *A. officinalis*; caule glabro tereti striato, foliis bipinnatisectis, segmentis subcordatis lobatis argute serratis, extremo trilobo, vaginis laxis saccatis, involucelli foliolis umbellulam æquantibus. DC.—*Hoffm. Umbel.* v. 1. p. 166. f. tit. 19, 20. *De Cand. Prodr.* v. 4. p. 169.—*Angelica Archangelica.* *Linn. Sp. Pl.* p. 360. *Engl. Bot. t.* 2561. *Cham. et Schlecht. in Linnæa,* v. 1. p. 394.

HAB. Unalashka to the Bay of Eschscholtz. *Chamisso.*

2. *A. Gmelini*; caule glabro tereti striato, foliis ternatisectis, segmentis tripartitis lobis ovatis serratis basi cuneatis, vaginis mediocribus, involucelli foliolis umbellam florentem subæquantibus. *De Cand. Prodr.* v. 4. p. 170.—“*Angelica Gmelini.* *Wormsk. ex Fisch. in litt.*—*Apium ternatum.* *Pall. in Spreng. Syst. Veget.* v. 1. p. 890?”

HAB. Kotzebue's Sound, (according to *Dr. Fischer*, in *De Cand. Prodr.*)

Trib. VI. PEUCEDANÆÆ. *Fructus a dorso mericarpiorum compressus, raphe marginali, marginibus in alani (simplicem ex duobus) expansis. DC.*

20. FERULA. Linn.

Calycis margo breve 5-dentatus. *Petala* ovata integra acuminata, acumine adscendente vel incurvo. *Fructus* a dorso plano-compressus margine complanato dilatato cinctus. *Mericarpia* jugis 3 dorsalibus filiformibus 2 lateralibus obsolete in marginem dilatatum abeuntibus. *Vitte* in valleculis dorsalibus 3 aut plures, in commissura 4 aut plurimæ. *Semen* complanatum. *Carpophorum* bipartitum.—Herbæ *radice crassa, caule elato, foliis supra-decompositis, segmentis sæpius in laciniis lineares fissis. Umbellæ multiradiatæ, laterales sæpe oppositæ aut verticillatæ. Involucra variâ. Flores lutei. DC.*

1. *F. feniculacea*; pubescens, caule brevi, foliis supradecompositis, segmentis linearibus angustissimis brevibus acutis, involucri nullo, involucello unilaterali dimidiato digitato segmentis linearibus.—*Nutt. Gen. Am. v. 1. p. 183. De Cand. Prodr. v. 4. p. 174.*—*Pastinacæ feniculacæ. Spreng. in Schultes, Syst. Veget. v. 6. p. 587.*

HAB. Near Fort Vancouver, and barren sandy grounds on the Columbia River. *Douglas. Dr. Scouler.* Low hills near the source of the Wallawallah. *Douglas.* Carlton House on the Saskatchewan. *Drummond.*—This exactly corresponds with specimens I possess from the "Bluffs" of the Missouri, gathered by Mr. Bradbury. The peduncles sometimes arise from the root, more frequently from a short stem: the flowers are yellow in some specimens, in others white, perhaps the consequence of drying.

2. *F. Nuttallii*; parva, subcaulis, glabra, foliis supradecompositis segmentis linearibus brevissimis acutis, involucri nullo, involucello unilaterali dimidiato digitato segmentis linearibus.—*De Cand. Prodr. v. 4. p. 174.*—*F. nudicaulis. Nutt. Gen. Am. v. 1. p. 182.*—*Smyrniium nudicaule. Pursh. Fl. Am. v. 1. p. 196.*

HAB. Plains of the Columbia River. *M. Lewis.* Banks of streams, among stones, at the "Great Falls" of the same River. *Douglas.*—If I am correct in referring Mr. Douglas' specimens to the present species, it is a smaller plant than the preceding, quite glabrous, with shorter segments to the leaves. The root is fusiform, and the whole plant has a good deal the odour of Fennel, but is more aromatic. The Umbelliferous plant, described by Dr. Torrey in the "Plants of the Rocky Mountains," (p. 207,) is very nearly allied to the present, but smaller, and with less compound leaves. It is hardly possible to determine accurately the Genera of either in the absence of fruit.

3. *F. ? Palmella*; glabra subcaulis, foliis bipinnatifidis sublonge petiolatis glaucis, segmentis linearibus obtusiusculis inferioribus non raro iterum pinnatifidis, pedunculo foliis subbreviares, involucri nullo, involucello unilaterali dimidiato palmato disco florifero.

HAB. About Carlton House, on the Saskatchewan. *Drummond.*—I possess the same species from the Missouri, gathered by Mr. Bradbury. The root is large, thick, subfusiform. The whole plant not more than a span high, glaucous. Petioles long and slender. The involucels are very remarkable, truly palmate, gradually tapering into a broad petiole or ray, and bearing the small umbellulæ of white flowers on the disk. The immature fruit appears to be that of a *Ferula*.

4. *F. ? Canadensis*; "foliorum segmentis ramosis lucidis linearibus."—*Linn. Sp. Pl. p. 174. De Cand. Prodr. v. 4. p. 174.*

HAB. Canada. *Linneus.*—This plant, whatever it may be, seems wholly unknown to recent Botanists.—Two other Umbelliferous plants, allied to the above, and probably referable to *Ferula*, are in the collection

of Mr. Douglas, from the Columbia, but in too imperfect a state to enable me to refer them satisfactorily to this or any other Genus.

21. IMPERATORIA. Linn.

Calyx *margo* obsoletus. *Petala* obovata in lacinulam inflexam cœretata emarginata vel subintegra. *Fructus* a dorso plano vel lenticulari-compressus margine dilatato complanato cinctus. *Mericarpia* jugis subæquidistantibus, 3 intermediis filiformibus, 2 lateralibus obsoletioribus margine dilatato contiguus vel in eundem abeuntibus. *Valleculæ* 1-vittate, laterales subinde sesqui-vel bivittate. *Commissura* sæpius bivittata. *Carpodium* bipartitum. *Semina* antice plana.—Herbæ *glabræ perennes*. *Caulis teres striatus*. *Folia bi- aut triteriati-secta, segmentis ovatis oblongisve serratis*. *Umbellæ amplæ compositæ*. *Involucrum nullum*. *Involuella oligophylla*. *Flores albi*.—*Species habitu accedunt hinc ad ultimam Peucedani sect., illinc ad Angelicam*. DC.

1. *I. Ostruthium*; foliis ternato-sectis, segmentis late ovatis trilobatis inciso-serratis, lateralibus basi inæqualibus, vaginis amplis. DC.—*Linn. Sp. Pl. p. 372. Engl. Bot. t. 1380. De Cand. Prodr. v. 4. p. 183.*—Peucedanum Ostruthium, Koch.

HAB. Newfoundland. *De la Pylaie, in De Cand. Prodr.*

22. PASTINACA. Linn.

Calyx *margo* obsoletus vel minute denticulatus. *Petala* subrotunda integra involuta, lacinula lata retusa. *Fructus* a dorso complanato-compressus, margine dilatato complanato cinctus. *Mericarpia* jugis tenuissimis, 3 intermediis æquidistantibus, 2 lateralibus margine contiguus. *Vittæ* lineares acuta jugis vix breviores, in valleculis solitarie; in commissura 2 aut plurimæ. *Carpophorum* bipartitum. *Semen* complanatum.—Herbæ *radice fusiformi sæpius carnosa, foliis pinnatisectis, segmentis dentatis incisus aut lobatis*. *Umbella composita, involucra utraque nulla aut oligophylla*. *Flores flavi*. DC.

1. *P. sativa*; caule sulcato foliis pinnatisectis segmentis ovato-oblongis obtusis crenato-dentatis basi incisus, extremo trilobo, involucris involucellisque nullis, calycis dentibus obsoletis, fructibus ovalibus, commissura bivittata. DC.—*Linn. Sp. Pl. p. 188. Pursh, Fl. Am. v. 4. p. 196. Engl. Bot. t. 556.*

HAB. On the Saskatchewan and Red Rivers. *Douglas. Drummond.*

23. HERACLEUM. Linn.

Calyx 5-dentatus. *Petala* obovata, emarginata cum lacinula inflexa, exteriora sæpe radiantia bifida. *Fructus* a dorso plano-compressus margine dilatato complanato cinctus. *Mericarpia* jugis tenuissimis, 3 dorsalibus æquidistantibus, 2 lateralibus margini dilatato contiguus remotis. *Vittæ* dorsales 4, in valleculis solitarie, commissurales sæpius 2, omnes fructu breviores sæpius clavulate. *Carpophorum* bipartitum. *Semen* complanatum.—Herbæ *ample, foliis pinnatisectis trisectis aut lobatis; petioli ample vaginantes*. *Umbellæ multiradiatæ*. *Involucrum calicem sæpius oligophyllum*. *Involucellum polyphyllum*. DC.

1. *H. lanatum*; foliis trisectis petiolulatis subtus tomentosus supremis trilobis, segmentis late ovato-subrotundis lobatis serratis, involucelli foliolis parvis subulato-lanceolatis, fructibus late obcordato-ovalibus, commissura bivittata, floribus radiautibus.—*Mich. Am. v. 1. p. 166.*

Pursh, Fl. Am. v. 1. p. 181. Bigel, Fl. Bost. ed. 2. p. 110. Torrey, Fl. of Un. St. v. 1. p. 313.—II. *Sphondylium. Cham. et Schlecht. in Linnæa, v. 1. p. 394. Rich. in Frankl. 1st Journ. vol. 2. App. p. 10.*

HAB. Canada. *Michaux*; and as far north as the Mackenzie River, in lat. 58°. *Dr. Richardson, Drummond.* Moist banks of streams, North-West America, where the roots and young stems are eaten by the Chenook Indians. *Douglas, Dr. Scouler.* Unalasehka. *Chunisso.*—This plant is called *Pehpoun-ahlic*, (flute stem,) by the Cree Indians: and the young stems are used as Potherb. *Richardson.*

2. *H. Douglasii*; foliis subtus petiolisque scabris superne glabris trisectis, segmentis petiolulatis cordatis 3-5-lobis acuminatis dentatis, involucri foliolis plurimis apice subulatis, fructibus obovatis glabris, vittis dorsalibus elongatis subclavulatis, commissura 2 brevibus claviformibus, et 2 aliis minimis subabortivis. *De Cand. Prodr. v. 1. p. 193.*

HAB. North-West America. *Douglas.* (ex *De Cand. fil. in Prodr.*)—I suspect this is only a variety of *H. lanatum*, which I possess both from Mr. Douglas and Dr. Scouler, gathered in North-West America.

†† *Multijugata, nempe jugis primariis et secundariis donata.*

Trib. VII. THAPSIEÆ. *Fructus a dorso mericarporum compressus vel subteres, jugis primariis lateralibus sub plano commissurali impositis, secundariis plurimis in alam expansis.*

24. LASERPITIUM. *Linn.*

Calycis margo 5-dentatus. Petala obovata emarginata cum lacinula inflexa. Fructus a dorso compressus vel subteres 8-pterus nempe mericarpia jugis primariis 5 filiformibus, secundariis 4, omnibus in alam expansis, valleculis sub jugis secundariis 1-vittatis, carpophoro libero bipartito.—Herbæ. *Folia 2-3-pinnatisecta, segmentis integris dentatis incisiss.* Umbellæ *multiradiatæ speciosæ.* Involucrum *utrinque polyphyllum.* Flores *albi, rarius flavi.*—*Genus alis 8 distinctissimum. DC.*

1. *L. hirsutum*; foliis supra decompositis hirsutis segmentis angustis pinnatifidis, lobis abbreviatis linearibus cuspidatis, involucri foliolis membranaceis apice subtrifidis ciliatis, fructuum alis tenuibus planis. *DC.—Lam. Fl. Fr. v. 3. p. 648. De Cand. Prodr. v. 4. p. 205. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.—Hall. Hebr. n. 795. t. 19.*

HAB. Kotzebue's Sound. *Messrs. Lay and Collie in Capt. Beechey's Voyage.*

Trib. VIII. DAUCINEÆ. *Fructus a dorso mericarporum subcompressus aut terces, jugis primariis lateralibus plano commissurali impositis, secundariis in aculeos liberos aut in alam basi comatos expansis. DC.*

25. DAUCUS. *Linn.*

Calycis margo 5-dentatus. Petala obovata emarginata inflexa, exteriora sæpe radiantia et profunde bifida. Fructus a dorso subcompressus ovatus aut oblongus. Mericarpia jugis primariis 5 filiformibus setulosis, 3 intermedii dorso, 2 lateralibus plano commissurali impositis; secundariis 4 aequalibus magis prominulis alatis in seriem simplicem aculeatam partitis, valleculis sub jugis secundariis 1-vittatis. Semen antice planiusculum.—Herbæ *sæpius biennes. Folia bipinnatisecta. Involucrum foliolis plurimis tri-ut pinnatifidis,*

involucellum *foliis plurimis integris aut trifidis*. Flores albi aut flavi, centralis sæpe carnosus atro-purpureus sterilis. DC.

1. *D. microphyllus*; caule pilis mollibus retrorsis villosis, foliis villosis bipinnatisectis segmentis in laciniis lineares sectis, involucri foliolis pinnatifidis umbellam parvam confertam subsequantibus neculis fructus ovati latitudinem subsequantibus apice distincte glochidatis. DC.—“*Presl. in Herb. Hænk.*” *De Cand. Prodr.* v. 4. p. 213.

HAB. Nootka-Sound. *Hænk.* Straits of De Fuca. *Dr. Scouler.* Rocky places of the Grand Rapids of the Columbia, and on the plains of the Multnomak River. *Douglas.*

SUBORD. II. CAMPYLOSPERMÆ. *Albumen intus sulco longitudinali ob margines involutos notatum. (Paucijugata.)*

Trib. IX. SCANDICINÆ. *Fructus a latere compressus aut contractus, elongatus sæpe rostratus.*

26. OSMORHIZA. *Rafin.*

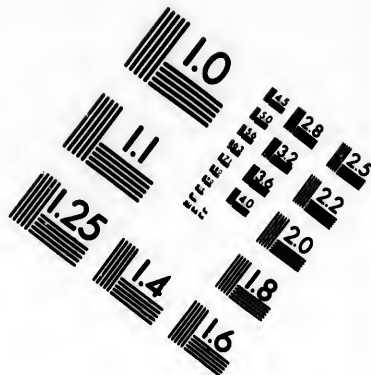
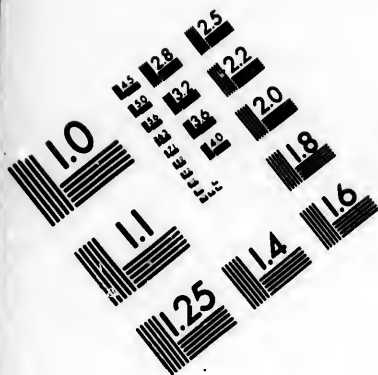
Calycis margo obsoletus. *Petala* obovata vix ac ne vix emarginata acumine brevissimo inflexa. *Fructus* elongatus basi in caudam attenuatus solidus acuto-angulatus, sectione transversali subteres. *Mericarpia* nungulis subsulcatis hispidis, jugis 5 acutis, commissura sulcata, valleculis planis evittatis. *Semen* teres, anguste involutum, tubo calycino multo brevius. *Carpopodium* semibifidum.—Herbæ *Americanae perennes*. Radices *fusiformes odoratæ*. Caulis *ramosus bipedalis*. Folia *bipinnatisecta, segmentis late ovato-lanceolatis inciso-secutatis*. Involucrum 2-3 *phyllum*, involucella sæpius 5-*phylla, foliolis utriusque lanceolatis ciliatis*. Flores albi, *centrales* umbellulæ masculi, *exteriores fertiles*. DC.

1. *O. longistylis*; glabra v. subhirsuta, stylis elongatis subulato-filiformibus fructibus clavatis, involucris persistentibus (TAN. XCVI.)—*De Cand. Prodr.* v. 4. p. 232.—Myrrhis longistylis. *Torrey, Fl. of Un. St.* v. 1. p. 310.—*Uraspermum* Claytoni. *Nutt. Gen. Am.* v. 1. p. 193. *Bigel. Fl. Bost.* ed. 2. p. 112.—Myrrhis Claytoni. *Spr. Sp. Umbell.* p. 129. t. 3. f. 6.

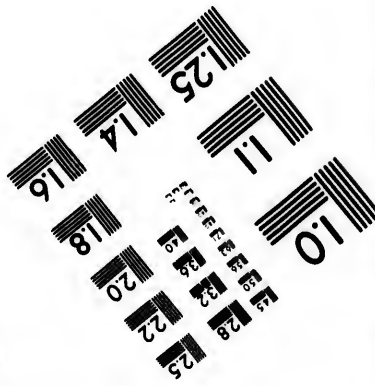
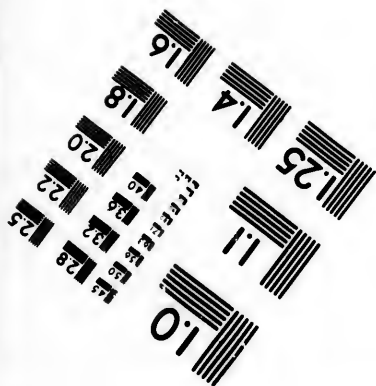
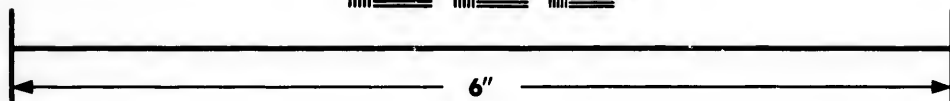
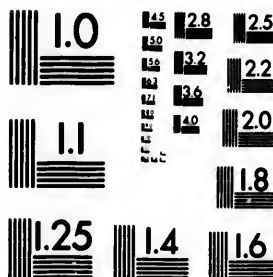
Radix crassa, fusiformis, ramosa, Anisi odore. *Caulis* erectus, ramosus, tereti-striatus, sesquipedalis ad pedalem. *Folia inferiora* longo petiolata, superiora sessilia, bipinnatisecta, segmentis seu foliolis 2-3-uncialibus, ovatis subcordatisque, subacuminatis, pinnatifido-lobatis, serratis, glabris, vel magis minusve hirsutis. *Umbellæ umbellulæque* pauci-radiatæ, divaricatæ. *Involucra involucellæque* e foliolis subquinque, lanceolato-acuminatis, ciliatis, demum reflexis, persistentibus. Flores albi. *Calyx* obsoletus. *Petala* obovata, laciniis inflexa. *Styli* erecto-divergentes, geminis longitudine fere dimidiam æquantibus. *Fructus* oblongus obtusus inferne valde attenuatus seu omnino clavatus, stylis longis erectis coronatus, lateraliter compressus, jugis 5 acutis, appresso-hispidis, duobus lateralibus marginantibus. *Vitte* nullæ. *Semen* antice profunde salentum.

HAB. Throughout Canada, from Lake Huron. *Dr. Todd.* Quebec. *Mrs. Percival. Mrs. Sheppard. Lady Dalhousie;* to the Saskatchewan, *Dr. Richardson. Drummond.* Shady woods, North-West America, in the lat. of the Columbia. *Douglas.*—Much confusion has existed, and I fear still exists, respecting the two North American species of *Osmorhiza*, both of which, by the less recent authors, have been considered as one, under the name of *Myrrhis Claytoni*. They were separated by Dr. Torrey, and Dr. Bigelow, in their respective publications which appeared in the same year, 1824: so that it is hard to say which has the priority in regard to date. I have preferred the names given by De Candolle, as the most expressive of the essentially distinguishing characters.





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TAB. XCVI. *O. longistylis*. Fig. 1, Fruit; fig. 2, Fruit with the mericarps separating; fig. 3, Section of an entire fruit:—magnified.

2. *O. brevistylis*; plerumque pubescens, stylis brevissimis rectis conico-attenuatis fructu basi (præcipue) apiceque attenuatis, involucris deciduis, pedunculis pedicellisque tenuissimis elongatis. (TAB. XCVII.)—*De Cand. Prodr. v. 4. p. 232.*—Myrrhis Claytoni. *Mich. Am. v. 1. p. 70?* Torrey, *Fl. of Un. St. v. 1. p. 309.*—Chærophyllum Claytoni. *Pursh, Fl. Am. v. 1. p. 195.*—Uraspermum hirsutum. *Bigel. Fl. Bost. ed. 2. p. 112.*

Habitus fere omnino præcedentis. *Folia* simillima sed minora, magis membranacea, nitida, utrinque pubescentia. *Umbellæ* longiores. *Pedunculi* pedicellique elongati, gracillimi. *Involucra* involucellaque decidua. *Fructus* superne angustatus subrostratus, inferne insigniter attenuatus, stylis brevissimis basi dilatatis rectis coronatus. *Semen* minus profunde sulcatum.

HAB. Canada. *Lady Dalhousie*. Mrs. Sheppard. Woody places on the West side of the Rocky Mountains. *Drummond*. From the mouth of the Columbia to Observatory Inlet, in lat. 55°, North-West America. *Dr. Scouler. Douglas.*—The more hairy leaves, the long slender peduncles and pedicels, the short styles and differently shaped fruit distinguish this plant from the preceding.

TAB. XCVII. *O. brevistylis*. Fig. 1, Fruit; fig. 2, Fruit with the mericarps separating from the carpodium; fig. 3, Section of the entire fruit.

Trib. X. SMYRNEÆ. *Fructus turgidus a latere compressus vel contractus. DC.*

27. CONIUM. Linn.

Calycis margo obsoletus. *Petala* obcordata submarginata cum lacinula brevissima inflexa. *Fructus* a latere compressus ovatus. *Mericarpia* jugis 5 prominulis undulato-crenatis æqualibus lateralibus marginantibus. *Valleculæ* multistriatæ evittatæ. *Carpophorum* apice bifidum. *Semen* sulco profundo angusto incisum eoque complicatum.—Herbæ Europeæ biennes venenatæ. *Radix fusiformis*. *Caulis teres ramosus*. *Folia decomposita*. *Involucrum utrinque 3-5 phyllum, partiale dimidiatum*. *Flores albi, omnes fertiles. DC.*

1. *C. maculatum*; involucelli foliolis lanceolatis umbellula brevioribus. *DC.*—*Linn. Sp. Pl. p. 349. Engl. Bot. t. 1191. Pursh, Fl. Am. v. 1. p. 195. Bigel. Fl. Bost. ed. 2. p. 110. Torrey, Fl. of Un. St. v. 1. p. 312.*

HAB. Canada. About Quebec: introduced. Mrs. Percival. Mrs. Sheppard.

ORD. XLIV. ARALIACEÆ. Juss.

1. ADOXA. Linn.

Calycis tubus adnatus, lobi 4-5 ovales. *Petala* 0. *Stam.* 8-10, nempe sepalis alia alterna (an *petala* transmutata?) et alia opposita. *Styli* 4-5 crassi distincti ex apice ovarii calycem superantes. *Bacca* 4-locul. 4-sperma. *Semina* margine membranaceo cincta.—Herbæ tenera moschum redolens. *Radix ad collum squamata*. *Folia radicalia petiolata, petiolo trifido segmentis tripartitis obtuse lobatis*. *Scapus apice gerens capitulum 5-florum*. *Flores sessiles virescentes.*—*Genus diu cum Saxifrageis confusum, huc, suadente Cl. Jussieu, pertinet, ex embryone inverso, fructu baccato indehiscente, stylis 4-5, et habitu ad Pannaces herbaceas accedit. DC.*

1. *A. Moschatellina*.—Linn. *Sp. Pl.* p. 257. *Engl. Bot.* t. 453. *Rich. in Frankl. 1st Voy. ed. 2. App.* p. 13.

HAB. Woody country, between lat 54° and 64° North. *Dr. Richardson*. Rocky Mountains, between lat. 42° and 46° North. *Drummond*.—This was likewise found by Dr. James, in the more southern chain of the Rocky Mountains.

2. PANAX. Linn.

Flores polygami. *Calycis margo* brevissimus obsolete 5-dentatus. *Pet.* 5. *Stam.* totidem sub margine disci cum petalis inserta et iis alterna. *Styli* 2 breves. *Fructus* carnosus compressus orbiculatus aut didymus bilocularis, loculis coriaceo-chartaceis 1-spermis.—*Herbæ*, frutices et arbores. *Folia et inflorescentia varia.* DC.

1. *P. quinquefolium*; caule herbaceo, radice fusiformi foliis ternatim verticellatis petiolatis quinato-digitatis, foliolis obovatis acuminatis serratis petiolulatis, pedunculo foliis multo brevioribus, stylis seminibusque 2.—Linn. *Sp. Pl.* p. 1512. *Mich. Am. v. 2. p. 256.* *Pursh, Fl. Am. v. 1. p. 191.* *Sims, Bot. Mag. t. 1333.* *Elliott, Carol. v. 2. p. 691.* *Bigel. Med. Bot. III. p. 82. t. 29.* *Bigel. Fl. Bost. ed. 2. p. 375.* *Torrey, Fl. of Un. St. v. 1. p. 292.* *De Cand. Prodr. v. 4. p. 252.*

HAB. Canada. *Michaux. Mr. Cleghorn*.—My specimen of *P. quinquefolium*, from the Mountains of Sheopore in Nipal, (the true *Ginseng*? of the East,) for which I am indebted to Dr. Wallich, has the leaves often in fours, narrower leaflets, and the nerves hispid on the upper side: yet in other respects, it does not appear different from our American species.*

2. *P. trifolium*; caule herbaceo, radice tuberosa, foliis ternatim verticillatis petiolatis 3-5-nato-digitatis, foliolis lanceolatis acutis serratis, pedunculo foliis æqualibus, stylis seminibusque 3.—Linn. *Sp. Pl.* p. 1512. *Mich. Am. v. 2. p. 256.* *Pursh, Fl. Am. v. 1. p. 191.* *Elliott, Carol. v. 2. p. 692.* *Bigel. Fl. Bost. ed. 2. p. 376.* *Torrey, Fl. of Un. St. v. 1. p. 291.* *De Cand. Prodr. v. 4. p. 252.*—*P. pusilla.* *Sims, Bot. Mag. t. 1334.*

HAB. Canada. Lake Huron. *Dr. Todd*. About Quebec. *Mrs. Percival. Mrs. Sheppard*.

3. *P. horridum*; fruticosum subrepens ubique aculeatum, foliis palmato-lobatis inciso-serratis, umbellis capitatis racemosis, stylis seminibusque 2. (TAB. XCVIII.)—*Sm. in Rees' Cycl. n. 10. De Cand. Prodr. v. 4. p. 252.*—*Aralia erinacea.* *Hook. in Scouler's Voy. in Brewst. Journ. 1827. p. 64. De Cand. Prodr. v. 4. p. 259.*—Prickly Ash, of *Sir Alex. Mackenzie's Voy. (Douglas.)*

Caulis fruticosus, 10-12 pedalis, subrepens, crassus, dense aculeatus; aculeis non raro transversim seriatis dispositis, acicularibus, aureis. *Folia* ampla, cordata, palmata, inciso-serrata, petiolata, petioliis nervisque aculeatis. *Umbellæ* capitatae, polygamæ, in racemum valde aculeatum, nudum vel lanatum, nunc hispidum dispositæ. *Calyx* obsolete 5. *Petala* 5, ovata, subacuminata, patentia. *Stamina* 5. *Ovarium* inferum, turbinate, abortivum in flore masculino, in femineo globoso. *Styli* 2, divergentes. *Fructus, Bacca* seu *Drupa* rubra, disperma. *Semina* oblonga, pendentia. *Albumen* copiosum. *Embryo* parvum in partem superiorem albuminis.

* This, Dr. Wallich has now published as a distinct species, in his splendid "Plantæ Asiaticæ," under the name of *Panax pseudo-Ginseng*.

HAB. North-West coast of America. *A. Menzies, Esq.* Abundant on the West side of the Rocky Mountains, from the Head springs of the Columbia to the coast, and in the interior of California. *Douglas*. Queen Charlotte's Sound. *Dr. Scouler*. East side of the Rocky Mountains, extremely rare. *Drummond*.—The entangled stems of this remarkable plant, are described as a great impediment to travellers in the woods of North-West America.

TAB. XCVIII. *P. horridum*. *Fig. 1*, Male flower; *fig. 2*, The same, with the petals and stamens removed; *fig. 3*, Female flower; *fig. 4*, Section of the same; *fig. 5*, Fruit; (*natural size*.) *Fig. 6*, Section of the same, the two seeds enveloped in their chartaceous covering; *fig. 7*, Seed; *fig. 8*, Section of do., to show the albumen and embryo:—*magnified*.

3. ARALIA. *Don*.

Calycis margo brevissimus integer vel dentatus. *Petala* 5 apice libera expansa. *Stam.* 5. *Styli* 5 expansi divaricato-patentes. *Bacca* 5-locularis sæpius torosa. *Pyrenæ* chartaceæ.—Herbæ aut frutices ex *Amer. Bor. indigenæ*. *Folia* composita. *Flores* umbellati in paniculam sæpe dispositi albi. *DC.*

1. *A. nudicaulis*; acaulis inermis, folio unico radicali ternato-quinato foliolis ovatis acutis serratis, scapo nudo trifido folio brevior, umbellis 3 multifloris exinvolucratiss.—*Linn. Sp. Pl.* p. 393. *Mich. Am. v. 1. p. 185.* *Pursh, Fl. Am. v. 1. p. 209.* *Bigel. Fl. Bost. ed. 2. p. 122.* *Torrey, Fl. of Un. St. v. 1. p. 327.* *Elliott, Carol. v. 1. p. 374.* *De Cand. Prodr. v. 4. p. 257.*

HAB. Canada: and from Lake Huron, (*Dr. Todd*) throughout the woody country to lat. 64°. *Dr. Richardson*, and to the Rocky Mountains. *Drummond*. Newfoundland. *Dr. Morrison. De la Pylaie. Miss Brenton*.—"The Crees use the root of this plant as a remedy against the venereal disease, under the name of *Wawpoos-ootchepeh*, (Rabbit-root,) and also apply the bruised bark of its root to recent wounds." (*Richardson*.)

2. *A. racemosa*; acaulis inermis, caule herbaceo ramoso petiolis tripartitis, partitionibus ternatis quinatisque foliolis cordato-ovatis acuminatis serratis, umbellis in racemis axillaribus paniculatis.—*Linn. Sp. Pl.* p. 393. *Mich. Am. v. 1. p. 185.* *Pursh, Fl. Am. v. 1. p. 209.* *Elliott, Carol. v. 1. p. 373.* *Bigel. Fl. Bost. ed. 2. p. 122.* *Torrey, Fl. of Un. St. v. 1. p. 327.* *De Cand. Prodr. v. 4. p. 258.*

HAB. Throughout Canada. From Lake Huron to the Saskatchewan.

3. *A. hispida*; caule basi fruticoso dense setoso-aculeato superne paniculatim ramoso, foliis bipinnatis foliolis ovatis acuminatis incisive serratis glabris, pedunculis terminalibus elongatis, involucri foliolis brevibus subulatis.—*Mich. Am. v. 1. p. 185.* *Pursh, Fl. Am. v. 1. p. 209.* *Sims, Bot. Mag. t. 1085.* *Bigel. Fl. Bost. ed. 2. p. 122.* *Torrey, Fl. of Un. St. v. 1. p. 328.* *De Cand. Prodr. v. 4. p. 258.*

HAB. From Lake Huron to the Saskatchewan and Hudson's Bay. Newfoundland. *Miss Brenton*.

ORD. XLV. HAMAMELIDEÆ. *Br.*

(Trib. HAMAMELEÆ. *Petala* 4. *Stam.* 8; 4 fertilia, 4 sterilia. *Antheræ* valvule dehiscentes. *DC.*)

1. HAMAMELIS. *Linn.*

Calyx imo ovario adhærens 4-lobus, extus 2-3-squamosus. *Petala* 4 longa ligulæformia,

lacinis calycinis alterna. *Stamina* fertilia 4 petalis alterna, filamentis brevissimis, antheris adnatis bilocularibus, loculis valvula verticali dehiscentibus; *sterilia* 4 antheris orbatis, filam. crassiusculis ante petala sitis. *Ovarium* apice liberum in stylos 2, rarissime 3, breves desinens. *Capsula* coriacea semilibera 2-locul. apice bivalvis, valvis bifidis. *Arilli* 2 coriacei monospermi elastice superne bivalves. *Semina* oblonga nitida, hilo supero. *Albumen* carnosum. *Embryo* radícula supera, cotyledonibus planis.—*Arbusculæ Americane aut Asiaticæ*. Folia alterna, breve petiolata, bistipulata, ovata aut cuneata, penninervia subintegra. Flores in axillis glomerati subsessiles, involucri 3-phylo cincti. Pet. flavi. DC.

1. *H. Virginica*; foliis ovatis subcrenato-repandis basi subcordatis inæqualibus, junioribus pube stellata subscabris. DC.—*Linn. Sp. Pl.* p. 180. *Mich. Am. v. 1.* p. 100. *Pursh, Fl. Am. v. 1.* p. 116. *Elliott, Carol. v. 1.* p. 219. *Bigel. Fl. Bost. ed. 2.* p. 61. *Torrey, Fl. of Un. St. v. 1.* p. 122. *De Cand. Prodr. v. 4.* p. 268.

HAB. Canada. Island of Orleans. *Mr. Sheppard.*

ORD. XLVI. CORNEÆ. *De Cand.*

1. CORNUS. *Linn.*

Calycis tubus ovario adnatus, limbus minimus 4-dentatus. *Petala* 4 oblonga sessilia per æstivationem valvata. *Stamina* 4. *Stylus* 1. *Drupa* baccata calycis vestigio notata, nucleo biloculari (rarius 3-locul.) *Semina* solitaria pendula. *Albumen* carnosum. *Embryonis* radícula cotyledonibus brevior.—Arbores frutices imo Herbæ. Folia (*unica spec. exc.*) *opposita integra penninervia*. Flores nunc capitati aut umbellati et involucri, nunc corymbosi aut paniculati exinvolucri. *Petala* alba aut rarius flava. DC.

* *Nudifloræ.*

1. *C. alternifolia*; foliis alternis ovatis acutis subtus canis, corymbis patentibus. DC.—*Linn. fil. Suppl.* p. 125. *L'Herit. Corn. p. 10. t. 6.* *Mich. Am. v. 1.* p. 93. *Pursh, Fl. Am. v. 1.* p. 109. *Elliott, Carol. v. 1.* p. 210. *Bigel. Fl. Bost. ed. 2.* p. 58. *Torrey, Fl. of Un. St. v. 1.* p. 100. *De Cand. Prodr. v. 4.* p. 271.

HAB. Woods in Canada. *Michaux.*—I possess no Canadian specimens of this plant. As seen in the Herbarium, and without fruit, it is hardly to be distinguished from *C. alba*, except by its alternate leaves and slender petioles. All the other *Corni* have the leaves opposite. The fruit is purple, smaller than in *C. alba*.

2. *C. paniculata*; ramis erectis, foliis ovatis acuminatis glabriusculis, corymbis thyrsoido-paniculatis, ovario sericeo. DC.—*L'Herit. Corn. p. 9. t. 5.* *Pursh, Fl. Am. v. 1.* p. 109. *Elliott, Carol. v. 1.* p. 209. *Bigel. Fl. Bost. ed. 2.* p. 59. *De Cand. Prodr. v. 4.* p. 271.

HAB. Canada. *Pursh.*—Drupes white. *L'Heritier* says this is most distinct in the cymes being elongated into a panicle or thyrsus. The cyme in *C. alba* is sometimes a little elongated, and then I do not see how *C. paniculata* is distinguishable from it. *Mr. Elliott* says he has seen specimens which appear to connect this with *C. stricta*. What I have received from *Mr. Schweinitz* and *Dr. Torrey*, as *C. paniculata*, appears to me to be in no way different from *C. alba*.

3. *C. stricta*; ramis strictis, foliis ovatis acuminatis utrinque viridibus, adultis glabris

nascensibus vix subtus pubescentibus, corymbis subpaniculatis. DC.—*Lam. Dict. v. 3, p. 116. L'Herit. Corn. p. 8. t. 4. Pursh, Fl. Am. v. 1. p. 109. Elliott, Carol. v. 1. p. 209. Torrey, Fl. of Un. St. v. 1. p. 180. De Cand. Prodr. v. 4, p. 272.*—*C. fastigiata. Mich. Am. v. 1. p. 92.*

HAB. Canada. *Pursh.*—With this I am unacquainted, as is likewise Dr. Torrey. To me it seems to differ from *C. alba*, according to L'Heritier, only in the less pale colour, and more glabrous under-surface of the leaf. If *C. fastigiata* of Michaux be the same, as authors maintain, no dependance is to be placed on the more or less panicled corymbs. The drupes are described as blue, the flesh or pulp white.

4. *C. sanguinea*; ramis rectis, foliis ovatis brevissime acuminatis concoloribus subtus puberulis, corymbis depressis planis.—*Linn. Sp. Pl. p. 171. L'Herit. Corn. p. 5. Engl. Bot. t. 249. Pursh, Fl. Am. v. 1. p. 109. Elliott, Carol. v. 1. p. 208. Torrey, Fl. of Un. St. v. 1. p. 178. De Cand. Prodr. v. 4, p. 272.*

HAB. Canada. *Pursh.*—Of this, I have never seen American specimens.

5. *C. alba*; ramis patentibus vel recurvis (an semper?) foliis late ovatis acuminatis pubescentibus subtus canis, corymbis depressis.—*Linn. Mant. p. 40. Pall. Fl. Ross. t. 34. L'Herit. Corn. p. 6. Pursh, Fl. Am. v. 1. p. 109. Bigel. Fl. Bost. ed. 2. p. 58. Rich. in Frankl. 1st Journ. ed. 2. App. p. 5. Torrey, Fl. of Un. St. v. 1. p. 179. De Cand. Prodr. v. 4, p. 272.*—*C. stolonifera. Mich. Am. v. 1. p. 92.*— β . foliis majoribus subtus magis hirsutis. *C. circinnata. Cham. et Schlecht. in Linnæa, v. 3. p. 139.*

HAB. Throughout Canada, and from Lake Huron to North lat. 69°. (*Dr. Richardson.*) Newfoundland. *Mis Brenton.* North-West coast of America, (*Mr. Garry,*) where, however, the var. β . seems to be the most frequent. *Mr. Menzies. Douglas. Dr. Scouler.*—The berries or drupes are described by most authors as white, by Dr. Richardson as lead-coloured; who further says they are named by the Crees *Musquamæna*, because the Bears fatten upon them, and *Meethquan-pæmeenattick, meenisan*, (red stick berry,) and that Pigeons are fond of this berry, which is considered a good stomachic.—This is the only species of this group of *Cornus* that I have myself received from British North-America, and it does appear to me that *C. stricta, C. paniculata* and *C. sericea* are too nearly allied to it, as are some states of *C. circinnata*. The direction of the branches is assuredly variable, the corymb is more or less depressed, and I suspect the fruit is liable to vary in colour. My var. β . borders very closely upon the following species, and that again upon *C. circinnata*.

6. *C. sericea*; ramis patulis, ramulis lanuginosis, foliis ovatis acuminatis subtus subferugineo-sericeis, corymbis depressis lanuginosis, nucleis compressis. DC.—*L'Herit. Corn. p. 5. t. 2. Pursh, Fl. Am. v. 1. p. 103. Elliott, Carol. v. 1. p. 208. Torrey, Fl. of Un. St. v. 1. p. 178. De Cand. Prodr. v. 4, p. 272.*—*C. lanuginosa. Mich. Am. v. 1. p. 92.*—*C. alba. Walt. Carol.*

HAB. Canada. *Pursh.* Columbia River, North-West America, frequent. *Douglas.*—"Berries blue."

7. *C. circinnata*; ramis verrucosis, foliis orbiculatis subacuminatis rugosis subtus tomentosocanis corymbis depressis. DC.—*L'Herit. Corn. p. 7. t. 3. Pursh, Fl. Am. v. 1. p. 108. Bigel. Fl. Bost. ed. 2. p. 59. Torrey, Fl. of Un. St. v. 1. p. 179. De Cand. Prodr. v. 4, p. 272. Cham. et Schlecht. in Linnæa, v. 1. p. 139.*—*C. tomentosula. Mich. Am. v. 1. p. 91.*—*C. rugosa. Lam. Dict. v. 2. p. 115.*

HAB. Canada. *Michaux.*

* * *Involucrate.*

8. *C. florida*; arborescens, ramis nitidis, foliis ovatis acuminatis subtus pallidis utrinque adpresse pilosis, floribus umbellatis post folia nascentibus, involuero maximo, foliolis subtundis retusis aut fere obcordatis, drupis ovatis. DC.—*Linn. Sp. Pl.* p. 1661. *L'Herit. Corn. p. 4.* *Sims, Bot. Mag. t. 526.* *Mich. Am. v. 1. p. 91.* *Pursh, Fl. Am. v. 1. p. 108.* *Elliott, Carol. v. 1. p. 207.* *Bigel. Med. Bot. t. 28.* *EjUSD. Fl. Bost. ed. 2. p. 57.* *Torrey, Fl. of Un. St. v. 1. p. 178.* *De Cand. Prodr. v. 4. p. 273.*

HAB. Canada. *Michaux. Pursh.* Banks of the Columbia, near its confluence with the Sea. *Douglas. Dr. Scouler.*

9. *C. Canadensis*; caulibus simplicibus herbaceis, foliis superioribus verticillatis subpetiolatis ovatis venosis, floribus umbellatis involuero multo brevioribus, drupis globosis. DC.—*Linn. Sp. Pl. p. 172.* *L'Herit. Corn. p. 3. t. 1. Curt. Bot. Mag. t. 880.* *Mich. Am. v. 1. p. 91.* *Pursh, Fl. Am. v. 1. p. 107.* *Bigel. Fl. Bost. ed. 2. p. 57.* *Torrey, Fl. of Un. St. v. 1. p. 177.* *De Cand. Prodr. v. 4. p. 275.* *Cham. et Schlecht. in Linnæa, v. 1. p. 139.*

HAB. Throughout Canada, nearly to the Arctic coast, every where as far as the Pine woods extend. *Dr. Richardson.* Labrador. *Dr. Morrison.* Newfoundland. *Dr. Morrison.* *Mias Brenton.* *Mr. Cornach.* Columbia River, frequent. *Douglas.* Observatory Inlet, North-West coast, lat. 55°. *Dr. Scouler.* Unalaska. *Chamisso.*

10. *C. Suecica*; caulibus herbaceis subramosis, foliis omnibus oppositis sessilibus ovatis a basi fere nervosis, umbella pedunculata, involucris flores superantibus, drupis globosis. DC.—*Linn. Sp. Pl. p. 172.* *L'Herit. Corn. p. 2. Engl. Bot. t. 310.* *De Cand. Prodr. v. 4. p. 274.* *Cham. et Schlecht. in Linnæa, v. 1. p. 138.* *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.*—β, duplo fere major.

HAB. Labrador. *Kohlmeister.* Newfoundland. *Dr. Morrison.* Brandy Pots' Island, in the St. Lawrence, Canada. *Dr. Win. Kelly.* Behring's Straits. *Chamisso.* *Messrs. Lay and Collie in Capt. Beechey's Voyage.* Unalaska. *Chamisso.* Kotzebue's Sound. *Messrs. Lay and Collie in Capt. Beechey's Voyage.*—β, Fort Vancouver, on the Columbia. *Dr. Scouler.*

ORD. XLVII. LORANTHACEÆ. Don.

1. ARCEUTHOBIUM. M. Bieb.

Flores dioici. MASC. sessiles:—*Calyx* 0. *Corolla* monopetala 2-3 raro 4-partita corneocarnosa, laciniis ovatis concavis patentibus. *Stam.* 2-3-4. *Anthera* sessilis medio luciniarum affixa libera subglobosa unilocularis transversim dehiscens membranacea. *Ovarium* 0: sed ejus loco glandula parva 2-3-4-loba.—FÆM. brevissime pedicellati:—*Cal.* ovalis compressus carnosus bidentatus ovarium uniovulatum fere omnino tegens et ei adnatus. *Cor.* 0. *Stylus* 0. *Stigma* parvum obscure lobatum. *Fructus*: *Bacca* anguste obovata teres breve pedicellata monosperma. *Semen* pulpo viscido pellucido immersum, summo loculo affixum pendens obovato-cylindraceum basi acuminatum. *Integumentum* tenue. *Albumen* carnosum. *Embryo* immersus, versus basin seminis, axillis cylindricus. *Radicula* ad hilum seminis versa. *Lobi* cotyledonei breves subdivaricati.—*Frutex parvus* *aphyllus*

subcarnosus in arboribus resiniferis Europæ meridionalis Americæque borealis parasiticus, aphyllus valde proliferè ramosus, ramis oppositis obtusè tetragonis; more Salicorniæ articulatus, articulis superne vaginantibus subpelviformibus. Flores terminales atque laterales sæpe terni parvi inconspicui.

1. *A. Oxycedri*; (TAB. XCIX.) "*Bieb. Fl. Taur. Cauc. Suppl. p. 629.*" *Spreng. Syst. Veget. v. 3. p. 901.*—"*Razoumowskia Caucasica. Hoffm. Hort. Mosq. 1808. Intr. n. 1. f. 1. a-i.*"—*Viscum Oxycedri. De Cand. Fl. Fr. ed. 3. v. 3. p. 901. Bigel Fl. Taur. Cauc. v. 2. p. 406. De Cand. Prodr. v. 4. p. 283.*

HAB. On *Pinus ponderosa*, West side of the Rocky Mountains. *Douglas*. On *Pinus Banksiana*, from the Spokane River on the West side of the Rocky Mountains, in lat. 47°, to the Rocky Mountains, and thence to Hudson's Bay on the East, in lat. 57°. *Douglas, Drummond*.—Mr. Douglas entertained an idea that the specimens in his Herbarium of this curious parasite, gathered on *Pinus ponderosa*, were different from those found on *P. Banksiana*: but the only difference consists in the latter being loaded with female, the former with male flowers, which certainly gives a very different appearance to the extremities of the numerous branches. It is remarkable too, that all Mr. Drummond's specimens, (and they were all found upon *P. Banksiana*), are male plants. These, and Mr. Douglas' plants, have been carefully compared with European ones, found growing on the *Juniperus Oxycedrus*, some from the South of France, (Languedoc, gathered by M. Bory de St. Vincent,) and others from Caucasus, communicated to me by Mr. Prescott, and I must confess I can perceive no specific difference in them whatever. In general, but not always, those from the old world, are greener or blacker when dry, the American more yellow. I regret that I have it not in my power to consult the Appendix of Bieberstein's *Fl. Taur. Cauc.*, nor the *Hort. Mosq.* of Hoffm:—so that I am unable to take advantage of any remarks they may have made respecting characters of this plant, as distinguishing it from the Genus *Viscum*: but as no analysis of the flowers has any where been represented, I have thought it right to figure them here: and if *Viscum album* be considered the type of that Genus, our plant appears to me very distinct, not only in habit, but, remarkably, in the nature of the anthers and in the constantly single and vertical embryo.

TAB. XCIX. *A. Oxycedri*. *Fig. 1*, Diandrous male flower; *fig. 2*, The same, with part of the upper joint of the branch removed to show the two young ramuli; *fig. 3*, Triandrous male flower; *fig. 4*, Tetrandrous male flower; *fig. 5*, Anther; *fig. 6*, Dehiscent do.; *fig. 7*, Small branch from a female plant; *fig. 8*, Female flower; *fig. 9*, Section of do.; *fig. 10*, Fruit; *fig. 11*, Seed enveloped by its viscid pulp; *fig. 12*, Section of do., showing the embryo:—*all more or less magnified.*—*Figs. 10-12*, are from European specimens; the rest from the American ones.

ORD. XLVIII. CAPRIFOLIACEÆ. *Juss. (excl. Sect. 2 et 4.)*

Trib. I. SAMBUCEÆ. *Corolla gamopetala regularis rotata seu petalis 5 equalibus basi tantum concretis constans, rarius tubulosa. Stylus nullus. Stigmata 3 sessilia. DC.*

I. SAMBUCUS. *Lin.*

Calycis limbus parvus 5-fidus. Cor. rotata urceolaris 5-fida, lobis obtusis. Stamina 5. Stylus nullus. Stigmata 3 sessilia. Bacca subrotunda vix coronata pulposa 1-ocularis (Gærttn.) 3-5-sperma; funiculi in axi baccæ semina gerentes oblonga hinc angulata.—Frutices aut herbæ odore gravi. Folia opposita impari-pinnatisecta, segmentis dentatis aut pinnatisectis aut laciniatis, basi bistipulata aut biglandulosa. Corymbi (aut cymi) terminales nunc plani nunc in thyrsus congesti. Flores albi interdum subincarnati. DC.

1. *S. Canadensis*; frutescens, foliis pinnatis subpinnatisve foliolis oblongo-ovalibus rigidiusculis acuminatis subtus magis minusve pubescentibus, cymis 5-fidis.—*Linn. Sp. Pl. p. 385. Mich. Am. v. 1. p. 181. Pursh, Fl. Am. v. 1. p. 203. Elliott, Carol. v. 1. p. 368. Bigel. Fl. Bost. ed. 2. p. 119. Torrey, Fl. of Un. St. v. 1. p. 521. De Cand. Prodr. v. 4. p. 322.*

HAB. Throughout Canada, as far as the Saskatchewan. *Drummond. Dr. Richardson.*—Berries deep bluish black.

2. *S. racemosa*; fruticosa foliis pinnatis foliolis 5-7 tenui-membranaceis ovato-lanceolatis oblongisve acuminatis serratis subtus præcipue pubescentibus, paniculis thyrsoides.—*a. foliolis 5 ovato-lanceolatis. S. racemosa. Linn. Sp. Pl. p. 386. Jacq. Ic. Rar. t. 59. De Cand. Prodr. v. 4. p. 323.—S. pubens. Mich. Am. v. 1. p. 181. Pursh, Fl. Am. v. 1. p. 204. Elliott, Carol. v. 1. p. 368. Bigel. Fl. Bost. ed. 2. p. 118. Torrey, Fl. of Un. St. v. 1. p. 321. De Cand. Prodr. v. 4. p. 323.—β. foliis majoribus, foliolis 7 oblongis.*

HAB. Canada, and as far as the Saskatchewan.—*β. Rocky Mountains on the East side. Drummond. Shores of the Columbia, near Fort Vancouver, and at its confluence with the sea. Dr. Scouler. Douglas.*—The Rocky Mountain specimens, and, more especially, those from the Pacific, are remarkable for the great size and length of their leaflets: and their being almost constantly seven upon each rachis. But I do not find that these, or the Eastern state of the plant, can in any way be distinguished from the European *S. racemosa*, which I also have from Siberia. The fruit is red.

2. VIBURNUM. *Linn.*

Calycis limbus parvus 5-fidus persistens. Corolla rotata subcampanulata aut tubulosa 5-loba. Stamina 5 æqualia. Stigmata 3 sessilia. Bacca abortu 1-sperma ovata aut globosa calycinis dentibus coronata. Semen compressum.—Frutices. Folia opposita petiolata. Corymbi (seu cymi) terminales. Flores albi aut vir subrosei. *DC.*

1. *V. prunifolium*; foliis obovato-subrotundis ovalibusque glabris submembranaceis brevi-acuminatis argute serratis, petiolis marginatis, baccis ovatis (atro-cæruleis).—*Linn. Sp. Pl. p. 383. Pursh, Fl. Am. v. 1. p. 201. Torrey, Fl. of Un. St. v. 1. p. 318. De Cand. Prodr. v. 4. p. 325. Wats. Dendrol. t. 23.*

HAB. Lake Huron. *Dr. Todd.*—The specimens accord with those of Dr. Torrey, and with the figure in Watson's *Dendrologia*: but it seems very nearly allied to *V. nudum*. The leaves are broader, and more membranaceous.

2. *V. Lenta*; foliis lato-ovatis acuminatis argute serratis glabris, petiolis margine angustissimo crispo, corymbis terminalibus sessilibus, (baccis nigris.) *DC.*—*Linn. Sp. Pl. p. 384. Mich. Am. v. 1. p. 178. Pursh, Fl. Am. v. 1. p. 201. Bigel. Fl. Bost. ed. 2. p. 116. Elliott, Carol. v. 1. p. 365. Torrey, Fl. of Un. St. v. 1. p. 318. De Cand. Prodr. v. 4. p. 325. Wats. Dendrol. t. 21.*

HAB. Throughout Canada, to the Saskatchewan. *Dr. Todd. Dr. Richardson. Mr. Drummond.*

3. *V. nudum*; foliis ovali-oblongis basi angulatis obtusiusculis margine revolutis obsolete crenulatis glabris, petiolis squamato-puberulis, corymbo pedunculato exinvolucrato. *DC.*—*Linn. Sp. Pl. p. 383. Mich. Am. v. 1. p. 178. Pursh, Fl. Am. v. 1. p. 201. Bigel. Fl. Bost.*

ed. 2. p. 116. *Elliott, Carol. v. 1. p. 365. Sims, Bot. Mag. t. 2281. De Cand. Prodr. v. 4. p. 325. Wats. Dendrol. t. 20.*—*V. squamatum. Willd. Enum.—Wats. Dendrol. t. 24.—V. pyriform. Poir. et Pursh.* (according to *Richard* in *Boott's Herb.*)

HAB. About Quebec. *Mrs. Percival. Mrs. Sheppard. Newfoundland. Miss Brenton. Dr. Morrison. Saskatchewan. Drummond.*—I cannot satisfy myself of permanently distinguishing characters between this and the two preceding species.

4. *V. lantanoides*; foliis orbiculari-subcordatis breve acuminatis dentato-serratis serraturis muticis, ramulis petiolis nervisque pulverulento-tomentosis, corymbis terminalibus subsessilibus, floribus exterioribus corymbi maximis abortivis radiantibus, baccis ovatis.—*Mich. Am. v. 1. p. 179. Pursh, Fl. Am. v. 1. p. 203. Torrey, Fl. of Un. St. v. 1. p. 319. De Cand. Prodr. v. 4. p. 319.*—*V. Lantana. β. grandiflorum. Ait. Hort. Kew. ed. 1. v. 1. p. 392.—V. grandifolium. Sm.*

HAB. Canada. Lake Huron. *Dr. Todd.* About Quebec. *Mrs. Sheppard. Mrs. Percival.*—It is remarkable that few Botanists notice the very large marginal flowers of this corymb, which are remarkably radiant. *De Candolle* places the plant in a division of the Genus "*Corymbi non radiantes.*"

5. *V. dentatum*; glabriusculum, foliis ovatis subrotundisve grosse dentato-serratis plicatis, nervis pennatis crassis, corymbis pedunculatis fructibus subglobosis. *DC.—Linn. Sp. Pl. p. 384. Jacq. Hort. Vind. v. 1. t. 36. Pursh, Fl. Am. v. 1. p. 202. Elliott, Carol. v. 1. p. 364. Bigel. Fl. Bost. ed. 2. p. 116. Torrey, Fl. of Un. St. v. 1. p. 319. De Cand. Prodr. v. 4. p. 327.*

HAB. La Grande Chaudière. *Pursh.*—I have not seen a specimen of this species from the British Possessions.

6. *V. pubescens*; pubescenti-villosum, foliis ovatis acuminatis breve petiolatis grosse dentato-serratis subtus villosis, nervis pinnatis prominulis, corymbis pedunculatis, fructu ovato parvo. *DC.—Pursh, Fl. Am. v. 1. p. 202. Torrey, Fl. of Un. St. v. 1. p. 320. De Cand. Prodr. v. 4. p. 327.—V. dentatum. β. pubescens. Ait.—V. dentatum. var. semitomentosum. Mich. Am. v. 1. p. 179.—V. Rafinesquianum. Hoem. et Schultes. Syst. Veget. v. 6. p. 630.*

HAB. Lake Winnipeg. *Dr. Richardson. Drummond.*—I quite agree with *Dr. Torrey* that this is a distinct species from *V. dentatum*, distinguishable by its downy sharp leaves, and very short petioles.

7. *V. ellipticum*; foliis ellipticis obtusis breve petiolatis parallelim venosis superne præcipue grosse serratis subtus (nervis præcipue) valde hirsutis, corymbis densis pedunculatis, ovaris hirsutissimis, baccis ovali-globosis nigris.—*β. ovaris glabris.*

HAB. Common on the branches of the Columbia, near its confluence with the Pacific. *Douglas.*—A small shrub from two to four feet high, with glabrous, pale brown bark. Leaves about two inches long, very hairy beneath, having from three to five principal nerves springing from the base. In most of the specimens the germens are clothed with long hairs; in one, quite glabrous. Berries deep black, large.

8. *V. acerifolium*; foliis cordato-ovatis sæpe trilobis laxè serratis subtus velutinis, petiolis eglandulosis junioribus basi stipulaceis subtomentosis, corymbis terminalibus pedunculatis non radiantibus. *DC.—Linn. Sp. Pl. p. 384. Vent. Hort. Cels. t. 72. Pursh. Fl. Am. v. 1. p. 203. Bigel. Fl. Bost. ed. 2. p. 116. Elliott. Carol. v. 1. p. 364. Torrey, Fl. of Un. St. v. 1. p. 320. De Cand. Prodr. v. 4. p. 327.*

HAB. Throughout Canada, from Lake Huron to the Saskatchewan. *Dr. Richardson. Drummond Newfoundland. Mr. Cormack. De la Pylais. Fort Vancouver, on the Columbia. Dr. Scouler. Douglas.*—Berries black.

9. *V. Oxycoccus*; foliis trilobatis postice acutis trinerviis, lobis divaricatis acuminatis grosse rariterque dentato-serratis, petiolis glandulosis, corymbis radiantibus. *DC.*—*Pursh, Fl. Am. v. 1. p. 243. Torrey, Fl. of Un. St. v. 1. p. 320. Bigel. Fl. Bost. ed. 2. p. 116. Rich. in Frankl. 1st Journ. ed. 2. App. p. 10.*—*V. opulus, β. Americana. Ait.*—*V. opulus, β. Pimina. Mich. Am. v. 1. p. 180.*—*V. molle. Mich. Am. v. 1. p. 180?*—*β. subintegrifolium*; foliis subincisus subtus valde pubescentibus.

HAB. Throughout Canada to the Arctic circle. *Dr. Richardson, and from Hudson's Bay to the Rocky Mountains. Douglas. Drummond.*—*β. Columbia. Dr. Scouler. Douglas.*—This seems scarcely different from *V. opulus* of Europe, as far as I can judge from the characters given, and from the dried specimens.

10. *V. edule*; foliis trilobatis postice obtusiusculis trinerviis, lobis brevissimis denticulato-serratis, serraturis acuminatis, petiolis glandulosis, corymbis radiantibus. *DC.*—*Pursh, Fl. Am. v. 1. p. 203. Torrey, Fl. of Un. St. v. 1. p. 321. Rich. in Frankl. 1st Journ. ed. 2. App. p. 10. De Cand. Prodr. v. 4. p. 328.*—*V. opulus, var. edule. Mich. Am. v. 1. p. 180.*

HAB. Canada. *Pursh. Saskatchewan, (Drummond.) to Slave Lake, in lat. 66°. Dr. Richardson.*—Is this really distinct from the preceding? It appears to differ in no particular, except the broader base of the leaves. The fruit is edible in both. That of *V. Oxycoccus* is said by *Dr. Torrey* to be sometimes employed as a substitute for Cranberries.

Trib. LONICERÆ. *Br. Corolla gamopetala plus minus tubulosa sæpius irregularis. Stylus filiformis. Stigmata 3 libera aut in unicum concreta. DC.*

3. DIERVILLA. *Tour.*

Calycis tubus oblongus basi bibracteatus, limbus 5-fidus. *Corolla* infundibuliformis 3-fida patens calyce duplo longior. *Stam.* 5 subserta. *Stigma* capitatum. *Capsula* oblonga acuta non coronata 1-locularis. *Semina* plurima minuta.—*Frutices erecti. Folia ovata acuminata serrata. Pedunculi axillares bibracteati sæpius dichotomi 2-3-4-flori. DC.*

1. *D. Canadensis*; foliis breve petiolatis ovatis acuminatis serratis petiolisque glabris. *Willd. Enum. v. 1. p. 222. Elliott, Carol. v. 1. p. 273. Bigel. Fl. Bost. ed. 2. p. 69. De Cand. Prodr. v. 4. p. 330.*—*D. Tournefortii. Mich. Am. v. 1. p. 107. Torrey, Fl. of Un. St. v. 1. p. 239.*

HAB. Throughout Canada to the Saskatchewan, and from Hudson's Bay to the Rocky Mountains.

4. LONICERA. *Desf.*

Calycis tubus 5-dentatus. *Corolla* tubulosa campanulata aut infundibuliformis limbo 5-fido, sæpe irregularis. *Stam.* 5. *Stylus* filiformis. *Stigma* capitatum. *Bacca* 5-locul. loculis oligospermis. *Semina* crustacea.—*Frutices interdum scandentes. Folia opposita, interdum connata, integra aut in iisdem speciebus subtruncinata. Flores axillares dispositione varii. DC.*

SECT. I. CAPRIFOLIUM. *Baccæ solitariae juniores 3-loculares sæpe 1-locul. calycis tubo persistente coronata. Caules scandentes. Flores capitato-verticillati. DC.*

1. *L. hirsuta*; volubilis, foliis late ovato-ellipticis breviter petiolatis pubescentibus ciliatisque, subtus glaucis summis connato-perfoliatis, verticillis capitatis, corollis pubescenti-glandulosis tubo inferne subinflato.—“*Eaton. Man. of Bot. ed. 3. p. 341. ed. 4. p. 352. Torrey, Fl. of Un. St. v. 1. p. 242. Bigel. Fl. Bost. ed. 2. p. 88. Hook. Bot. Mag. t. 3163.*—*Lonicera pubescens. Sw. Hort. Brit. p. 194. De Cand. Prodr. v. 4. p. 332.*—*Caprifolium pubescens. Goldie, in Ed. Phil. Journ. (1822.) v. 6. p. 323. Hook. Exot. Fl. t. 27.*

HAB. Canada. *Mr. Goldie. Mr. Cleghorn. Pursh.* (according to a specimen communicated by *Mrs. Sheppard*.) Lake Huron. *Dr. Todd.*—This appears to hold the place in the more Northern parts, which *L. flava* does in the South; of which, indeed, *Dr. Torrey* suspects it to be a variety.

2. *L. parviflora*; volubilis, foliis ellipticis sessilibus subconnatis glabris subtus valde glaucis summis connato-perfoliatis, verticillis capitatis corollis glabris tubo basi hinc gibboso, filamentis hirsutis.—*α. foliis glaberrimis. L. parviflora. Lam. Dict. v. 1. p. 728. Torrey, Fl. of Un. St. v. 1. p. 245. Bigel. Fl. Bost. ed. 2. p. 87.*—*Caprifolium parviflorum. Pursh, Fl. Am. v. 1. p. 161. Elliott, Carol. v. 1. p. 262.*—*Lonicera dioica. Linn.*—*Caprifolium bracteosum. Mich. Am. v. 1. p. 105.*—*β. foliis subtus pubescentibus etiam tomentosis.*—*Caprifolium parviflorum. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*

HAB. *α. and β.* frequent in Canada, and as far North as the Saskatchewan: and from Hudson's Bay to the Rocky Mountains.—This varies exceedingly in the colour of its flowers, and some of my specimens have their leaves downy with short hairs beneath: so that I cannot help fearing that the following may be only a variety of it.

3. *L. Douglasii*; ramis volubilibus, foliis ovalibus utrinque acutis petiolatis glabris ciliatis extus tomentosis summis connatis, floribus capitato-spicatis, stigmatibus exserto, staminibus inclusis. *De Cand. Prodr. v. 4. p. 332.*—*Caprifolium Douglasii. Lindl. in Hort. Trans. v. 7. p. 244.*

HAB. Banks of the Saskatchewan. *Douglas. (Lindl.)*—The only specimen of a perfoliate leaved Honeysuckle, which I possess from *Mr. Douglas*, gathered on the East side of the Rocky Mountains, is the pubescent leaved var. of *L. parviflora*, which at first sight has indeed the appearance of a distinct species, but which may be seen gradually passing into the usual glabrous appearance of the *α.* The great size of the leaves, (six to seven inches long,) mentioned by *Mr. Lindley*, is probably owing to cultivation.

4. *L. occidentalis*; volubilis, foliis ovalibus subsessilibus glabris ciliatis subtus glaucis summis connato-perfoliatis, floribus verticillato-capitatis, corollis glabris tubo elongato supra basin inflato-gibboso limbo subæquali, staminibus subinclusis. *Caprifolium occidentale. Lindl. Bot. Reg. t. 1457.*—*C. ciliosum. Douglas, MSS. in Herb. Hort. Soc. Lond. (vix Purshii.)*

HAB. About Fort Vancouver, on the Columbia. *Douglas.*—This beautiful Honeysuckle is a great acquisition to our gardens: it is quite different from any of the above species; and if the presence and absence of hairs on the corolla are to be depended on, it is also different from the following species. It inhabits nearly the same country. The flowers are longer than any other British North American species, and of a full orange red.

5. *L. ciliata*; foliis subamplexicaulibus sessilibus petiolisque ovatis subtus glaucis margine

conspicue ciliatis, summis connato-perfoliatis, spicæ verticillis approximato-capitatis subsessilibus, corollæ tubo hirsuto medio ventricoso limbo subæquali. *De Cand. Prodr. v. 4. p. 333.*—Caprifolium ciliosum. *Pursh. Fl. Am. v. 4. p. 463.*

HAB. Banks of the Kooekooky, North-West America. *Lewis, (in Pursh.)*—The flowers are said to be deep yellow.

6. *L. microphylla*; volubilis, foliis (parvis) breve petiolatis cordatis obtusis rigidis ramisque undique hispido-pilosis subtus pallidis glaucis.

HAB. North-West America. On the subalpine range of Mount Hood, in rocky partially shaded places, abundant. Sparingly at the Grand Rapids, and on steep rocks near "Oak Point," on the Columbia. *Douglas.*—Mr. Douglas' specimens possess no flowers; but, judging from the habit of the plant, it may perhaps safely be referred to this Genus, and to the present division of it. The leaves are scarcely more than six lines long, uniform, exactly cordate, very villous, as well as the twining stem, with brown hispid hairs. It is quite different from any species with which I am acquainted.

SECT. II. XYLOSTEON. *Pedicelli axillares apice bibracteati biflori. Bacca gemina distincta, aut plus minus concreta, juniores 3-locul. rarius adulta 2-locul. calycis deciduo limbo non coronata. Flores breviores. Frutices scandentes et erecti, foliis nunquam connatis.*

7. *L. ciliata*; caule erecto, foliis ovato-cordatis oblongisve tenuibus ciliatis junioribus subtus villosis, pedunculo elongato, bracteis 2 ovatis ovarii distinctis triplo brevioribus, corolla basi obtuse calcarata lobis brevibus subæqualibus, baccis distinctis divaricatis (rubris).—*Muhl. Cat. p. 22. De Cand. Prodr. v. 4. p. 335.*—*Xylosteum ciliatum. Pursh. Fl. Am. v. 1. p. 161. (excl. syn. β. album.) Torrey, Fl. of Un. St. v. 1. p. 245. Bigel. Fl. Bost. ed. 2. p. 88.*—X. Tataricum. *Mich. Am. v. 1. p. 166. (non Linn.)—L. Canadensis. Roem. et Schultes, v. 5. p. 260.*

HAB. Throughout Canada to the Saskatchewan, frequent.

8. *L. corulea*; caule erecto, foliis ovali-oblongis ciliatis subrigidis junioribus præcipue pubescenti-hirsutis, pedunculis brevissimis fructiferis reflexis, bracteis 2 subulatis ovario longioribus, corollæ glabræ tubo brevi basi hinc gibboso lobis brevibus erectis subæqualibus, baccis in unam globosam biumbilicatam (atro-cæruleam glaucam) concretis. *Linn. Sp. Pl. p. 249. Pall. Fl. Ross. v. 1. t. 37. Gmel. Sib. v. 3. p. 131. Jacq. Austr. v. 5. App. p. 35. t. 17. Sims, Bot. Mag. t. 1965. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6. De Cand. Prodr. v. 4. p. 337.*—*L. villosa. Muhl. Cat. p. 22. De Cand. Prodr. v. 4. p. 337. (excl. syn. X. oblongifolii. Gold.) Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 115.*—*Xylosteum villosum. Mich. Am. v. 1. p. 106. Pursh, Fl. Am. v. 1. p. 161. (descr. mala.) Torrey, Fl. of Un. St. v. 1. p. 243. (excl. syn. X. oblongifolii. Gold.) Bigel. Fl. Bost. ed. 2. p. 88. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*—X. Solonis. *Eaton.*—*Lonicera velutina. De Cand. Prodr. v. 4. p. 334.*

HAB. Throughout the woody country, and as far North as lat. 60°. *Dr. Richardson,* to the Mountains in the West. *Drummond.* Labrador and Newfoundland. *Dr. Morrison.*—After a most careful examination and comparison of this with the European *L. corulea*, I can discover no difference whatever, and Dr. Richardson has found it to agree with Pallas' Siberian specimens, in Sir Joseph Banks' Herbarium. I have the

same from Kamtschatka, gathered by Chamisso. Our plant is identical with the specimens "from near Williamstown, Massachusetts," but not with those from the "Western States of New York," sent to me by Dr. Torrey. The latter are the *L. oblongifolia*. In some of my specimens, especially from Labrador, the umbilici of the ovaries are ciliated, when it becomes the *L. velutina* of De Candolle.

9. *L. oblongifolia*; caule erecto, foliis oblongis ovalibusve subtus præcipue velutino-pubescentibus, pedunculis elongatis erectis etiam fructiferis, bracteis obsolete, corollæ hirsute tubo basi hinc gibboso limbo inæquali profunde bilabiato labio superiore 4-dentato inferiore subintegro, baccis in unicam globosam biumbilicatum (siccæ cæruleo-nigricantem) concretis. (TAB. C.)—*Xylosteum oblongifolium*. Goldie, in *Edin. Phil. Journ.* v. 6. p. 323.

Frutex 4-pedalis, erectus, valde ramosus; ramis cortice cinereo levi tectis, junioribus pubescentibus. *Folia* 2-3-uncialia, membranaceo-subcoriacea, sessilia seu brevissimo petiolata, plerumque oblonga, nonnunquam lanceolata, rarius superno latiora, supra pubescentia, juniora præcipue, subtus pubescenti-velutina. *Pedunculi* axillares, oppositi, unciam longi, gracillimi, semper, etiam fructiferi, erecti. *Bracteæ* obsolete seu nullæ. *Corollæ* hirsutæ flavæ (?) *tubus* basi hinc gibbosus; *limbo* profundo in labia 2 inæqualia bifido, labio superiore multo latiore, 4-dentato, inferiore lineari integro patente. *Antheræ* lineares, longæ, versatiles, vix exsertæ. *Germina* 2 in unum urceolatum non raro bifidum concreta, glabra. *Stylus* hirsutus staminum longitudine. *Bacca* cæruleo-nigra, magnitudine seminis *Pisi sativi*, globosa, umbilicis seu calycibus 2 parvis 5-dentatis coronata.

HAB. Island of Montreal in the St. Lawrence. *Fr.* Goldie. About Montreal. *Fr.* Cleghorn. Lake Winnipeg. *Drummond*.—It was at my suggestion that Mr. Goldie published this as a new species, in the Edinburgh Philosophical Journal: yet, although it is there very accurately described, my valued friend Dr. Torrey has referred it to the *L. villosa* of American authors; *L. cærulea* of the present work. At this I am the more surprised, because he is not unacquainted with the two plants, and has communicated both species to me, under the name of *Xylosteum villosum*, of Michaux:—that from "Williamstown, Massachusetts," is undoubtedly the true *L. villosa*; that from "the Western part of the State of New York," is certainly our *L. oblongifolia*. This latter differs from the former in its more downy leaves, in the great length of the constantly erect peduncles, in the obsolete bracteæ, in the hairy corolla, which, too, is very different in shape, and in the linear anthers. It seems to be a rare species: only three specimens are in Mr. Drummond's collection, one barren, and two with berries.

TAB. C. *L. oblongifolia*. Fig. 1, Two flowers from the connate germs; fig. 2, Style and stigma; fig. 3, Berry:—magnified.

10. *L. involucreta*; ramis acute tetragonis, foliis ovatis ovalibusve petiolatis submembranaceis subtus appresse pilosis, pedunculis axillaribus 2-3 floris, bracteis 4, 2 ext. ovatis, int. late orbicordatis demum ampliatis pubescenti-glandulosis, corollis pubescentibus extus basi gibbosis, stylo exserto.—*Herb. Banks. MSS. Rich. in Frauhl. 1st Journ. ed. 2. App. p. 6.* (sub *Xylost.*) *Lindl. Bot. Reg. t. 1179. De Cand. Prodr. v. 4. p. 336.*

HAB. Woody country between lat 54° and 64°, (but probably confined to the vicinity of the Saskatchewan.) *Dr. Richardson. Drummond*: thence to the Rocky Mountains. *Drummond*. Frequent on the North-West coast, lat. 54° to 56°. *Douglas. Dr. Scouler*.—I am afraid the *L. Ledebourii* of Chamisso can hardly be distinguished from this.

5. SYMPHORICARPUS. *Dill.*

Calycis tubus globosus, *limbus* parvus 4-5-dentatus. *Cor.* infundibuliformis subæqualiter 4-5-loba. *Stam.* 5 breve exserta. *Stigma* semiglobosum. *Ovarium* adnatum 4-locul., loculis fertilibus 1-ovul., sterilibus paucè ovulatis. *Bacca* calyce coronata 4 locul., loculis 2 vacuis, 2 monospermis.—*Frutices erecti dunosi opposite ramosissimi. Folia ovalia*

integerrima. Pedunculi breves axillares uni-aut multiflori. Flores bibracteati parvi albi aut rosei brevissime pedicellati. DC.

1. *S. racemosus*; floribus in racemos subterminales laxos interruptos non raro foliosos, corolla intus dense barbata, stylo staminibusque inclusis.—*Mich. Am. v. 1. p. 107. Pursh, Fl. Am. v. 1. p. 107. De Cand. Prodr. v. 4. p. 339. Sims, Bot. Mag. t. 2211. Torrey, Fl. of Un. St. v. 1. p. 246.*—*Xylosteum ciliatum. β. album. Pursh, Fl. Am. v. 1. p. 161. (Nuttall.)*

HAB. Upper Canada. *Nuttall. Mr. Cleghorn. Mr. Goldie.* Abundant about the Saskatchewan. *Dr. Richardson. Drummond.* On the Columbia and at Puget's Sound, North-West America. *Dr. Scouler. Douglas.* Nootka. *Dr. Scouler.*—Our specimens have the leaves mostly very glaucous beneath, and they vary considerably in size and outline, the lower ones sometimes being deeply sinuated.

2. *S. occidentalis*; spicis densis terminalibus axillaribusque nutantibus, corolla intus laciniisque dense barbatis, stylo staminibusque subexsertis.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*

HAB. Woody country, between lat. 54° and 64°, and known under the name of "Wolf-berry." *Dr. Richardson.* Abundant about the Saskatchewan and Red River. *Drummond. Douglas.* Fort Vancouver, on the Columbia. *Douglas.*—*Dr. Richardson* has justly remarked of this plant "*S. racemosi proximus*:" and among the numerous specimens in the Herbarium, are some which appear almost as much allied to the one species as the other. But the majority of individuals of the two species are readily enough distinguished; those belonging to the *S. occidentalis*, by their larger, less glaucous, more rigid, and denser foliage, (some of the leaves being two and a half inches long,) by the flowers arranged in dense drooping spikes, larger than in *S. racemosus*, and by the prominent style and stamens.

6. LINNÆA. Gron.

Calycis tubus ovatus, limbus 5-partitus, laciniis lanceolato-subulatis deciduis. *Corolla* turbinata subcampanulata 5-loba. *Stam.* 4 didynamia inclusa. *Stigma* globosum. *Bacca* subsicca minima ovato-globosa 3-locularis, loculis ex A. Rich. ovula 2 suspensa gerentibus, ex R. Brown 2 polyspermis sterilibus, tertio monospermo fertili.—*Herbula sempervirens subvillosa repens, surculis erectis apice nudis bifloris.* Bractes 2 sub quoque flore calyculum mentientes. *Folia ovalia subdentata. Flores ex albo subrosei. DC.*

1. *L. borealis.*—*Linn. Sp. Pl. p. 880. Engl. Bot. t. 443. Mich. Am. v. 1. p. 87. Pursh, Fl. Am. v. 2. p. 413. Bigel. Fl. Bost. ed. 2. p. 241. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125. Rich. in Frankl. 1st Journ. ed. 2. App. p. 24. De Cand. Prodr. v. 4. p. 340.*

HAB. Throughout the woody country, from Lake Huron to the Arctic Circle, and from Newfoundland, (*Dr. Morrison. Miss Brenton.*) and Labrador, (*Dr. Morrison.*) on the East, to the Columbia, (*Mr. Menzies. Douglas. Dr. Scouler.*) Unalaska, (*Chamisso.*) and Kotzebue's Sound (*Messrs. Lay and Collie.*) on the West.—This beautiful and interesting plant seems to have its maximum in British North America. Specimens with the largest foliage are from the Columbia; those with the smallest, and very compact in habit, and bearing the most copious flowers, are from the Rocky Mountains.

ORD. XLIX. RUBIACEÆ. Juss.

Trib. I. HEDYOTIDÆE. *Cham. et Schlecht.*—*Fructus capsularis bilocularis, loculicido-dehiscens aut submembranaceus indehiscens, loculis polyspermis. Sem non alata, albumine carnoso.*—*Frutices aut Herbæ. Folia opposita. Stipule interpetiolares. DC.*

1. HEDYOTIS. Lam.—Ach. Rich.

(Hedyotis et Oldenlandia auct.—Houstoniæ Sp. ovar. infero. Mich.—Dunalia. Spreng. non Kunth. Anotis. DC.)

Calycis limbus 4-dentatus aut 4-partitus persistens. *Corolla* tubulosa, brevis aut longior; limbo 4-fido subpatente; fauce sæpius barbata. *Stamina* 4 inclusa aut vix exserta, antheris ovatis brevibus. *Stylus* simplex longitudine staminum aut paulo brevior. *Stigma* bilobum aut bipartitum. *Capsula* globoso-didyma, aut ovoideo-oblonga, calycis dentibus coronata, bilocularis, loculis polyspermis, apice transversim incomplete loculicido-bivalvis; seminibus minimis numerosis aut paucioribus subpolyedris scrobiculatis.—Herbæ ramosæ aut basi suffrutescentes, foliis oppositis vagina stipulari sæpius dissecta connatis; floribus parvulis axillaribus solitariis binis aut pluribus terminalibusque. Ach. Rich.

1. *H. cærulea*; caulibus erectis subdichotomis foliis ovato-lanceolatis basi attenuatis radicalibus spatulatis pauce hirsutis, pedunculis elongatis unifloris, corollis hypocrateriformibus lobis acutis.— α . caulibus elongatis dichotomis. *Houstonia cærulea*. Linn. Sp. Pl. p. 152. Pursh, Fl. Am. v. 1. p. 106. Sims, Bot. Mag. t. 370. Elliott, Carol. v. 1. p. 192. Torrey, Fl. of Un. St. v. 1. p. 172. Bigel. Fl. Bost. ed. 2. p. 53.—*Houstonia* Linnæi, α . Mich. Am. v. 1. p. 84.— β . caulibus brevissimis pedunculis elongatis solitariis cæspitoso-divaricatis. *Houstonia cærulea*. β . minor. Pursh, Fl. Am. v. 1. p. 106.—H. Linnæi. β . Mich. Am. v. 1. p. 85.—H. patens. Elliott, Carol. v. 1. p. 191.—H. serpyllifolia. Mich. Am. v. 1. p. 85. Pursh, Fl. Am. v. 1. p. 106. Elliott, Carol. v. 1. p. 198. Graham, in Bot. Mag. t. 2822.

HAB. α . About Quebec. Mrs. Percival.— β . Fort William, on Lake Superior. Dr. Richardson. Drummond.—Of this certainly variable little plant, I have received only a solitary specimen of the var. α . from Canada, and three or four of the var. β . from Fort William, in lat. 49°, which may perhaps be considered its Northern boundary. This latter does not appear to me to differ specifically from the more usual appearance of the *H. cærulea*, although many Botanists keep them distinct.

2. *H. longifolia*; caule erecto ramoso tetragono ad geniculas præcipue pubescente, foliis lineari-oblongis radicalibus inferne attenuatis, stipulis lato-ovatis integris vel bi-tridentatis membranaceis albis, corollis infundibuliformibus.—*Houstonia longifolia*. Gærtn. de Fruct. v. 1. p. 2266. t. 49. f. 8. (quoad fruct.) Willd. Sp. Pl. p. 583. Bigel. Fl. Bost. ed. 2. p. 53. Elliott, Carol. v. 1. p. 192. Torrey, Fl. of Un. St. v. 1. p. 173. Hook. in Bot. Mag. t. 3099.—*Houstonia angustifolia*. Mich. Am. v. 1. p. 85. Pursh, Fl. Am. v. 1. p. 106.

HAB. Lake Huron. Dr. Todd. Abundant about Lake Winipeg and the Saskatchewan. Dr. Richardson. Drummond. Douglas.

3. *H. ciliolata*; "foliis radicalibus ovatis obtusis basi attenuatis marginibus ciliatis caulibus ovato-spatulatis scssilibus, floribus corymbosis terminalibus pedicellatis, pedunculis trichotomis, segmentis calycinis lineari-lanceolatis, caule glabro superne ramoso." *Houstonia ciliolata*. Torrey, Fl. of Un. St. v. 1. p. 174.

HAB. Goat Island, Falls of Niagara. Prof. Hadley, (in Torrey.)—With this I am unacquainted.—What particular species of *Houstonia*, of Michaux, Jussieu may have had in view when, in the 10th volume of the Annales du Muséum, he referred the Genus to *Gentianeæ*, I have no means of determining; but certain it

is, that all those which I have had the opportunity of examining are referable to the *Rubiaceæ*, and I think to *Anotis* of De Candolle, in which Genus that author has indeed placed the *Houstonia rotundifolia* of Elliott. But *Anotis* is probably not distinct from *Hedyotis*, with which *Houstonia* seems to me entirely to agree, and I have no hesitation in uniting them, especially as I find that such an union has the sanction of Auguste de St. Hilaire, who says of *Hedyotis*, "ce genre devoit devoir être réuni non-seulement aux *Houstonia*, mais encore aux *Oldenlandia*." Hence I have adopted the character of *Hedyotis*, as given by Achille Richard, in his valuable "Mémoire sur la Famille des Rubiacées."

Trib. II. GUETTARDAEÆ. *Fructus drupaceus, pyrenis 2-5 monospermis. Semina teretia elongata sæpius erecta. Albumen carnosum. Frutices aut Arbuscule. Folia opposita aut rarius terna, cum stipulis interpetiolaribus. DC.*

2. MITCHELLA. Linn.

Calycis tubus ovato-globosus (interdum cum flore altero concretus,) limbus maximus 4-dentatus. *Corolla* infundibuliformis, tubo tereti, fauce lobisque patentibus intus hirtis. *Staminum filamenta* tubo adnata fere usque ad faucem, *antheræ* ovatæ vix exsertæ. *Stylus* filiformis. *Stigmata* 4 inclusa. *Bacca* subglobosa, calycis dentibus coronata 4-pyrena, (aut 8-pyrena, ubi baccaæ duæ coalescunt;) *pyrenæ* cornæ 1-spermæ. *Albumen* subcartilagineum. *Embryo* minutus erectus cotyledonibus brevissimis.—*Herbæ Americana glabra repentes* Linnææ aut Nerteriæ *faciæ*. *Folia* subrotunda aut ovata. *Stipulæ* utrinque solitariae minima. *Flores axillares aut terminales, nunc gemini et concreti ad apicem pediculi, nunc solitarii sessiles. DC.*

1. *M. repens*; foliis subrotundis, floribus ad apicem pedunculi duobus ovario concretis. *DC.—Linn. Sp. Pl. p. 452. Mich. Am. v. 1. p. 86. Pursh, Fl. Am. v. 1. p. 101. Elliott, Carol. v. 1. p. 198. Bigel. Fl. Bost. ed. 2. p. 52. Torrey, Fl. of Un. St. v. 1. p. 174. De Cand. Prodr. v. 4. p. 452.*

HAB. Upper Canada. *Pursh. Dr. Todd. Mrs. Percival. Mrs. Sheppard.*—This seems to be altogether confined to the Southern limits of the British Possessions, and to be unknown on the West side.

Trib. III. SPERMACOEÆ. *Cham. et Schlecht.—Stigma bilamellatum. Fructus siccus aut parce carnosus constans mericarpiis sæpius 2, rarius 3-4, monospermis nunc concretis nunc secedentibus indehiscentibus nunc varie dehiscentibus. Albumen carnosum-subcorneum. Frutices aut Herbæ. Folia opposita. Stipulæ basi membranaceæ apice sæpius multisetæ. DC.*

3. CEPHALANTHUS. Linn.

Calycis tubus obverse pyramidatus, limbus angulatus 4-dentatus. *Cor.* tubulosa gracilis limbo 4-fido, lobis erectiusculis. *Stam.* 4 brevia summo tubo inserta vix exserta. *Stylus* longe exsertus. *Stigma* capitatum. *Fructus* inverse pyramidatus coronatus coriaceus 2 (-4?) locul. 2(-4?) partibilis, loculis 1-spermis indehiscentibus interdum abortu vacuis. *Sem.* oblonga epiphysi callosa supra terminata. *Embryo* inversus in albumine subcartilagineo, *rad.* supera.—*Frutices. Rami teretes. Folia opposita aut terna. Stipulæ brevæ distincte aut subconcretæ. Pedunculi ex axillis supremis et apice ramorum orti nudi. Capitulum globosum. Flores supra receptaculum sphaericum piligerum sessiles, dense aggregati, sed distincti, ochroleuci. DC.*

1. *C. occidentalis*; foliis oppositis ternisve ovatis ovalibusque acuminatis, pedunculis capitulo multo longioribus sæpius ternis ad apices ramorum. DC.—*Linn. Sp. Pl.* p. 138. *Mich. Am. v. 1. p. 87.* *Pursh. Fl. Am. v. 1. p. 114.* *Bigel. Fl. Bost. ed. 2. p. 51.* *Elliott, Carol. v. 1. p. 186.* *Torrey, Fl. of Un. St. v. 1. p. 164.* *De Cand. Prodr. v. 4. p. 538.*

HAB. Canada. Michaux. Mrs. Percival.

Trib. IV. STELLATÆ. Ray.—Flores hermaphroditi rarius diclini. Corollæ rotatæ aut infundibuliformes, lobis per æstivationem valvatis. Styli duo aut fere a basi distincti aut plus minus in unicum concreti. Stigmata capitata. Fructus constans mericarpiis duobus indehiscentibus monospermis. Semina a pericarpio et calyce vix distincta. Albumen corneum.—Suffrutices aut sæpius Herba. Folia opposita ad axillam gemmifera, et stipulæ foliiformes (vulgo etiam folia dicta) utrinque 1, 2 aut 3 gemmulis destitutæ verticillum formantes. Radices sæpe rubræ et ad rubrum colorem tinctoriæ. DC.

4. GALIUM. Scop.

Cal. tubus ovato-globosus aut oblongus, limbus vix ullus. Cor. 4-partita rotata, rarissime 3-partita. Stam. brevia. Styli 2 breves. Fructus didymus subrotundus rarius oblongus siccus, constans mericarpiis 2 indehiscentibus 1-spermis.—Herbæ ramosa. Folia cum stipulis verticillata. Inflorescentia varia. DC.

* *Fructibus levibus glabris.*

1. *G. Claytoni*; caulibus debilibus foliisque quaternis quinisve obtusis lineari-ellipticis marginibus costaque retrorsum scabris pedunculis axillaribus raro terminalibus 1-2-floris, corollis 3-4-fidis, fructu glabro.—*Mich. Am. v. 1. p. 78.* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 4.* *Roem. et Schultes, Syst. Veget. v. 3. p. 222.*—*G. trifidum.* *Linn. Sp. Pl.* p. 153. (vix. *Wahl.?*) *Pursh, Fl. Am. v. 1. p. 108.* *Elliott, Carol. v. 1. p. 194.* *Torrey, Fl. of Un. St. v. 1. p. 165.* *Bigel. Fl. Bost. ed. 2. p. 56.* *De Cand. Prodr. v. 4. p. 597.* *Cham. et Schlecht. in Linnaea, v. 4. p. 221.*—*G. tinctorium.* *Rich. in Frankl. 1st Journ. ed. 1. App. n. 40.*—“*Aparine a. n. 558. Gronov. Fl. Virg. 18. fide Herb. Gronov.*” (*Rich.*)

HAB. Throughout Canada, and as far North as lat. 68°. (*Dr. Richardson.*) Newfoundland. *Dr. Morrison. Miss Brenton.* Columbia. *Douglas. Dr. Scouler.* Unalaska. *Chamisso.*—The European *G. trifidum* is a much slenderer plant than the American, and has, as *Dr. Richardson* well remarks, longer recurved and capillary peduncles: and from which ours is probably distinct.

2. *G. tinctorium*; caulibus decumbentibus foliisque quaternis senisve linearibus obtusis marginibus costaque retrorsum scabris, pedunculis axillaribus terminalibusque subcorymbosis plurifloris, corollis 4-fidis, fructu glabro.—*Linn. Sp. Pl.* p. 153. *Pursh, Fl. Am. v. 1. p. 102.* *Bigel. Fl. Bost. ed. 2. p. 54?* *Torrey, Fl. of Un. St. v. 1. p. 166.* *De Cand. Prodr. v. 4. p. 597.*

HAB. Canada. *Pursh. Mrs. Sheppard. Mrs. Percival.* Newfoundland. *Dr. Morrison. Miss Brenton.* Straits of de Fuca, North-West coast of America. *Dr. Scouler.*—Nearly allied to the preceding, but according to my specimens from the British Possessions, and others from the United States, a larger and stouter plant, with more numerous flowers on a peduncle, and these peduncles so crowded towards the upper part of the plant as to give it a copiously paniced appearance. It is said that from the root of this the Indians

prepare the red dye with which they colour the feathers and other ornaments of their dress. Some specimens of *G. palustre* of our country, when they have more numerous leaves than usual, are scarcely distinguishable from the *G. tinctorium*.

3. *G. asprellum*; caulibus decumbentibus foliosis angulis foliorumque margine et nervo manifeste retro-aculeolatis, foliis senis ovali-lanceolatis acumine flaccido ramulis floriferis versus summitates paucis foliosis, floribus albis brevissime pedicellatis, fructu glabro. DC.—*Mich. Am. v. 1. p. 78. Pursh, Fl. Am. v. 1. p. 103. Bigel. Fl. Bost. ed. 2. p. 54. De Cand. Prodr. v. 4. p. 598.*

HAB. The northern parts of Canada. *Michaux*.—I am unacquainted with this species, if it be really distinct from the preceding. What I have received from the United States, under this name, is identical with the *G. Claytoni* of this work.

4. *G. rubioides*; caule erecto stricto tetragono glabriusculo, foliis quaternis lanceolatis latitudine quadruplo quintuplo longioribus 3-nerviis subtus in nervis et margine sæpe scabris, pedunculis axillaribus trichotomis folio multo longioribus in paniculam terminalem dispositis, bracteis ovato-oblongis, fructu glabro. DC.—*Linn. Sp. Pl. p. 152. Cham. et Schlecht. in Linnaea, v. 4. p. 220. De Cand. Prodr. v. 4. p. 599.*— β . foliis angustioribus longioribus, foliis paucioribus. *G. rubioides. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 115 et 125.*

HAB. β . Kotzebue's Sound. *Messrs. Lay and Collie*. Abundant in dry elevated soils, under the shade of solitary Pines, in the valley of the Columbia, North-West America. *Douglas*.—The leaves in our specimens are almost as narrow as in *G. boreale*; but the inflorescence and fruit are very different. I have received the same plant from the United States, under the name of *G. Bermudianum*.

* * *Fructu hispido.*

5. *G. boreale*; caule erecto stricto tetragono glabriusculo, foliis quaternis lineari-lanceolatis 3-nerviis glabris, pedunculis axillaribus trichotomis folio multo longioribus in paniculam terminalem dispositis, bracteis obovato-orbiculatis. DC.—*Linn. Sp. Pl. p. 156. Engl. Bot. t. 105. Pursh, Fl. Am. v. 1. p. 104. Torrey, Fl. of Un. St. v. 1. p. 169. Rich. in Frankl. 1st Journ. ed. 1. n. 41. De Cand. Prodr. v. 4. p. 600.*—*G. strictum. Torrey, Cat. of Pl. of N. York, p. 23.*—*G. septentrionale. Roem. et Schultes, v. 3. p. 253. Rich. in Frankl. 1st Journ. ed. 2. App. p. 4. Bigel. Fl. Bost. ed. 2. p. 54. De Cand. Prodr. v. 4. p. 601.*

HAB. Falls of Niagara. *Torrey*. From Lake Winipeg to the Rocky Mountains, and to lat. 68° North, abundant. *Douglas. Drummond. Richardson*. Columbia River on the West coast. *Mr. Garry*.—Like European specimens of *G. boreale*, this is liable to considerable variation; but the numerous individuals in the Herbarium prove that the *G. septentrionale* of Roem. and Schultes, and of Dr. Richardson, generally passes into the more usual appearance of *G. boreale*. "The Cree women dye red with the roots of the *G. Claytoni* and *G. boreale* indiscriminately." *Rich.*

6. *G. lanceolatum*; caule erecto glabro, foliis quaternis ovato-lanceolatis acutis marginibus ciliato-scabris basi trinerviis, pedunculis terminalibus dichotomis divaricatis folio longioribus, floribus lateralibus sessilibus deflexis, corollis acutissimis, fructibus uncinato-setosis.—*Torrey, Fl. of Un. St. v. 1. p. 163.*—*G. Torreyi. Bigel. Fl. Bost. ed. 2. p. 56.*—*G. circæzans, β . lanceolatum. Torrey, Cat. of Pl. of N. York, p. 23. De Cand. Prodr. v. 4. p. 601.*

HAB. About Quebec. *Mrs. Percival*. Lake Huron. *Dr. Todd*.—The true *G. circæzans* has not, so far as I am aware, been found in the British Possessions; and our *G. lanceolatum* only in their more southern parts. The leaves are very dissimilar in the two, and Torrey finds these differences to be permanent. My specimens of *G. brachiatum*, from the United States, are not distinguishable from the present.

7. *G. triflorum*; caule procumbente tetragono hispido aut glabriusculo, foliis senis oblongis cuspidatis glabellis margine et secus nervos scabridis uninerviis, pedunculis axillari-bus et terminalibus, verticillis longioribus trifloris, floribus pedicellatis, fructibus setis apice uncinatis hispidis. *DC.—Mich. Am. v. 1. p. 80. Pursh, Fl. Am. v. 1. p. 104. Elliott, Carol. v. 1. p. 197. Torrey, Fl. of Un. St. v. 1. p. 167. Bigel. Fl. Bost. ed. 2. p. 56. De Cand. Prodr. v. 4. p. 602.—G. cuspidatum. Muhl. Cat.—G. suaveolens. Wahl.*

HAB. From Canada, (Lake Huron, *Dr. Todd*; Quebec, *Mrs. Percival, Mrs. Sheppard*) to the Rocky Mountains, and as far north as lat. 55°. *Dr. Richardson, Drummond.* West side of the Rocky Mountains to the Pacific. *Douglas, Dr. Scouler. Unalaska. Chamisso.*

8. *G. micranthum*; caulibus ramosissimis divaricatis retrorsum aculeatis, foliis brevibus lanceolatis mucronatis glabris, margine carinaque aculeatis, ramulis floriferis divaricato-rainulosis, pedicellis subbifloris, fructibus hispidis. *Pursh, Fl. Am. v. 1. p. 103. Torrey, Fl. of Un. St. v. 1. p. 167. De Cand. Prodr. v. 4. p. 602.*

HAB. Canada, *Pursh*, who says it very much resembles *G. uliginosum*.

9. *G. Aparine*; caule debili ramoso retrorsum aculeato-aspero ad nodos villosa, foliis octonis lanceolato-linearibus apiculatis carina et margine retrorsum aculeato-scabris, pedunculis simplicibus bifidisque scabris, fructibus globoso-didymis setis apice uncinatis hispidissimis. *DC.—Linn. Sp. Pl. p. 157. Engl. Bot. t. 816. Pursh, Fl. Am. v. 1. p. 103. Bigel. Fl. Bost. ed. 2. p. 57. Torrey, Fl. of Un. St. v. 1. p. 166. De Cand. Prodr. v. 4. p. 608.—β. minor; caulibus vix spithamæis.*

HAB. "Etchmin," Canada. *Mrs. Sheppard.* North-West coast of America. Columbia. *Douglas.* De Fua. *Dr. Scouler.* β. Abundant on the elevated soils near Fort Vancouver. *Douglas.*—My var. β. appears to be the same with that which De Candolle describes, "caule pygmaeo, foliis sæpius sextoties minoribus."

ORD. L. VALERIANEÆ. DC.

1. PATRINIA. Juss.

Cal. limbus truncatus aut erectus brevissimus sub5-dentatus. *Cor.* regularis ecalcarata obtuse 5-loba. *Stam.* 4 imæ corollæ tubo adnata lobis alterna, supremo deficiente, rarius 5 omnia nempe adstantia. *Stigma* trigono-capitatum. *Capsula* 3-locul., calycis limbo coronata basi sæpissime bracteæ paleæformi adnata, loculo 1 fertili, 2 sæpius crassis.—Herbæ perennes. Folia pleraque pinnatifida. Flores corymbosi aurei (nunc albi?) DC.

1. *P. ceratophylla*; caule glaberrimo, foliis omnibus subcarnosis pubescentibus petiolatis radicalibus lineari-lanceolatis integris vel pinnati-aut bipinnati-partitis lobis divaricatis caulinis profunde pinnatifidis laciniis linearibus, panicula elongata, pedunculis ternato-verticillatis (floribus albis.)

Radix fusiformis, crassa. *Caulis* pedalis ad sesquipedalem, erectus, glaber, striatus, nitidus, simplex, crassitie pennæ anserinæ. *Folia* omnia petiolata (petiolis glabris, nitidis), crassiuscula, pubescentia, subtus præcipue; *radicalia* digitalia et ultra, lineari-lanceolata, acuta, integra, vel pinnati-aut bipinnatipartita; lobis divaricatis inæqualibus; petiolis basi valde dilatatis subvaginantibus; *caulina* 2 opposita, vel 3-4 verticillata, basi conuata, profunde pinnatifida; laciniis linearibus, integerrimis. *Panicula* elongata, erecta; *pedunculi*

2 oppositi, vel 3-4 verticillati, bracteis linearibus 2-4 basi connatis suffulti. *Pedicelli* breves floresque congesti, (albi, *Douglas*.) bracteati.

HAB. Common in low wet soils between the Kettle Falls and Spokane, in the vallies on the west side of the Rocky Mountains. *Douglas*.—"The roots," Mr. Douglas observes, "during the spring months, are collected by the Indians, baked on heated stones, and used as an article of winter or spring food. From a bitter and seemingly pernicious substance, it is thus converted into a soft and pulpy mass, which has a sweet taste, resembling that of treacle, and is apparently not unwholesome."—This plant has altogether the habit of *Patrinia*, and its flowers, as far as I can judge of them, for they are scarcely expanded, agree with that genus. But they are observed by Mr. Douglas to be white, whilst those of all the known species of *Patrinia* are yellow.

2. PLECTRITIS. DC.

Cal. margo rectus integerrimus. *Cor. tubo* basi breve calcarato antice gibboso, limbo 5-fido bilabiato. *Stam.* 3. *Capsula* cartilaginea 1-locularis bialata, loculis nempe 3 quorum 2 inanes aperti alæformes (involutæ.)—Herba annua glabra, habitu media inter *Centranthum* et *Fediam*, sed triandra et fructu singularissimo distincta. Flores rosei monoici verticillato-congesti. Bracteæ multifidæ laciniis subulatis. DC.

1. *P. congesta*. De *Cand. Prodr.* v. 4. p. 631.—*Valerianella* congesta. *Lindl. Bot. Reg.* t. 1095.—*β. minor*; foliis angustioribus. *Valerianella* parviflora. *Douglas*, in *Herb. Hort. Soc. Lond.*

HAB. Banks of streams and moist rocks, along the sea-shore, near the mouth of the Columbia. *Douglas*. *Dr. Scouler*.

3. VALERIANA. Neck.

Cal. limbus per anthesin involutus deinde evolutus in pappum deciduum multisetum, setis plumosis. *Corolla tubo* obconico aut cylindrico basi æquali aut gibbo ecalcarato obtuse 5-fido, rarius 3-fido. *Stam.* 3. *Fructus* indehiscens, maturus 1-locul. 1-spermus.—Herbæ aut suffrutices. Folia varia, sæpe in iisdem individuis diversa. Flores corymbosi, capitato aut paniculati. *Cor. fere omnium* albæ, rarius cærules centes rosei aut flavi. DC.

1. *V. sylvatica*; glabra erecta, caule striato, foliis radicalibus petiolatis ovatis aut subspathulatis indivisis, caulinis pinnatipartitis laciniis ovato-lanceolatis subintegerrimis, floribus hermaphroditis, stigmatis lobis minutis 2-3, fructibus ovatis compressis glabris.—*Banks*, *MSS. Rich. in Frankl. 1st Journ. ed. 2. App. p. 2.*

HAB. Newfoundland. *Sir Joseph Banks*. Clear-water River. *Rich. in Frankl. 1st Journ.* Prairies of the Rocky Mountains, abundant. *Drummond*.—In every respect, save in the hermaphrodite flowers, this agrees with the European *V. dioica*, and if *Scopoli's* statement be correct, when he says of this latter,—"Millena specimina examinaui et nunquam vidi flores dioicos, sed nunc omnes hermaphroditos, nunc filamento uno aliove castrato instructos, nunc masculos et femineos in eadem planta, ita tamen ut masculi flores continerent rudimentum germinis et styli: sine seminibus vero perfectis nullam hactenus inveni plantam," I do not see in what respect the two really differ. From *V. Phu* our plant is distinguished by the smaller and shorter fruit, and entire absence of the two hairy lines.

2. *V. pauciflora*; glabra, caule erecto glabro simplici sulcato, foliis radicalibus petiolatis cordatis simplicibus sinuato-crenatis caulinis lyrato-pinnatisectis supremis ternatisectis v. simplicibus, foliolis lato-ovatis acutis sinuato-dentatis, floribus hermaphroditis triandris, fructibus ovatis compressis glabris. (TAB. CI.)—*Mich. Am. v. 1. p. 18. Pursh, Fl. Am. v.*

1. p. 28. *Nutt. Gen. Am. v. 1. p. 20. De Cand. Prodr. v. 4. p. 638.*— β . foliis subintegerrimis.

Radix crassa, subrepens, fibras emittens. *Caulis* 2-3-pedalis, erectus, simplex, striatus, fistulosus, nitidus, ad nodos solummodo pubescenti-hirsutus. *Folia* (nisi ad ortum foliorum ubi fasciculus pilorum alborum) glaberrima; *radicalia* petiolata, lato-cordata, simplicia, obtusa, sinuato-crenata; *caulina* pinnatisecta, foliis plerumque 5; *superiora* sensim minora minusque petiolata, foliis ovatis acutis sinuato-dentatis, in β . subintegerrimis, terminali latiore majore; supremis ternatisectis vel simplicibus, sessilibus. *Panicula* terminalis, cymosa, sublaxa, pedunculis pedicellisque hinc villosa, bracteata, bracteis oppositis basal connatis lineari-subulatis. *Flores* inter majores hujusce generis, ut videtur rosæ. *Corolla* tubus hinc gibbosus. *Stamina* 3 exserta. *Fructus* ovatus, compresso-planus, glaberrimus, dorso linea 1 elevata, facie suprema lineis duabus, pappo coronatus.

HAB. Woods in the Rocky Mountains, north of the Smoking River, (lat. 56° North,) and on Wolf Plain. *Drummond. β* . Moist rocks and islands of the Columbia River. *Douglas, Dr. Scouler.*

Tab. Cl. *V. pauciflora.* Fig. 1, Flower with bractes; fig. 2, Back view of a fruit; fig. 3, Front view of do.:—*magnified.*

3. *V. capitata*; caule erecto glabro ad nodos pubescente, foliis radicalibus petiolatis subrotundis simplicibus, caulinis subsessilibus simplicibus vel ternatisectis, foliis sinuato-serratis ovatis supremo maximo, panicula dense capitata, bracteis longissimis, corollæ tubo elongato, fructu ovato compresso glabro.—*Willd. Herb.—Cham. et Schlecht. in Linnæa, v. 3. p. 130. De Cand. Prodr. v. 4. p. 637. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.*

HAB. Kotzebue's Sound. *Chamisso. Messrs. Lay and Collie.* Arctic shores of America, between the Coppermine and Mackenzie Rivers. *Dr. Richardson.*—This is, as Schlechtendal and Chamisso observe, much allied to *V. Tripteris*, but it has a shorter and more compact habit: the flowers are in a dense head, and the bractes and tubes of the corollas are considerably longer.

ORD. LI. COMPOSITÆ.

Trib. I. CICHORACEÆ. *Juss.*

1. SONCHUS.

Involucrum polyphyllum cylindraceum basi sæpe dilatatum, squamis appressis imbricatis membranaceis. *Receptaculum* subscrobiculatum vel nudum. *Flosculi* plurimi. *Achenia* lineari-oblonga subcompressa striata. *Pappus* (albissimus) sessilis inæqualis simplex vel scaber.—Frutices aut Herbæ *radice perenni rarius annua, foliis sæpe pinnatifidis glabris. Flores flavi vel cærulei.*

1. *S. oleraceus*; radice annua, foliis amplexicaulibus lyrato-uncinatis argute dentatis, pedunculis junioribus tomentosis.—*Linn. Sp. Pl. p. 1116. Pursh, Fl. Am. v. 1. p. 501. Elliott, Carol. v. 2. p. 204. Engl. Bot. t. 843. Bigel. Fl. Bost. ed. 2. p. 289.*

HAB. Throughout Canada, as far as the Saskatchewan. Newfoundland. *Mr. Cormack.* Mouth of the Columbia, North-West America. *Dr. Scouler.*

2. *S. arvensis*; radice perenni repente, foliis basi cordatis amplexicaulibus runcinatis argute dentatis, floribus subcorymbosis, pedunculis involucrique piloso-glandulosis, acheniis rugoso-punctatis. *Linn. Sp. Pl. p. 1116. Pursh, Fl. Am. v. 2. p. 501. Engl. Bot. t. 674. p. 289.*

HAB. Newfoundland. *Miss Brenon*.—Probably introduced, as well as the former, from the Old World.

3. *S. pallidus*; racemis compositis, pedunculis squamosis, foliis lanceolatis dentatis glabris amplexicaulibus superioribus acuminatis. *Sm.*—*Willd. Sp. Pl. v. 3. p. 1521. Pursh, Fl. Am. v. 2. p. 502. Sm. in Rees' Cycl. n. 33.*—*Lactuca Canadensis. Linn. Sp. Pl. p. 1119.*

HAB. Canada. *Linnaeus*.—Flowers small, yellow. *Pursh.*

4. *S. alpinus*; radice perenni, foliis amplis lyratis basi cordatis lobo terminali maximo triangulari, pedunculis subracemosis involucrisque glanduloso-hispidis (floribus cæruleis.)—*Linn. Sp. Pl. p. 1117. Pursh, Fl. Am. v. 2. p. 501.*—*S. cæruleus. Engl. Bot. t. 2425.*

HAB. Canada. *Pursh.*

5. *S. Sibiricus*; radice annua, foliis lanceolatis sessilibus glabris integerrimis dentatis runcinato-pinnatifidisve, pedunculis squamulosis paniculatis involucrisque glaberrimis (floribus cæruleis.)—*Linn. Sp. Pl. p. 1118. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Gmel. Fl. Sib. v. 2. p. 11. t. 3.*

HAB. From Lake Huron, (*Dr. Todd*) throughout the whole central part of British North America, to Fort Franklin in lat. 66°. *Dr. Richardson, Drummond, Douglas.* Plains of the Columbia, near the sea. *Douglas*.—This is liable to much diversity in the form of the leaves. The upper ones indeed are always entire, but varying in their relative length and breadth; the lower ones often toothed, pinnatifid, with narrow segments, frequently runcinate. The flowers are numerous, large, handsome, blue. The blue-flowered *Southistles* constitute the genus *Agathyreus* of Mr. Don.

6. *S. leucophæus*; foliis sessilibus runcinatis acute dentatis glabris, caule paniculato-virgato, pedunculis racemosis squamosis involucrisque glabris (floribus parvis albis, pappo fulvo.)—*Willd. Sp. Pl. p. 1520. Pursh, Fl. Am. v. 2. p. 501.*— β , panicula patentissima.

HAB. Lake Huron. *Dr. Todd, Dr. Torrey*, in Herb. Nostr. Etchmie, Canada. *Mrs. Sheppard, Saskatchewan. Drummond.*— β , Columbia River. *Dr. Scouler*.—This, I think, is certainly the *S. leucophæus* of Willdenow, who aptly compares it with the *S. alpinus* of Smith in Ic. Pl. t. 21, observing that the stem is more branched and paniculato-virgate, the flowers smaller, white, or bluish, which precisely corresponds with our specimens. I possess the same plant, sent by Dr. Torrey, inadvertently, as *Lactuca hirsuta*,* *Muhl.* I am doubtful about the genus. The foliage and general aspect are those of a *Sonchus*; while the small flowers and pappus look more like those of *Nabalus*; but the former are not pendent, nor the latter of so deep a tawny hue as in that genus. We have cultivated it in the Glasgow Botanic Garden, from seeds collected by Mr. Drummond; and I possess specimens gathered by the Rev. Mr. Schweinitz in Pennsylvania. My single specimen of var. β , is in a very indifferent state of preservation, and may be a distinct species.

2. NABALUS. *Cass.*

Flores nutantes. Involucrum cylindricum 5-12-florum e squamis erectis uniseriatis basi squamulosis. Receptaculum nudum. Achenia lineari-oblonga subcylindrica striata. Pappus coloratus sessilis scaber.—Habitus Prænanthidis, sed flores albi, involucri pluriflora, flosculi albi, pappus coloratus fulvus. Folia ampla plerumque petiolata integra sinuata vel pinnatifida.

* Another specimen sent to me afterwards, by the same Botanist, under the name of *L. hirsuta*, is a true Linnean *Lactuca*.

1. *N. racemosus*; caule simplici, foliis indivisis integerrimis vel dentatis inferioribus obovato-oblongis longe petiolatis, petiolis alatis superioribus oblongo-ovatis sessilibus semi-amplexicaulibus, racemo elongato composito, pedunculis involucrique hirsutissimis.—*Prænantes racemosa*. Mich. Am. v. 2. p. 84. Pursh, Fl. Am. v. 2. p. 500.—*Harpalyce racemosa*. Don, in Ed. N. Phil. Journ. 1829. p. 308.

HAB. Northern parts of Canada. Michaux. Plains of the Saskatchewan. Dr. Richardson. Drummond.

2. *N. altissimus*; caule ramoso, foliis trilobis petiolatis angulatis denticulatis margine scabris, racemis axillaribus, floribus nutantibus, involucri subquinquefloris. Pursh.—*Prænantes altissima*. Willd. Sp. Pl. v. 3. p. 1537. Pursh, Fl. Am. v. 2. p. 498. Elliott, Carol. v. 2. p. 256.—Plukn. Alm. t. 347. f. 2.

HAB. Canada. Pursh. Newfoundland. Mr. Cormack.

3. *N. cordatus*; caule superne paniculato, foliis petiolatis cordatis dentatis ciliatis, floribus sessilibus oblongis integerrimis, panicula laxa racemiflora, floribus nutantibus, calycibus 6-fidis 6-floris. Pursh.—*Prænantes cordata*. Willd. Hort. Berol. t. 25. Pursh, Fl. Am. v. 2. p. 498. Elliott, Carol. v. 2. p. 257.

HAB. Canada. Goldie.—Mr. Pursh acknowledges this to be an intermediate species between the preceding and *N. albus*.

4. *N. alatus*; annuus, caule simplici, foliis longe petiolatis acutissimis deltoideis sinuato-dentatis, petiolis alatis, panicula laxa parva, pedunculis involucrique pubescenti-hirsutis. (TAB. CII.)

Radix parva, subsufiformis, ut videtur, annua. *Caulis* simplex, erectus, glaber, pedalis et ultra, superne paniculatus. *Folia* sublonge petiolata, membranacea, glabra; superiora sparse pubescentia, deltoidea, acutissima, sinuato-dentata, angulis acutis subdeflexis; *suprema* lanceolata, sessilia, integerrima. *Panicula* parva, laxa. *Pedunculi* pubescenti-hirsuti. *Flores* nutantes, majusculi (albi?) *Involucrum* cylindraceum, foliolis squamisque pubescenti-hirsutis. *Flosculi* 7-9, apice 5-dentati. *Styli* exserti. *Achenia* linearia, striata. *Pappus* scaber, pallide fulvus; pilis numerosis.

HAB. Fort Vancouver and Observatory Inlet, on the North-West coast of America. Dr. Scouler.

TAB. CII. *N. alatus*. Fig. 1, Flower; fig. 2, Fruit; fig. 3, Hair from the pappus:—magnified.

5. *N. albus*; foliis radicalibus angulato-hastatis dentatis sublobatis, caulibus subrotundo-ovatis dentatis petiolatis summis lanceolatis, panicula laxa, fasciculis terminalibus nutantibus, involucri 8-phyllo 9-10-flori. Pursh.—*Prænantes alba*. Willd. Sp. Pl. v. 3. p. 1536. Pursh, Fl. Am. v. 2. p. 499. Sims, Bot. Mag. t. 1079, (excell.) Elliott, Carol. v. 2. p. 259. Bigel. Fl. Bost. ed. 2. p. 259.

HAB. Lake Huron. Dr. Todd. Quebec. Lady Dalhousie, Mrs. Percival. Newfoundland. Mr. Cormack, Miss Brenton.

6. *N. serpentarius*; foliis dentatis asperis (?) radicalibus palmato-sinuatis caulibus longe petiolatis sinuato-pinnatifidis subtrilobis lacinia intermedia 3-partita summis lanceolatis, racemis terminalibus subpaniculatis brevibus nutantibus, involucri 8-phyllo 12-flori.—*Prænantes serpentaria*. Pursh, Fl. Am. v. 2. p. 499, t. 24.

HAB. Lake Huron. Dr. Todd. Quebec. Mrs. Percival. Sillery. Mrs. Sheppard. Newfoundland. Mr. Cormack.—Our specimens, from the localities now mentioned, so exactly accord with the figure above-quoted of Pursh, that I cannot at all question their being the true *Prænantes serpentaria*; and

of frequent occurrence in the British Possessions. But I believe I am not singular in thinking that it may be a variety of *N. albus*, to which *N. cordatus* and *altissimus* are too closely allied; from which again our *N. alatus* is chiefly to be distinguished by its winged petioles. *Prænanthes virgata* of Michaux, *P. rubicunda* of Willdenow, and *P. simplex* of Pursh may perhaps, with equal safety, be referred to *N. albus*.

3. LYGODESMIA. Don.

Involucrum pentaphyllum, tubulatum, basi squamulis plurimis brevissimis imbricatis munitum, foliolis ligulatis carinatis margine scariosis. *Receptaculum* scrobiculatum. *Flosculi* 5. *Antheræ* basi bidentatæ. *Achenia* linearia compressa sulcata apice simpliciu. *Pappus* capillaris: radiis multiplici ordine copiosissimis (vel paucis) denticulato-scabris (plumosisve) subsistentibus.—Suffrutices (seu herbæ) Amer. Bor. et Syria, facie Ephedræ, ramosissimi aphylli (in *L. juncea* evidentissime foliosi) squamis (foliorum rudimentis) subulatis, patulis sparsis. Flores solitarii sessiles. Pappus carnosus fuscescens. Don.

1. *L. juncea*; caule ramosissimo striato, foliis lineari-subulatis, pappi pilis numerosissimis scabris. (TAB. CIII.)—Don, in *Ed. N. Journ. of Sc.* 1829. p. 311.—Prænanthes juncea. Pursh, *Fl. Am. v. 2.* p. 498.

Radix subfusiformis, longa, ut videtur, perennis. *Caulis* erectus vel subdecumbens, herbaceus, pedalis ad bipedalem, per totam longitudinem ubique valde ramosus, striatus, subglauca, ramis erectis vel flexuosis, longis, subvirgatis. *Folia* alterna, fere omnino ad insertionem ramorum, rigida, subglauca, lineari-subulata, striata, integerrima, sessilia sed non amplexantia; inferiora 2 uncias longa, superiora sensim minora. *Rami* ultimi, seu pedunculi, graciles, uniflori, bracteis seu foliis parvis subulatis suffulti. *Flores* terminales, unciani longi, cærulei. *Involucrum* cylindraceum, o foliolis 5, erectis, lineari-oblongis, membranaceis, margine subscariosis, basi squamosis; squamis erectis, imbricatis, brevibus. *Flosculi* 5, majusculi. *Corolla* ligulata, lata, 5-dentata. *Stonium* tubus elongato-cylindraceus: *Antheræ* basi utrinque breve calcarate. *Stylus* inclusus. *Stigmata* exserta, linearia, erecto-patentia, glanduloso-pubescentia. *Achenia* oblonga, striata, ad orem dilatata. *Pappus* sessilis o pilis numerosissimis sub lente scabris.

HAB. Dry plains of the Saskatchewan. Drummond.—There is a peculiarity in the habit of this plant, as Mr. Don justly observes; and I have adopted that Botanist's genus and character of *Lygodesmia*, including, indeed, the *Prænanthes triquetra* of Labillardière, a Syrian plant, with which I am unacquainted. The American *P. pumila*, Baldw. mentioned by Don, (I presume the *P. aphylla* of Nuttall, *Nov. Gen. v. 2.* p. 123,) is equally unknown to me. With the exception of the leaflets of the involucre not being carinated in our *L. juncea*, it agrees in every point with Mr. Dou's *Lygodesmia*: but a second species, next to be mentioned, has a pappus of a very different character, yet is unquestionably the same genus. In neither, however, can the stems be said to be leafless, nor can they be compared to those of *Ephedra*.

TAB. CIII. *L. juncea*. Fig. 1, Flower; fig. 2, Floscule; fig. 3, Anthers and stigmas; fig. 4, Achenium; fig. 5, Portion of the hair of an achenium:—magnified.

2. *L. minor*; caule ramosissimo obscure striato, foliis lineari-subulatis brevibus, pappi pilis sub-16 plumosis.—(TAB. CIII. f. A. quoad fruct.)—Prænanthes juncea. Douglas, MSS. in *Herb. Hort. Soc.* (non Purshii.)

HAB. On gravelly or sandy banks of the Columbia, near Wallawallah, frequent. Douglas.—This is, according to Mr. Douglas, 1-2 feet high. The specimens I possess scarcely exceed 10 inches, and the leaves and flowers are smaller than those of the preceding species; yet in every other respect the plants are so similar that it is scarcely possible to distinguish them until the pappus be examined. This is totally different from that of *L. juncea*; for whereas there it is composed of an infinity of very slender, tawny, and merely scabrous hairs, here it consists of about 16 feathery hairs.

TAB. CIII. A. Flower and portion of a hair from the pappus of *Lygodesmia minor*.

4. LACTUCA. Linn. (part of)

Involucrum cylindraceum, squamis seu foliolis erectis imbricatis, exterioribus latioribus. *Receptaculum* planum, nudum. *Achenia* compressa. *Pappus* niveus, stiptatus, pillis scabris seu lævibus.

1. *L. elongata*; subglabra, foliis uncinatis dentatis subtus glaucis inferioribus petiolisque hirsutis superioribus subintegris, floribus corymboso-paniculatis. *Willd. Enum. p. 817. Pursh, Fl. Am. v. 2. p. 500. Elliott, Carol. v. 2. p. 252.*—*L. longifolia. Mich. Am. v. 2. p. 85.* (fide Elliott.)—*L. hirsuta. Muhl. Cat.—Nutt. Nov. Gen. v. 2. p. 124?*

HAB. Lake Huron. *Dr. Todd.* Plains of the Saskatchewan. *Dr. Richardson. Drummond.*—As the lower leaves of this plant are frequently hairy, especially upon the petioles, I am disposed to believe that the *L. hirsuta* of Muhl. Cat. is the same species, and Dr. Torrey entertains a similar opinion.

5. LEONTODON. Linn.

Involucrum imbricatum, foliolis appressis seu exterioribus patentibus. *Receptaculum* planum, punctatum, nudum. *Pappus* stipitatus, simplex.

1. *L. Taraxacum*; involucri squamis inferioribus reflexis, foliis runcinatis dentatis.—*Linn. Sp. Pl. p. 1122. Engl. Bot. t. 510. Pursh, Fl. Am. v. 2. p. 497.*

HAB. Throughout the British Possessions, and on both sides of the Rocky Mountains.

2. *L. palustre*; involucri foliolis erectis appressis, foliis sinuato-dentatis glabriusculis.—*Engl. Bot. t. 533. Rich. in Frankl. 1st Journ. ed. 2. App. p. 29.*

HAB. Throughout the British Possessions, and from Hudson's Bay to the Pacific.

3. *L. hirsutum*; ubique hirsutum, involucri foliolis erectis appressis, foliis pinnatifidis segmentis inæqualibus remotis acuminatis.

HAB. Menzies Island, and sandy banks of the Columbia. *Douglas. Dr. Scouler.*—The leaves of this are very different from any of the numerous varieties of the two preceding species that I have seen; and they and the scapes and involucre are very hairy; the latter clothed with fulvous hairs.

6. APARGIA. Schreb.

Involucrum imbricatum, foliolis interioribus æqualibus, exterioribus minoribus. *Receptaculum* nudum, punctatum. *Pappus* plumosus, sessilis.

1. *A. autumnalis*; scapo ramoso superne squamoso, foliis lanceolatis dentatis seu pinnatifidis glabriusculis, pedunculis superne incrassatis, involuero subpubescente.—*Willd. Sp. Pl. p. 1550. Pursh, Fl. Am. v. 2. p. 497.*—*Hedypnois autumnalis. Huds.—Engl. Bot. t. 830.*—*Leontodon autumnale. Linn.*

HAB. Newfoundland. *Mr. Cormack.*—Pursh gives this plant as a doubtful native of the New England States. It is probably also introduced into Newfoundland from Europe.

7. LAPSANA.

Involucrum subcylindraceum e foliolis paucis basi squamulosum. *Receptaculum* nudum. *Achenia* oblonga basi attenuata. *Pappus* nullus.

1. *L. communis*; involucri fructu angulato, caule paniculato, pedunculis gracilibus, foliis ovatis petiolatis angulato-dentatis.—*Linn. Sp. Pl. p. 1141. Engl. Bot. t. 844.*

HAB. Canada. *Mrs. Sheppard.* Probably introduced from Europe.

8. CICHORIUM. Linn.

Involuceri foliola duplici serie. *Receptaculum* subpaleaceum. *Achenium* erostre, turbinatum, conforme. *Pappus* brevis, biserialis, pilis paleaceis ellipticis obtusis.

1. *C. Intybus*; floribus geminatis subsessilibus, foliis uncinatis.—Linn. *Sp. Pl.* p. 1142. *Engl. Bot.* t. 539.

HAB. Canada. Mrs. Percival. Mrs. Sheppard.—Introduced from Europe.

9. CREPIS, Linn.

Involuceri foliola duplici serie, externa laxa, brevis. *Receptaculum* nudum. *Achenium* teres, sensim in rostrum breve attenuatum. *Pappus* pluriserialis, albus, mollissimus.

1. *C. biennis*; caule elato sulcato, foliis radicalibus obovato-lanceolatis plerumque runcinato-dentatis seu pinnatifidis summis lanceolatis, involucro subsensu pubescente.—Linn. *Sp. Pl.* p. 1136. *Engl. Bot.* t. 149.— β . foliis latioribus plerumque runcinato-dentatis rarius pinnatifidis nunc omnino integerrimis.

HAB. β . Carlton House, on the Saskatchewan, to the Prairies on the Rocky Mountains. Drummond. Lake Huron. Dr. Todd.—The radical leaves of this are invariably wider than in any specimens I have seen of the European *C. biennis*, and more entire; yet I dare not venture to consider it a different species.

2. *C. elegans*; humilis glaberrima, radice multicapite, caulibus erectis dichotomis multifloris, foliis inferioribus spatulatis superioribus linearibus, involucris cylindraceis, acheniis tenuissime rostratis.

HAB. "Battures" of the Assinaboyns River. Drummond.—Allied to the following, but unquestionably distinct. The stems are numerous from the summit of the fusiform root, 5-6 inches high, dichotomous and leafy, the leaves gradually narrower upwards.

3. *C. nana*; humillima glaberrima, caulibus subnullis, foliis ovatis subrotundatisve longe petiolatis flores superantibus, involucris cylindraceis, acheniis in rostrum attenuatis.— α . foliis ovatis acutiusculis integris.—*C. nana*. Rich. in Frankl. 1st Journ. ed. 2. App. p. 29. Hook. in Parry's 2d Voy. App. p. 397. t. 1.— β . foliis subrotundatis plerumque lyrato-pinnatifidis.

HAB. α . Barren grounds from lat 64° to the Arctic Sea and Islands. Dr. Richardson. Capt. Sir E. Parry.— β . On the slaty debris of the Rocky Mountains. Drummond.—The alpine specimens have the leaves usually rounder and pinnatifid.

10. HIERACIUM. Linn.

Involucrum imbricatum, ovatum. *Receptaculum* nudum, punctatum seu pilosum. *Pappus* uniserialis, pilosus, sepiissime sordide flavescens. *Achenium* erostre, sulcatum.

1. *H. pusillum*; pusillum villosissimum, caule simplici erecto unifloro remote subfoliato, foliis lanceolatis attenuatis acutis integerrimis caulibus linearibus, calyce villosissimo. Pursh, *Fl. Am.* v. 2. p. 502.

HAB. Labrador. Kohlmeister. (Pursh).—"A very small plant, with flowers the size of a daisy. It strongly resembles *H. alpinum*, and is probably only a diminutive var. of it."

2. *H. venosum*; scapo nudo corymboso-paniculato glabro, pedicellis filiformibus, foliis obovato-lanceolatis supra rariter pilosis subtus margine ciliatis glanduloso-denticulatis,
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venis coloratis, calycibus glabris. *Ph.—Linn. Sp. Pl. p. 1125. Pursh, Fl. Am. v. 2. p. 502. Bigel. Fl. Bost. ed. 2. p. 288.—β. gracilium; foliis angustioribus magis petiolatis venis vix coloratis.*

HAB. Canada. *Pursh.—β.* About the Saskatchewan. *Drummond.*—The true *H. venosum*, with broader leaves and coloured veins, (such as I have received from Dr. Boott, gathered near Boston,) I have never seen from the British Possessions. But my var. *β.* I have reason to think is not specifically distinct from it. I must however, state, that, from the varied appearances assumed by the North American *Hieracia*, I fear they are nearly as difficult of determination as those of Europe.

3. *H. gracile; scapo nudo seu monophyllo glabro superne cymoso-racemoso pubescente involucriisque nigro-pilosis subglandulosis, foliis oblongis obtusiusculis glabris in petiolum longiusculum attenuatis membranaceis integerrimis, floribus parvis.*

HAB. On the more elevated Rocky Mountains. *Drummond.*—12–18 inches high, slender, and with a good deal the habit of *H. venosum*; but the foliage is different, the panicle is reduced to a raceme, whose lower pedicels are considerably elongated, and they, in their upper part, and the involucre, are clothed with long black hairs, mixed with some pedicellated glands.

4. *H. albiflorum; caule folioso inferne molliter deflexo-piloso, foliis lato-lanceolatis integerrimis obtusis in petiolum attenuatis longe albo-pilosis, caulinis remotiusculis sensim minoribus sessilibus, panicula gracili multiflora glabra, pedicellis divaricatis, involucri pilis longis albidis sparsis, "floribus albis."*

HAB. Alpine woods in the Rocky Mountains, north of the Smoking River, in lat. 56°. *Drummond.*—This has somewhat the habit of *H. Gronovii*, but it is very different in other particulars. The leaves are clothed with long, shaggy, very soft white hairs, which are copious, and remarkably deflexed on the petioles and base of the stem; while the rest of the stem and the panicle are glabrous, and the involucre has only a few long, scattered, patent hairs.

5. *H. Scouleri; setoso-pilosum, pilis longis rigidis patentibus fusciscentibus, caule folioso paniculato, panicula ampla multiflora ramis erectis, foliis lato-lanceolatis subcoriaceis rigidis acutis vix dentatis, radicalibus in petiolum brevem attenuatis, caulinis remotiusculis sessilibus, involucri fusciscenti-pubescentibus pube pilis longiusculis glandulosis immixto.*

HAB. At the mouth of the Columbia. *Dr. Scouler.*—A remarkable and distinct species; in its very long coarse rigid hairs allied to *H. echioides* of Waldstein and Kitaibel, and to a very singular species from River St. Clair, United States, (*H. longipilum*, of Torrey, in *Herb. Nostr.*;) but there the hairs are nearly an inch long, and remarkably upright and appressed. I possess our present plant also from Dr. Schweinitz, gathered in Pennsylvania.

6. *H. Gronovii; caule folioso, inferne præcipue patentim piloso superne paniculato, panicula subcompacta, foliis lato-seu obovato-lanceolatis rigide appressim pilosis integerrimis obtusis, inferioribus radicalibusque sublonge petiolatis, caulinis remotis sessilibus sensim minoribus, pedicellis involucriisque pube pilisque glandulosis tectis.—Linn. Sp. Pl. p. 1127. Mich. Am. v. 2. p. 87. Pursh, Fl. Am. v. 2. p. 503.—H. Marianum. Bigel. Fl. Bost. ed. 2. p. 288.—3. foliis caulinis numerosis latioribus.—H. scabrum. Darlington, Fl. Cestr. p. 84. (fide specim. in Herb. nostr.) Mich. Am. v. 2. p. 86?*

HAB. Canada. *Michaux. Pursh. Mrs. Sheppard. Mrs. Percival.* Lake Huron. *Dr. Todd.*—From various parts of the United States I have received two states of this species: the one (*α.*) a slender plant, with few and distant and narrower leaves on the stem, and more petiolated radical ones; and (*β.*), a much

stouter plant, with broader and more numerous leaves, and larger and more spreading panicles. The latter is the *H. scabrum* of Dr. Darlington, and probably of Michaux and other authors. Pursh refers the *H. Marianum* of Willd. to the present species, and correctly so, if I may judge by Dr. Schweinitz' specimens. I infer that our plant is the *H. Marianum* of Bigelow, for his description agrees with it, and Dr. Boott's specimens, from Boston, compared with and named "*H. Gronovii* of Michaux's Herbarium," have also, for synonym, *H. Marianum*, Willd.

7. *H. molle*; pilosum, caule erecto simplici folioso, corymbo paucifloro, foliis oblongo-lanceolatis attenuatis inferne paucidentatis, radicalibus petiolatis. *Pursh, Fl. Am. v. 2. p. 503.* "*Willd. Sp. Pl. v. 3. p. 1577?*"

HAB. Labrador. *Kohlmeister*, (ex *Pursh*.)

8. *H. paniculatum*; glabriusculum, caule erecto folioso paniculato inferne albo-lanato, pedicellis capillaribus, foliis innocolatis nudis dentatis membranaceis. *Ph.—Linn. Sp. Pl. p. 1127. Mich. Am. v. 2. p. 86. Pursh, Fl. Am. v. 2. p. 503.*

HAB. Canada. *Pursh. Goldie*.—A slender, very leafy species, with an ample and much branched panicle.

9. *H. virgatum*; caule erecto simplici villosa, foliis sessilibus lanceolatis acutis glabris subtus pilosis argute dentatis versus apicem integerrimis dentibus divaricatis, panicula subcorymbosa, calycibus pedunculisque tomentosis. *Pursh, Fl. Am. v. 2. p. 503.*—" *H. Canadense. Mich. Am. v. 2. p. 86.*"

HAB. Canada. *Pursh*, (ex *Herb. Lamb.*)

10. *H. fasciculatum*; glabriusculum, caule erecto folioso simplici glabro, foliis sessilibus oblongis acutis argute dentatis dentibus elongatis, ramis paniculae divaricatis brevibus, pedicellis subfasciculatis pubescentibus. *Pursh, Fl. Am. v. 2. p. 504.*

HAB. Canada. *Masson*, (ex *Pursh*.)—"A tall robust plant; flowers of a middling size."

11. *H. macrophyllum*; altissimum, caule erecto folioso hispido sulcato, foliis cordato-semiamplexicaulibus ovato-oblongis remote grosse dentatis nudiusculis, nervis venisque subtus pubescentibus, panicula divaricato-corymbosa, pedunculis elongatis nudis calycibusque glabris. *Pursh, Fl. Am. v. 2. p. 504.*

HAB. Canada, ex *Herb. Lamb. (Pursh)*.—"A very robust plant. Leaves the largest of the Genus. Flowers large."—I am entirely unacquainted with this and the two preceding species of Pursh. One or other of the following species may be included among them.

12. *H. sylvaticum*; caule folioso superne ramoso subcorymboso subvillosa, pedunculis magis minusve pubescentibus, foliis ovato-lanceolatis lanceolatisve subhirsutis dentatis dentibus erectis, involucri breviter pubescentibus.—*Sm. Engl. Bot. t. 2031.*—*α.* foliis ovato-lanceolatis viridibus, dentibus minutis. *Hook. Br. Fl. ed. 2. p. 345.*

HAB. Pointe Levi, Canada. *Mrs. Sheppard.*

13. *H. præantheroides*; caule erecto folioso pubescenti-hirsuto, panicula corymbosa, pedicellis involucriisque piloso-glandulosis, foliis oblongo-cordatis basi semiamplexicaulibus, superioribus sensim minoribus ovato-cordatis omnibus grosse remote dentatis.—*Vill. Delph. v. 3. p. 108. Engl. Bot. t. 2235.*

HAB. Lake Huron. *Dr. Todd.* About Quebec. *Mrs. Sheppard. Mrs. Percival.* Cumberland House Fort, on the Saskatchewan. *Drummond.*—This may probably be the *H. macrophyllum* of Pursh; but the specimens entirely agree with the *Engl. Bot. H. præantheroides.*

14. *H. umbellatum*; caule erecto simplici valde folioso, foliis lineari-lanceolatis glabrisculis dentatis integerrimisque, floribus subumbellatis, pedunculis pubescentibus, involucri glabris.—*Linn. Sp. Pl. p. 1131. Engl. Bot. t. 1771. Rich. in Frankl. 1st. Journ. ed. 2. App. p. 29.*

HAB. From Lake Huron, *Dr. Todd*, to Fort Franklin, on the Mackenzie River, in lat. 66° north, abundant. *Dr. Richardson. Drummond.*

11. TROXIMON. *Nuttall, an Gært.?*

Involucrum duplex: ext. e foliolis laxe imbricatis ovato-lanceolatis; int. e foliolis 10-12 æqualibus uniformibus, infra medium coadunatis. Receptaculum planum, nudum. Achenia oblonga, compressa, in rostrum attenuata. Pappus pilosus seu scaber, pluriserialis.—Habitus Scorzonæræ sed folia omnino radicalia.

1. *T. glaucum*; foliis lineari-ensiformibus acutis acuminatisve integerrimis dentatisque glaucis, flore maximo flavo, corollæ fauce valde piloso.—*Nutt. in Frazer's Cat. 1813. Pursh, Fl. Am. v. 2. p. 505. Rich. in Frankl. 1st Journ. ed. 2. App. p. 29.*—*α.* involucre lanato.—*β.* involucre glabro.

HAB. From the Saskatchewan to the Prairies of the Rocky Mountains, and to the shores of the Arctic Sea. *Dr. Richardson. Drummond.*—I suspect the *T. cuspidatum* of Pursh, (the *marginatum* of Nuttall,) is merely a variety of *T. glaucum*.

2. *T. aurantiacum*; foliis oblongo-lanceolatis obtusis in petiolum longe attenuatis integerrimis sinuato-dentatisque, flore aurantiaco, corollæ fauce vix piloso. (TAB. CIV.)

Radix fusiformis, perennis. Folia plurima, omnino radicalia, erecta, glabra vel sublanata, membranacea, oblongo-lanceolata, obtusa, in petiolum longum plerumque purpurascens attenuata. Scapus spithameus ad pedalem, erectus, teres, glaber, superne solummodo pubescens. Flos terminalis, "aurantiacus" (Drummond), siccitate fere purpureus, erectus. Involucrum basi lanosum, duplex: int. e squamis 10-12 erectis, lineari-oblongis, æqualibus, obtusis, e basi ad medium coadunatis; ext. e foliolis vel squamis 5-6, lato-lanceolatis, laxe imbricatis, erectis. Receptaculum nudum. Corollæ numerosæ, ligulate, calycis foliola excedentes, apice 5-dentate: tubus glabriusculus, ad faucem vix pilosus. Achenium oblongum, compressum, leviter striatum, in rostrum attenuatum. Pappus e pilis numerosis, æqualibus, albis, sub lente scabris.

TAB. CIV. Troximon aurantiacum. *Fig. 1, Floret; fig. 2, Involucre; fig. 3, Inner involucre; fig. 4, Achenium and pappus; fig. 5, Section of the achenium:—more or less magnified.*

HAB. Alpine Prairies of the Rocky Mountains. *Drummond.*—Whether this Genus be the same as *Troximon* of Gærtner, I am unable to say, having no means of determining. It is, I think, identical with Nuttall's *Troximon*; but that author describes the pappus as plumose, which is not the case in my plants, it is only very minutely scabrous. The beak of the achenium, in either species, is not evident till the fruit is ripe.

12. HYMENONEMA. *Cass.*

Involucrum cylindraceum, foliolis imbricatis, appressis, ovalibus, acutis, coriaceis, marginibus membranaceis. Receptaculum nudum. Achenium cylindraceum. Pappus e pilis paucis scabris æqualibus, basi membranaceo-dilatatis.

1. *H. ? glaucum*; foliis lineari-acuminatis canaliculatis glaucis.

HAB. About Fort Vancouver on the Columbia. *N. Garry, Esq.*—Of this there is only a single specimen, and it appears to be unbranched.

2. *H.?* *laciniatum*; caule **ramoso**, foliis profunde pinnatifido-laciniatis, laciniis angustolinearibus subfiliformibus.

HAB. Dry plains of the Columbia, from the Rocky Mountains to the ocean. *Douglas*.—This and the preceding plant evidently belong to one and the same genus, and have entirely the habit of *Scorzonera*; but in both, the hairs of the pappus are few in number (about 10), rather harsh and rigid, of a brownish or tawny hue, singularly dilated at the very base, with the upper part very minutely scabrous. Hence it will be seen to accord in a very important particular with *Hymenonema* of Cassini, (a genus supposed to be peculiar to the eastern parts of the Mediterranean region:) but that author describes the hairs of the pappus as bearded (*barbés*) above, and Lessing calls it feathery. Both our plants appear to be annual.

13. KRIGIA. *Willd.*

Involucrum polyphyllum, simplex. *Receptaculum* nudum. *Achenium* turbinatum. *Pappus* biserialis; serie ext. coroniformi, e squamis 5–8 membranaceis brevibus; int. e setis paucis (5–24), scabris.

1. *K. Virginica*; glauca, foliis primariis rotundatis integris reliquis lyratis glabris, scapo unifloro glabro demum foliis longiore, calyce glabro. *Nutt.*—*Willd. Sp. Pl. p. 1618. Pursh, Fl. Am. v. 2. p. 504. Bigel. Fl. Bost. ed. 2. p. 289.*—*Hyoseris Virginica. Linn. Sp. Pl. p. 1188. Mich. Am. v. 2. p. 88.*

HAB. Canada. *Michaux. Pursh.*

Trib. II. CYNARÆ. *Lessing.**

Subtrib. I. CENTAURIÆ. *Less.*

14. CENTAUREA. *Linn.*

Involucrum imbricatum. *Receptaculum* setosum. *Pappus* simplex aut nullus. *Cor.* radii seu floris neutri, si adest, 5-partita.

1. *C. nigra*; involucri squamis ovatis pectinato-fimbriatis patulis, foliis radicalibus angulato-lyratis, caulinis oblongis, radio nullo.—*Linn. Sp. Pl. p. 1288. Engl. Bot. t. 278.*

HAB. Newfoundland. *Miss Brenton.*—Introduced.

Subtrib. II. CAPNINEÆ. *Less.*

15. ARCTIUM. *Linn.*

Involucrum globosum, foliolis squarrosis lanatis. *Receptaculum* paleaceum. *Pappus* simplex, multiserialis, brevis, pills singulis valde caducis.—*Herbæ dichotomæ, foliis petiolatis ovatis subtus pallidioribus.*

1. *A. Lappa. Linn. Sp. Pl. p. 1149. Engl. Bot. t. 38. (and t. 2478, A. Bardana.)*

HAB. Canada. *Mrs. Percival. Mrs. Sheppard. Lake Huron. Dr. Todd.*

16. CARDUUS. *Linn.*

Involucrum tumidum, imbricatum, squamis spinosis. *Receptaculum* setosum. *Pappus*

* Whilst this portion of the *Compositæ* is in the press, I have the great satisfaction of receiving the valuable "*Synopsis Generum Compositarum earumque Dispositionis novæ Tentamen*," &c. of C. F. LESSING; and have no hesitation in adopting, as far as possible, the arrangement of so able an observer, and one who has studied this difficult tribe of plants with the greatest ardour, and under very favourable circumstances. I have only to regret, that I could not derive the advantage such a work is capable of affording for the whole of the Order.

plumosus vel scaber.—Herbæ *pertotam zonam temperatam divulgatæ nec non regiones alpinas Americæ tropicæ habitantes, spinosæ; capitulis luteis vel purpurascensibus; rachide palcaceo-ambrellifera.* (Less.)

(*Pappus plumosus.* Cnicus, Willd. Cirsium, Spr., non Gærtn.)

1. *C. lanceolatus*; foliis decurrentibus rigidis strigoso-hispidis pinnatifidis, laciniis lanceolatis bifidis divaricatis spinosis, involucri squamis lanceolatis patentibus.—*Linn. Sp. Pl.* p. 1149. *Engl. Bot. t.* 107.—Cnicus lanceolatus. *Pursh, Fl. Am. v. 2. p.* 506. *Bigel. Fl. Bost. ed. 2. p.* 292.

HAB. Newfoundland. *Miss Brenton.*

2. *C. discolor*; pubescenti-lanatus, foliis sessilibus lanceolatis subflaccidis magis minusve sinuato-pinnatifidis spinoso-ciliatis lobis acutis spinosis sæpissime bilobis supra glabriusculis subtus albo-tomentosis, involucri globoso lanato, squamis lineari-acuminatis spinosis, spinis patentibus.—*Nutt. Gen. Am. v. 2. p.* 130.—Cnicus discolor. *Muhl. Cat.—Willd. Sp. Pl. v. 3. p.* 1670.— β . floribus albis.

HAB. Canada. *Mr. Cleghorn. Mr. Goldie.* Banks of the Saskatchewan. *Dr. Richardson. Douglas. Drummond.* Plentiful on the North-West coast, and about Fort Vancouver. *Douglas. Dr. Scouler.— β .* Prairies of the Rocky Mountains. *Drummond.*—The leaves are very variable, especially the radical ones; some are deeply pinnatifid, others quite entire.

3. *C. arvensis*; foliis sessilibus lanceolatis pinnatifido-dentatis spinuloso-ciliatis undulatis glabriusculis, caule paniculato, involucri ovati squamis appressis mucronatis.—*Sm. Engl. Bot. t.* 975.—Cnicus arvensis. *Pursh, Fl. Am. v. 2. p.* 506. *Bigel. Fl. Bost. ed. 2. p.* 291.—*Serratula arvensis.* *Linn.*

HAB. Throughout Canada to the Saskatchewan. *Mrs. Sheppard. Mrs. Percival. Drummond.* Newfoundland. *Mr. Cormack. Miss Brenton.*—Of this plant, Lessing has constituted the Genus *Breea*, chiefly on account of its dioecious flowers.

4. *C. muticus*; caule alato glabro, foliis sessilibus profunde remote sinuato-pinnatifidis supra glabriusculis subtus pallidioribus arachnoideo-tomentosis segmentis lanceolatis acuminatis spinuloso-laciniatis, involucri subglobosi squamis arcte appressis lanatis submucronatis.—*Nutt. Gen. Am. v. 2. p.* 374.—Cirsium muticum. *Mich. Am. v. 2. p.* 89.—Cnicus muticus. *Pursh, Fl. Am. v. 2. p.* 506.

HAB. Banks of the Saskatchewan. *Dr. Richardson. Drummond.*

5. *C. pumilus*; caule humili retrorsum piloso 1-3-floro, foliis utrinque viridibus sessilibus semiamplexicaulibus oblongo-lanceolatis pinnatifidis segmentis inæqualiter lobatis spinoso-ciliatis spinisque terminatis, involucri magni subglobosi nudi squamis lanceolatis acuminatis appressis spina brevi terminatis. *Nutt. Gen. Am. v. 2. p.* 130.—*C. odoratus.* *Muhl. Cat.—Darlingt. Fl. Cestr. p.* 85.

HAB. Banks of the Saskatchewan, and Prairies of the Rocky Mountains. *Drummond.*—“Flowers large, red.”

6. *C. remotifolius*; caule elato strinto arachnoideo-tomentoso inferne præcipue, foliis

remotis sessilibus semiamplexicaulibus profunde pinnatifidis supra laxe pilosis subtus pubescenti-lanatis segmentis remotis subpinnatifidis lanceolatis inferne sinuato-spinosis lobis omnibus spinosis, panicula paucifoliata, involucri globosi magni squamis numerosis laxis linearibus exterioribus elongatis spina terminatis, interioribus membranaceo-acuminatis.

HAB. Gravelly soils on the banks of streams, common in the valley of the Columbia. *Douglas*.—"Three to five feet high." Stem dark-purple above. In the only specimen in my possession the leaves are very remote, gradually smaller upwards, the margins near the base with many rather stout spines. The outer scales of the involucre are lax and patent, nearly equalling the innermost ones in length.

7. *C. foliosus*; caule erecto simplici (?) robusto striato sublanato, foliis erectis superne numerosis flores excedentibus lineari-lanceolatis mollibus irregulariter sinuato-dentatis spinis rigidiusculis inequalibus ciliatis supra parce hirsutis subtus arachnoideo-tomentosis pallidis, floribus magnis glomeratis in axillis foliorum supremorum, subsessilibus involucri squamis linearibus appressis, pappo copiosissimo.

HAB. Prairies of the Rocky Mountains. *Drummond*.—This is a very remarkable species, of which unfortunately only two specimens exist in the collection. The stems are singularly erect and straight, and the leaves also erect, 6-8 inches long, the uppermost very numerous, considerably exceeding, and almost concealing, the flowers.

17. SAUSSUREA. *De Cand.*

Involucri subcylindracei *squamæ* imbricatæ muticæ. *Receptaculum* setosum vel paleaceum. *Pappus* biserialis, serie *exteriori* brevi piliformi; *interiori* longa et plumosa. *Anthera caudæ* subintegre. *Achenium* glabrum.

1. *S. alpina*; foliis lanceolatis dentatis subtus lanatis radicalibus ovato-lanceolatis petiolatis, floribus corymbosis congestis, involucri superne villosi squamis oblongis. *De Cand.*—*Serratula alpina*. *Linn.*—*Engl. Bot. t. 599.*— β . *densa*; caule subdecumbente, foliis glabriusculis densis fere omnibus anguste lanceolatis, corymbis glomeratis.— γ . *remotifolia*; caule erecto striato, foliis glabris rigidis anguste lanceolatis superioribus minutis.

HAB. β . Elevated parts of the Rocky Mountains. *Drummond*.— γ . North of the Saskatchewan to the Bear Lake, in lat. 66° North. *Dr. Richardson*: and extending to Behring's Straits. *Chamisso*.—Two (and if, as I suspect, the following species should be united with it, three,) very remarkable states of this plant are in the collection, and all exceedingly different from our British *S. alpina*, which is more robust, and has much broader and more woolly leaves.—Var. β . has the stem decumbent, the leaves copious, crowded, and as long and broad in the upper as in the lower portion of the stem.—Var. γ . is very similar in habit to my specimens from Mont Cenis, and from Norway, (in the *Unio Itineraria*, 1828,) but the leaves are almost entirely glabrous and more rigid.

2. *S. monticola*; paucè lanata, foliis linearibus integerrimis, foliolis involucri oblongo-cylindracei villosi lanceolatis acutis. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 29.*—*S. multiflora*. *Frankl. 1st Journ. ed. 1. App. p. 747.*

HAB. On the Copper Mountains, in grassy plains, lat 67° (*Frankl. 1st Journ.*) and on the Arctic coast, between the Mackenzie and Coppermine Rivers, (*2d Journ.*) *Dr. Richardson*.—One specimen only exists in the collection of the 2d Expedition, and this quite agrees with the character given by *Dr. Richardson* of his *S. monticola*. It has narrower, more rigid and entire leaves, and a more hairy involucre than *S. alpina*.

Trib. III. VERNONIACEÆ. Less.

Subtrib. VERNONIÆÆ. *Capitula multiflora et homogama aut uniflora, involucrio imbricato et multiseriali. Styli rami acuminati. Involucrum teres. Cor. plerumque purpureo-violaceæ aut albæ. Less.*

18. VERNONIA. Schreb.

Capitulum multiflorum. Rachis ebracteolata. Pappus pluriserialis, serie exteriori e setis vel paleis distinctis et crebris constante.—Arbores, Frutices, seu Herba, plerumque Americane, quarum in parte occidentali America Septentrionalis ne una quidem, Meridionalis nonnisi 0,07 occurrunt, facie polymorphæ; ramis foliisque alternis rarissime oppositis; capitulis violaceo-purpureis aut albis, rarissime luteis. Less.

1. *V. præalta*; altissima, foliis crebris lanceolatis serrulatis scabris, corymbo fastigiato, calycinis squamis acutis vel apice filiformibus. Willd. Sp. Pl. v. 3. p. 1633. Mich. Am. v. 2. p. 95. Pursh, Fl. Am. v. 2. p. 511. Elliott, Carol. v. 2. p. 267.—*Serratula præalta*. Linn.—*V. Noveboracensis*. Willd. Sp. Pl. v. 3. p. 1632. Mich. Am. l. c. Pursh, l. c. Elliott, Carol. v. 2. p. 269. Bigel. Fl. Bost. ed. 2. p. 294.—*Serratula Noveboracensis*. Linn. Hort. Cliff.—Dill. Hort. Elth. t. 263 et 264.

HAB. Canada. Pursh.—I never had been able to detect any distinguishing character between *V. præalta* and *V. Noveboracensis*, and was therefore very happy to find my opinion of their identity confirmed by so eminent an observer as Lessing.

Trib. IV. EUPATORIACEÆ. Less.

Subtrib. I. EUPATORIÆÆ. *Capitula homogama ♂. Pappus e pilis vel setis angustissimis constat. Less.*

19. EUPATORIUM. Linn.

Capitulum pauci-seu multi-nec 4-florum. Pappus uniserialis, non plumosus. Cor. limbo a tubo non distincto. Involucrum pauci-multiserialle. Receptaculum nudum. Achenium 4-5-quetrum.—Arbores vel Frutices aut Herba, in Europa et Asia sed longe pleræque in America crescentes, plerumque erecti, ramis foliisque oppositis sive verticillatis, rarius alternis; capitulis violaceis vel albis, corymbosis seu corymboso-paniculatis. Less.

1. *E. rotundifolium*; pubescenti-pilosum subscabrum, involucrio subsexfloro, foliis sessilibus subrotundo-cordatis obtusis venosis crenato-serratis, squamis calycinis acuminatis, corollis albis.—Linn. Sp. Pl. p. 1173. Mich. Am. v. 2. p. 98. Elliott, Carol. v. 2. p. 300. Pursh, Fl. Am. v. 2. p. 514.

HAB. Canada. Pursh. Mr. Goldie.—The involucre, achenia, and corolla abound in minute, yellow, glandular exudations. Decoctions of this plant are employed in the Southern United States, (where this species is very abundant) as a febrifuge.

2. *E. purpureum*; involucrio 12-13-floro, foliis petiolatis 3-5-natisve verticillatis ovato-lanceolatis acuminatis grosse serratis scabriusculis subtus pubescentibus, caule fistuloso, floribus purpureis.—Mich. Am. v. 2. p. 99. Pursh, Fl. Am. v. 2. p. 515. Elliott, Carol. v. 2. p. 307. Bigel. Fl. Bost. ed. 2. p. 297.

HAB. From Lake Huron, throughout Canada, to the Saskatchewan, abundant.

3. *E. maculatum*; foliis petiolatis quaternis quinisque ovato-lanceolatis inæqualiter serratis subtus pubescentibus, caule solido sulcato.—*Linn.*—*Willd. Sp. Pl. v. 3. p. 1760.* *Pursh, Fl. Am. v. 2. p. 514.* *Elliott, Carol. v. 2. p. 308.*

HAB. Canada. *Pursh.*—I have received nothing under the name of *E. maculatum*, which was not at once referable to *E. purpureum*, to which the *E. verticillatum* and *punctatum* of Willd. and the *E. ternifolium*, Ell. (*E. trifoliatum*, Willd.) may probably be with safety added.

4. *E. perfoliatum*; involucri suboctofloro, foliis connato-perfoliatis oblongo-acuminatis crenato-serratis rugosis subtus pubescentibus, caule villosa, floribus parvis albis.—*Linn.*—*Willd. Sp. Pl. v. 3. p. 1761.* *Pursh, Fl. Am. v. 2. p. 516.* *Elliott, Carol. v. 2. p. 302.* *Bigel. Fl. Bost. ed. 2. v. 2. p. 297.* *Med. Bot. v. 1. t. 2.*—*E. connatum.* *Mich. Am. v. 2. p. 99.*

HAB. Throughout Canada.—A well-known bitter, and useful tonic.

5. *E. occidentale*; glabriusculum, foliis alternis breve petiolatis ovatis acuminatis grosse inæqualiter serratis apice integerrimis summis lanceolatis integerrimis, floribus paniculato-corymbosis, involucri pluriflori foliolis linearibus acutis laxis, acheniis linearibus angulatis, caule striato.

HAB. On the low hills between the north and south branch of Lewis and Clarke's River, in stony places. *Douglas.*—"Two to four feet high. Flowers white."

6. *E. ageratoides*; involucri subdecemflori foliolis uniseriis æqualibus linearibus, foliis longe petiolatis cordato-ovatis acuminatis trinerviis grosse serratis, corymbo divaricato multifloro, caule glaberrimo, floribus albis.—*Linn.*—*Pursh, Fl. Am. v. 2. p. 516.* *Elliott, Carol. v. 2. p. 303.* *Bigel. Fl. Bost. ed. 2. p. 298.*—*E. urticæfolium.* *Mich. Am. v. 2. p. 100.*—*Ageratum altissimum.* *Willd.* (according to *Pursh.*)

HAB. Canada. *Michaux.* About Quebec. *Mrs. Percival.*—This appears to be a rare species in Canada, whence I have only received it from *Mrs. Percival.* In the single row of scales to the involucre, it assimilates with the following genus.

19. MIKANIA. Willd.

Capitulum 4-florum. Pappus uniserialis, non plumosus. Cor. limbo campanulato. Involucrium 4-5-phyllum, uniseriale. Receptaculum nudum.—*Frutices vel Herbæ Americani, plerumque scandentes; foliis oppositis; capitulis corymboso-paniculatis. Less.*

1. *M. scandens*; glaberrima, scandens, foliis cordatis acuminatis subrepando-dentatis lobis divaricatis inæqualibus, cymis pedunculatis.—*Willd. Sp. Pl. v. 3. p. 1743.* *Pursh, Fl. Am. v. 2. p. 517.* *Elliott, Carol. v. 2. p. 292.* *Bigel. Fl. Bost. ed. 2. p. 295.*—*Eupatorium scandens.* *Linn.*—*Mich. Am. v. 2. p. 97.* *Jacq. Ic. Rar. v. 1. t. 169.*

HAB. Canada, *Michaux*; probably in the extreme southern parts. I have never received specimens from the British territories; but it seems frequent in the adjoining New England States.—*Lessing*, who, however, has kept up the Genus *Mikania* in his Synopsis, says it should be joined to *Eupatorium*.

20. LIATRIS. Schreb.

Pappus pluri-serialis, plumosus. Cor. limbo a tubo non distincto. Involucrium multiseriale. Receptaculum nudum.—*Herbæ Boreali-Americanae, perennes, radice fibrosa vel tuberosa; foliis alternis, integerrimis, sæpe angustis, glanduloso-punctatis; capitulis multifloris, pappis vel corymbosis, corymbis imbricatis. Less.*

(*Floribus spicatis, radice tuberosa.*)

1. *L. scariosa*; magis minusve pubescenti-scabra, foliis lanceolatis inferioribus longe petiolatis superioribus linearibus multo minoribus, floribus racemosis remotis, pedicellis bracteatis, involucri globoso-hemisphæricis, squamis obovatis obtusissimis membranceis coloratis subciliatis, flosculis numerosis, pappo scabro.—*Willd. Sp. Pl. v. 3. p. 1635. Pursh, Fl. Am. v. 2. p. 509. Elliott, Carol. v. 2. p. 280. Sims, Bot. Mag. t. 1709. Bigel. Fl. Bost. ed. 2. p. 293.*—*Liatris squarrosa. Mich. Am. v. 2. p. 92.*—*Serratula scariosa. Linn. Sp. Pl. p. 1174.*

HAB. Plains of the Saskatchewan and of the Red River. *Drummond. Douglas.*

2. *L. squarrosa*; glabriuscula vel pubescenti-scabra, foliis linearibus obscure trinerviis inferioribus longe attenuatis superioribus minoribus, racemo flexuoso paucifloro folioso, floribus breve pedicellatis nunc sessilibus, involucri ovato-cylindraceis, squamis magnis patentibus squarrosis exterioribus majoribus rigidis foliaceis trinerviis interioribus membranaceis mucronato-acuminatis vix coloratis, flosculis plurimis, pappo plumoso.—*Willd. Sp. Pl. v. 3. p. 1634. Mich. Am. v. 2. p. 92. Pursh, Fl. Am. v. 2. p. 509. Elliott, Carol. v. 2. p. 282.*—*Serratula squarrosa, Linn.—β. luxurians. L. intermedia. Lindl. in Bot. Reg. t. 942.*

HAB. Canada. *Mr. Goldie. Douglas.*—Variable in pubescence, as are the other species of this beautiful and favourite Genus. I fear the *L. intermedia* of the Bot. Reg. can only be considered a luxuriant state of the present. Mr. Goldie's original specimens in my Herbarium do not at all differ from the true *squarrosa*; and the cultivated individual only exhibits longer flower-stalks.

3. *L. punctata*; caule erectiusculo piloso, foliis linearibus marginatis glabris ciliatis utrinque impresso-punctatis, spicis elongatis densis non raro foliosis, involucri subcylindraceis, squamis imbricatis non squarrosis exterioribus rigidioribus omnibus impresso-punctatis pungenti-acuminatis marginibus ciliato-lanatis, pappo valde plumoso. (TAB. CV.)

Caulis pedalis ad sesquipedalem, erectus vel ascendens, striatus, glaber vel rarissime pilosus. *Folia* numerosa, 4-5-pollicaria, linearia, infima basi dilatata, amplexicaulia, superiora sensim minora, omnia linearia, rigida, acuta, uninervia, plana, marginata, margine albido, remote ciliata, pagina utrinque glaberrima, impresso-punctata. *Spica* (seu *racemus spicatus*) elongata, parte inferiori sæpe foliosa, densiflora. *Involucrum* lato-cylindraceum, squamis imbricatis impresso-punctatis margine ciliato lanatis mucronato-acuminatis, mucrone subrecurvo, exterioribus rigidis, viridibus, interioribus magis membranaceis sæpe coloratis. *Flosculi* subquaque, pulcherrime rosei. *Achenium* lineari-clavatum, subtriquetrum, striatum, pilosum. *Pappus* plumosus.

HAB. Plains of the Saskatchewan, *Drummond*; and on the Red Deer and Eagle hills, in dry soils, common. *Douglas.*—Neither among the numerous individuals in my Herbarium, nor the species described in books, do I find any that agree with this, though its nearest affinity is perhaps to *L. resinosa* of Nuttall. Here, too, without doubt, the impressed dots, so remarkable on the leaves and involucre, are occasioned by resinous glands. The spike is generally half as long as the plant.

TAB. CV. *Liatris punctata.* Fig. 1, Leaf; fig. 2, Flower; fig. 3, Floret; fig. 4, Fruit:—magnified.

21. PYRROCOMA. *Nov. Gen.*

Pappus uniserialis, flore longior, fulvus, scaber. *Cor.* limbo a tubo non distincto. *Involucrum* multiseriale, laxum; *foliis interioribus* membranaceis integerrimis; *ext. foliis* spinuloso-dentatis.—*Herba Boreali-Americana*; foliis *alternis, coriaceis, subspinoso-dentatis, punctato-pellucidis*; capitulum *terminale, solitarium*; involucri *imbricatis.*—Nomen à *πυρρος* fulvus, et *κομη*, hair; ob pappi colorem derivatum.

1. *P. carthamooides*. (TAB. CVI.)

Radix —? *Caulis* simplex, pedalis, erectus, teres, striatus, pubescens. *Folia* alterna, remota, lanceolata, seu oblongo-lanceolata, acuta, pallide viridia, coriacea, obscure pubescentia, medium versus præcipue dentato-seu spinoso-serrata, punctato-pellucida, venosa; *inferiora* longe petiolata; *superiora* sessilia. *Flos* terminalis magnum, solitarii. *Involucrum* e foliolis pluribus laxè imbricatis, sed vix squarrosis; *interioribus* erectis lineari-oblongis acutis, membranaceis, integerrimis; *exterioribus* sensim majoribus patentibus, oblongis, sub-spinoso-dentatis, pubescentibus, demum foliis æmulantibus. *Flosculi* numerosi, parvi, inconspicui. *Receptaculum* nudum, (seu *Rachis* ebracteolata. *Less.*) *Corolla* tubulosa, basi sensim angustior, limbo 5-dentato, dentibus erectis. *Antheræ* subinclusæ, basi nudæ (ecaudatæ), apice appendicula membranacea aucta. *Stylus* vix corolla longior. *Stigmatis laciniæ* lineares, exsertæ, basi teretes nudæ, demum compressæ, extus dense pilosæ, intus glabræ, sulcatæ. *Ovarium* oblongum, teres, substriatum. *Pappus* e pillis plurimis, uniserialibus, fulvis, scabris, corollam excedentibus.

HAB. North-West coast of America. *Douglas*.—A solitary specimen of this plant is all that I have had the opportunity of seeing. In habit, it resembles the genus *Carthamus*; but from the structure of the floscules, and especially of the stigmata, I can have no hesitation in referring it to *Eupatorinææ*, near *Liatria*. The pappus, even in the state of early flower, is remarkably long and tawny, inclining to red. The leaves, when held up between the eye and the light, exhibit numerous pellucid dots, which appear to be the areolæ of the obscure reticulations.

TAB. CVI. *Pyrocoma carthamooides*. *Fig. 1*, Inner scale or leaflet of the involucre; *fig. 2*, Intermediate do.; *fig. 3*, Outer do.; *fig. 4*, Flower; *fig. 5*, Corolla, with its stamens, style, and stigmata; *fig. 6*, Extremity of the style and stigmata; *fig. 7*, Anthers; *fig. 8*, Portion of a hair of the pappus:—*magnified*.

Subtrib. II. TUSSILAGINÆÆ. *Capitula heterogama, sæpe subdioica. Less.*22. NARDOSMIA. *Cass.*

Capitula subdioica, *mascula* radio 1-seriali fœmineo cineta, *feminea* homogama. *Cor.* ♀ lingulata. *Pappus* pilosus, marium multo minus copiosior quam fœminearum.—*Herbæ Europæe (et Americæ Arcticæ) perennes, tantum basi ima foliatæ, simplices; foliis petiolatis, rotundis, angulatis; capitulis thyrsoidis, multifloris; foliolis involucri æqualibus; rachide nuda. Less.*

1. *N. frigida*; foliis cordatis inæqualiter dentatis subtus tomentosus.—*N. angulosa. Cass.*—*Less. in Linnæa, v. 6. p. 107.*—*Tussilago frigida. Linn.—Fl. Dan. t. 61. Pursh, Fl. Am. v. 2. p. 531.*—*β. foliis magis sinuato dentatis.*—*Tussilago corymbosa. Br. in Parry's 1st Voy. App. p. cclxxix. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33. (in partem.)*

HAB. Canada. *Pursh.* From Lake Winipeg, in lat. 52°, to Fort Franklin, in lat. 66°. *Dr. Richardson.*—Very few of the specimens gathered by *Dr. Richardson* have leaves exactly answering to the above character, and of these, some are nearly ten inches long, independent of the petiole.

2. *N. sagittata*; foliis cordato-vel reniformi-sagittatis sinuato-dentatis subtus tomentosus.—*Tussilago sagittata. Pursh, Fl. Am. v. 2. p. 332. Rich. in Frankl. 1st. Journ. App. p. 33.*

HAB. Hudson's Bay, (*Hutchinson* in Herb. Banks.) to the swamps in the Rocky Mountains, (*Drummond*) and from Lake Superior, in lat. 48°, to Fort Franklin, in lat. 66°, north. *Dr. Richardson. Drummond.*—A mere variety, I fear, of the preceding.

3. *N. corymbosa*; foliis cordatis profunde sinuato-lobatis angulatis dentatis subtus tomentosus.—*Tussilago corymbosa. Br. in Parry's 1st Voy. App. p. cclxxix.*

HAB. From Fort Norman, on the Mackenzie River, to the extreme Arctic regions. *Capt. Sir E. Parry.*

Capt. Sabine. Dr. Richardson.—The latter gentleman observes that the flowers are fragrant, probably like those of *Tussilago fragrans* of our gardens, which equally belongs to the present Genus.

4. *N. palmata*; foliis reniformi-cordatis profunde palmato-lobatis laciniis angulatis dentatis subtus tomentosiss.—*Tussilago palmata. Ait. Hort. Kew. ed. 1. v. 3. p. 188. t. 2. Pursh, Fl. Am. v. 2. p. 331. Rich. in Frankl. 1st. Journ. ed. 2. App. p. 33.*

HAB. From Lake Huron, (*Nuttall*), to the Bear Lake, lat. 67°, north, (*Dr. Richardson, Drummond*;) and from Labrador and Newfoundland on the East, (*Dr. Fothergill, Kohlmeister, Dr. Morrison*;) to the Rocky Mountains, (*Drummond*;) and thence to the Pacific, at the mouth of the Columbia. *Dr. Scouler, Douglas.*—This and the three preceding species, it must be acknowledged, are distinguished by very slight characters, and the numerous specimens before me, would, in the varied form of the foliage, lead to the suspicion that they in reality constitute but one species. Of the present, in age, the leaf becomes perfectly glabrous. In the specimens from the more elevated of the Rocky Mountains, the lobes of the leaf are broadly cuneate, and the sinuses very obtuse.

23. ADENOCAULON. Hook.

Capitula heterogama, floribus ♀ paucis, uniserialibus in ambitu, reliquis ♂. Cor. ♀ . . . Pappus 0.—Herbæ perennes, Americanae, glandulis pedicellatis adspersæ; foliis subtus albotomentosis, petiolatis; involucri uniserialibus demum reflexis; capitulis panicifloris, paniculatis, parvis. *Less.*

1. *A. bicolor*; elatum, foliis cordato-ovatis subtrilobis angulato-dentatis. *Hook. in Bot. Misc. v. 1. p. 19. t. 15.*

HAB. Dense woods at the Straits of De Fuca, and about Fort Vancouver, on the Columbia. Woods on the Portage River, one of the sources of the Columbia, in the Rocky Mountains, lat. 52° north. *Drummond.*—The specimens found by Mr. Drummond are withered stems of the preceding year, and necessarily very bad, from being collected in the depth of winter, and while the snow was deep upon the ground. A second species of this highly curious genus has been detected in Chili by Pöppig.

TRIB. IV. SENECONIDEÆ. Less.

Subtrib. I. AMBROSIEÆ. *Capitula aut monoica aut heterogama, floribus in centro masculis. Rachis in capitulis heterogamis bracteolata, bracteis glabris. Antheræ ecaudate. Less.*

(A. AMBROSIEÆ veræ. *Cor. floris ♀ filiformi; acheniis calvis, crostribus, involucri sæpe inclusis; stylo floris masculi clavato, truncato, apiceque solo penicillato. Less.*)

24. XANTHIUM. Linn.

Capitula homogama, monoica; feminea biflora, involucri hamato-spinoso cincta. Achenia compressa, singula in loculis singulis involucri demum indurati et bilocularis nidulant.—Herbæ Americæ vel Europæ indigenæ, sæpe spinosæ; foliis alternis, asperis, varie incisis; capitulis irregulariter glomerato-spicatis; spica terminali, superne mascula, basi feminea.

1. *X. Canadense*; foliis profunde cordatis basi cuneatis angulatis subdenticulatis scabris, caule maculato superne aspero, fructibus geminis hispidiissimis, rostris duobus aculeisque uncinatis. *Spreng. Syst. Veget. v. 3. p. 852.*—*X. maculatum. Raf. in Sill. Journ. (Torrey, in litt.)*

HAB. Canada? North-West coast of America. *Douglas.*

25. AMBROSIA. *Less.*

Capitula homogama, monoica; *stamina* uniflora, involuero inermi (vel spinoso) cincta; *mascula* multiflora, rachide ebracteolata. *Achenium* globosum.—Frutices vel Herbæ *Asiæ* vel *Europæ indigenæ*, foliis alternis, inferioribus nonnunquam oppositis, integris aut sæpius divisis; capitulis spicatis, spica lineari, superne mascula, basi lobata et feminea; involucris capituli masculi uniserialibus, gamophyllis. *Less.*

1. *A. elatior*; foliis bipinnatifidis glabriusculis, petiolis longe ciliatis, racemis terminalibus pauculatis, caule virgato. *Willd.*—*Linn.*—*Pursh*, *Fl. Am.* v. 2. p. 581. *Elliott*, *Carol.* v. 2. p. 477.

HAB. Canada. *Pursh.*

2. *A. paniculata*; pilosa, foliis bipinnatifidis summis pinnatifidis, racemis terminalibus, fructibus supra medium spinis brevibus erectiusculis.—*Mich. An.* v. 2. p. 183. *Pursh*, *Fl. Am.* v. 2. p. 581. *Elliott*, *Carol.* v. 2. p. 478.

HAB. Canada. *Pursh.* Lake Huron. *Dr. Todd.* Straits of de Fuca, and Nutka, North-West America. *Dr. Scouler.*

3. *A. acanthicarpa*; setis asperis rigidis hispida valde ramosa, foliis bipinnatifidis segmentis linearibus, racemis terminalibus, fructibus spinis rigidis subulatis longis patentibus undique tectis.

HAB. Banks of the Saskatchewan and Red River. *Douglas. Drummond.* Plentiful on the sandy banks of the Columbia, near Indian Villages and Camps, and at the Grand Rapids. *Douglas.*—The singularly spiuescent fruit of this species, distinguishes it from every other with which I am acquainted.

26. IVA. *Linn.*

Capitula heterogama, floribus femineis uniserialibus in ambitu, reliquis masculis. *Achenium* obcompressum. *Cor.* ♀ tubulosa s. campanulata. *Rachis* bracteolata.—Herbæ vel Frutices *Americanae*; foliis alternis seu oppositis, trinerviis; capitulis spicatis (nunc axillaribus), spica terminali solitaria lineari basi feminea, superne mascula; involucris oligophyllis, uniserialibus. *Less.*

1. *I. axillaris*; herbacea, foliis subcarnosis lanceolatis obtusis basi attenuatis integerrimis pilosis v. glabris, capitulis solitariis axillaribus nutantibus. (TAB. CVII.)—*Pursh. Fl. Am.* v. 2. p. 743.—*β. robustior*; omnibus partibus majoribus.

Radix annua, parva. *Caulis* erectus, plerumque valde ramosus; rami erecti, angulati, glabri, vel pilosi. *Folia* alterna, rarius opposita, subunciam longa, lanceolata, magis minusve lata, basi attenuata, subcarnosa, rigidiuscula, obtusa, integerrima, glabra vel piloso-scabra, uninervia. *Capitula* solitaria, axillaria, brevissime pedunculata, nutantia. *Involucrum* subhirsutum, e foliolis 4-5 in unicum hemisphaericum lobatum coalitis. *Flosculi* inclusi, receptaculum paleaceum, paleis linearibus sursum latioribus ciliatis: *Masc.* plurimi, centralis. *Cor.* tubulosa, subinfundibuliformis, dentibus 5 reflexis. *Antheræ* exsertæ, inappendiculatæ. *Pistillum* 0. *Fœm.* uniserialis in ambitu. *Cor.* brevis, tubuloso-filiformis, 5-dentata. *Germen* obovatum. *Styli* lineares, longi, lati. *Achenium* late obovatum, epapposum, pubescens, nigro-fuscum, corolla persistente brevi coronatum.

HAB. Between Carlton House and Edmonton House, on the Saskatchewan. *β.* Common on the barren grounds, from the "Grand Rapids" of the Columbia, to the Rocky Mountains, in sandy dry soils. *Douglas.*—Mr. Drummond notices this plant as having the appearance of *Glaux maritima*. If I am right in referring it to Pursh's *Iva axillaris*, it has probably an extensive range, his plant being found, by Bradbury,

in Upper Louisiana. It is a span or more high. Mr. Douglas's specimen is considerably larger and stouter in all its parts, the leaves almost tapering into a petiole, and the upper ones so much smaller than the lower, that the flowers seem to be arranged in a leafy spike.

TAB. CVII. *Iva axillaris*. Fig. 1, Leaf and flower; fig. 2, Flower; fig. 3, Male floscule, with its palea; fig. 4, Female floscule, with do.; fig. 5, Achenium;—magnified.

Subtrib. II. HELIANTHÆÆ. *Capitula, si heterogama, floribus marginalibus, uniserialibus, corollasque lingulatis gerentibus; reliquis ♂; nunquam dioica vel monoica. Rachis bracteolata, aut rarissime in centro ebracteolata. Pappus aut aristatus aut irregularis aut obsoletus aut coroniformis aut nullus. Antherie nigricantes, ecaudate. Styli rami sæpiissime cono acuto aut appendiculo lineari superantur aut ubi truncati sunt apicæque solo pennicillati, ibi achenia calva aut aristata, aut manifeste obcompressa aut compressa. Less.*

1. HELIOPSISIDÆÆ. *Acheniis ecorticatis, exalatis, semper erostribus, calvis, aut pappo coroniformi coronatis; capitulis homoganis aut plerumque heteroganis, floribus marginalibus summicis. Less.*

27. HELIOPSIS. *Pers.*

Radius uniserialis. Achenium angulato-compressum, omnino calvum, glabrum, disco epigyno parvo.—Herbæ *Americanae*; foliis oppositis, integris vel pinnatifidis; capitulis luteis, soluturis, ramos superne aphyllis terminantibus; involucri imbricatis; rachide conica. *Less.*

1. *H. scabra*; foliis breve petiolatis ovatis trinerviis grosse serratis apice integerrimis utrinque scabris, involucre pubescenti.—*Dun. in Mem. du Mus. v. 5. p. 57.*

HAB. Common on the banks of the Red River, near the "Forks." *Douglas*.—These specimens agree with original ones of *H. scabra* in my Herbarium, from the Bot. Garden of Montpellier; still I fear it differs from *H. lewis*, *Pers.*, only in the more scabrous leaves and more downy involucre.

2. *H. ? balsamorhiza*; subpubescens, foliis radicalibus plurimis petiolatis pinnatis pinnis subpinnatifidis incisissimis, involucri foliolis numerosis lanceolato-acuminatis imbricatis caulem paucifoliatum subæquantibus, radice crassa balsamifera.

HAB. Common on the gravelly banks of the Columbia, near Fort Vancouver. *Douglas*.—"The root of this plant is long, thick, subfusiform, woody, and yields a copious limpid juice, not unlike the resin from *Pinus Balsamea*, possessing a powerful turpentine-like odour." The leaves are mostly radical, 6-8 inches long, with a sheathing base, and about equal in length with the stem, or almost scapo, for it bears but one or two pair of leaves smaller than those of the root: young achenia compressed and four-angled, quite destitute of pappus. More perfect specimens of this plant than I possess, will, I can scarcely doubt, prove that it and the following deserve to rank as a new genus, to which I would propose the name of *Balsamorhiza*. The habit is totally different from *Helopsis*, and the flowers resemble those of an *Helianthus*, while the fruit appears to be that of the former genus.

3. *H. ? terebinthacea*; pubescens, foliis radicalibus petiolatis ovato-lanceolatis sinuato-pinnatifidis crenato-serratis, involucri foliolis numerosis lanceolato-acuminatis imbricatis caulem paucifoliatum subæquantibus, radice crassa balsamifera.

HAB. Common at Fort Vancouver, on the Columbia, and in the grounds of the interior. *Douglas*.—Closely allied to the preceding species, and yielding in its root the same terebinthine juice.

2. RUDBECKIÆÆ. *Acheniis ecorticatis, erostribus, calvis aut pappo coroniformi integro coronatis; capitulis radiatis, radio neutro uniseriali. Less.*

28. RUDBECKIA. *Cass. Linn. (in partem.)*

Achenium pappo coroniformi calloso crassoque coronatum, sectione transversa quadrata, disco epigyno magno, areola laterali. *Corolla* disci infundibuliformis, dentibus erectis; *radii* absque ullis genitalium vestigiis. *Antheræ* inclusæ. *Stylus* disci ramis cono brevissimo terminatis.—Herbæ *hispidi-scabræ, perennes, ramis oppositis; foliis alternis, integris vel pinnatifidis; capitulis terminalibus solitariis, radio luteo, disco fusco-violaceo; rachide conica; involucri patentibus, circiter biserialibus. Less.*

1. *R. laciniata*; elata, foliis inferioribus pinnatis segmentis lanceolatis incisuris summis ovatis, pappo crenato, caule glabro.—*Schrad.—Willd. Sp. Pl. v. 3. p. 2246. Mich. Am. v. 2. p. 144. Pursh, Fl. Am. v. 2. p. 575. Elliott, Carol. v. 2. p. 451.*

HAB. Canada. *Pursh, Lady Dathousie. Mrs. Sheppard.* From Lake Huron, (*Dr. Todd*), to the Red River. *Douglas.*

2. *R. columnaris*; setis appressis hispida, foliis profunde pinnatifidis segmentis lanceolatis sublaciniatis, receptaculo elongato cylindraceo, pappo marginato brevissimo, paleis punctis duobus nigris.—*Nutt. Gen. Am. v. 2. p. 178. Bot. Mag. t. 1801.*

HAB. On dry undulating grounds of the Saskatchewan and Red Rivers, abundant. *Douglas. Drummond.*

29. CALLIOPSIS. *Reichenb.*

Achenium obcompressum, omnino calvum, intus curvatum, apice truncatum, anguste bialatum, disco epigyno minuto, alis concoloribus integerrimis. *Stylus* disci ramis truncatis apiceque solo penicillatis.—Herbæ *Boreali-Americane, glabræ; foliis magis minusve sectis; capitulis geminis vel corymbosis, radio luteo basi macula atro-purpurea notato vel roseo; involucri biserialibus, serie interiori gamophylla, exteriori squarrosa. Less.*

1. *C. Atkinsoniana*; foliis glaberrimis, radicalibus bipinnatifidis, caulinis pinnatis laciniis linearibus spatulatis, flosculis radii basi sæpius maculatis irregulariter trilobis, radice perenni.—*Coreopsis Atkinsoniana. (Dougl.) Lindl. in Bot. Reg. t. 1376.*

HAB. Shores of the Columbia and Meuzies' Island. *Douglas. Dr. Scouler.*—Distinct from *Calliopsis (Coreopsis, Nutt.) tinctoria*, according to Mr. Lindley, in its perennial root, taller more branched stems, and less strongly blotched flowers. The differences are not distinguishable in my native dried specimens.

3. COREOPSISIDEÆ. *Acheniis ecorticatis, erostribus, statem nonnullis pappo nec autem coroniformi coronatis, capitulis heterogamis, floribus neutris uniserialibus in ambitu. Less.*

30. COREOPSIS. *Linn.*

Achenium conforme, aristis binis brevibus coronatum, plano-obcompressum, bialatum.—Herbæ aut rarius Frutices *Americæ indigeni; foliis integris vel varie sectis ramisque oppositis; capitulis terminalibus, radio plerumque luteo; involucri polyphyllis, biserialibus; rachide plana. Less.*

1. *C. lanceolata*; foliis oppositis lanceolato-linearibus integerrimis ciliatis inferioribus petiolatis, acheniis orbiculatis scabris alatis apice bidentatis, caule glabro.—*Linn.—Mich. Am. v. 2. p. 137. Pursh, Fl. Am. v. 2. p. 567. Elliott, Carol. v. 2. p. 433.*

HAB. North side of Lake Superior. (*Torrey, in Herb. nostr.*) Lake Huron. *Dr. Todd.*

31. HELIANTHUS. L.

Achenium compressum, conforme, paleis magis minusve deciduis, binis pluribusve minoribus coronatum.—Herbæ sæpe altissimæ, rarius Frutices, Americæ indigeni, foliis oppositis vel alternis, integris asperis; capitulis luteis, solitariis et terminalibus vel corymbosis; involucris polyphyllis, imbricatis; rachide plana. Less.

* *Foliis plerisque oppositis.*

1. *H. atro-rubens*; asperus, caule superne nudiusculo, foliis ovato-oblongis subspathulatis crenatis triplinerviis scabris, involucris foliolis ovatis acutis imbricatis albo-ciliatis brevibus, disco atro-purpureo.—*Linn. Sp. Pl. p. 1279. Mich. Am. v. 2. p. 140. Pursh, Fl. Am. v. 2. p. 570. Gawl. in Bot. Reg. t. 508. Sims, Bot. Mag. t. 2668.*—*H. diffusus?* Sims, *Bot. Mag. t. 2020.*

HAB. Banks of the Saskatchewan, as far as Edmonton House. *Drummond*.—This fine species is readily distinguished by its leaves tapering at the base so as to be almost spatulate; clothed, as is the stem, with short white rigid hairs, and by the short leaflets of the involucre, which are ovate, acute, scarcely acuminate, imbricated, and ciliated with white hairs.

2. *H. divaricatus*; caule glabro ramosissimo, foliis suboppositis sessilibus lanceolato-ovatis trinerviis scabris, panícula trichotoma gracili parviflora, involucris foliolis lanceolato-acuminatis laxis ciliatis.—*Linn. Sp. Pl. p. 1279. Mich. Am. v. 2. p. 141. Pursh, Fl. Am. v. 2. p. 570.*

HAB. Canada. *Pursh*. Norway House, on the Saskatchewan. *Dr. Richardson. Drummond.*

3. *H. frondosus*; caule inferne glabro, foliis ovatis argute serratis, pedunculis scabris, involucris foliolis squarrosis undulatis frondosis ciliatis, radii 8-floris. *Ph.*—*Linn. Amœn. Acad. v. 4. p. 290. Pursh, Fl. Am. v. 2. p. 570.*

HAB. Canada. *Pursh. Lady Dalhousie*.—My specimens from Lady Dalhousie agree with those of *Dr. Darlington*, of West Chester, United States; yet it appears to be a species not well understood, and my Canadian specimens are not very perfect. *Pursh* says it resembles *H. decapetalus* and *H. multiflorus* in several respects, but is distinct. The American Botanists would render an important service to science, if they would clear up, by an examination of recent specimens, the numerous doubts that exist respecting various of the species composing this genus.

4. *H. trachelifolius*; foliis ovato-lanceolatis acuminatis serratis triplinerviis utrinque scaberrimis, squamis calycinis lineari-lanceolatis exterioribus longioribus. *Ph.*—*Willd. Sp. Pl. p. 2241. Pursh, Fl. Am. v. 2. p. 570. Elliott, Carol. v. 2. p. 424.*—*H. Gigns. Mich. Am. v. 2. p. 141.* (accordi.g to *Pursh*.)

HAB. Canada. *Pursh. Mrs. Percival*.—What I consider to be this plant, (for I possess no authentic specimen), has the leaves very much like those of *Campanula Trachelium*, and strongly serrated, and the flower of a pale sulphur colour.

** *Foliis superioribus alternis.*

5. *H. giganteus*; ramosus, scaber, foliis alternis longe lanceolatis utrinque attenuatis scabris obsolete triplinerviis sessilibus subserratis, pedunculis lateralibus terminalibusque, involucris foliolis lanceolato-subulatis laxis cano-pubescentibus basi præcipue ciliatis.—*Linn. Sp. Pl. p. 2242. Pursh, Fl. Am. v. 2. p. 571. Elliott, Carol. v. 2. p. 426.*

HAB. Saskatchewan and Red Rivers. *Drummond. Douglas.*

6. *H. decapetalus*; foliis ovatis acuminatis remote serratis triplinerviis scabris, involucri squamis lanceolatis subæqualibus subciliatis, radiis denis duodenisve. Ph.—Linn. Sp. Pl. p. 1277. Pursh, Fl. Am. v. 2. p. 571. Elliott, Carol. v. 2. p. 425.

HAB. Canada. (Kalm, ex Willd.) Pursh.—I am unacquainted with this plant, except it be the same as the following, to which Willdenow says it is "closely allied, but that it differs in the stem, nearly the height of a man, being rough, glabrous below."

7. *H. multiflorus*; ubique scaber, foliis petiolatis grosse serratis triplinerviis inferioribus cordatis superioribus ovatis, involucri foliolis ovatis anguste attenuatis laxis albo-ciliatis.—Linn. Sp. Pl. p. 1277. Pursh, Fl. Am. v. 2. p. 572. Elliott, Carol. v. 2. p. 426. Curt. Bot. Mag. t. 227.

HAB. Canada. Mrs. Sheppard. Saskatchewan. Drummond.

8. *H. lenticularis*; annuus, foliis ovatis acuminatis grosse serratis hispidis triplinerviis, pedunculis monocephalis æqualibus. Lindl.—Dougl. in Bot. Rey. t. 1265.

HAB. North-West coast of America, and in the interior about the Columbia, and to the south of that river.—I possess no native specimen of this plant. "It is nearly related to *H. tubæformis*, from which," according to Mr. Douglas, "it differs in not having the leaves cordate at the base, or the peduncle fistulose and thickened. The native tribes that inhabit the interior of North California, apply the grains to the same purpose as that for which we are informed by Nuttall the Indians of the Missouri use *H. tubæformis*. They collect them in the autumn, and dry them on heated stoves, or on wooden troughs, with small embers, stirring them with a stick to prevent their burning. When dried, they are pounded, and made into a sort of cake, which is not unpleasant." Douglas.

9. *H. longifolius*; foliis oblongo-lanceolatis obtusis longissime in petiolum attenuatis, involucri squamis patentibus lato-lanceolatis ciliatis, pappo aristis solitariis vel binis inæqualibus validis.

HAB. Common on the low moist soils of the plains of the Columbia, near the ocean; and in the vallies of the Rocky Mountains.* Douglas.—Two specimens only of this remarkable plant are in my possession, and in both, the flower is imperfect. The stem is three feet high, simple, striated, and hispid. Leaves remote, somewhat hairy, lanceolate, or linear-lanceolate, very clammy, and as if varnished, especially beneath; the lower ones a foot long, including their petiole, which is about equal in length to the blade; upper ones smaller and sessile. Peduncle elongated, terminal, single-flowered. Flower large. Involucres of numerous, imbricated, broadly lanceolate, strongly ciliated scales. The ray, if any, is not present in my specimens. Tubular florets numerous, yellow. Achenium with a short lacerated margined crown, and one or two long and strong persistent slightly downy spines. Mr. Douglas had marked it "*Wedelia?*"

4. BIDENTIDÆ. *Achenis ecorticatis rostratis nunquam pappo coroniformi coronatis; capitulis aut heterogamis, floribus neutris, uniserialibus in ambitu, aut ubi homogama sunt, ibi achenia aristata.* Less.

* Since the above was written, I find the same plant in Capt. Beechey's Collection, gathered at San Francisco in California, by Messrs. Lay and Collie. There the ray is present and large, though consisting of few florets. The leaves are less glutinous than in the Columbian specimens.

32. BIDENS. Linn.

Achenium exalatum, subcompressum. *Aristæ pappi* retrorsum hispidæ, 2-5, persistentes. —Herbæ rarius Frutices, per totam zonem æquinoctialem et meridionalem divulgatæ, foliis integris vel varie sectis, ramisque oppositis; capitulis terminalibus solitariis vel corymbosis, discoideis vel radiatis, radio luteo vel albo; involucris polyphyllis, biserialibus, foliolis exterioribus patentibus; rachide plana. Less.

1. *B. cernua*; floribus subradiatis cernuis, involucri foliolis exterioribus flore longioribus, foliis lanceolatis subconnatis serratis.—Linn.—*Engl. Bot. t. 399. Pursh, Fl. Am. v. 2. p. 566.*— β . minima.

HAB. Throughout Canada; from Lake Huron, (*Dr. Todd*), to the Saskatchewan; *Dr. Richardson. Drummond.*— β . Island of Orleans, in the St. Lawrence. *Mrs. Sheppard.*—In this and the following, the stems are often partially clothed with short, coarse, and thick white hairs.

2. *B. chrysanthemoides*; floribus radiatis cernuis, radio involucri subæquali triplo longiore, foliis oblongis utrinque attenuatis dentatis basi connatis. *Ph.*—*Mich. Am. v. 2. p. 136. Pursh, Fl. Am. v. 2. p. 566. Elliott, Carol. v. 2. p. 429.*

HAB. Fort Vancouver (*Douglas*) and Straits of de Fuca, on the North-West coast. *Dr. Scouler.*—These specimens are larger, and the leaves broader than in *B. cernua*; but I do not think that the two species are distinguished by any decided characters.

3. *B. frondosa*; floribus discoideis, involucri foliolis exterioribus foliaceis flore multo longioribus, foliis ternatis (inferioribus quandoque pinnatis) foliolis lanceolatis serratis.—*Linn.*—*Mich. Am. v. 2. p. 136. Pursh, Fl. Am. v. 2. p. 566. Elliott, Carol. v. 2. p. 431.*

HAB. Canada, (*Mrs. Percival*), to the Saskatchewan. *Dr. Richardson. Drummond.*

4. *B. connata*; floribus discoideis, involucri foliolis exterioribus flore sublongioribus, foliis tripartitis (inferioribus quandoque pinnatis) foliolis lanceolatis serratis.—*Willd. Sp. Pl. v. 3. p. 1718. Pursh, Fl. Am. v. 2. p. 566. Elliott, Carol. v. 2. p. 430.*

HAB. Woodfield, near Quebec, (*Mrs. Sheppard*), to Cumberland House, on the Saskatchewan. *Drummond.*—In my specimens, both of this and the preceding, the leaves are all ternate, and they only differ in the relative length of the outer leaflets of the involucre.

5. *B. pilosa*; floribus discoideis, involucri foliolis exterioribus longitudine interiorum, foliis inferioribus pinnatis, superioribus ternatis, foliolis oblongis, terminali lanceolato reliquis duplo longiore. *Willd.*—*Linn. Sp. Pl. p. 1166. Pursh, Fl. Am. v. 2. p. 566. Elliott, Carol. v. 2. p. 431.*

HAB. La Grande Chaudière. *Pursh.*

Subtrib. V. HELENIEÆ. *Capitula* nunquam dioica; si heterogama, floribus ♀ vel neutris uniserialibus in ambitu corollasque lingulatas gerentibus, reliquis ♂. *Pappus* multipalaceus, perfectus, regularis, aut æqualis aut subæqualis, ubi tunc rami styli ♂ apice truncati sunt, paleis integris sive plumoso-fimbriatis seu pinnatisectis. *Anthere* cæcaudate. *Achenium* erostre. *Involucrum* polyphyllum. Less.

1. *GAILLARDIÆ*. Nutt. *Pappi* paleis integris, rachide ebracteolata aut tantum margine bracteolata. Less.

33. GAILLARDIA. *Foug.*

Radius neuter. *Paleæ pappi* uninerviæ, in aristas longè acuminatæ. *Stylo hermaphrodito* rami appendiculati. *Rachis* tota ebracteolata.—Herbæ *Boreali-Americane*, foliis alternis, inferioribus inciso-dentatis; capitulis solitariis, longè pedunculatis, terminalibus, disco brunneo, radio luteo. *Less.*

1. *G. bicolor*; pubescenti-hirsuta ramosa, foliis oblongo-lanceolatis radicalibus sinuato-pinnatifidis in petiolum attenuatis superioribus sessilibus sinuato-dentatis, radio bicolori.—*Lam. Encycl. v. 2. p. 585. Pursh, Fl. Am. v. 2. p. 572. Elliott, Carol. v. 2. p. 449. Sims, Bot. Mag. t. 1602.*—*Gaillardia lanceolata. Mich. An. v. 2. p. 142.*—*Virgilia helenioides. L'Hérit.—Sm. Ex. Bot. t. 37.—β. flore minore.*

HAB. α. and β. Lake Winipeg to the Saskatchewan and the Rocky Mountains. *Dr. Richardson. Douglas. Drummond.*—β. chiefly in mountain Prairies on the East side of the Rocky Mountains, and on the tributary streams of the Columbia on the West side. *Douglas.*

2. *G. aristata*; pubescenti-hirsuta ramosa, foliis oblongo-lanceolatis, inferioribus sinuato-pinnatifidis in petiolum attenuatis, superioribus sessilibus integerrimis, radio unicolori.—*Pursh, Fl. Am. v. 2. p. 573. Lindl. Bot. Reg. t. 1186. Hook. Bot. Mag. t. 2940.*—*Gaillardia bicolor, var. Nutt.—Spreng.*

HAB. Common on the undulating dry soils of the Columbia, from the Ocean to the Rocky Mountains; very plentiful where timber has been burned. *Douglas. Dr. Scouler.*

34. BAHIA. *Lag.*

Radius ♀ aut nullus. *Paleæ pappi* lineares, truncatæ, inæquales, muticæ. *Stylus* exappendiculatus. *Rachis* tota ebracteolata.—Frutices vel herbæ *Americæ meridionali (et Boreali) indigeni*, foliis alternis vel oppositis, plerumque subtus tomentosis, pinnatifidis vel crenato-lobatis; capitulis corymbosis vel subglomeratis; involucris cylindraceis, pauciseriatis; rachide plana, sæpe paleaceo-fimbriifera. *Lag.*

1. *B. artemisiæfolia*; foliis alternis sessilibus profunde pinnatifidis subtus niveo-tomentosis margine revolutis, capitulis fasciculatis inæqualifloris heterogamis, involucris 9-phyllis 1-serialibus cylindraceis. *Less. in Linnæa, v. 6. p. 253.*

HAB. North California, *Mr. Menzies*; at St. Francisco. *Chamisso (in Herb. nostr.)*

35. TRICHOPHYLLUM. *Nutt. (Eriophyllum? Lag.)*

Radius fœmineus. *Paleæ pappi* æquales, obovatæ, obtusæ, muticæ. *Stylus* exappendiculatus. *Rachis* tota ebracteolata.—Herbæ *Americane*, foliis alternis s. oppositis, integris s. palmato-pinnatifidis; capitulis luteis, terminalibus, solitariis, pedunculatis; involucris polyphyllis. *Less.*

1. *T. lanatum*; foliis oppositis pinnatifidis subtus præcipue tomentosis laciniis remotis marginibus revolutis.—*Nutt. Gen. Am. v. 2. p. 166.*—*Actinella lanata. Pursh, Fl. Am. v. 2. p. 560.*—*Eriophyllum cæspitosum. Dougl. in Bot. Reg. t. 1167.*

HAB. Kooakoosky River. *M. Lewis.* Near the sources of the Columbia River. *M. Lewis.* Common on dry sandy or gravelly soils, from the head sources of the Columbia to the Western Ocean. *Douglas. Dr. Scouler.*

2. *T. integrifolium*; foliis inferioribus obovato-spathulatis superioribus lineari-spathulatis integris integerrimisque vel rarissime apice subtrifidis utrinque albo-lanatis.

HAB. With the preceding.—Although mixed with the foregoing species by Mr. Douglas, it must have been so through inadvertence; for the two species are totally distinct in their foliage. With regard to the genus of these plants, I cannot satisfy myself that they should be referred to *Eriophyllum* of Lagacea, a native of South America, and of which the characters are most imperfectly detailed. The involucre in our individuals is not monophyllous, assuredly; though from the dense covering of wool, it may have the appearance of being so.

36. BLEPHARIPAPPUS. *Nov. Gen.*

Radix pauciflorus fœmineus, corollis lato-cuneatis profunde trifidis. *Palaë pappi* sub-8, linearis-acuminatæ, fimbriato-ciliatæ. *Rachis* bracteolata.—Herbæ *annua, ramosa, America Borealis*; foliis *alternis linearibus integris*; capitulis *terminalibus solitariis, radio albo*; involucri *hæmisphærici foliolis uniserialibus aequalibus oblongis seu ellipticis*; acheniis *pilosis*.

1. *B. glandulosus*; hispidus, foliis lato-linearibus superioribus involucrisque glandulosis, glandulis nigris pedicellatis, pappi paleis elongatis basi longe pilosis, ralli acheniis nullis calvis.

HAB. Common on the plains of the Columbia, in sandy soils, under the shade of *Purshia* and *Artemisia Douglas*.—6 to 8 inches high, vaguely branched, branches spreading; flowers nearly as large as those of *Chrysanthemum Leucanthemum*. The acheniæ are clavate, those of the ray are sheathed all round by the scarioso margins of the leaflets of the involucre, as in the following species, and are quite glabrous, black, and very minutely dotted. Corolla with a few long hairs at the extremity. Stigmas of the florets of the disk linear, long, recurved, glanduloso-pubescent, those of the ray very short.

2. *B. scaber*; foliis angusto-linearibus scabris, involucris subpubescentibus glandulis pedicellatis nullis, acheniis omnibus villosis, pappi paleis breviusculis superne præcipue fimbriato-ciliatis.

HAB. Sandy plains of the Columbia, among *Purshia* and *Artemisia*.—Branches more erect, and flowers much smaller than the preceding. The stigmas of the disk appear considerably different, being short and truncated, nearly glabrous, while the style upwards is very hairy and slightly incrassated.

37. HYMENOPAPPUS. *L'Hérit.*

Capitulum homogamum. *Palaë pappi* numerosæ, ellipticæ, muticæ, obtusæ. *Achenium* subulato-turbinatum. *Stylus* appendiculatus. *Rachis* tota ebracteolata.—Herbæ *Americæ Boreali indigenæ, albo-lanuginosæ, foliis pinnatifidis, alternis*; capitulis *corymbosis (vel solitariis) odoratis, albido-incarnatis*; foliolis *coloratis*. *Less.*

1. *H. Douglasii*; lana alba decidua tomentosus, ramis elongatis subcorymbosis, foliis bipinnatifidis segmentis linearibus sinuatis, floribus solitariis involucri foliolis sub 20 lineari-bus pubescentibus capitulo brevioribus, corollis filiformibus apice pilosis pappi paleis linearibus vix longioribus.—*H. scabiosæus. Dougl. MSS. apud. Herb. Hort. Soc. Lond. (non L'Hérit.)*

HAB. Common on the barren dry sandy grounds of the Columbia, from the "Great Falls" to the Rocky Mountains. *Douglas*.—1 to 3 feet high, copiously branched, the branches elongated so as all to reach nearly the same level, and each terminated by a single rather large white flower. This is very different from the

H. scabiosæus, L'Hérit. (*Rothia Caroliniensis*, Lam. Ill. t. 667.) where the flowers are subcorymbose, the leaflets of the involucre very broad, the upper part of the corolla campanulate, and the pappus extremely short.

2. *H. filifolius*; lana alba decidua tomentosus, ramis paniculatis sparsis, foliis bipinnatifidis segmentis filiformibus elongatis integerrimis, floribus solitariis, involucri foliolis sub-12 ellipticis pubescentibus capitulo subbrevioribus, corollæ tubo superne campanulato, pappo brevissimo.—*H. tenuifolius*. Dougl. MSS. apud. *Herb. Hort. Soc. Lond.* (non Pursh.)

HAB. On the undulating arid grounds of the Columbia, near the Wallawallah, and on the banks of the Spokane and Flat-head Rivers.—18 inches to two feet high, the stem loosely panicled above. This is quite different from the *H. tenuifolius* of Pursh, of which I possess a specimen from Mr. Nuttall, gathered on the Arkansa. That has a remarkably dense corymb of flowers, whereas here the branches form a lax terminal panicle, each elongated extremity bearing a solitary flower. The pappus is extremely minute.

38. PICRADENIA. *Nov. Gen.*

Radius 8-10 florus, fœmineus, corollis obovato-oblongis grosse tridentatis. *Paleæ pappi* 6-7 subimbricatæ, ovatæ, acuminatissimæ, nudæ. *Achenium* villosum. *Rachis* conica, nuda.—Herba *Americæ Borealis*, radice crassa perenni; foliis alternis lineari-filiformibus rigidis pinnatifidis, glanduloso-punctatis punctis pellucidis; capitulis terminalibus unicoloribus flavis; corollis disci præcipue glandulis valde amaris tectis; involucri subhemisphærici foliolis imbricatis, externis basi coadunatis.—Nomen $\pi\alpha\rho\upsilon\sigma\epsilon\varsigma$, amarus, et $\alpha\delta\eta\iota$, glandula: ob glandulas amarissimas.

1. *P. Richardsoni*. (TAB. CVIII.)

Radix subfusiformis, lignosa, descendens, ramosa, superne divisa. *Caulis* subspithamæi, erecti, rigidi, glabri, striati, superne ramosi. *Folia* 3-4 uncias longa, lineari-filiformia, caulina pauca; omnia pinnatifida, laciniis paucis, remotis, rarius iterum divisis, glanduloso-atque pellucido-punctatis, obscure unicoloribus. *Pedunculi* terminales, uniflori. *Flos* majusculus. *Involucrum* hemisphæricum, impresso-punctatum, glandulosum, subpubescens; foliolis oblongis imbricatis, exterioribus inferne coadunatis. *Rachis* (sen receptaculum) conica, carnosus, punctata, ebracteata. *Flosculi radii* ligulati, obovato-oblongi, lutei, tubo præcipue glandulosi, apice dentibus 3 grossis; disci tubulosi, 5-dentati, flavi, glandulis valde amaris tecti. *Antheræ* subexsertæ. *Stigmata* inclusa, breviuscula, apice incrassata et hirsuta. *Achenium* oblongum, superne latius, pilosum præcipue apicem versus. *Pappus* paleaceus, paleis 6-7, erectis, ovatis, acuminatissimis, membranaceis.

HAB. About Carlton House, on the Saskatchewan. *Dr. Richardson*.—Allied to *Hymenoxys* of Cassini, in the nature of the pappus: but very different in the involucre and habit.

TAB. CVIII. *P. Richardsoni*. *Fig. 1*, Involucre; *fig. 2*, Section of do.; *fig. 3*, Floret of the ray; *fig. 4*, Floret of the disk; *fig. 5*, Stigmas; *fig. 6*, Paleæ:—magnified.

39. HELENIUM. *Linn.*

Capitulum radiatum, radio ♀. *Paleæ pappi* aristatæ, acuminatæ. *Achenium* multifariam pilosum. *Stylus* exappendiculatus. *Rachis* margine bracteolata.—Herbæ *Americane*, foliis linearibus, integris, puberulis, sæpe decurrentibus; capitulis luteis, terminalibus, solitariis, lingulis radii apice trilobis; involucri polyphyllis, uniserialibus; rachide convexa. *Less.*

1. *H. autumnale*; caule angulato, foliis lanceolatis serratis decurrentibus, disci corollis 5-fidis radii 3-5-fidis.—*Linn. Sp. Pl. p. 1120. Mich. Am. v. 2. p. 133. Pursh, Fl. Am. v. 2. p. 566. Elliott, Carol. v. 2. p. 401. Hook. in Bot. Mag. t. 2994.*

HAB. Throughout British North America, from Lake Huron nearly to the Arctic Circle, and from Hudson's Bay to the Pacific Ocean.

Subtrib. V. CHRYSANTHEMÆ. *Capitulum heterogamum, floribus uniserialibus in ambitu, fœmineis seu neutris, quorum saltem nonnullis corollæ lingulatæ s. lingulæformi-bilabiatae sunt; reliquis stylum semper bifidum gerentibus, rarius sterilibus. Pappus nullus aut coroniformis, integer aut rarissime e paleis minutis, semilanceolatis, æqualibus constans. Anthera ecaudata. Stylo disci rami, ubi rachis bracteolata est, semper exappendiculati, pubesque nunquam descendente. Achenium neque rostratum, neque plano-obcompressum et orbiculare, plerumque angulatum atque costatum. Less.*

1. ANTHEMIDÆ. *Rachide bracteolata. Less.*

40. ANTHEMIS. *Linn.*

Radius fœmineus. Achenium exalatum, glabrum, angulatum, areola terminali. Pappus coroniformis, callosus, crassus, integer. Corolla tubo plano-obcompressio subexappendiculata; disci 5-dentata; radii lingulata, lingula oblonga. Stylus disci ramis exappendiculatis. Involucrum campanulatum. Rachis ampla, convexa.—Herbæ per totam zonam temperatam borealem orbis antiqui divulgata, foliis alternis, bi-vel tripinnatisectis; capitulis terminalibus, solitariis; radio concolori vel albo. Less.

1. *A. Cotula*; caule ramoso foliisque 2-pinnatis subvillosis, laciniis subulatis 3-partitis, ramis floriferis paniculatis, flosculis paleas setaceas superantibus, seminibus apice nudis. *Spr.—Linn.—Engl. Bot. t. 1772. Nutt. Gen. Am. v. 2. p. 171. Elliott, Carol. v. 2. p. 405. Bigel. Fl. Bost. ed. 2. p. 314.*

HAB. Lake Huron. *Dr. Todd. Quebec. Mrs. Sheppard.*—Introduced, but abundant throughout the United States.

41. ACHILLÆA. *Linn.*

Radius fœmineus. Achenium exalatum, calvum, glabrum, areola terminali. Corolla disci 5-dentata tubo plano-compresso bialata, radii lingulata, lingula brevi. Involucrum cylindraceum. Rachis parva.—Herbæ aut rarius subfrutices per totam zonam temperatam meridionalem orbis antiqui præcipue divulgata, foliis alternis, rarius pinnatifidis plerumque varie pinnatisectis; capitulis corymbosis; radio plerumque albo, rarius luteo vel purpurascens, 5-deccnfloro. Less.

1. *A. multiflora*; caule erecto foliisque elongato-lanceolatis argute pinnatifido-serratis glabriusculis laciniis serrulatis, corymbo terminali composito, radio brevissimo.—*A. Ptarmica. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33. (non aliorum.)*

HAB. Throughout the woody country, and as far North as Fort Franklin. *Dr. Richardson. Drummond.*—This is certainly very distinct from the European *A. Ptarmica*, not only in foliage, but remarkably so in its dense compound corymbs, and the extremely short ray of the flowers.

2. *A. Millefolium*; caule subramoso foliisque 2-pinnatis glabriusculis seu pubescentibus, laciniis linearibus serratis, corymbo composito.—*Linn.—Engl. Bot. t. 758. Pursh, Fl. Am. v. 2. p. 563. Elliott, Carol. v. 2. p. 405.*

HAB. Throughout the British Possessions, from Lake Huron to the Arctic Sea, and from the Atlantic to the Pacific Ocean.—On the North-West coast this plant is most variable, sometimes with short, narrow, very woolly leaves, and extremely dense lacinie, (as found by Mr. Menzies, Mr. Douglas, and Dr. Scouler, in the North-West, and which I suspect may be the *A. tomentosa* of Pursh), at other times with the leaves remarkably elongated, the lower ones even a foot long, and three inches in diameter, cut into long and glabrous lacinie.

3. *A. tomentosa*; foliis 2-pinnatifidis villosa-tomentosis, foliolis confertis tripartitis subtransversis, lacinulis linearibus integerrimis, corymbo composito. Spr.—*Engl. Bot. t. 2532. Pursh, Fl. Am. v. 2. p. 563.*

HAB. On the banks of the Kooakoosky, North-West America. *M. Lewis, (ex Pursh.)*

2. CHRYSANTHEMÆ. *Rachide ebracteolata. Less.*

42. CHRYSANTHEMUM. *Linn.*

Achenium exalatum, calvum, epapulosum, teretiusculum, disco epigyno magno. *Cor. disci* ♂, 5-dentata, tubo carnosum, plano-obcompressum et subbialato, *radii* lingulata. *Stylus disci* ramis exappendiculatis.—*Herbæ rarissime suffrutices, per totam orbem terrarum divulgata, foliis alternis, pinnatifidis vel dentatis, superioribus sessilibus; capitulis solitariis ramosque superne aphylos terminantibus, radio albo vel luteo; involucris campanulatis imbricatis; rachide convexa, nuda. Less.*

1. *C. Leucanthemum*; caule subramoso, foliis crenatis serratisve, inferioribus obovato-spathulatis superioribus lanceolatis, ramis 1-floris. Spr.—*Linn.—Engl. Bot. t. 601. Pursh, Fl. Am. v. 2. p. 507. Elliott, Carol. v. 2. p. 401.*

HAB. Canada and Fort Vancouver, on the Columbia, (*Mr. Garry*); introduced.

2. *C. arcticum*; caule superne nudiusculo, foliis subcarnosis cuneatis inferioribus sublonge petiolatis sinuato-pinnatifidis superioribus trilobis.—*Linn.—Gmel. Fl. Sib. v. 2. p. 203. t. 24. Pursh, Fl. Am. v. 2. p. 526. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 116, et 126. Lessing, in Linnæa, v. 6. p. 169.*

HAB. Behring's Straits. *Steller. Chamisso. Lay and Collie.* Fort Vancouver on the Columbia. *Douglas. Dr. Scouler.* York Factory, Hudson's Bay. *Drummond.* Arctic Sea coast. *Dr. Richardson.*—This is a very distinct, and probably entirely a maritime species.

3. *C. integrifolium*; nanum, pilosum, foliis linearibus integerrimis, caule subaphyllo unifloro. (TAB. CIX.) *Rich. in Frankl. 1st Journ. ed. 2. App. p. 33. Hook. in Parry's 2d Voy. App. p. 398. Hook. et Arn. in Bot. of Beech. Voy. p. 126. Lessing, in Linnæa, v. 6. p. 170.*

"*Radix* gracilis, perennis. *Folia* radicalia conferta, fere pollicaria, linearia, obtusiuscula, integerrima, pilosa. *Caulis* simplicissimus, digitalis, superne incrassatus, pilis mollibus patentissimis dense toctus, et intordum folio uno alterove fere setaceo instructus. *Flos* pro ratione plantæ magnus. *Calyx* hemisphæricus imbricatus, squamis elliptico-obovatis, appressis, viridibus, marginibus membranaceis laceris, umbrino-fuscis. *Flosculi* radii albi, magni, late elliptici, 3-dentati; *disci* lutei. *Receptaculum* pilosiusculum." *Rich.*

HAB. On the Copper Mountains, in lat. 67°. *Dr. Richardson.* Shores and Islands, probably throughout the whole extent of Arctic America. *Dr. Richardson. Capt. Sir J. Franklin. Capt. Sir E. Parry. Chamisso. Messrs. Lay and Collie, &c.*

TAB. CIX. *C. integrifolium*. *Fig. 1*, Outer; *fig. 2*, Inner leaflet of the involucre; *fig. 3*, Floret of the ray; *fig. 4*, Floret of the disk; *fig. 5*, Stigmas; *fig. 6*, Leaf.

4. *C. ? nanum*; annuum, caule subramoso laxo lanoso, lana decidua, foliis pinnatifidis segmentis linearibus integris, floribus terminalibus solitariis, acheniis obovato-oblongis papulosis.

HAB. North-West coast of America. *Mr. Menzies*.—This was marked "*Anthemis*" by Mr. Menzies, but as I do not find any scales upon the receptacle, I rather refer it to *Chrysanthemum*, notwithstanding that the achenium is rough with minute granules or papillæ. The root is small and fibrous. Stem suberect, 3-5 inches high, simple or branched, slender, partially clothed with a deciduous lax wool. Leaves scarcely an inch long; their rachis and segments slender. Flower terminal, solitary, the size of that of a daisy. Leaflets of the involucre elliptical, at length sphacelated at the extremity. Florets of the ray 8-10, apparently white and entire at the point. Receptacle or rachis of the flower convex. I regret that I cannot give a more full description of this interesting little plant without the destruction of the few specimens which I possess.

43. PYRETHRUM. Willd.

Achenium exalatum, conforme, angulatum. *Pappus* coroniformis, diametro ei achenii subæquali. *Cor.* disci ♂, 5-dentata, tubo incrassato, sæpius plano-obcompressio et bialato, radii ♀ lingulata, lingua oblonga. *Stylus* disci ramis exappendiculatis. *Involucrum* campanulatum. *Rachis* ampla.—*Herbæ vel rarius frutices, per zonam temperatam australem (præcipue) divulgatæ, foliis alternis, rarissime oppositis, plerumque varie pinnatifidis; capitulis solitariis vel corymbosis, radio albo, rarius luteo; involucri campanulatis, imbricatis; rachide planiuscula. Less.*

1. *P. inodorum*; caule diffuso ramoso, foliis bipinnatis glabris, foliolis lineari-filiformibus 2-3-partitis, coronula achenii integerrima.—*Sm. Engl. Bot. t. 676.*—*β. nanum*; caule unifloro. *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 126.*—*P. Caucasicum. Willd. (fide Lessing.) Chrysanthemum grandiflorum. Hook. in Parry's 2d Voy. App. p. 398.*

HAB. Lake Huron. *Dr. Todd. York Factory, Drummond*; and as far North as Bear Lake, *Dr. Richardson. β. Shores and Islands of the Arctic sea. Dr. Richardson. Chamisso.*

Subtrib. VII. ARTEMISIÆ. *Capitula nunquam dioica, floribus marginalibus uni-s.-pluriseriatis, femineis, corollas tubulosas aut rarissime obsolete lingulatas gerentibus, ubi tunc (1) aut lingule ipso tubo plano-obcompressio et bialato angustiores, (2) aut flores ♀ pluriseriales, (3) aut achenia plano-obcompressa et orbicularia sunt, (4) aut floribus centralibus masculis stylus simplicissimus est. Pappus aut nullus, aut coroniformis, aut e brevissimis paleis vel pilis, cellulis uniseriatis, suprapositis formati constans. Antheræ ecaudatæ. Stylo ♀ vel ♂ rami semper exappendiculati. Less.*

1. COTULÆÆ. *Capitulis multifloris; corollis staminigeris tubum plano-obcompressum et bialatum, stylumque bifidum gerentibus aut teretibus, si achenium aut corolla feminea et obcompressa est; rachide ebracteolata. Less.*

44. OMALANTHUS. Less.

Capitulum heterogamum, floribus uniseriatis in ambitu, reliquis ♀ fertilibus. *Achenium* exalatum, quadrigonum, conforme. *Pappus* coroniformis, repandus. *Cor.* ♀; ♀

glabra, plano-compressa, bialata, 3-crenata. *Hachis* ebracteolata.—Herba *Californica*, *faciè* Santolinæ, *tomentosa*, foliis *bipinnatisectis alternis*; capitulis *solitariis vel corymbosis*; involucris *campanulatis, pauciserialibus*; rachide *convexa*. *Less.*

1. *O. camphoratus*. *Less.* in *Syn. Gen. Compos. p.* 260.—*Tanacetum camphoratum*. *Less.* in *Linnaea*, v. 6. p. 521.

HAB. California. *Menzies*, (in *Herb. nostr.*) *Chamisso*. Columbia. *Douglas*. *Dr. Scouler*. York Factory, Hudson's Bay. *Drummond*. *Douglas*.—This has altogether the habit of *Tanacetum vulgare*; but it is much more robust; and it differs, as *Lessing* tells us, "corollis femineis plano-obcompressis et inferne alatis."

2. ARTEMISIÆ. Capitulis multifloris; corollis staminigeris teretibus stylumque bifidum gerentibus; acheniis exalatis, nunquam plano-obcompressis et orbicularibus, rachide ebracteolata. *Less.*

45. ARTEMISIA. *Linn.*

Capitulum aut heterogamum, floribus disci ♂, et ♀ in ambitu rachide villosa (*Absinthium*, *Tourn.*); aut floribus disci ♂ et ♀ in ambitu, rachide nuda (*Abrotanum*, *Tourn.*); aut floribus omnibus ♂ v. raro in medio 1 ♀, rachide nuda (*Seriphidium*, *Bess.*); aut floribus staminigeris abortu ovarii sterilibus, ♀ in ambitu, rachide nuda (*Dracunculus*, *Bess.*, *Oligosporus*, *Cass.*) *Achenium* obovatum calvum disco epigyno minuto.—"Herbæ per totam orbem terrarum dispersæ, foliis alternis plerumque varie pinnatifidis; capitulis parvis paucifloris, luteis, spicatis, racemosis vel in paniculam pyramidalem dispositis; involucris imbricatis, foliolis siccis margine scariosis." *Less.*

SECT. I. ABSINTHIUM. *Gærtn.*—*Bess.* * *Syn. Absinth.*, in *Bulletin, de la Soc. Imp. des Natural. de Moscow*, 1829. n. 8.

1. *A. frigida*; suffruticosa, calathidibus parvis racemoso-paniculatis globosis nutantibus, periclinii squamis exterioribus linearibus incanis interioribus oblongis lanatis, foliis incanosericeis caulinis pinnatisectis laciniis linearibus 3-5-fidis.—*Willd. Sp. Pl. v. 3. p.* 1838. n. 51. *Bess. l. c. p.* 251.—*β. Gmeliniana*; folia pollicaria radicalia longe petiolata 3-partita segmentis 5-partitis, laciniis linearibus acutis, mediis abbreviatis ut ambitus folii sit reniformis ob pinnulas vero integras lineari-lanceolatas insertioni petioli approximatas et a reliquis remotas quasi stipulatas stipulis petiolo adnatis, caulina pinnatisecta, pinnulis inferioribus ab anterioribus valde remotis; floralia 5-secta 3-partita v. integerrima. *Bess.*—(*Artemisia virgata*. *Rich. in Frankl. 1st Journ. App. p.* 306. in *Herb. Hook.*)—Planta maxime polymorpha in montium Altaicorum, ad Jenizeam circa Kraznojarsk, Dahuriæ frigidis aridis. Caules a spithamæis ad pedales at vix ultra. Cultra ramosissima more *A. camphoratae*. *Huc Gmelin Fl. Sib. v. 2. p.* 128. t. 62.—Ex autopsia speciminum ab ipso auctore in *Herb. Acad. Imp.*

* I am indebted to Dr. Besser himself, the learned Author of the "Synopsis" here quoted, for the present Monograph of the British North American species, which I insert, except when otherwise expressed, in his own words. It is perhaps scarcely necessary to mention, that the term *calathidium* (of *Cassini*) is equivalent to *capitulum*, or the entire compound flower, of *Lessing*; and *periclinium*, to that of *involucrum*. The marks of measure, (l' " ") attached to figures, imply, (l') an inch, (l'') $\frac{1}{2}$ an inch, (l''') a line.

Petropolitana. Huc *A. Jenizeensis*, Spreng. *Syst. Veget. v. 3. p. 60. n. 27. et Willd. Herb. ex adnotationibus Stevenianis in Herb. Willd. Bess. MSS.*

HAB. 3. Saskatchewan. *Dr. Richardson. Drummond.* On Limestone rocks on the higher parts of the Assinaboine River, and sparingly on Red River. *Douglas.*—(*Dr. Richardson's A. virgata* is undoubtedly a synonym to this, although *Dr. Besser* is disposed to refer that plant to the *A. desertorum.*—*H.*)

SECT. II. ABROTANUM. *Bess. Tentamen de Abrotanis s. de sectione Artemisiarum Linnæi in Nouveaux Mémoires de la Soc. Imp. des Natur. de Moscou, v. 2. 1832.*—*Artemisiæ. H. Cass. et Lessing.*

2. *A. Lindleyana* (*Bess.*); fruticosa, (panicula spicata frutescens,) superne canescens, calathidibus spica paniculatis subhemisphæricis erectis flosculis nudis, periclinii incani squamis apice scariosis extimis foliaceis, foliis sublinearibus subtus incano-tomentosis. *Bess. Monogr. Art. ined. cum ic.*—*a. legitima*; folia integerrima 1-1½ longa, vix ½ lata.—*β. brevifolia*; fors status serotinus: nam adsunt tantum folia fasciculorum unguicularia.—*γ. subdentata*; folia versus apicem uno alterne 1-½" longa, 1-2" lata.—*δ. Coronopus*; folia *Plantaginis Coronopi.*

HAB. North-West coast of America. *Douglas, in Herb. Lindl. n. 16, 14, 18, 15.*—(With this I am unacquainted.—*H.*)

3. *A. Ludoviciana* (*Bess. non Nutt.*); suffruticosa erecta, calathidibus virgato-paniculatis globosis subcernuis, flosculis nudis, periclinii tomentosi squamis ext. sublanceolatis membranaceo-marginatis subpinnatifidis, laciniis linearibus acutis margine revolutis subtus candidis remotis divergentibus.—*Nutt. in Spreng. Syst. Veget. v. 3. p. 490. Bess. Monogr. Art. ined. cum ic.*—(*A. discolor. Dougl. in Herb. nostr.*)

HAB. Rocky Mountains, Arctic America. *Dr. Richardson.* Rocky situations, near the Spokan and Kettle Falls. *Douglas.*—I may observe that *Mr. Nuttall's A. Ludoviciana* is a Missouri plant, whence I possess specimens precisely agreeing with his description, and totally different from the present, having large, entire, or rarely pinnatifid leaves, downy on both sides.

4. *A. Hookeriana* (*Bess.*); suffruticosa erecta, calathidibus paniculatis globosis nutantibus, panicula thyrsoides parum foliosa, periclinii albo-lanati squamis margine scariosis intermediis rotundatis, foliis subtus cauleque candidis, caulinis pinnatifidis, laciniis floralibusque lineari-lanceolatis acutis. *Bess. Monogr. Art. ined. cum ic.*

HAB. Rocky Mountains. *Drummond.*

5. *A. vulgaris*; suffruticosa erecta, calathidibus spicato-paniculatis ovatis cernuis demum erectis, panicula foliosa patente, flosculis nudis, periclinii squamis exterioribus incano-tomentosis, interioribus scariosis nitidis, foliis subtus albo-tomentosis, caulinis pinnatifidis pinnis laciniatis incisive grosse serratis integrive summis ramisque sublinearibus integerrimis.—*Linn. Sp. Pl. p. 1188.*—*γ. vulgatissima*; foliorum laciniis lineari-lanceolatis inferiorum vix inciso-dentatis, panicula magna erecta.

HAB. Throughout Canada; and as far as the Arctic Circle. *Dr. Richardson. Drummond.* Sandy Plains, West of the Rocky Mountains. *Douglas.* *γ.* North-West coast. *Douglas, in Herb. Lindl.*

6. *A. Indica*; suffruticosa erecta, calathidibus racemoso-paniculatis ovatis, panicula foliosa patente, racemis ante anthesin pendulis, flosculis nudis, periclinii junioris subtomentosi

demum glabri squamis exterioribus foliaceis acutis, interioribus membranaceis obtusis, foliis subtus cinereo-tomentosis, inferioribus pinnatifidis superioribus trifidis summis simplicibus laciniis lanceolatis inferioribus subdentatis vel incis. — *Willd. Sp. Pl. v. 3. p. 1846. Bess. Monogr. Art. ined. cum ic.* — *δ. Canadensis*; folia caulina 3-partita subtus cinerea, margine vix revoluta, periclinii squamæ manifeste tomentosæ.

HAB. *β. Canada. Goldie, in Herb. Lindl.*

7. *A. longifolia*; suffruticosa erecta, calathidibus paniculatis ovatis(?), panicula foliosa e spicis thyrsoidis axillaribus, flosculis nudis, pericliniis scariosis fuscis glabris, foliis superne glabris subtus albo-tomentosis lanceolatis breviter cuspidatis, inferioribus antice inæqualiter serrulatis basi incis. (specimen juvenile). — *Nuttall(?) in Spreng. Syst. v. 3. p. 488. Bess. Monogr. Art. ined. cum ic.*

HAB. North-West America. *Dr. Scouler.* — Of this, Dr. Scouler gathered two specimens, one above described with glabrous involucre; the other with very downy ones. This latter I can scarcely distinguish from what I take to be the true *A. Ludoviciana* of Nuttall.

8. *A. Purshiana* (*Bess.*); suffruticosa adscendens incana, calathidibus paniculatis ovatis, panicula foliosa stricta, flosculis nudis, foliis subtus albidis, caulinis lanceolatis subcuneatis mucronatis integerrimis. *Bess. Monogr. Art. ined. cum ic.* — *α. latifolia*; folia elliptico-lanceolata $1\frac{1}{2}$ " longis, $\frac{3}{4}$ " latis. — (*A. integrifolia. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. fide Herb. nostr.*) — *β. angustifolia*; foliis lanceolatis, $1\frac{1}{2}$ " longis, $3/8$ " latis.

HAB. On the plains of the Saskatchewan. *Dr. Richardson. Drummond.* — *β. Red River. Douglas, in Herb. Lindl.* — (This is certainly the *A. integrifolia* of Dr. Richardson, and I presume also of Pursh; but probably it is not the Siberian plant figured by Gmel. Sib. v. 2. t. 48. The leaves are sometimes downy on both sides, sometimes glabrous above, whence I fear it comes too near the following species. — *H.*)

9. *A. Douglasiana* (*Bess.*); suffruticosa(?) stricta canescens, calathidibus spicato-paniculatis hemisphæricis, panicula subfoliosa, flosculis nudis, periclinii squamis ellipticis, interioribus apice scariosis, foliis subtus incanis, caulinis lanceolatis acutis integerrimis. *Bess. Monogr. Art. ined. cum ic.*

Ab *A. integrifolia* differt foliis integerrimis, panicula magna, calathidibus minoribus glomerato-spicatis; ab *A. Purshiana* vero caule stricto, foliis acuminatis (non mucronatis), panicule ramis elongatis, calathidibus majoribus, periclinii squamis apice scariosis (nec incano-tomentosis), colore totius plantæ minus cano, foliisque supra viridibus.

HAB. North-West America. *Douglas, in Herb. Lindl.*

10. *A. arctica* (*Bess.*); cæspitosa, calathidibus racemoso-spicatis glomeratis globosis, pedunculis apice lanatis, flosculis apice subpilosulis, periclinii squamis superne fuscis scariosis, foliis subsericeis inferioribus pinnatisectis, superioribus trifidis, laciniis radicalium tri-quenefidis superiorum indivisis linearibus obtusis. *Bess. Monogr. Art. ined. cum ic.*

HAB. From Bear Lake to the shores of the Arctic Sea. *Dr. Richardson.* — (Two of the specimens in this collection have the whole plant clothed with long silky hairs. *H.*) — In my first account, I gave the name of *A. borealis* to this plant; but have been convinced by Lessing's work, that it is not the *A. borealis* of Pallas. Its appellation is therefore changed as above, and I only regret not having altered it to *Richardsoniana*, as it is to be feared the present name cannot stand, Lessing having thus called a variety of *A. Chamissoniana. Bess.*

11. *A. glomerata*; densissime cespitosa ubique sericeo-villosissima, ramis brevibus arcte foliatis, foliis brevibus 3-5-fido-palmatis laciniis lanceolatis brevi-nucuminatis inferioribus sessilibus caulinis late petiolatis, floribus capitatis, receptaculo nudo.—*Lessing, in Linnæa*, v. 6. p. 212. *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.*

HAB. Bay of St. Lawrence. *Chamisso. Kotzebue's Sound. Messrs. Lay and Collie.*

12. *A. cæspitosa* (*Bess.*); calathidibus racemoso-spicatis glomeratis globosis, pedunculis apice lanatis, flosculis superne pilosulis, periclinii squamis fuscis scariosis dorso sublanatis, foliis subsericeis radicalibus longe petiolatis caulinisque inferioribus pinnatisectis superioribus trifidis laciniis illorum 3-5-fidis subincisis, superiorum indivisis linearibus obtusis.

Planta Sibirica habet flosculos pilosulos, periclinii squamas ovatas acutas, et est pedalis. Altera est a littoribus Arcticis America, cui flosculi 8 omnino nudis.

HAB. Arctic sea-shore. *Dr. Richardson.*

13. *A. Tilesii*; herbacea, calathidibus racemosis globosis subnutantibus in caule simplicissimo, flosculis nudis, periclinii arachnoideo-tomentosi squamis lateribus scariosis, foliis subtus albo-tomentosis pinnatifidis laciniis lanceolatis subdentatis.—*Ledeb. Mém. de l'Acad. Imp. de Sc. v. 5. p. 568. Bess. Monogr. Art. ined. cum ic. Lessing, in Linnæa*, v. 6. p. 214. *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 115, et 127.*—Ex littoribus arcticis est var. ϵ . arctica (*Bess. Monogr. ined. cum ic.*) foliorum laciniis integerrimis magis distantibus obtusis brevibus, periclinii flosculisque pallidis.

HAB. Unalashka. *Chamisso, in Herb. nostr. Kotzebue's Sound. Messrs. Lay and Collie.* Arctic Sea shore, between the Mackenzie and Coppermine Rivers. *Dr. Richardson.*

14. *A. Michauxiana* (*Bess.*); herbacea, calathidibus racemosis globosis cernuis in caule simplicissimo, flosculis nudis, periclinii glabri squamis lateribus scariosis nitidis, foliis subtus albo-tomentosis pinnatifidis laciniis inferioribus inciso-dentatis superioribus floralibusque lineari-lanceolatis. *Bess. Monogr. Art. ined. cum ic.*

HAB. Rocky Mountains. *Douglas. Columbia. Douglas, in Herb. Lindl.*

15. *A. Prescottiana* (*Bess.*); suffruticosa, calathidibus spicatis globosis suberectis in ramis simplicissimis, flosculis nudis, periclinii squamis margine scariosis nitidis, foliis subtus incanis margine revolutis pinnatifidis 3-fidisve, laciniis divergentibus folisque summis lineari-filiformibus. *Bess. Monogr. Art. ined. cum ic.*

HAB. North-West America. *Douglas, in Herb. Lindl.*

16. *A. Chamissoniana* (*Bess.*); herbacea, calathidibus magnis racemosis globosis cernuis in caule simplicissimo, flosculis præcipue basi pedunculisque apice pilosis, foliis subglabris inferioribus 2-pinnatifidis petiolatis, superioribus pinnatifidis sessilibus, laciniis lineari-lanceolatis subinciso-dentatis. *Bess. Monogr. Art. ined. cum ic.*—*A. arctica. Lessing, in Linnæa*, v. 6. p. 213. (*vide specim. in Herb. Hook.*) *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.*

Hujus var. β . *saxatilis* (*Bess. in l. c.*) est a Rocky Mountains, in qua periclinii squamæ sunt ovate margine sphaelate.—*A. arctica.* (*Lessing in Linnæa, l. c.*) est mea var. γ . *Koraginskiana*, a D. Mertensio lecta, periclinii squamis fuscis sphaelatis obovatis, margine latissimo membranaceo crenato-dentato. Varietates miro modo distinguuntur squamis fere solis periclinii.

HAB. North-West coast of America. *Menzies*. Kotzebue's Sound. *Chamisso*. *Mensa*. *Lay and Collie*. Woods in the Rocky Mountains, in lat. 52°. *Drummond*. Arctic Sea shore. *Dr. Richardson*.—(My specimens from the Rocky Mountains are identical with *A. Norvegica*, from Norway.—*H.*)

17. *A. biennis*; calathidibus globosis erectis spicatis paniculatis, panicula stricta, foliis radicalibus caulisque inferioribus 2-pinnatifidis superioribus floralibusque pinnatifidis, ramis laciniisque linearibus acutis, inferioribus argute inciso-dentatis superiorum subintegerrimis.—*Willd. Phytogr. p. 11. n. 30.*—*A. Hispanica*. *Jacq. Ic. Har. v. 1. t. 172.*

Cum *A. annua* nequaquam confundenda, cui calathidia cernua in panicula patente ramosa foliorumque laciniis sunt inciso-pectinatae. Proxima potius *A. Tournefortiana*, *Reich.*; a qua tamen duratione bienni, foliorum laciniis (bidentatis in altera) flosculisque flavis (purpurascens in altera) differt.

HAB. From York Factory and the Saskatchewan, to the Mackenzie River. *Dr. Richardson*. *Drummond*. *Douglas*.

SECT. III. SERIPHIDIUM. *Bess. Bulletin de la Soc. Imp. des Natur. supra citatum, ubi errore typographia Seriphida.*—*Abrotanella*. *H. Cass.*

18. *A. cana*; frutescens, calathidibus ovatis hemisphaericis axillaribus glomeratis erectis, foliis integris.—*Pursh, Fl. Am. v. 2. p. 521.*—*A. Columbiensis*. *Nutt. Gen. Am. v. 2. p. 142.*

HAB. Plains of the Saskatchewan. *Drummond*. Barren plains of the Columbia River. *M. Lewis*.

SECT. IV. DRACUNCULUS. *Bess. Oligosporus*. *H. Cass.*

19. *A. desertorum*; suffruticosa, calathidibus racemoso-paniculatis subglobosis ovatisve, periclinii nitidi squamis ovatis subacutis lateribus scariosis, caule erecto strictove, foliis inferioribus (et radicalibus) bipinnatisectis laciniis linearibus, vel pinnatifidis laciniis lanceolatis subtrifidis, vel subspathulato-3-partito-multifidis laciniis lanceolatis vel lineari-lanceolatis, caulibus 3-7-partitis semiamplexicaulibus laciniis linearibus vel lanceolatis media pinnatisecta. —*Spreng. Syst. Veget. v. 3. p. 490. Bess. Drac. MSS.—γ. Scouteriana*; calathidia plus 1" glabra, periclinii squamis interioribus acutiusculis. Folia radicalia 2-pinnatisecta, juniora subsericea, laciniis linearibus elongatis 8"-1" longis $\frac{3}{4}$ " latis. (Reliquis strictior.)—*δ. Hookeriana*; calathidia plus 1" glaberrima, periclinii squamis exterioribus acutis. Folia glaberrima, radicalia 2-pinnatisecta laciniis lineari-lanceolatis brevioribus 3-6" longis, $\frac{1}{2}$ " latis. Unius speciminis caulis ascendens, aliorum strictus videtur.—*ζ. Richardsoniana*; calathidia (?) incano-sericea, periclinii squamis exterioribus late ovatis. Folia (radicalia et caulina inferiora desunt) caulina superiora subsericea, laciniis linearibus 6-9" longis $\frac{1}{2}$ " latis; floralibus simplicissimis 1". *A. virgata*. *Rich. in Spreng. Syst. Veget. v. 3. p. 134. (?)—A. campestris*. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*A. Canadensis*. *Mich.—Nutt.*—Specimen unicum juvenile $1\frac{1}{2}$ ' vidi, quod est sola panicula patula, ramis paucis 4". Caulis est violaceus, hirsutus, potius quam incano-sericeus.—*η. Douglasiana*; calathidia (?) glabra, periclinii squamis exterioribus subrotundis. Folia villosa-subsericea cinerea: (radicalia desunt), caulina pinnatisecta, laciniis inferiorum 3-fidis, superiorum indivisis linearibus 5-8" longis $\frac{1}{2}$ " latis.

Planta summe polymorpha. A Tanai (*Don*) Bashkiria, regione Altaica et Jemisea prope Kraznojarsk incipiens, partem meridionalem Gub. Irkutensis et Kamtschatka occupant atque per Americam septentrionalem late sese extendit.

HAB. γ . North-West coast of America, Fort Vancouver, and Straits of de Fuca. *Dr. Scouler*. Rapids of the Columbia. *Douglas*.— δ , et ζ . Throughout Canada, from Lake Huron, (*Dr. Todd*), to Hudson's Bay, (*Michaux, Douglas*), along the Saskatchewan to the Rocky Mountains, *Dr. Richardson, Douglas, Drummond*: and thence to the Arctic Circle. *Dr. Richardson*.—(I think this species will be found to be the *A. Canadensis* of Nuttall, if not of Michaux; the former compares it with *A. campestris*, and says it is Pursh's plant of that name. It certainly is that of Dr. Richardson: and the *A. virgata*, Rich., quoted by Dr. Besser, is the *A. frigida*.—*H.*)

20. *A. Nuttalliana* (*Bess.*); suffruticosa, calathidibus racemoso-paniculatis globosis, periclinii squamis exterioribus lineari-oblongis marginatis, caule erecto, panicula patula, foliis glabris, inferioribus, caulinis basi indivisis trifidis, laciniis ramisque lanceolatis acutis. *Bess. Monogr. Art. ined. cum ic. Bess. Dracunc. MSS.*

Ab affinibus *A. caudata* et *A. Ammanniana* differt foliis laciniisque lineari-lanceolatis acutis, ab illis et *A. desertorum* periclinii squamis exterioribus lineari-oblongis æquilongis omnibus lateribus scariosis; a prima panicula magis patula, ramulis apice foliisque cinereis subcericeis; a prima et tertia, foliis caulinis 3-fidis, nec 3-7-partitis ut in *desertorum*. Specimina que vidi sunt 1½' quorum panicula ipsa maximam partem occupat. Folia 1½-1" longa laciniis, ½-¾" latis. Calathidibus sat affinis *A. Dracunculo*.

HAB. Red River. *Douglas*, in *Herb. Lindl.*

21. *A. Dracunculus*; suffruticosa, calathidibus racemoso-paniculetis globosis, periclinii squamis exterioribus oblongis marginatis, caule erecto, foliis radicalibus apice trifidis, caulinis lanceolatis lineari-lanceolatisve integerrimis.—*Linn. Sp. Pl. p. 189. Bess. Dracunc. MSS.*— δ . *glauca*; fastigiata. Specimen unicum est 1½', caule rubro, ramis fastigiatis (an destructione apicis caulis?) junioribus incanis. Folia lanceolata, glaucescentia, at vix pubescentia 8"-10" longa, 1" lata, rami tecti racemis vix 1", apice cernuis, infimis 2", calathidia 1", periclinii squamæ interiores late scariosæ. Flosculi flavi.

HAB. Plains of the Saskatchewan. *Drummond*.

22. *A. borealis*; herbacea cæspitosa villososericea vel glabra, calathidibus spicato-racemosis rarius paniculatis hemisphæricis, periclinii squamis ellipticis scariosis, caule simplici, foliis (exceptis summis,) petiolatis, radicalibus lineari-lanceolatis integerrimis, apice 3-5-fidis pinnatisectis bipinnatisectis imo supra decomposito-sectis, laciniis lanceolatis linearibus vel filiformibus, caulinis bipinnatisectis pinnatisectis 5-3-fidis vel linearibus integerrimis.—*Pall. It. v. 3. App. n. 129. t. H. h. f. 1. Less. in Schlechtend. Linnæa, v. 6. p. 211. Bess. Dracunc. MSS. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.—u. Purshii*; sericea, cinerea; folia radicalia lineari-lanceolata integerrima, vel apice 3-5-fida: caulina et floralia linearia: calathidia inferiora pedunculata, superiora subsessilia; periclinii squamæ villosæ, medio fuscæ, flosculi nudi. Caulis ascendens 6", violaceus, superne villosissimus. A. spithamæa. *Pursh, Fl. Am. v. 2. p. 522*; folia prioris glaberrima: caulina imo floralia inferiora 5-3-fida; calathidia omnia subsessilia, periclinii squama glabræ, medio virides. Caules erecti vel obliqui, 3-5, violacei,

basi pedicellique albo-villosi.—*γ. Wormskioldii.* (*Bess. Monogr. Art. ined.*) incana, subsericea: folia radicalia longe petiolata 3-5-fida, laciniis 3-2-fidis, rarius 5-fidis vel indivisis, linearilanceolatis 5"; caulina inferiora iis similia, minora et brevius petiolata: floralia 5-3-secta vel simplicissima linearia: calathidia racemosa, e singula axilla gemina, altero sessilibi, pedunculi infimi 2-3-flori; periclinii squamæ medio fuscæ, flosculi ♂ apice pilosuli. Caulis 15".

HAB. Labrador. *Kohlmeister. Dr. Morrison.* Arctic Shores of North America. *Dr. Richardson.* Rocky Mountains. *Drummond.—γ.* Columbia River and Islands, North-West America. *Douglas. Dr. Scouler.* Kotzebue's Sound. *Messrs. Lay and Collie.*

There are still some specimens in my collection, which, from the extreme difficulty in characterizing the species of this Genus, and the want of more perfect individuals, I am obliged to leave undetermined. Mr. Pursh gives the "*A. Chinensis; foliis inferioribus cuneiformibus obtusis trilobis, superioribus linearibus obtusis, floribus globosis pedunculatis cernuis,*" (Willd.), as a native of the North-West coast, upon the authority of Mr. Lambert's Herbarium. I possess the true plant, gathered in Kamtschatka by Chamisso, but I have seen no American specimens. (*H.*)

46. TANACETUM. Linn.

Capitulum homogamum aut heterogamum, floribus ♀ uniserialibus in ambitu, reliquis ♂ fertilibus. *Achenium* angulatum, disco epigyno magno. *Pappus* coroniformis, minutus et hinc inde subnullus, æqualis aut latere exteriori parum manifestior.—*Herbæ per totam orbem terrarum dispersæ, foliis alternis, varie æctis; capitulis solitariis aut corymbosis aut corymboso-paniculatis, imbricatis; rachide magis minusve convexa, nuda. Less.*

1. *T. vulgare;* capitulis heterogamis corymbosis, foliis bipinnatifidis segmentis lanceolatis inciso-serratis.—*Linn.—Engl. Bot. t. 1229. Pursh, Fl. Am. v. 2. p. 522.*

HAB. Canada; probably introduced. *Mrs. Sheppard.*

2. *T. pauciflorum;* caule simplici foliis longiorum subunifloro, foliis bipinnatis villosis sessilibus, flosculis omnibus hermaphroditis. *Herb. Banks.—Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*

HAB. Woody country, between lat. 54° and 64°, North. *Dr. Richardson.*—"Uluar. Folia bipinnata et tripinnatifida, laciniis angustis obtusiusculis. Flos plerumque unicus terminalis interdum alter e suprema axilla." *Rich. l. c.*

3. *T. ? suaveolens;* capitulis homogamis, ramis unifloris, receptaculo conico involucro longiore inferne squamoso, foliis profunde bipinnatifidis laciniis linearibus acutis basi subpectinato-pinnatifidis. (TAB. CX.)—*T. matricarioides. Less. Syn. Gen. Compos.—Artemisia matricarioides. Less. in Linnæa, v. 6. p. 240. (excl. syn. Tanacetii pauciflori, Rich. ?).—Santolina suaveolens. Pursh, Fl. Am. v. 2. p. 520.*

Radix annua, ramosa, fibrosa. *Caulis* palmaris ad spithameam, basi divisus, apice ramosus, teres, striatus, subhirsutus, foliosus. *Folia* alterna, sessilia, circumscriptione oblonga, bipinnatifida, vix pilosa, basi lata pectinato-pinnatifida, laciniis linearibus angustis acutis. *Rami* ultimi, seu *pedunculi*, terminales, sub sesqui-unciam longi, nudiusculi, striati, apice paululum incrassati, uniflori. *Involucrum*, ratione floris magnum, hemisphericum, foliolis pauci-serialibus subæqualibus, oblongis, glabris, marginibus scariosis, albis. *Flosculi* omnes tubulosi, hermaphroditi, flavi, inferiores paleacei, paleis scariosis, oblongis, obtusis, superiores nudi. *Corolla* brevis: tubo subtetragono compresso bialato, limbo campanulato, 3-5-dentato. *Styli* antheræque inclusi. *Achenium* oblongum ovatumve, leve. *Pappus* omnino nullus.

HAB. Banks of the Koooskoosky. *M. Lewis*. Unalashka. *Chamisso*. Straits of de Fuca. *Dr. Scouler*.—The first I knew of this plant was from Chamisso, who had the kindness to communicate to me an Unalashka specimen, under the name of *Artemisia matricarioides* of Lessing in the Linnaea. So little does it accord in habit, however, with *Artemisia*, that I was not surprised to find the able Author had removed it from that Genus, in his subsequent work, the "Synopsis Generum Compositarum." With *Tanacetum* I fear it has little more affinity, either in foliage, inflorescence, or in the receptacle or rachis. The habit is altogether that of a *Cotula*, or of an *Anthemis* without ray; but it is probably *sui generis*. Lessing considers the rachis or receptacle to be destitute of scales or bracteas, but I find the extremity only free from scales, the rest is evidently furnished with them.

TAB. CX. T? *suaveolens*. *Fig. 1*, Involucre and rachis, or receptacle from which most of the florets are removed; *fig. 2*, Lower floret with its scale; *figs. 3 and 4*, Upper florets; *fig. 5*, Achenium; *fig. 6*, Leaf:—*magnified*.

Subtrib. GNAPHALIEÆ. *Capitulum sæpius uniflorum, rarissime radiatum et biflorum. Pappus pilosus vel setaceus, sæpissime longus aut nullus ubi achenium erostre et capitulum uniflorum, aut rarissime coroniformis, ubi capitula pauciflora in glomerulos lana intermixtos foliisque involucreatos dense sunt congesta, aut biserialis, serie interiori paleacea, exteriori coroniformi. Antheræ caudate. Corolla flori femineo s. neutro, si adest, filiformis, rarissime in capitulis bifloris lingvata. Stylo floris hermaphroditi vel masculi rami exappendiculati.—Folia alterna, in unico genere opposita, integerrima. Less.*

47. GNAPHALIUM. *Br.*

Capitulum multiflorum, floribus ♀ numerosis, pluriserialibus in ambitu. Pappus pilosus, uniserialis, conformis. Stylus ♂ ramis apice solo penicillatis. Achenium erostre. Rachis tota ebracteolata. Less.

1. *G. luteo-album*; foliis subamplexicaulibus utrinque cauleque arachnoideo-lanatis, inferioribus spatulatis superioribus lineari-lanceolatis undulatis, floribus densis capitulo-capitatis.—*Linn.—Engl. Bot. t. 1002.*

HAB. North California. *Menzies*. Banks of streams on the North-West coast of America. *Douglas*. Columbia and Straits of de Fuca. *Dr. Scouler*.

2. *G. polycephalum*; foliis linearilanceolatis acutis sessilibus supra scabris subtus cauleque paniculato albo-lanatis, floribus corymbosis, involucri squamis ovato-lanceolatis acutis.—*Mich. Am. v. 2. p. 127. Pursh, Fl. Am. v. 2. p. 524. Elliott, Carol. v. 2. p. 325.—G. obtusifolium. Willd.*

HAB. Canada. *Goldie. Lady Dalhousie.*

3. *G. decurrens*; foliis linearilanceolatis acutis decurrentibus supra scabris subtus cauleque paniculato albo-lanatis, floribus corymbosis, involucri squamis ovato-lanceolatis acutis.—*Ives—Torrey, Comp. p. 288.—β. panicula elongata, foliis utrinque arachnoideo-lanatis.*

HAB. Canada. *Lady Dalhousie.—β.* Common on the sand of the sea-shore, and on the Islands of the Columbia. *Douglas*.—This differs from the preceding only in its decurrent leaves.

4. *G. sylvaticum*; simplex erectum arachnoideo-lanatum, foliis inferioribus lanceolatis petiolatis superioribus linearibus, spica oblonga multiflora foliosa, involucri squamis margine fuscis.—*Linn.—Engl. Bot. t. 913. Pursh, Fl. Am. v. 2. p. 525.*

HAB. Canada. *Pursh.*

5. *G. supinum*; caule basi decumbente et ramoso, fertili erecto, foliis linearibus utrinque arachnoideo-tomentosis, floribus axillaribus solitariis vel racemosis, involucri squamis margine fuscis.—*Linn.* (fide *Sm.*)—*Engl. Bot. t.* 1193.

HAB. Labrador. *Dr. Morrison.*—The specimens exactly accord with the figure in English Botany.

6. *G. uliginosum*; ramosum diffusum arachnoideo-lanatum, foliis lineari-lanceolatis, floribus glomeratis axillaribus et terminalibus, glomerulis folio brevioribus, involucri squamis unicoloribus interioribus acutis.—*Linn.*—*Engl. Bot. t.* 1194. *Pursh, Fl. Am. v. 2. p.* 526.

HAB. Canada, (*Pursh, Lady Dalhousie, Mrs. Shepherd,*) and to the Saskatchewan. *Dr. Richardson, Drummond.* Sandy shores and islands of the Columbia. *Douglas.*

48. ANTENNARIA. *Br.*

Capitula aut dioica aut subdioica. *Rachis* tota ebracteolata. *Pappus* uniserialis, ζ apice clavatus. *Stylus* ζ aut simplicissimus aut breviter bifidus.—*Herbæ per totam zonam arcticam divulgatæ et inde in Europa medium versus descendentes, perennes, tomentosæ; foliis planis, supra sæpius minus tomentosis; capitulis corymbosis, albis; involucri imbricatis, capitulorum fæmineorum turbinatis. Less.*

1. *A. margaritacea*; elata simplex, foliis lineari-lanceolatis acutis trinerviis sessilibus subtuopsis cauleque lanatis, corymbo multifloro, involucri hemisphærici squamis ellipticis obtusis opacis albis extimis solummodo basi tomentosis.—*Linn.*—*Engl. Bot. t.* 2018. *Mich. An. v. 2. p.* 127. *Pursh, Fl. Am. v. 2. p.* 524. *Elliott, Carol. v. 2. p.* 326. *Bigel. Fl. Bost. ed. 2. p.* 299.

HAB. From Lake Huron, (*Dr. Todd,*) to Hudson's Bay and the Saskatchewan; and from Newfoundland (*Dr. Morrison, Miss Brenton*) to the Rocky Mountains (*Dr. Richardson, Douglas*); and from California (*Menzies*) to the Columbia and Nootka Sound. *Douglas, Dr. Scouler.* Unalashka. *Chamisso.*

2. *A. Carpatica*; subhumilis simplex lanata, foliis lanceolatis trinerviis inferioribus petiolatis, corymbo capitato pauci (6-8)-floro, involucri turbinati inferne lanati squamis obtusis nitidis fusciscentibus superioribus elongatis ejus apicibus albis subopacis.—*a. humilis*; foliis supra glabratis.—*Gnaphalium* Carpaticum. *Wahl. Fl. Lapp.—Fl. Carpat. p.* 258. *t. 3.*—*G. alpinum.* *Willd. Sp. Pl. v. 3. p.* 1883. (fide *Wahl.*)—*β. lanata*; foliis utrinque lanatis. *Wahl. Fl. Succ. v. 2. p.* 515.—*Gnaphalium* alpinum. *De Cand. Fl. Fr. p.* 3312. (aliorumque fide *Wahl.*)—*γ. pulcherrima*; elata (pedalis sesquipedalis) subargentem, corymbis laxis.

HAB. *α.* Island of Anticosti, in the St. Lawrence. *Goldie.* *β.* Summits of the most elevated among the Rocky Mountains, lat. 52°; and *γ.* Swamps of the plains among the Rocky Mountains. *Drummond.*—The var. *β.* of Wahlenberg differs very slightly from *α.*; but our var. *γ.* is a very remarkable one, a foot and sometimes a foot and a half high, with leaves 4-5 inches long, the whole plant clothed with an almost silky down. The species is, indeed, very different from the *A. alpina*. It sends out no stolones; but the root is branched above, and the fertile stem is sometimes accompanied by one or two erect sterile ones.

3. *A. alpina*; stolonibus brevibus suberectis, foliis subtus præcipue albo-tomentosis, radicalibus spatulatis, caulinis linearibus, corymbo capitato, involucri squamis interioribus acutis membranaceis fusciscentibus nitidis. *Br. in Linn. Trans. v. 12. p.* 123, *et in Parry's Voy. App. p.* cclxx. *Rich. in Frankl. 1st Journ. ed. 2. App. p.* 30.—*Gnaphalium* alpinum. *Linn.*—*Hook. et Grev. in Bot. of Beech. Voy. v. 1. p.* 126.

HAB. Labrador. *Kohlmeister*, (in herb. nostr.) York Factory, Hudson's Bay, *Douglas*; throughout the Barren Regions to the elevated Rocky Mountains, *Drummond*; and to the extreme Arctic regions, *Dr. Richardson, Parry, &c.*—The male plant, which is very rare, with dense and more woolly foliage, and less glossy inner scales, is found at Fort Norman by *Dr. Richardson*. Sources of the Columbia, *Douglas*. *Unalasccha*. *Chanisso*, (in herb. nostr.) *Kotzebue's Sound*. *Lay and Collie*.

4. *A. dioica*; stolonibus reptantibus, foliis subtus præcipue tomentosis, radicalibus spatulatis basi obscure trinerviis, caulinis lineari-lanceolatis, caule simplici, floribus corymboso-capitatis dioicis. *Br. in Linn. Trans. v. 12. p. 123. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*Gnaphalium dioicum. Linn.—Engl. Bot. t. 267.*

HAB. From Canada, (*Lady Dalhousie*), to the extreme Arctic regions; and from Newfoundland (*Miss Brenton*) and Labrador, (*Morrison*) to the dry mountain pastures of the Rocky Mountains. *Drummond*.

5. *A. plantaginifolia*; stolonibus reptantibus, foliis subtus præcipue niveo-tomentosis, radicalibus ovato-spatulatis albis trinerviis, caulinis lineari-lanceolatis, caule lanato simplici, floribus corymboso-capitatis dioicis, involucri squamis interioribus obtusis opacis, calycibus dense lanatis. *Br. in Linn. Trans. v. 12. p. 123. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*Gnaphalium plantaginifolium. Linn.—Pursh, Fl. Am. v. 2. p. 525.*—*G. dioicum, var. plantaginifolium. Mich. Am. v. 2. p. 128.*

HAB. From Lake Huron, (*Dr. Todd*), and throughout the woody country, to lat. 54° (*Dr. Richardson, Drummond*); and from Hudson's Bay to the mountain sources of the Columbia. *Douglas, Dr. Richardson, Drummond*.

6. *A. racemosa*; stolonibus reptantibus, foliis supra cauleque simplici glabris subtus albotomentosis, radicalibus ovato-spatulatis, caulinis lineari-lanceolatis, floribus racemosis dioicis, racemis laxis subcompositis, involucri squamis omnibus obtusis nitidis glaberrimis.

HAB. Alpine woods of the Rocky Mountains. *Drummond*.—This is more distinct from *A. plantaginifolia* than that is from *A. dioica*. The upper side of the foliage, the stem, and involucre are quite destitute of tomentum, and the flowers form lax racemes, their pedicells often again divided. In many respects this plant bears the same relation to *A. plantaginifolia* which *A. alpina* does to *A. dioica*.

Subtrib. SENECTIONIÆÆ. *Capitula nunquam dioica; si heterogama, floribus marginalibus femineis, sæpissime uniserialibus, reliquis ♂. Pappus setaceus, multiradiatus, subæqualis; corollæ floribus ♀ aut lingulate aut rarius filiformes. Antheræ ecaudatæ. Less.*

49. ARNICA. *Linn.*

Capitulum radiatum. Pappus conformis, setaceus, uniserialis. Stylus disci ramis pube longe descendente obsessis, truncatis, aut cono brevi superatis.—Herbæ *perennes, in Europa vel in Asia et America boreali crescentes; foliis oppositis, integris, magis minusve hirsutis; capitulis magnis luteis, caulem ramosve superne aphyllis terminantibus, solitariis vel ternis; involucri campanulatis, biserialibus. Less.*

1. *A. montana*; foliis oblongis lanceolatisve parallelim nervosis dentatis integerrimisve, caule uni-paucifloro.—*Linn.*— β . *angustifolia*; foliis angustioribus.—*A. montana, β. alpina. Linn.—Br. in Parry's Voy. App. p. cclxxxix. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*A. angustifolia. Vahl, in Fl. Dan. t. 1524. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 126.*—*A. alpina. Less. in Linnæa, v. 6. p. 235, and probably A. obtusifolia, Less. and A. Unal-*

Inschkiana, Less. and Chamissonis of the same author (all from Unalashka. *Chamisso*).—*A. plantaginica* and *A. fulgens*. Pursh, *Fl. Am. v. 2. p. 529.* (according to Brown.)

HAB. Woody country, from the Saskatchewan to the extreme Arctic regions, and from Labrador to the more elevated of the Rocky Mountains. Unalashka. *Chamisso*. Kotzebue's Sound. *Lay and Collie*.—In size and foliage, few plants are more variable than this; yet none of our specimens have leaves so broad or so obtuse as those of *A. montana* which I possess from the south of Europe, of which, nevertheless, Mr. Brown, justly I think, esteems it a variety. Some of the specimens from the woody country are two and two and a half feet high, very leafy: while the more alpine and arctic individuals measure from four to five inches, with only a pair or two of leaves.

2. *A. mollis*; caule elato folioso, foliis oblongis obtusis molliter pubescentibus, oblique venosis denticulatis, floribus 1-3.

HAB. Alpine rivulets of the Rocky Mountains. *Drummond*.—In the shape of its foliage, this species has much affinity with the *A. montana*, especially the European variety; but the stem is leafy (with four or five pairs) all the way up; and the leaves are very flaccid and soft, with lax down. The flowers are remarkably large, and of a full orange yellow, in the dry state.

3. *A. Menziesii*; caule elato, foliis cordatis glabris grosse serratis basi attenuatis, inferioribus longe petiolatis, superioribus sessilibus, panicula subtriflora. (TAB. CXI.)

HAB. North-West Coast of America. *Mr. Menzies*. Observatory Inlet. *Dr. Scouler*. Alpine woods and rivulets of the Rocky Mountains. *Drummond*.

TAB. CXI. *Arnica Menziesii*.

4. *A. cordifolia*; caule elato, foliis cordatis glabriusculis basi sinu distincto, inferioribus longe petiolatis pari summo sessili, panicula 1-3-flora.

HAB. Alpine woods of the Rocky Mountains, on the east side, *Drummond*; and on the west side, in mountain woods between the Kettle Falls and Spokan River, and in the Blue Mountains, *Douglas*.—This appears quite distinct from the preceding, and is very constant in the shape and petiolation of its leaves.

5. *A. ? maritima*; "foliis lanceolatis, inferioribus serratis, caule folioso multifloro." *Linn.*—*Willd.*—*Pursh, Fl. Am. v. 2. p. 528.*

HAB. North-West Coast of America. *Herb. Banks. Pursh.*—See our *Senecio Pseudo-Arnica* for some remarks on this plant.

50. SENECIO. Less. (Senecio et Caeliae sp. L. et Auct.)

Capitulum homogamum vel pl. heterogamum. *Pappus* pluriserialis, setaceus, caducus, rectus, subæqualis, conformis. *Stylus* 8 ramis truncatis, apiceque solo penicillatis. *Achenium* erostre exalatum, teretiusculum, glaberrimum aut hirsutiusculum.—*Herbæ vel frutices, per totum orbem terrarum divulgati, polymorphi; foliis alternis, integris vel pinnatifidis; capitulis solitariis vel varie aggregatis; radio luteo, purpureo vel albo; foliis involucri uniserialibus, basi saepe aliis magis minusve numerosis, accessoriis auctis, linearibus, alternis angustioribus, alternis latioribus, saepe sphacelatis; rachide plana, nuda, vel paleaceo-fimbriifera.* Less.

* *Involucrum* basi bracteolatum. (Senecio. L.)

† *Floribus* flosculosis; radio nullo.

1. *S. vulgaris*; foliis semiamplexicaulibus pinnatifidis dentatis, corymbo coarctato terminali.—*Linn.*—*Engl. Bot. t. 747. Pursh, Fl. Am. v. 2. p. 528.*

HAB. York Factory, Hudson's Bay. *Drummond*. Newfoundland. *Mr. Cormack*. Labrador. *Morrison*.

2. *S. hieracifolius*; caule elato folioso, foliis amplexicaulibus oblongis inæqualiter mucronato-dentatis subsinuatis glabris, floribus subcorymbosis, involucri basi multisetoso.—*Michx.* *Am. v. 2. p. 119.* *Pursh, Fl. Am. v. 2. p. 529.* *Elliott, Carol. v. 2. p. 328.*—*Erectlites prealta. Raf.—Less.*

HAB. Canada. *Pursh.* Woodfield, near Quebec. *Mrs. Percival.* Saskatchewan. *Dr. Richardson. Drummond.*—I have seen no Canadian specimens of this plant. It is frequent in the United States.

3. *S. atriplicifolius*; caule elato, foliis petiolatis glabris subtus glaucis angulato-dentatis, radicalibus cordatis, caulinis rhombeis, floribus corymbosis erectis, involucri quinquefloris.—*Cacalia atriplicifolia. Willd. Sp. Pl. v. 3. p. 1734.* *Pursh, Fl. Am. v. 2. p. 318.* *Elliott, Carol. v. 2. p. 340.*— β . *reniformis*; foliis radicalibus reniformi-triangularibus.—*C. reniformis. Willd.*

HAB. Canada. *Mr. Cleghorn.*—My variety β , quite agrees with the *Cacalia reniformis* of Willdenow, except that the involucre is not many-flowered; and the two plants are evidently near allies, if indeed they be really distinct. *Mr. Nuttall* observes that in both there is a single chaffy scale in the centre of the receptacle. It is not so in my specimens.

4. *S. pauciflorus*; foliis radicalibus longe petiolatis ovato-subrotundis subcordatis dentatis, caulinis 2 remotis pinnatifidis dentatis, pedunculis brevibus subternis umbellatis.—*Pursh, Fl. Am. v. 2. p. 529.* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*

HAB. Labrador. *Kohlmeister. Pursh.* Woody country between lat. 54° and 64°. *Dr. Richardson.*—May not *Pursh* have quoted as a synonym, "*S. tussilaginoïdes, Walt. Fl. Carol. 208,*" a native of Carolina? I have seen no authentic specimen of the *S. pauciflorus* of *Pursh*; but amongst what I consider as a rayless state of *S. aureus*, I find small plants exactly agreeing with the above description.

†† *Floribus radiatus.*

5. *S. Balsamita*; elatus glaber, foliis inferioribus oblongis obscure serratis petiolatis, reliquis lanceolatis lyrato-pinnatifidis, corymbis compositis, involucri foliolis non sphacelatis.—*Muhl.—Willd. Sp. Pl. v. 3. p. 1998.* *Pursh, Fl. Am. v. 2. p. 530.*— β . *majus.*

HAB. Woody country, from lat. 54° to 64°. *Dr. Richardson.* Woods and river banks on the Rocky Mountains. *Drummond.* β . Fort Vancouver, and on the outskirts of woods near streams, North-West Coast. *Douglas.*—This plant varies from 6–8 inches to 2 feet high. Flowers quite corymbose. The var. β . has broader leaves, and is larger in all its parts.

6. *S. lugens*; deciduo-tomentosus vel nudus simplex, foliis integris glanduloso-dentatis, radicalibus oblonga-subspathulatis, caulinis lanceolatis acutis subamplexantibus, corymbo denso, involucri foliolis insigniter sphacelatis. (TAB. CXIV.)—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 31.*—*S. Kalmii. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 126.* (non *Nutt.*)

HAB. First detected at Bloody Fall, where the Esquimaux were destroyed by the Northern Indians who accompanied Hearne, whence the specific name is derived. Also from Fort Franklin to the sea-coast. *Dr. Richardson.* West side of the Rocky Mountains, and on the Blue Mountains. *Douglas.* Kotzebue's Sound. *Lay and Collie.*—This appears to be a very northern species, of which an excellent description is given in the place above quoted.

TAB. CXIV. *Senecio lugens.*

7. *S. triangularis*; elatus simplex foliosus glaberrimis, foliis fere omnibus petiolatis deltato-acuminatis grosse inæqualiter dentato-serratis, floribus (majusculis) corymbosis, involucri laciniis laxiusculis apice sphacelatis. (TAB. CXV.)

HAB. Moist Prairies among the Rocky Mountains. *Drummond*.—A very distinct and handsome species, with leaves singularly truncate at the base, and all, except one or two of the uppermost, petiolate.

TAB. CXV. *Senecio triangularis*. *Fig. 1*, Scales of the involucre; *fig. 2*, Floret of the ray; *fig. 3*, Floret of the disk.

8. *S. Serra*; elutus ramosus glaberrimus, foliis numerosis lineari-lanceolatis profunde inæqualiter dentato-serratis, paniculis ramosissimis dense subcorymbosis, involucri foliolis laxiusculis vix sphacelatis.

HAB. Common on the banks of the Wallawallah, Flathead, and Spokane Rivers. *Douglas*.—"Two to three feet high." My solitary specimen has no root-leaves; but it suffices to show that the species is distinct from any with which I am acquainted. The leaves are copious, and the flowers exceedingly numerous, in a dense corymbose panicle, each of a rather small size.

9. *S. canus*; cano-tomentosus, foliis radicalibus spathulatis integerrimis, caulinis lineari-lanceolatis pinnatifidis, involucri foliolis vix sphacelatis. (TAB. CXVI.)— β . foliis supra glabriusculis.

HAB. Banks of the Saskatchewan, rare. *Drummond*. β . Lake Huron. *Dr. Todd*.—The white and hoary surface of the stem and leaves, in this plant, is very striking; though in the var. β , the tomentum is chiefly confined to the underside.

TAB. CXVI. *Senecio canus*. *Fig. 1*, Involucre; *fig. 2*, Floret of the circumference; *fig. 3*, Floret of the disk; *fig. 4*, Portion of the pappus.

10. *S. aureus*; clatus glaber, caule folioso, foliis radicalibus longe petiolatis obovatis rotundatis cordatisve serratis, caulinis lyrato-pinnatifidis lobis serratis basi auriculatis, axillis lanatis, floribus corymbosis.—*Linn.*—*Mich. Am. v. 2. p. 120.* *Pursh, Fl. Am. v. 2. p. 531. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Elliott, Carol. v. 2. p. 331.*—*S. fastigiatus. Schwein. MS. in Herb. nostr. Elliott, Carol. v. 2. p. 331.*— β . *gracilis*; foliis radicalibus obovatis.—*S. gracilis. Pursh, Fl. Am. v. 2. p. 529. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Elliott, Carol. v. 2. p. 329.*—*S. obovatus. Willd.—Pursh, Fl. Am. v. 2. p. 550. Elliott, Carol. v. 2. p. 329.*—*S. Cymbalaria. Pursh, Fl. Am. v. 2. p. 580.* (according to *Nuttall*.)— γ . *foliosus*; foliis caulinis majoribus magis divis. — δ . *discoideus*; radiis nullis. (an *S. pauciflorus, Pursh et Rich.?*)

HAB. Throughout Canada to the Arctic Circle, and from Newfoundland (*Miss Brenton*) and Labrador (*Dr. Morrison*) to the Rocky Mountains and the Pacific. Particularly abundant on Menzies Islands, and at the mouth of the Columbia. *Douglas*. δ . Mackenzie River. *Dr. Richardson*.—This and the following species are remarkable for the woolly hairs in the axils of the leaves.

11. *S. resertifolius*; nanus glaberrimus, caule paucissime folioso, foliis radicalibus longe petiolatis exterioribus rotundatis crenato-sinuatis, interioribus lyrato-pinnatifidis segmentis integris vel bi-trilobis, caulinis oblongis basi pinnatifidis, axillis lanatis, caule 1-3-floro. (TAB. CXVII.)—*Lessing in Linnæa, v. 6. p. 243.*—*Cineraria lyrata. "Ledeb. in Mem. Acad. Petersb. v. 5. p. 576."* (*Lessing.*) *Reich. Ic. Bot. t. 101. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 126.*

HAB. On limestone at the mouth of the Bear Lake River, and about Fort Norman and Fort Franklin, *Dr. Richardson*. Kotzebue's Sound. *Lay and Collie*.—This, as may be seen by the specimens in the Collection, is liable to considerable variation, for, while some of them exactly correspond with my original samples from

Chamisso, gathered in the Bay of St. Lawrence, on the Asiatic side of Behring's Straits, and with the figures in Reichenbach above quoted, others are much larger, of a firmer texture, more leafy on the stem, bearing a greater number of flowers, and approaching some of the dwarf states of the preceding species.

TAB. CXVII. *Senecio resedifolius*. Figs. 1 and 2, Leaves; fig. 3, Floret from the ray; fig. 4, Floret from the disk; fig. 5, Hair from the pappus:—*magnified*.

12. *S. eremophilus*; radio patente, caule elato ramoso, foliis omnibus glaberrimis pinnatifidis laciniis sublinearibus distantibus semipinnatifidis, floribus corymbosis, bracteis (calyculis) laxis longis involucri cylindrici conformibus.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 31.*

HAB. On the gravelly banks of Cedar Lake, lat. 54°. *Dr. Richardson*. Woods of the Saskatchewan, rare, *Drummond*, and thence to Fort Franklin, on the Mackenzie River.—The bractens are less remarkable in the specimens of the second Expedition, than in the solitary individual gathered on the same. May it not be the *S. Canadensis* of Linnæus?

13. *S. Canadensis*; corollis radiantibus, foliis bipinnatis linearibus. *Linn. Sp. Pl. p. 1219. Pursh, Fl. Am. v. 2. p. 530.*

HAB. Canada. *Kalm*.—All we know of this plant is from Linnæus' brief description.

* * *Involucrum basi nudum.* (Cineraria, L.)

14. *S. frigidus*; deciduo-tomentosus, caule simplici subhumili, foliis oblongis integerrimis, inferioribus obovatis petiolatis, caule ascendente unifloro. (TAB. CXII.)—*Lessing in Linn. v. 6. p. 239.*—Cineraria frigida. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 31.*—C. utropurpurea. *Ledeb. in Mem. Acad. Petersb. v. 5. p. 574.* (fide *Less.*)

HAB. Barren country from 64°, to the shores of the Arctic Sea. *Dr. Richardson*. Island of St. Lawrence in Behring's Straits. *Chamisso*.

TAB. CXII. *Senecio frigidus*. Fig. 1, Floret of the ray; fig. 2, Floret of the disk.

15. *S. Pseudo-Arnica*; deciduo-tomentosus, caule crasso erecto folioso, foliis oblongis dentatis inferne attenuatis, superioribus basi subcordatis semimplexicaulibus inferioribus in petiolum attenuatis, flore solitario maximo. (TAB. CXIII.)—*Lessing in Linnæa, v. 6. p. 240.*

HAB. Behring's Straits. *Chamisso*. Newfoundland. *Lady Hamilton*. Labrador. *Dr. Morrison*.—*Lessing* quotes under this the *Arnica maritima* of Linnæus and Pursh, the authority for which is the "Aster s. potius Helenium maritimum, &c. of Gmelin, Fl. Sibir. v. 2. p. 175": but that is described as bearing many branches, and numerous flowers, and I think cannot in any way correspond with our plant, of which all the specimens that I have seen have a simple stem and a solitary flower. May this not be the *Senecio Doronicum* of Pursh?

TAB. CXIII. *Senecio Pseudo-Arnica*. Fig. 1, Floret of the ray; fig. 2, Floret of the disk.

16. *S. palustris*; simplex vel ramosus lamtus, caule fistuloso, foliis lato-lanceolatis, caulinis linearilanceolatis sinuato-dentatis fere pinnatifidis, floribus corymbosis.—Cineraria palustris. *Linn.—Engl. Bot. t. 151. Rich. in Frankl. 1st Journ. ed. 2. App. p. 31.*—*β. congestus*; caule simplicissimo, floribus capitatis.—Cineraria congesta. *Br. in Parry's 1st Voy. App. p. cclxxix.*

HAB. From the Saskatchewan, (*Dr. Richardson, Douglas, Drummond*), to the extreme Arctic islands.—*β.* Chiefly in the Arctic regions. *Dr. Richardson. Capt. Sir E. Parry, &c.*—I am quite unable to distin-

quish *S. congestus* as a species from *S. palustris*; Mr. Drummond's and Dr. Richardson's specimens show intermediate gradations.

17. *S. Kalmii*; floribus paniculatis, foliis pinnatifidis subvillosis laciniis sinuatis, caule herbaceo. *Linn.*—*Nutt. Gen. Am. v. 2. p. 165.* *Lessing in Linnæa, v. 6, p. 244.*—*Cincurria Canadensis. Linn. Sp. Pl. p. 1244.* *Pursh, Fl. Am. v. 2. p. 528.* (non *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 126.*)

HAB. Canada. *Kalm.* Bay of Eschscholtz. *Chamisso.*—*Lessing* compares this with *S. palustris*, from which it only appears to differ in some very slight particulars.

18. *S. integrifolius*; urachnoideo-tomentosus, foliis integris, inferioribus oblongo-ovatis spathulatis, caulibus lanceolatis, floribus corymbosis.—*Nutt. Gen. Am. v. 2. p. 165.*—*Cincurria integrifolia. Jacq. Austr. t. 179. Willd. Sp. Pl. v. 3. p. 2032. Pursh, Fl. Am. v. 2. p. 528. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*

HAB. Woody country, in lat 54°, to the shores of the Arctic sea. *Dr. Richardson.* Rocky Mountains. *Drummond.*

51. CROCIDIUM. *Nov. Gen.*

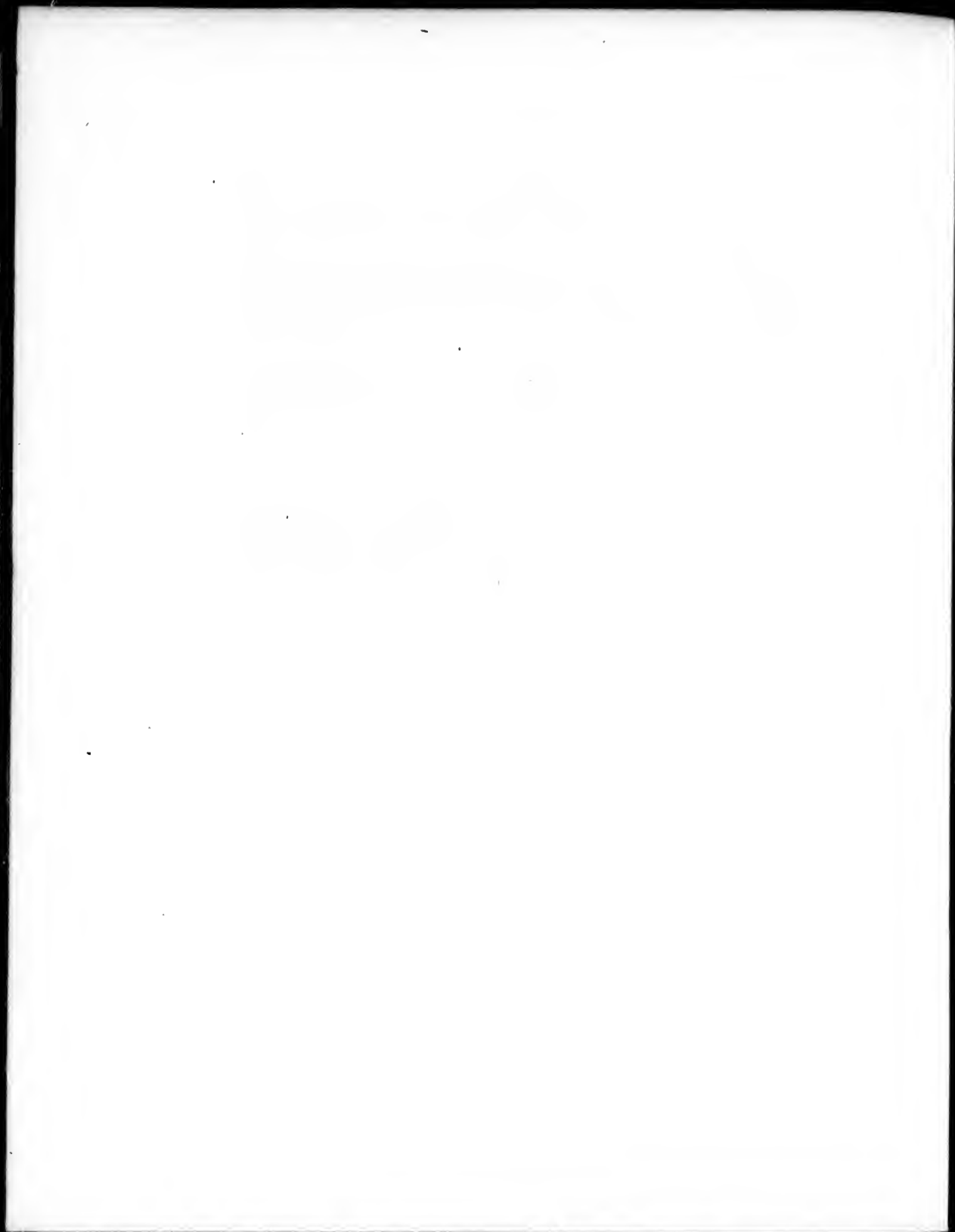
Capitulum homogonium. *Disci Achenia* papposa, pappo æquali, setis hirsutulis; *radii* nulla, obovatu, compressa, tuberculosa, crenato-marginata, glaberrima.—Herba annua, humilis. *Caulis* simplices vel ramosi. *Folia* glabra; *radicalia* lyrato-pinnatifida, laciniis paucis; *caulina parva, linearia, integra vel laciniata*; in axillis insigniter lanosa. *Flores solitarii in ramos.* *Involucrum simplex multipartitum, laciniis lanceolatis glabris subpatentibus.* *Receptaculum conicum, nudum.*

1. *C. multicaule.* (TAB. CXVIII.)

HAB. About Fort Vancouver, on the Columbia. *Douglas, and Nicholas Garry, Esq.*—I am unable to refer to any established genus this plant, which, however, I think will rank with the *Senecionideæ*. As in *Senecio aureus*, the axills of the leaves bear a tuft of woolly hair; but in the present plant this is far more copious and conspicuous; so much so, as to have suggested the generic name, *æquis*, a lock of wool.

TAB. CXVIII. *Fig. 1,* Flower or capitulum; *fig. 2,* involucre and receptacle; *fig. 3,* Floret from the disk; *fig. 4,* Anthers; *fig. 5,* Portion of a seta from the pappus; *fig. 6,* Floret from the ray; *fig. 7,* Stigma from do.; *fig. 8,* Cauline leaf with the wool in the axil:—magnified.

END OF VOL. I.



FLORA BOREALI-AMERICANA.

(ORD. LI. COMPOSITÆ. Linn.; continued from Vol. I.)

Trib. V. ASTEROIDEÆ. Less.

Subtrib. I. ASTEREÆ. Less. *Capitula nunquam dioica, plerumque heterogama, floribus* ♀ *in ambitu aut uni- aut, si pluriserialibus, corollas tunc lingulatas gerentibus, floris* *busque* ♀ *in centro. Rachis plerumque ebracteolata aut, ubi bracteolata, pappus per-* *fectus et multiradiatus. ntheræ ecaudatæ. Less.*

52. SOLIDAGO.* L.

Radius fœmineus uniserialis. Discus hermaphroditus. Pappus uniserialis, pilosus *Achenium teretiusculum, multicoatum.—Herbæ plerumque Americanae et elatæ, pauciores.* *Europææ vel Asiaticæ, foliis alternis integris: capitulis parvisculis luteis plerumque in cymas* *scorpioides dispositis et secundis; involucris imbricatis, polyphyllis, rachis (seu receptacu-* *lum) nuda. Less.*

* *Racemis secundis; foliis subtriplinerviis.*

1. *S. Canadensis*; caule villosa erecto, foliis lanceolatis serratis triplinerviis scabris, racemis paniculatis secundis recurvis, ligulis abbreviatis. *Ait.—Linn.—Ait. Hort. Kew. ed. 1. v. 3. p. 210. Pursh, Fl. Am. v. 2. p. 535. Elliott, Carol. v. 2. p. 389.—β. foliis angustioribus, floribus minus secundis.*

HAB. Throughout Canada, and from Lake Huron to Fort Franklin, on the Mackenzie River. *β. Columbia. Douglas.*—A very polymorphous plant, as Willdenow well observes, varying in the height of the stem, in the entire or serrated leaves, and in the greater or lesser depth of the serratures. One specimen which I possess, tallying with the *S. Canadensis* of Herb. Banks., is from Boston, and has much more numerous leaves.

* A genus, Lessing observes, only differing from *Aster* in its rounded, many-ribbed, not plano-compressed and bicostate *achenia*, but easily distinguished by the habit, and by the colour (yellow) of the flowers.—In the determination of the species, attended perhaps with more difficulty than that of the species of any other genus, save its near ally, *Aster*, I have been greatly aided by Dr. Boott. As the Hortus Kewensis was the authority for a considerable number of species, the comparison of specimens with the Banksian Herbarium, where original specimens are preserved, became essentially necessary: and this Dr. Boott has most kindly accomplished for me. Still, as to the limits of the species, or the value of the relative characters, I dare scarcely offer any opinion.

and smaller flowers than our other specimens. The γ . of Herb. Banks. and Hort. Kew. *foliis subtus villosis*, we have from Canada. Messrs. Lay and Colley have gathered *S. Canadensis* in California. It is omitted by Michaux.

2. *S. procera*; caule villosa erecto, foliis lanceolatis serratis triplinerviis scabris subtus villosis, racemis spiciformibus erectis interruptis nutantibus, ligulis abbreviatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 211. Pursh, Fl. Am. v. 2. p. 535. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33.*

HAB. Canada. *Pursh*.—Woody country between lat. 54° and 64°.

3. *S. serotina*; caule erecto tereti lævi, foliis lineari-lanceolatis glabris margine asperis serratis triplinerviis, racemis paniculatis secundis. *Ait. Hort. Kew. ed. 1. v. 3. p. 211. Pursh, Fl. Am. v. 2. p. 535.*— β . *minor*; foliis angustioribus.

HAB. Lake Huron. *Dr. Todd. Newfoundland. Miss Brenton. Columbia River and De Fuca, N.W. America. Dr. Scouler.*— β . Saskatchewan. *Drummond.*

4. *S. gigantea*; caule erecto glabro, foliis lanceolatis glabris serratis margine scabris triplinerviis, racemis paniculatis secundis, pedunculis hirtis, ligulis abbreviatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 211. Pursh, Fl. Am. v. 2. p. 535.*— β . racemis brevioribus obtusis.

HAB. Canada. *Cleghorn. Plains of the Red River. Douglas. Fort Vancouver. Dr. Scouler.*— β . Saskatchewan. *Drummond.*

5. *S. lateriflora*; caule erecto pilosiusculo, foliis lanceolatis subtriplinerviis glabris margine scabris, inferioribus subserratis, racemis paniculatis subrecurvis secundis. *Ait.—Linn.—Ait. Hort. Kew. ed. 1. v. 3. p. 211. Pursh, Fl. Am. v. 2. p. 536. Elliott, Carol. v. 2. p. 370.*

HAB. Canada. *Pursh*.—"Not more than half the size of *S. Canadensis*; flowers larger than any of this division." *Ph.*—Probably all the "triple-nerved" species might, without violence to nature, merge into one.

* * *Racemis secundis; foliis venosis.*

6. *S. altissima*; caule erecto hirta, foliis lanceolatis scaberrimis rugosis serratis enerviis, paniculis secundis. *Ait.—Linn.—Ait. Hort. Kew. ed. 1. v. 3. p. 212. Pursh, Fl. Am. v. 2. p. 536. Elliott, Carol. v. 2. p. 571.*

HAB. Canada. *Mrs. Percival. Mr. Cleghorn.*

7. *S. rugosa*; caule erecto hirta, foliis lanceolatis inferioribus adpresso-serratis scaberrimis rugosis, racemis paniculatis secundis patentissimis. *Willd.—Mill. Dict.—Willd. Sp. Pl. v. 3. p. 2058. Pursh, Fl. Am. v. 2. p. 537. Elliott, Carol. v. 2. p. 574.*—*S. altissima*? *Ait. Hort. Kew. ed. 1. v. 3. p. 213.*

HAB. Canada. *Pursh. Lake Huron. Dr. Todd.* (Small and young specimens.)

8. *S. villosa*; caule erecto villosa, foliis lanceolatis molliusculis serratis enerviis, racemis paniculatis secundis. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p. 537. Elliott, Carol. v. 2. p. 372.*—*S. pilosa. Mill. Dict.—S. altissima. β . Ait. Hort. Kew. ed. 1. v. 3. p. 212.*

HAB. Canada. *Lady Dathousie. Lake Huron. Dr. Todd. Newfoundland. Miss Brenton. Labrador. Dr. Morrison.*

9. *S. nemoralis*; caule erecto tomentoso, foliis caulinis lanceolatis hispulis integerrimis, radicalibus subcuneiformibus serratis, racemis paniculatis secundis. *Ait. Hort. Kew. ed. 1. v. 3. p. 213. Pursh, Fl. Am. v. 2. p. 537. Elliott, Carol. v. 2. p. 373.*

HAB. Canada. *Pursh, Dr. Holmes. Goldie. Mr. Cleghorn. Red River. Mr. Douglas. Plains of the Saskatchewan. Drummond.*—The grey aspect of this plant, mentioned by Pursh, is very striking in my specimens.

10. *S. juncea*; caule erecto glabro, foliis lanceolatis glabris margine scabris, inferioribus serratis, racemis paniculatis secundis. *Ait. Hort. Kew. ed. 1. v. 3. p. 213. Elliott, Carol. v. 2. p. 375? Rich. in Frankl. 1st Journ. ed. 2. App. p. 33.*

HAB. Woody country between lat. 54° and 64°. *Dr. Richardson.*

11. *S. arguta*; caule erecto glabro, foliis glabris argute inæqualiter serratis, caulinis ellipticis, radicalibus ovato-oblongis, racemis paniculatis secundis, ligulis elongatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 213. Pursh, Fl. Am. v. 2. p. 538. Elliott, Carol. v. 2. p. 374.*

HAB. Canada. *Pursh.*—I possess no specimen of this from the British Settlements; but I have very beautiful ones from Dr. Darlington and Mr. Townsend from Pennsylvania, which have been compared with those in the Banksian Herbarium.

12. *S. asperata*; caule paniculato-corymboso, racemis suberectis, floribus adscendentibus, foliis lanceolatis serratis serris. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p. 528.*

HAB. Canada. *Herb. Banks.*

13. *S. sempervirens*; caule erecto glabro, foliis lineari-lanceolatis subcarnosis lævibus integerrimis margine scabris, racemis paniculatis secundis, pedunculis pilosis. *Ait.—Linn.—Ait. Hort. Kew. ed. 1. v. 3. p. 214. Pursh, Fl. Am. v. 2. p. 538. Elliott, Carol. v. 2. p. 379.*

HAB. Canada. *Pursh.*—My Herbarium contains only one specimen of this, from Dr. Darlington of West Chester, received as "*S. limnifolia*," which exactly corresponds with *S. Sempervirens* of *Banks. Herb.*

14. *S. odora*; caule erecto pubescente, foliis lineari-lanceolatis integerrimis glabris margine scabris, racemis paniculatis secundis. *Ait. Hort. Kew. ed. 1. v. 3. p. 214. Pursh, Fl. Am. v. 2. p. 535. Elliott, Carol. v. 2. p. 376. Piagn. Alm. t. 116. f. 6.*

HAB. Canada. *Pursh.*—Of this, likewise, I possess no British-American specimens; but I have numerous ones from the United States. *Pursh* says "It is most generally and principally known among the inhabitants by the name of *Chalen-root*, and used as a wholesome tea. The flowers, gathered when fully expanded and carefully dried, give a most agreeable substitute for tea, which for some time has been an article of exportation to China, where it fetches a high price."

* * * *Racemis erectis; foliis venosis.*

15. *S. bicolor*; caule folisque ellipticis pilosis, inferioribus serratis, ramis foliolosis, racemis erectis, involucri foliolis obtusis. *Ait.—Linn.—Ait. Hort. Kew. ed. 1. v. 3. p. 216. Mich. Am. v. 2. p. 116. Pursh, Fl. Am. v. 2. p. 537. Elliott, Carol. v. 2. p. 382.*

HAB. Canada. *Pursh. Saskatchewan. Drummond.*—Rays of the flowers said to be nearly white; but

the Saskatchewan specimens appear to be yellow, as do some from Dr. Short (Kentucky); while others in the same Collection seem to be white.

16. *S. lanata*; tota arachnoideo-lanata, foliis spathulato-lanceolatis adpresso-serratis inferioribus petiolatis superioribus parvis integerrimis, racemis erectis terminalibus subsimplicibus, involucri foliolis obtusis glabriusculis.

HAB. Plains of the Saskatchewan, near the Rocky Mountains. *Drummond*.—There is only one specimen of this very well marked species in the Collection. It will rank between *S. bicolor* and *S. petiolaris*.

17. *S. stricta*; caule erecto glabro, foliis caulinis lanceolatis integerrimis glabris margine scabris, radicalibus serratis, racemis paniculatis erectis, pedunculis glabris. *Ait. Hort. Kew. ed. 1. v. 3. p. 216. Pursh, Fl. Am. v. 2. p. 540. Elliott, Carol. v. 2. p. 383. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33.*

HAB. Lake Huron. *Dr. Todd*. Woody country between lat. 54° and 64°. *Dr. Richardson*. Carlton House on the Saskatchewan. *Drummond*.

18. *S. confertiflora*; (*Nutt. MSS. in Herb. Boott.*) robusta, caule crasso superne pubescente, foliis glabris inferioribus latissimis ovali-spathulatis serratis acutis marginibus scabris, superioribus sessilibus lanceolato-ellipticis integerrimis, racemis glomeratis rigidis pubescentibus, involucri multiflori foliolis squamosis, radiis elongatis 10–12.—*S. squamosa. Nutt. Gen. Am. v. 2. p. 161. (non Muhl.)—S. glomerata. Mich.? (Boott.) Elliott, Carol. v. 2. p. 387?*

HAB. Canada. *Mrs. Sheppard. Mr. Goldie. Lady Dalhousie*.—I have received this very fine and distinct species from about Boston, (*B. D. Greene, Esq.*) and from New-York and New-Jersey. (*Dr. Torrey.*)

19. *S. lævigata*; caule erecto lævi, foliis lanceolatis carnosis integerrimis undique lævibus, racemis paniculatis erectis, pedunculis squamosis villosis, ligulis elongatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 215. Pursh, Fl. Am. v. 2. p. 541.*

HAB. Canada. *Pursh*.—My specimen from the New England States, which has been compared with the one in the Banksian Herbarium, does not appear to me to differ from *S. Mexicana*, L., of which, too, Pursh seems to consider it a variety.

20. *S. viminea*; caule erecto subpubescente, foliis lineari-lanceolatis membranaceis basi attenuatis glabris margine scabris, infimis subserratis, racemis erectis, ligulis elongatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 215. Pursh, Fl. Am. v. 2. p. 541.*

HAB. Canada. *Pursh*.

21. *S. macrophylla*; foliis inferioribus ovatis acuminatis attenuatis inæqualiter argute serratis glabris, caulinis lanceolatis utrinque attenuatis subsessilibus serratis, racemis axillaribus pedunculatis foliosis longitudine foliorum, involucri oblongis turgidis multifloris, ligulis subelongatis. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p. 542.*

HAB. Canada. *Herb. Banks. (Ph.)*

22. *S. flexicaulis*; caule (plerumque) flexuoso glabro angulato, foliis serratis glabris, racemis erectis glomeratis axillaribus folio multo brevioribus—*a.* foliis lanceolatis.—*S. flexicaulis. Linn. Herb. (fide Boott.) Ait. Hort. Kew. ed. 1. v. 3. p. 317. Pursh, Fl. Am. v. 2. p. 542. Elliott, Carol. v. 2. p. 386.—S. axillaris. Herb. Banks.—Pursh, Fl. Am. v. 2.*

p. 542.—*S. cæsia*, Linn. (not in Herb. Linn.) *Ait. Hort. Kew. ed. 1. v. 3. p. 217. Pursh, Fl. Am. v. 2. p. 540. Dill. Elth. t. 307. f. 395.*—*β. latifolia*; foliis ovatis superioribus minoribus, racemis subpaniculatis.—*Willd.—Pursh, Fl. Am. v. 2. p. 542.*—*S. latifolia*, Linn. *Herb. (Boott.)*

HAB. *α.* and *β.* Throughout Canada.—I possess specimens which are exactly intermediate between *S. flexicaulis* and *S. latifolia*, L.

23. *S. Virgaurea*; caule erecto tereti pubescenti (in nostr. exempl. subangulato glabro,) superne (nunc) ramoso, foliis inferioribus ellipticis pilosiusculis serratis, racemis erectis (compositis subsolitariis,) ligulis elongatis. *Ait.—Linn.—Engl. Bot. t. 301. Pursh, Fl. Am. v. 2. p. 542?*

HAB. Labrador? *Kohlmeister*; (Surely this must be *S. multiradiata*.) Woody country between lat. 54° and 64°. *Dr. Richardson*. Saskatchewan. *Drummond*.—Our specimens are mostly glabrous, and are nearly a foot high, agreeing with our British var. called *Cambrica*. The same is found by Mr. Greene near the summit of Mount Washington, on the White Mountains, U. S.

24. *S. multiradiata*; caule villosiusculo, foliis sessilibus lanceolatis glabris ciliatis, inferioribus apice serratis, racemo terminali erecto (dense corymboso) ligulis elongatis numerosis. *Ait. Hort. Kew. ed. 1. v. 3. p. 218. Pursh, Fl. Am. v. 2. p. 542.*—*S. Virgaurea*, Ph.?

HAB. Labrador. (*Herb. Banks.*) *Kohlmeister. Dr. Morrison*. Bay of Eschscholtz. *Chamisso*. Prairies of the Rocky Mountains. *Drummond*. Mackenzie River and Bear Lake. *Dr. Richardson*.—Most of my specimens of this plant have the terminal raceme forming a broad dense corymb or head; in which particular almost alone does it differ from *S. Virgaurea*; and the Rocky Mountain specimens appear almost intermediate. *Chamisso's S. Virgaurea*, in my Herbarium, from Kotzebue's Sound, is the same as our *S. multiradiata*, and I fear the two can hardly be considered more than varieties.

25. *S. humilis*; gracilis, caule erecto simplici glabro, foliis lanceolatis glabris inferioribus longe petiolatis serratis superioribus linearibus integerrimis, racemo elongato terminali solitario erecto.—*Herb. Banks. MSS. Pursh, Fl. Am. v. 2. p. 543. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33.*

HAB. Woody country between lat. 54° and 64°. *Dr. Richardson*.—This, although the true plant of the Banksian Herbarium, I am inclined to consider only an elongated and slender variety of *S. Virgaurea*; the very opposite extreme, in the same species, of *S. multiradiata*.

26. *S. elata*; caule piloso tereti, foliis lanceolatis subtus pilosiusculis, racemis erectis, ligulis elongatis. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p. 543.*

HAB. North-west coast of America. *Mr. Menzies*.—I regret that my specimen, which is a very indifferent one, will not allow me to offer any additional character to what I find in Pursh.

27. *S. rigida*; caule foliisque ovato-oblongis pilosis scabris, caulinis integerrimis, infimis serratis, ramis floriferis paniculatis, racemis compactis, ligulis elongatis. *Ait. Hort. Kew. ed. 1. v. 3. p. 216. Pursh, Fl. Am. v. 2. p. 543. Elliott, Carol. v. 2. p. 390.*

HAB. Saskatchewan (*Drummond*) and Red River. *Douglas*. About Carlton House. *Dr. Richardson*.

(Flores glomerati, fastigiato-corymbosi; radii valde minuti. Foliis angustis integerrimis. Euthamia, Nutt.)

28. *S. lanceolata*; caule erecto glabro ramosissimo, foliis lineari-lanceolatis scabriusculis integerrimis trinerviis, flosculis radii vix disco longioribus.—Linn.—Mant.—Ait. Hort. Kew. ed. 1. v. 3. p. 214.—Mich. Am. v. 2. p. 116. (α.) Pursh, Fl. Am. v. 2. p. 540. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33. (Euthamia.)—S. graminifolia. Nutt. Gen. Am. v. 2. p. 162. Elliott, Carol. v. 2. p. 391.—β. foliis angustioribus. S. tenuifolia. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33. (non Pursh.)—Chrysocoma graminifolia. Linn.

HAB. Throughout Canada to lat. 64°. Columbia. Dr. Scouler. Douglas.—This plant seems universally diffused through all the woody country of North America. I possess it from California and from Louisiana. Dr. Gillies found it at Mendoza, in extra-tropical South America. I have referred the *S. tenuifolia* of Richardson to a state of this plant, rather than considered it the *S. tenuifolia* of Pursh, which is a southern plant, its extreme northern limit being, I believe, New Jersey.

53. ASTER.* Cass Nees. (ASTERIS sp. L.)

Radius fœmineus fertilis. *Involucri foliola* vel laxa pleraque foliacea, vel imbricata nervoque medio e basi membranacea in apicis discum herbaceum rhombeum expanso prædita. *Flosculi* pisci tubo limboque discretis. *Achenia* cunciformia, compressa, glabra, vel pubescentia et hirta. *Pappus* simplex, persistens, scaber. *Receptaculum* alveolatum. Nees.

SECT. I. ALPIGENI. Nees. Ast. p. 24.

1. *A. alpinus*; foliis radicalibus spathulatis caulisque integerrimis, involucris foliolis lanceolatis laxis, caule uniflora. Nees.—Linn.—Bot. Mag. t. 199. Nees, Ast. p. 26.

HAB. On the more elevated of the Rocky Mountains in lat. 54°. Drummond.—Mr. Lindley marks this "exactly *A. alpinus*, var. *Dahuricus*." It also precisely corresponds with my Swiss specimens.

2. *A. salsuginosus*; foliis lato-lanceolatis acutis subintegerrimis venosis inferioribus in petiolum longe attenuatis reliquis sessilibus caule uni-paucifloro, involucris squamis linearibus acutis pubescentibus subsquarrosis disco vix duplo, radio plus triplo longioribus.—Rich. in Frankl. 1st Journ. ed. 2. App. p. 32. Hook. Bot. Mag. t. 2942. Nees, Ast. p. 29.—β. foliis angustioribus.

HAB. Salt plains of the Athabasca. Dr. Richardson. Rocky Mountains. Drummond. Kotzebue's Sound. Messrs. Lay and Collie.—β. N. West Coast of America. Mr. Menzies.

3. *A. pygmaeus*; (Lindl.) foliis ovato-oblongis obtusis integerrimis glabris, caule unifloro villosa, involucro hemisphærico laxo subsquarroso villosissimo, foliolis linearibus obtusis.—Lindl. MSS.

* The whole of my Collection of this extensive Genus has been named by the kindness of Dr. Boott and Professor Lindley; the former of whom may be considered excellent authority for the Linnæan and Banksian species; the latter for those of Nees von Esenbeck, whose arrangement I have implicitly followed. Professor Lindley has likewise determined and characterized the new species. For more full characters of the Genus *Aster* and its divisions, as well as other genera of the *Astereæ*, than I can here give, I must refer to the valuable "*Genera et Species Asterearum*" of Dr. Nees von Esenbeck.

HAN. Arctic sea-coast. *Dr. Richardson*.—" *A. salsuginoso* affinis," (*Lindl.*) and perhaps only a dwarf, or hairy variety of it.

4. *A. Richardsonii*; radice repente, caule ramoso uni-multifloro ad apicem dense tomentosum, foliis late oblongis remote dentatis subtus breviter pilosis, calycibus squarrosis, flosculis radii numerosis angustis. *Spreng. Syst. Veget. v. 3. p. 258. Nees, Ast. p. 30.*—*A. montanus. Rich. in Frankl. 1st Journ. ed. 2. App. p. 32.* (non *Nutt.*)—*A. salsuginosus. Less. in Linnæa, v. 6. p. 124.*—*A. Espenbergensis. Nees, Ast. p. 36.*— β . *gigantea*; magis tomentosus, caule foliisque profunde serratis duplo triplove majoribus.

HAN. Barren country from lat. 64°. to the Arctic Sea. *Dr. Richardson. Kotzebue's Sound. Chamisso (in Herb. Nostr.)*— β . About Fort Franklin, on the Mackenzie River.—The *A. salsuginosus* ? of Lessing, (*A. Espenbergensis, Nees*.) is certainly the *A. montanus* of *Dr. Richardson*.

5. *A. peregrinus*; foliis oblongo-ellipticis ovatisve acutis integerrimis glabriusculis, caule erecto folioso 1-3-floro seriatim hirto, involucri biserialis foliolis lineari-acuminatis hirtis exterioribus herbaceis. *Nees.—Pursh, Fl. Am. v. 2. p. 556. Nees, Ast. p. 33.*—*A. Tilesii. Wikstr.*

HAN. Unalashka. *Dr. Nelson (in Herb. Banks.) Chamisso.*

6. *A. Unalashkensis*; foliis lanceolatis ovato-lanceolatis acuminatis subserratis pubescenti-scabris ciliatis, caule erecto 1-3-floro superne sparse villosa folioso, involucri subæqualis foliolis lineari-acuminatis herbaceis villosis. *Nees.—Less. in Schlecht. Linnæa, v. 4. p. 122.*—*Nees, Ast. p. 34.*— β . ? *majör*; foliis acuminatis, caule multifloro.

HAN. Unalashka. *Chamisso.*— β . Saskatchewan to the Rocky Mountains. *Drummond.* *Nees* seems to consider this as scarcely distinct from *A. Caucasicus, Willd.* and that it may even be the same with *A. peregrinus.*—Specimens of our var. β . in Mr. *Drummond's* Collection, which Professor *Lindley* marks "apparently *A. Unalashkensis, Linn.*" a species which I have not seen, are larger than *A. Caucasicus*; a foot and a half to two feet high, with very thin, membranaceous, indistinctly veined, and scarcely and only very distantly serrated leaves: the flowers similar, but more numerous.

SECT. II. AMELLI. *Nees, Ast. p. 36.*

7. *A. biflorus*; foliis lanceolatis serratis scabris, involucri foliolis imbricatis ovatis, caule, subbifloro. *Nees.—Mich. Am. v. 2. p. 114. Nees, Ast. p. 39.*—*A. strictus. Pursh, Fl. Am. v. 2. p. 556.*

HAN. Labrador and Hudson's Bay. *Herb. Banks. (Pursh.)*

8. *A. conspicuus*; (*Lindl.*) foliis oblongis erectis basi angustatis grosse serratis pubescentibus ambitu scabris, caule stricto apice corymboso, ramis erectis pubescentibus monocephalis aphyllis, involucri hemisphærici foliolis squamosis acuminatis inferioribus minoribus. *Lindl. MSS.*

HAN. Carlton House on the Saskatchewan River to the Rocky Mountains. *Drummond.*—" *A. spectabili* accedit, foliis latis fere omnibus grosse serratis distinguendus." *Lindl.*

9. *A. Radula*; foliis lanceolatis utrinque attenuatis medio argute serratis rugosis scaberimis, caule angulato glabriusculo corymboso, racemis paucifloris nudiusculis, involucri

foliis plurifariam imbricatis oblongis acutiusculis apice patulis. *Nees.—Ait. Hort. Kew. ed. 1. v. 3. p. 210. Pursh, Fl. Am. v. 2. p. 556. Nees, Ast. p. 43.*

HAB. Nova Scotia. (*Ait.*) Newfoundland. *Miss Brenton. Dr. Morrison. Mr. Cormack.*

10. *A. ascendens*; (*Lindl.*) foliis oblongo-linearibus subspathulatis elongatis integerrimis glabris margine ciliato-scabris, caulibus ascendentibus simpliciter racemosis v. corymbosis, involucri glabri foliolis numerosis acutis patulis. *Lindl. MSS.*

HAB. Banks of the Saskatchewan. *Drummond.*—"Ab *A. Amello* diversus glabritie longitudine foliorum involucrique foliolis numerosis angustioribus acutioribus; habitu similis." *Lindley*; who further remarks that it comes nearest to a Caucasian form of *A. Amellus*.

11. *A. spathulatus*; (*Lindl.*) foliis spathulatis obtusis integerrimis, ramorum basi dilatatis amplexicaulibus, caule simpliciter racemoso, pedunculis subaphyllis folio brevioribus, involucri foliolis linearibus acutis erectis tomentosis. *Lindl. MSS.*

HAB. Bear Lake and Fort Franklin, on the Mackenzie River. *Dr. Richardson.*

12. *A. modestus*; (*Lindl.*) foliis lanceolatis acuminatis grosse serratis glabris, caule simplici folioso, corymbo paucifloro foliis supremis brevioribus, involucri foliolis linearibus acuminatis. *Lindl. MSS.*

HAB. Mountain woods, at the mouth of the Smoking River, lat. 56°. *Drummond.*—"A. *brumalem* nanum refert, sed affinitate *N. Angliæ* proximo sequitur." *Lindl.*

13. *A. Novæ Angliæ*; foliis lanceolatis attenuatis auriculato-amplectentibus integerrimis hispido-scabris, caule stricto corymboso-composito, ramis arcuatis, involucri foliolis laxis angustis. *Nees.—Linn.—Pursh, Fl. Am. v. 2. p. 549. Nees, Ast. p. 46. Elliott, Carol. v. 2. p. 351.*

HAB. Canada. *Pursh.*—I possess no northern specimen of this plant. It is common throughout the United States, and is one of the most beautiful of the Genus.

SECT. III. GENUINI.

A. Heterophylli. Nees.

14. *A. cordifolius*; foliis cordatis serratis petiolatis supra scabris subtus pilosis, caule racemoso-paniculato, ramis paucifoliis laxis, involucri urcte imbricato. *Nees.—Linn.—Pursh, Fl. Am. v. 2. p. 552. Nees, Ast. p. 52. Elliott, Carol. v. 2. p. 364.*

HAB. Throughout Canada; abundant.

15. *A. paniculatus*; foliis cordatis serratis petiolatis supra scabris subtus glabris, caule ramisque racemoso-thyrsoideis foliosis strictis involucri laxè imbricato. *Nees.—Ait. Hort. Kew. ed. 1. v. 3. p. 207. Nees, Ast. p. 53.—var. δ.? floribus majoribus, foliis subcarnosis, infimis solummodo subcordatis.*

HAB. Canada. *Pursh.* Saskatchewan. *Drummond.*—δ. Slave Lake. *Dr. Richardson.*—"There is," as Dr. Boott justly observes, "great confusion about the heart-leaved *Asters*. Mr. Nuttall says that *A. paniculatus* is not distinct from *A. undulatus*, and that *A. heterophyllus* is not distinct from *A. cordifolius*." Professor Lindley remarks, upon one of my specimens from Dr. Short, of *A. paniculatus*, that "it approaches *A. undulatus*." The probability is that they are all forms of one and the same species: though I must observe that I have myself seen unacknowledged *undulatus* and *heterophyllus* from British North America.

16. *A. sagittifolius*; * foliis radicalibus petiolatis cordato-subagittatis (vel et profunde cordatis) oblongis glabris inæqualiter serratis margine scabris, caulinis ovato-oblongis in petiolum alatum contractis serratis glabris, caule racemoso-composito, involuero arcte imbricato. *Nees*.—*Willd. Sp. Pl. v. 3. p. 2035. Pursh, Fl. Am. v. 2. p. 551. Nees, Ast. p. 56. Elliott, Carol. v. 2. p. 362.*

HAB. Lake Huron. *Dr. Todd. Montreal. Mr. Cleghorn. Red River. Douglas.*

B. Homophylli.

17. *A. Cornuti*; foliis oblongis profunde serratis in petiolum attenuatis supra pube minutissima adpersis subtus glabris margine scabris, caule ramoso-paniculato, involuero laxo imbricato. *Nees*.—*a. caule multifloro, floribus minoribus, radio angustiore, ramis panicule longioribus erectis. Nees.—Wendl.—Nees, Ast. p. 58.—A. Tradescanti. Hoffm.—A. patulus. Lam.—A. tardiflorus. Herb. Linn. (fide Lindl.)*

HAB. Canada. *Mr. Cleghorn.*

18. *A. acuminatus*; foliis ovato-lanceolatis serratis in petiolum adnatum decurrentibus supra scabris subtus lævibus, caule racemoso, ramis brevibus thyrsoides simplicibusve, involucri laxè imbricati foliolis lanceolatis. *Nees.—Mich. Am. v. 2. p. 109. Pursh, Fl. Am. v. 2. p. 555. Hook. Bot. Mag. t. 2707. Elliott, Carol. v. 2. p. 355.*

HAB. Canada. *Mr. Cleghorn. Mrs. Sheppard. Lady Dalhousie. Mrs. Percival.*

19. *A. præcox*; foliis ovato-lanceolatis patenti-serratis in petiolum adnatum attenuatis glabris supra in ambitu scabris basin versus ciliatis, radicalibus ovatis petiolatis, caule racemoso, ramis paucifloris basi nudis, involuero laxo subæquali.—*Nees.—Willd. En. Hort. Berol. Suppl. p. 58. Nees, Ast. p. 62.*

HAB. Fort Franklin, on the Mackenzie River. *Dr. Richardson.*

20. *A. ciliolatus (Lindl.)*; foliis omnibus ovatis medio argute serratis in petiolum abrupte angustatis ciliatis in ambitu scabris, caule simplici, capitulis axillaribus sessilibus v. brevipedicellatis subsolitariis, involucri foliolis erectis apice membranaceis. *Lindl. MSS.*

HAB. Slave Lake. *Dr. Richardson.*—"Valde affinis *A. præcoci*; differt foliis abrupte nec sensim in petiolum angustatis caulisque radicalibus conformibus conspicue per totum ambitum ciliatis, capitulis subsessilibus dimidio minoribus, involucri foliolis non apice herbaceis, denique statura humili." *Lindl.*—The very few specimens in the Collection are 6-8 inches high.

* Allied to this is an interesting new species found by Dr. Short, on cliffs of the Kentucky River, which I am anxious should bear the name of its estimable discoverer, an excellent and liberal Botanist. Professor Lindley has favoured me with the following character and remarks:—

"*A. Shortii*; foliis subtus pilosiusculis ambitu scabris, caulinis alte cordato-lanceolatis acuminatis pone basin grosse serratis integrisque ramulorum cordato-ovatis omnibus petiolatis, petiollis apteris, caule racemoso vel racemoso-composito, involuero imbricato.—Rete foliorum maximum. *A. diversifolium* proximus, inter eam speciem et *A. sagittifolium* collocandus, foliis omnibus cordatis acuminatis petiolatis petiolisque ne minime quidem alatis apteris distinguendus." *Lindl.*

21. *A. puniceus*; foliis oblongo-lanceolatis amplectentibus acuminatis medio adpresso-serratis supra scabris, caule hispido patulo-racemoso, ramis inferis racemosis, superis simplicibus, involucri laxi foliolis lineari-subulatis æqualibus. *Nees*.—*Linn. Hort. Cliff. p. 408. Mich. Am. v. 2. p. 115. Pursh, Fl. Am. v. 2. p. 554. Elliott, Carol. v. 2. p. 355.*

HAB. Canada to Hudson's Bay.

22. *A. vimineus*; foliis lanceolatis amplectentibus longe acuminatis medio subulato-serratis margine scabris, caule racemoso-composito pyramidali lævi, ramis virgatis apice racemosis, involucri laxi foliolis lanceolato-linearibus subæqualibus. *Nees*.—*Willd. Sp. Pl. v. 3. p. 2046. Nees, Ast. p. 68.*

HAB. Canada. (*Nees*.) Lake Huron. *Dr. Todd*.—This is *Nees' A. vimineus*; but *Dr. Boott* considers it as probably a variety of *A. puniceus*.

23. *A. laxifolius*; foliis anguste lanceolatis utrinque attenuatis mucronato-serrulatis flaccidis supra scabris, caule scabro racemoso-composito angusto, ramis apice racemosis vel subcompositis, involucri foliolis linearibus squarrosis floris primarii subæqualibus. *Nees, Ast. p. 59*.—*A. salicifolius. Rich. in Frankl. 1st Journ. App. p. 748. (excl. syn.)—A. longifolius. Nees, Syn. Ast. p. 26*.— β . foliis angustioribus fere integerrimis.

HAB. Woody country from lat 54° to 64°. *Dr. Richardson*. Rocky Mountains, in swampy places, to Hudson's Bay. *Drummond*. Near Quebec. *Mrs. Percival*.— β . Rocky Mountains. *Drummond*. Slave Lake. *Dr. Richardson*.—This is a very distinct and well marked species. The more northeru specimens have the narrowest leaves. I possess the same plant from Philadelphia, sent to me by *Dr. Griffith*.

24. *A. amplus (Lindl.)*; foliis oblongo-lanceolatis margine scabris subintegerrimis, caule simplici subcorymboso, ramis unifloris subaphyllis, involucri laxo imbricato. *Lindl. MSS.*

HAB. Rocky Mountains. *Drummond*.—*A. brumali* affinis: foliis capitulisque multo majoribus, caule simplici subcorymboso ramisque rigidis pilosis fere aphyllis nec virgatis glabris foliosis, bene distinguitur? *Lindl.*

25. *A. blandus*; foliis subumplexicaulibus oblongo-lanceolatis acuminatis serratis glabris, caule pyramidato-ramoso, ramis axillaribus racemifloris folio vix longioribus, pedunculis tomentosis nudis, involucriis laxis subæqualibus disco brevioribus. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p. 555. Nees, Ast. p. 76.*

HAB. Canada. (*Herb. Banks.*)

26. *A. luxurians*; foliis ovali-oblongis vel lanceolatis acuminatis basi attenuata amplectentibus medio argute serratis supra scabris glaucescentibus, caule paniculato, ramis apice corymboso-racemosis, ramulis unifloris, involucri foliolis laxè imbricatis lineari-lanceolatis acutis. *Nees, Ast. p. 83*.—*A. Novi Belgii. Nutt. (fide Nees)*.— β . caule magis composito magisque piloso-lineato.—*A. luxurians. Spreng. Syst. Veget. v. 3. p. 538.*

HAB. β . Canada. *Mrs. Percival*.—This, which Professor Lindley, and, I doubt not, correctly, refers to *A. luxurians* β . of *Nees*, *Dr. Boott* considers *A. tardiflorus, Nees*, (not *Linn.*) while another, equally quoted by *Dr. Lindley* under *A. luxurians*, β . *Dr. Boott* calls *A. Novi Belgii, d. minor*. The three are perhaps not really different.—Nearly allied to this is a specimen of an *Aster* from *Dr. Scouler*, gathered on the Columbia, which Professor Lindley inclines to refer to *A. asper*.

27. *A. adulterinus*; foliis oblongo-lanceolatis mucronatis amplectentibus lævibus margine scabris, caule e basi paniculato-decomposito, ramis corymboso-racemosis, involucri obovati subæqualis foliolis spatulato-lanceolatis squarrosis post florescentiam magis auctis. *Nees*.—*Willd.*—*Pursh, Fl. Am. v. 2. p. 558.*

HAB. Straits of De Fuca. *Dr. Scouler.*—*Dr. Nees* von Esenbeck doubts if this may not be a variety of *A. Novi Belgii*.

28. *A. Douglasii* (*Lindl.*); foliis lineari-lanceolatis versus basin angustatis glabris omnibus (exceptis supremis) serratis, caule racemoso-composito, ramis pauce foliosis oligocephalis laxè corymbosis, involucri laxi subæqualis foliolis linearibus acutis. *Lindl. MSS.*—*α.* ramis abbreviatis pleiocephalis, capitulis minoribus.—*β.* ramis gracilioribus elongatis oligocephalis subaphyllis, capitulis majoribus. *Lindl.*

HAB. *α.* Common on the N. W. Coast, near the confluence of the Columbia, in open undulating grounds. *Douglas.*—*β.* De Fuca. *Dr. Scouler.*—" *A. eminenti proximus.*" *Lindl.*

29. *A. bellidiflorus*; foliis lanceolatis adpresso-serrulatis margine scabris ramulorum lanceolato-acuminatis subulatisve apice recurvis, caule stricto racemoso-decomposito suprude-compositove angusto inferne glaberrimo albo-virgato purpurascenteve, ramis apice racemosis racemosove-compositis, floribus confertis, involucri foliolis imbricatis linearibus acutis, interioribus apice sæpe coloratis. *Nees.*—*Willd. Hort. Berol. v. 2. p. 886.* *Pursh, Fl. Am. v. 2. p. 554. Nees, Ast. p. 97.*

HAB. Canada. *Mrs. Sheppard. Dr. Holmes.* Saskatchewan. *Drummond.* Red River. *Douglas.*—This certainly bears considerable resemblance to *A. laxifolius*, *Nees*, to which indeed *Dr. Boott* refers it.

30. *A. parviflorus*; foliis lanceolatis acuminatis medio argute serratis supra in ambitu scabris ramulorum (pedunculorum) linearibus acutis patentibus, caule racemoso-decomposito ramisque apice corymbosis strictis, involucri foliolis imbricatis linearibus acutis, radii ligula lineari foliolis involucri interioribus paullo longiore. *Nees, Ast. p. 99.*

HAB. Canada. *Pursh. Dr. Holmes.*

31. *A. Lamarckianus*; foliis lanceolatis acuminatis adpresso-serratis supra scaberrimis ramulorum lanceolato-acuminatis patentibus, caule piloso-lineato racemoso-decomposito cœcrotato, ramis paniculato-racemosis, involucri laxi subæqualis foliolis linearibus. *Nees, Ast. p. 100.*—*A. Tradescanti. Willd.*—*A. paniculatus. Lam.*

HAB. Canada. (*Lamarck.*) Saskatchewan. *Dr. Richardson. Drummond.*—To me this appears very similar to the preceding. *Nees* considers it unlike any species but *A. divergens*.

32. *A. divergens*; foliis lanceolatis acuminatis medio mucronato-serratis in ambitu scabris ramulorum oblongo-lanceolatis basi attenuatis integerrimis mucronulatis patentibus, caule piloso-lineato racemoso-composito, ramis æqualibus patentibus, involucri foliolis imbricatis lanceolatis. *Nees.*—*Ait. Hort. Kew. ed. 1. v. 3. p. 205.* *Pursh, Fl. Am. v. 2. p. 558. Elliott, Carol. v. 2. p. 357. Nees, Ast. p. 100.*

HAB. Canada. *Mrs. Sheppard.*

33. *A. falcatus* (Lindl.); foliis linearibus obtusis falcatis pilosiusculis, caule piloso anguste racemoso subcomposito, ramulis brevibus monocephalis paucifoliis, involucri laxi parum imbricati foliolis linearibus acutiusculis.

HAB. Arctic America. Dr. Richardson.—“Facies est omnino *A. hiemalis*, sed vera affinitas cum *A. fragilis*; folia inferiora *Bupleuro falcato* similia.” Lindl.

34. *A. Tradescanti*; foliis linearibus acuminatis margine ciliato-scabris inferioribus a medio argute remote serratis ramulorumque patentibus mucronatis, caule glabrisculis ramoso subcomposito patulo apice simpliciter racemoso, ramis virgatis, ramulis subsecundis, involucrio imbricato. Nees.—Linn. Hort. Cliff.—Mich. Am. v. 2. p. 115. Pursh, Fl. Am. v. 2. p. 556. Elliott, Carol. v. 2. p. 358.

HAB. Canada. Pursh. Dr. Holmes.

35. *A. ericoides*; foliis linearibus angustis integerrimis glaberrimis, caule glabro racemoso-composito, ramis virgatis, ramulis subsecundis ab apice remotis, involucri brevis foliolis imbricatis apice subulato-patulis. Nees.—Linn.—Mich. Am. v. 2. p. 113. Pursh, Fl. Am. v. 2. p. 546. Elliott, Carol. v. 2. p. 348.

HAB. Canada. Pursh. Saakatchewan, and towards the Rocky Mountains, Drummond. Red River. Douglas.

36. *A. diffusus*; foliis caulinis lanceolatis, ramis oblongo-lanceolatis medio serratis supra scabriusculis margine scaberrimis, caule pubescenti racemoso-composito, ramis recurvato-patentibus, floribus subsecundis confertis, involucri imbricati foliolis acutis. Nees.—Ait. Hort. Kew. ed. 1. v. 3. p. 111. Pursh, Fl. Am. v. 2. p. 558. Nees, Ast. p. 110.—*A. divergens* β . diffusus. Nutt.

HAB. Canada. Pursh. Mrs. Sheppard. Cleghorn.

37. *A. miser*; foliis caulinis oblongo-cuneiformibus acuminatissimis medio serratis rameisque ovalibus subintegerrimis supra pubescenti-scabris, caule pubescenti-scabro racemoso-composito ramis erectis, floribus subsecundis confertis, involucri laxo imbricati foliolis acuminatis. Nees.—Linn. Pursh, Fl. Am. v. 2. p. 558. Nees, Ast. p. 111.

HAB. Canada, Pursh, if Pursh's plant be the same; but Nees excludes the synonym of Willd. and Pursh.

38. *A. pendulus*; foliis elliptico-lanceolatis cauleque pubescenti-scabris, caulinis medio adpresso-serratis, ramulorum ellipticis integerrimis, caule laxo diffuso racemoso-composito, ramis elongatis flaccidis, involucrio imbricato. Nees.—Ait. Hort. Kew. ed. 1. v. 3. p. 205. Pursh, Fl. Am. v. 2. p. 558. Nees, Ast. p. 114.—*A. divergens* γ . pendulus. Nutt.

HAB. Canada. Dr. Holmes.—My Canadian specimen of this, so named by Professor Lindley, only differs from an authentic specimen of Nees' *A. miser* in its more copious flowers.

39. *A. Menziesii*; foliis oblongo-linearibus sessilibus integerrimis scabriusculis incanis, caule incano apice racemoso, involucri foliolis obtusis squarrosis. Lindl. MSS.

HAB. North-west coast of America. A. Menzies, Esq.—“Ab *A. concolori* vix differt nisi pilis rigidis nec mollibus, necnon involucri foliolis squarrosis nec appressis.” Lindl.

40. *A. ramulosus*; foliis linearibus serrulato-scabris basi dilatatis sessilibus ramulorum rectis minoribus, caule piloso erecto angusto racemoso ramulis corymbulosis monocephalisve, involucri squarrosi foliolis acutissimis mucronatis. *Lindl. MSS.*— β . incano-pilosus. *A. bienni*, *Nutt.* (qui *Aster* est genuinus *multifloro* affinis) proxime accedit. *Lindl.*

HAB. Saskatchewan to Fort Franklin on the Mackenzie River and among the Rocky Mountains. *Dr. Richardson. Drummond.*—"Capitula duplo majora quam in *A. multifloro*." *Lindl.*

41. *A. multiflorus*; foliis linearibus integerrimis margine serrulato-scabris subtrinerviis ramulorum recurvis, caute pubescente ramoso-composito diffuso, floribus subsecundis, involucri foliolis laxe imbricatis apice recurvis subspathulatis mucronatis. *Nees.*—*Ait. Hort. Kew. ed. 1. v. 3. p. 208. Pursh, Fl. Am. v. 2. p. 546.*— β . ciliatus. *Nees.*—*A. ciliatus. Willd.*—*Pursh.*

HAB. a. Canada. *Pursh.*

42. *A. concinnus*; foliis lanceolatis amplectentibus remote argute serratis margine scabris ramulorum oblongis integerrimis, caule laxo subcorymboso, ramis virgatis dichotomo-paniculatis, involucri arcte imbricato. *Nees.*—*Willd. En. Hort. Berol. v. 2. p. 884. Pursh, Fl. Am. v. 2. p. 554. Nees, Ast. p. 121.*

HAB. Saskatchewan. *Dr. Richardson. Drummond.*

43. *A. strictus*; foliis lanceolatis attenuatis subamplectentibus medio subserratis ambitu supino scabris, caule racemoso-composito, ramis strictis contractis, involucri arcte imbricato. *Nees.*—*Poir. Enc. v. 1. p. 498. Nees, Ast. p. 124.*— β . angustifolius. *Lindl. MSS.*

HAB. Saskatchewan. *Drummond.*

44. *A. amplexicaulis*; foliis oblongis acutis basi cordato-amplectentibus lucidis margine scabris inferioribus subserratis, caule paniculato-corymboso, ramis dichotome corymbosis coarctatis, involucri arcte imbricato. *Nees.*—*Willd. Sp. Pl. v. 3. p. 2046. Nees, Ast. p. 130. Elliott, Carol. v. 2. p. 360.*

HAB. Edmonton House on the Saskatchewan. *Drummond.*

45. *A. rubricaulis*; foliis oblongo-lanceolatis amplectentibus lævibus margine scabris glaucis, radicalibus ovatis in petiolum contractis obtusis, caulinis inferioribus basi attenuatis subserratis, superioribus integerrimis, caule racemoso-composito subpaniculato stricto, involucri disco brevioris foliolis imbricatis lanceolatis, receptaculo pilosiusculo. *Nees.*—*Lam. Enc. v. 1. p. 305. Nees, Ast. p. 131.*

HAB. Canada. *Cleghorn.*

46. *A. cyaneus*; foliis oblongo-lanceolatis amplectentibus lævibus margine scabris glaucis superioribus integerrimis, radicalibus spathulatis obtusis crenato-serratis, caule racemoso-composito subpaniculato, involucri disco brevioris foliolis arcte imbricatis ex ovato-triangularibus, receptaculo alveolato-dentato piloso. *Nees.*—*Hoffm. Syn. Ast. p. 23. Nutt. Gen. Am. v. 2. p. 156. Nees, Ast. p. 132. Elliott, Carol. v. 2. p. 358.*

HAB. Rocky Mountains. *Drummond.*

54. EURYBIA.* *Cass.*

Radix femineus fertilis. Involucri foliola arcte imbricata disco herbaceo apicis angusto. Flosculi disci tubo limboque discretis. Achenia elongata prismatica glabra vel pubescentia. Pappus simplex rigidulus persistens scaber. Receptaculum alveolatum.—Characteres plurimi Asteris generis, sed differt; involucro subcylindrico arcte imbricato, foliolis apice non foliaceis vel saltem leviori costæ expansione præditis, achenisque linearibus longioribus subprismaticis vel angulatis, nec compressis; habitu denique et pubescentia. Nees.

1. *E. macrophylla*; foliis cordatis ovatisve, radicalibus subtrinervatis, caulinis in petiolum alatum contractis serratis scabris subtus hirtis, caule hirto ramisve glabro patulo corymboso, ramulis rigidis, involucris arcte imbricati foliolis oblongo-lanceolatis obtusis. *Nees.—Cass. in Dict. des Sc. Nat. v. 37. p. 197. Nees, Ast. p. 140.—Aster macrophyllus. Linn.—Pursh, Fl. Am. v. 2. p. 552.—A. divaricatus. Linn.—A. infirmus. Mich. Am. v. 2. p. 109? (Nees.)*

HAB. Canada. *Pursh.* From Lake Huron, *Dr. Todd*, to Norway House on the Saskatchewan. *Drummond.*

2. *E. corymbosa*; foliis ovatis inferioribus cordatis serratis petiolatis, caule dichotomocorymboso, involucris foliolis imbricatis obtusis exterioribus ovatis. *Nees.—Cass. l. c. Nees, Ast. p. 143.—Aster corymbosus. Ait. Hort. Kew. ed. 1. v. 3. p. 207. Pursh, Fl. Am. v. 2. p. 552. Elliott, Carol. v. 2. p. 365.*

HAB. Canada. *Pursh.*—*Nees* has three other American species not in any American Flora, with which both *Dr. Boott* and myself are unacquainted.

55. SERIOCARPUS. *Nees.*

Radix femineus fertilis. Involucris foliola basi lato subcartilaginea arcte imbricata, apice abrupte herbacea et plerumque patula. Flosculi disci pauci conico-cylindracei, tubo limboque confluentibus. Achenia brevia, obverse pyramidalia dense sericea. Pappus simplex rigidulus persistens. Receptaculum angustum, alveolatum, irregulare.—Differt hocce genus ab Eurybio appendice foliolorum involucris distincta; ab Astero acheniis brevibus dense sericeis et forma flosculorum disci, ab utroque genere cunctisque reliquis Astereis habitu, præsertim ab inflorescentia pendente. Nees.

1. *S. solidagineus*; foliis lineari-spathulatis obtusis integerrimis margine scabris, corymbo paucifloro, involucro squarroso. *Nees, Ast. p. 149.—Aster solidaginoides. Mich. Am. v. 2. p. 108. Pursh, Fl. Am. v. 2. p. 542. Elliott, Carol. v. 2. p. 340.—Coryza linifolia. Linn.*

HAB. Near Montreal. *Mr. Cleghorn.*

2. *S. rigidus (Lindl.)*; foliis obovatis (potius oblongo-spathulatis) subtrinerviis integerrimis cauleque scaberrimis, corymbo terminali simplici vel composito contracto, involucris turbinatis foliolis adpressis basi nudis, radio pappo brevior. *Lindl. MSS.*

* I follow the learned *Nees von Esenbeck* in the adoption of this and other Genera of his *Asterineæ*; but I must confess that I think the character is much too slight, and the difference in habit by no means sufficient to warrant such a separation.

HAB. Columbia River. *Dr. Scouler*. Abundant on undulating, dry, gravelly soils near Fort Vancouver, and low hills of the interior. *Douglas*.—The leaves are remarkably acute, almost mucronate, and they and the stems are quite rough with minute elevated dots. "*S. conyzoidi proximus*," *Lindl.* To me this species, though very distinct, appears to approach nearest to *S. tortifolius*.

56. TRIPOLIUM. *Dod. Nees.*

Radius fœmineus fertilis. Involucri foliola interioru ampliora membranacea, coloratu, appressa, exteriora in pedunculi foliola decrescientia. Achenia cuneiformia, compressa, glabruscula. Pappus simplex, capillaris, densus, noduloso-scaber. Receptaculum alveolatum.—Herbæ annuæ vel perennes, glabræ, in solo saluginoso crescentes. Folia angusta, succulenta, margine sæpe scabra, triplinervia vel subavenia. Flores corymbosi albi vel cærulei. Involucra sæpe colorata.—Species Europæ, Asiæ Caucasicæ, Americæ septentrionali indigenæ. *Nees.*

1. *T. pauciflorum*; foliis linearibus subcarnosis glabris caulinis subulatis amplexicaulibus, caule paucifloro (3-6-floro) ramis subunifloris viscido-pubescentibus, involucris hemisphærici foliolis subæqualibus acutis. *Nees, Ast. p. 157.*—*Aster pauciflorus. Nutt. Gen. Am. v. 2. p. 154.*

HAB. Marshes of the Saskatchewan. *Drummond.*

2. *T. angustum (Lindl.)*; foliis linearibus serrulato-scabris glabris, caule angusto strictissimo, ramis rectis racemosis, involucris hemisphærici imbricati foliolis linearibus acutis, radio inconspicuo.— α . ramis oligocephalis.— β . ramis polycephalis.—*Lindl. MSS.*

HAB. α . Banks of the Saskatchewan. *Drummond.*— β . Slave Lake. *Dr. Richardson.*—"This species differs essentially from *T. subulatum, Nees (Aster subulatus, Mich.)* in its stem not being flexuose, in its serrulated leaves, in the form of the leaflets of the involucre, and in the flowers being twice as large." *Lindl.*

57. GALATELLA. *Cass.*

Radius fœmineus sterilis. Involucris angusti foliola imbricata angusta, nervo herbaceo sub apice non expanso. Achenia conoidea, dense hirsuta vel sericea. Pappus rigidulus, densus, scaber. Receptaculum lacero-alveolatum.—Folia conformia angusta; radicalia minora, sessilia, subverticalia, nervosa vel enervia solaque costa media, venis autem nullis divisa, rigidula scabra plerisque punctata, punctis in superficie superiori præsertim obviis insculptis glandulæque granuliformi nitidula viridi fundo foveolæ immersa præditis, quæ glandulæ, in aliis magis in aliis minus conspicuæ, nonnullis omnino deesse videntur, caulibus inferne simplex, apice distincte corymbosus, ramis dichotomis, rarius subtrichotomis. Radix ligulæ distantes, neutra. *Nees.*

1. *G. nemoralis*; foliis lanceolato-linearibus integerrimis enervibus impunctatis scabris, caule apice corymboso, radio elongato. *Nees, Ast. p. 173.*—*Aster nemoralis. Ait. Hort. Kew. ed. 1. v. 3. p. 198.*—*A. ledifolius. Pursh, Fl. Am. v. 2. p. 544.*— β . uniflorus.—*Aster uniflorus. Mich. Am. v. 2. p. 110.*

HAB. Canada. *Pursh. Newfoundland. Mr. Cormack. Dr. Morrison.*

2. *G. graminifolia*; foliis angusto-linearibus subtrinerviis margine costaque pilosiusculis impunctatis, ramis terminalibus gracilibus subaphyllis unifloris, involucris foliolis laxis discum

æquantibus.—*Aster graminifolius*. *Herb. Banks. MSS.*—*Pursh, Fl. Am. v. 2. p. 545. Rich. in Frank. 1st Journ. ed. 2. App. p. 32. (fide Herb. nostr.)*

HAB. Hudson's Bay. *Herb. Banks. Dr. Richardson. Slave Lake. Dr. Richardson.*—This is indeed very closely allied to *G. nemoralis* and *G. linifolia*; but there are, besides the costa, two lateral ramified nerves in the leaves, whose margins and costa too are hairy, and the pappus is almost white.

58. TOWNSENDIA. *Nov. Gen.*

Capitulum heterogamum. *Flosculi radii* ligulati feminei; *disci* hermaphroditi, regulares. *Involuceri foliola* pluriserialia imbricata. *Pappus* uniserialis; *radii* brevis, paleaceo-subulatus, inequalis; *disci* pilosus, pilis elongatis scabriusculis.—*Herba America borealis humilis acaulis*. *Rudix fusiformis, lignosa, longe descendens; superne sæpe divisa, reliquiis foliorum velustorum oblecta. Folia omnino radicalia, numerosa, erecto-patentia, linearia, subpathulata, integerrima, utrinque adpresso-sericea, basi dilatata, et utrinque ciliata. Flos solitarius, foliis innumerus et oblectus, ratione plantæ magnus. Involucrum ovatum, foliolis sericeis, linearibus subulatis, erectis, imbricatis. Flosculi radii ligulati, erecti, pallide rosei, marginibus involuti, apice dentibus tribus conniventibus. Stigma bifidum, purpureum, glabrum. Ovarium oblongum, compressa-triquetrum, pubescens. Pappus brevis sed valde inequalis, uniserialis, e pilis seu paleis subulatis, basi membranaceis. Flosculi disci tubulosi, lutei. Pappus pilosus, pilis scabriusculis longitudine corollæ. Ovarium sericeum. Receptaculum alveolato-punctatum, nudum.*

1. *T. sericea*. (TAB. CXIX). *Aster?* exscapus. *Rich. in Frankl. 1st. Journ. ed. 2. App. p. 32.*

HAB. Carlton House upon the Saskatchewan. *Dr. Richardson*. Rare, upon the dry banks of the Saskatchewan and among the Rocky Mountains. *Drummond.*—This highly interesting little plant, no less on account of its habit than its pappus, deserves to be separated from *Aster*, of which, indeed, it was by *Dr. Richardson*, considered a doubtful species. "The bud is formed in the autumn," and what *Dr. Richardson* further observed in the living plant, I find to be characteristic of all the specimens in this Collection, that "the florets of the ray are mostly involute, rarely expanded, and always narrow, nearly of the same colour with the pappus and inconspicuous; the flowers, indeed, never fully expanding." I have named the Genus in compliment to *David Townsend, Esq.* of West Chester, Pennsylvania, who having imbibed the most ardent love of Botany from his friend and instructor *Dr. Darlington* of the same city, has devoted his leisure hours to the science with eminent success. The plant now under consideration is peculiarly worthy of bearing his name, because he has studied and ably discriminated the numerous Pennsylvanian species of the allied Genus *Aster*.

TAB. CXIX.—*Fig. 1, Flowers; fig. 2, Floret of the ray; fig. 3, Portion of the pappus from the ray; fig. 4, Floret of the disk; fig. 5, Portion of a hair from the pappus of the disk; fig. 6, Stigma from the disk; fig. 7, 7, Scales of the involucre; fig. 8:—all more or less magnified.*

59. ERIGERON. *L.*

Flores ♀ pluriserialia in ambitu ligulati numerosi angusti; reliqui ♂. *Involuceri foliola* imbricata angusta. *Pappus* conformis, uniserialis. *Cor.* ♂ regularis. *Achenium* crostre. —*Herbæ Europæ, Asiaticæ vel Americane, erectæ, ramosæ vel simplices, magis minusve hirsutæ; foliis alternis, inferioribus oblongo-obovatis, dentatis; capitulis albis vel purpureis solitariis vel paniculatis. Nees.*

1. *E. compositus*; subcaulis, foliis radicalibus longe petiolatis tripartitis hirsutis laciniis cuneiformibus trifidis, scapo unifloro paucifolio foliis linearibus integris.—*Pursh, Fl. Am. v. 2, p. 535. Hook. in Linn. Trans. v. 14, p. 374, t. 13.*—*Cineraria Lewisii. Rich. in Frankl. 1st Journ. ed. 2. App. p. 32.*—*β. grandiflorus*; floribus fere duplo majoribus, radiis magis conspicuis.—*γ. rad.*; flosculis carneis.

HAB. Banks of the Kooakoosky. *M. Lewis.*—*α. and β.* Barren country between lat. 64° and the Arctic Sea, and on the highest of the Rocky Mountains, in lat. 54°. *Drummond.* Islands of the Columbia, between the Narrows and the great Falls. *Douglas.*—*γ.* Summits of the Rocky Mountains. *Drummond.*

2. *E. trifidus*; subcaulis, foliis hirsutis radicalibus longe petiolatis trifidis laciniis integris infimis solummodo raro iterum divisis, scapo unifloro paucifolio foliis linearibus integris. (TAB. CXX.)

HAB. Barren places among the Rocky Mountains. *Drummond.*—This has the flowers equal in size with those of *E. compositus*, *β.*, and the habit is very similar; but the leaves are almost the whole of them simply trifid; a few of those at the base of the stem, or divisions of the stem, being compound.

TAB. CXX.—*Fig. 1,* Floret of the ray; *fig. 2,* Floret of the disk; *fig. 3,* Leaf;—*magnified.*

3. *E. lanatus*; subcaulis lanatus, foliis radicalibus spathulatis infimis rarissime trifidis, scapo subphylo superne involucrique densissime lanatis, radiis elongatis patentibus, acheniis glabris. (TAB. CXXI.)

HAB. Summits of the Rocky Mountains between lat. 52° and 56°. *Drummond.*—This is an extremely beautiful species, most allied, indeed, to *E. uniflorus*, but differing in the dense woolly covering, large flowers, long descending root, and in the scape, rather than a stem, which bears the flower. Corollas of the ray white, or rarely purple.

TAB. CXXI.—*Fig. 1,* Floret of the ray; *fig. 2,* Floret of the disk; *fig. 3,* Radical leaf; *fig. 4,* outermost do.:—*magnified.*

4. *E. radicans*; subcaulis, foliis radicalibus linearispathulatis hirsutulis subcarnosis, scapo unifloro paucifolio, involucri lanato, radiis breviusculis patentibus. (TAB. CXXII.)

HAB. Mountains near Jasper's Lake, Rocky Mountains, rare. *Drummond.*

TAB. CXXII.—*Fig. 1,* Floret of the ray; *fig. 2,* Floret of the disk; *fig. 3,* Portion of a hair from the pappus; *fig. 4, 4,* Leaves.

5. *E. uniflorus*; caule brevi, foliis radicalibus glabriusculis spathulatis, caulinis paucis linearibus superne involucrique dense purpureo-lanatis, radiis erectiusculis involucri paullo longioribus. *Linn. Sp. Pl. p. 1211. Fl. Lapp. p. 250, t. 9, f. 3.* (vix *Engl. Bot. t. 2416.*) *Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*E. alpinus. Pursh, Fl. Am. v. 2, p. 532.*

HAB. Labrador. *Kohlmeister.* Arctic Sea-shore (*Dr. Richardson*) and adjacent islands, *Capt. Parry, Sabine, &c.* Summits of the Rocky Mountains, *Drummond*, who found one large specimen in the woody region with seven stems from the same root.—This is well distinguished from the preceding by its more glabrous foliage, true stem, the leaves gradually becoming smaller upon it, smaller flowers, and much shorter ray. The involucri and its woolly clothing are, alike, generally purple. It is quite distinct from the *E. uniflorus* of *Engl. Bot.* which I have reason to believe is only a single-flowered state of *E. alpinus*; nor have I ever seen the true *uniflorus* in Britain.

6. *E. grandiflorus*; ubique lanato-hirsutus, caule subelongato unifloro, foliis radicalibus oblongo-spathulatis caulinis lanceolatis, involuero (apice purpureo nudiusculo) densissime albo-lanato, radiis patentibus involuero duplo longioribus. (TAB. CXXXIII.)

Radix descendens perennis, caules 1-5 gerens. *Caulis* foliosus, palmaris ad spithamæum, pilosus. *Folia* pilosa, inferiora spathulata: reliqua lanceolata. *Flos* terminalis, solitarius, ratione plantæ magnus. *Involucrum* densissime albo-lanatum, foliolis apice purpureis scariosis nudis. *Radii Flosculi* elongati, patentes, albi vel purpurei.

HAB. Summits of the Rocky Mountains. *Drummond*.

TAB. CXXXIII.—*Fig. 1*, Floret of the ray; *fig. 2*, Floret of the disk:—*magnified*.

7. *E. alpinus*; hirsutiusculus, caule subelongato uni-multifloro, foliis inferioribus spathulatis superioribus lanceolatis, involuero piloso, radiis inconspicuis erectis pappo copioso paululum longioribus.—*Linn. Sp. Pl.* p. 1211. *Engl. Bot. t.* 464.— β . foliis angustioribus, ramis elongatis.— γ . *elata*; subpedalis.

HAB. α . and β . and γ . Rocky Mountains in elevated situations. *Drummond*.—This (the var. α .) exactly corresponds with our European *E. alpinus*; but appears to be confined to the mountains of the interior; whereas, in northern Europe it is frequently a maritime species.

8. *E. glabratus*; glabriusculus, caule elato simplici, foliis radicalibus spathulatis caulinis lineari-lanceolatis, racemo terminali multifloro, pedunculis elongatis vix corymbosis simplicibus vel ramosis, involucri parvi foliolis angustissimis, radiis inconspicuis pappo copioso immersis.—*E. glabratus*. *Hopp. in Un. It. (Herb. nostr.)*—*E. alpinus*, β . ramosus. *Wahl. Lapp.* p. 207.— β . *minor*; pedunculis brevioribus.

HAB. Hudson's Bay to the Rocky Mountains, and from the Saskatchewan to Fort Franklin on the Mackenzie River. *Dr. Richardson. Drummond*.— β . Rocky Mountains. *Drummond*.—I cannot but look upon this as quite distinct from *E. alpinus*, and, variable as it is in size, from 4-6 inches to 2 feet, it is very constant in its inflorescence, a raceme with very long peduncles, and in the very copious pappus, of a slightly tawny hue, which quite conceals the flowers. *Wahlenberg* notices its affinity with *E. acris*, which is certainly very considerable, inasmuch that it may possibly prove to be a variety of it. It is, however, much more glabrous, and has fewer and larger leaves. This species retains all its characters in cultivation.

9. *E. lonchophyllus*; caule elato hispido simplici, foliis longissimis linearibus glabris nervosis ciliatis inferioribus lineari-spathulatis, racemo terminali folioso multifloro, pedunculis elongatis foliolosis, radiis numerosis angustis (albis?) pappo copioso vix longioribus.

HAB. Saskatchewan. *Drummond*.—A very remarkable species, of which, unfortunately, there is only a solitary specimen in the Collection. This is 2 feet high; the stem angled, very hispid, with patent rigid white hairs; cauline leaves, several of them 6 inches long, 2-4 lines broad. Flowers similar to those of *E. glabellus*.

10. *E. strigosus*; strigoso-pilosus elatus, foliis radicalibus spathulatis caulinis lanceolatis basi attenuatis, floribus corymboso-paniculatis, radiis (albis) patentibus numerosis involuero parvo piloso vix duplo longioribus. *Muhl. in Willd. Sp. Pl. v. 3.* p. 1956. *Pursh, Fl. Am. v. 2.* p. 534. *Elliott, Carol. v. 2.* p. 394.— β . *hispidissimus*.

HAB. Throughout Canada to the Saskatchewan, and to the Rocky Mountains: thence to the shores of the

Pacific. *Dr Richardson. Drummond. Douglas.*— β . Plentiful in the vallies of the Blue Mountains and of the Spokan River. *Douglas.*—The present, though, like the other species, it may not be easy to define its character in words, is a very well marked one to the eye. It is tall and slender, with narrow leaves. The pretty white flowers are about the size of a daisy.

11. *E. purpureus*; pubescens, foliis oblongis tenui-membranaceis dentatis vel integris caulinis amplexicaulibus radicalibus in petiolum attenuatis, floribus paniculatis subcorymbosis, radiis purpureis numerosissimis patentibus involucri glabriusculo subtriplo longioribus. — *Ait. Hort. Kew. ed. 1. v. 3. p. 186. Pursh, Fl. Am. v. 2. p. 533. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*

HAB. From Lake Huron (*Dr. Todd*) to the Arctic Circle, and from Hudson's Bay to the Rocky Mountains and the shores of the Pacific. *Dr. Richardson. Drummond. Douglas.*—This is peculiar for its broad leaves, which are amplexicaul at the base, of a rather deep green colour, and singularly delicate texture, and for its rather large flowers, with copious red-purple rays. Our specimen from the Saskatchewan is truly gigantic, 3 feet high, with radical leaves a span long and 2 inches broad.

12. *E. Philadelphicus*; pubescens, foliis cuneato-oblongis rariter inciso-dentatis caulinis semiamplexicaulibus, caule debili simplici superne corymboso, pedunculis elongatis unifloris, radiis capillaceis involucri hemisphærico duplo longioribus. *Ph.—Linn. Sp. Pl. p. 1211. Pursh, Fl. Am. v. 2. p. 533. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Reich. Ic. Ex. t. 134.*

HAB. Canada. *Kalm. (Linn.)* Woody country between lat. 54° and 64°. *Richardson.*—I have never received any authentic specimen of this from the American Botanists; but I introduce it on the authority of *Dr. Richardson and Linnæus*. The excellent *Dr. Darlington* says, that what he has taken for *E. Philadelphicus* agrees, on a careful comparison, also with *E. purpureus*. I am inclined to suspect that the two are one species, and, if so, the present name, in right of priority, should be retained. *Reichenbach's* figure looks like a small-flowered state of *E. purpureus*.

13. *E. pulchellus*; pubescenti-asper, foliis radicalibus spatulatis integris vel serratis caulinis remotis linearibus integerrimis, panicula laxa pauci (3-5) flora, radiis numerosis (albidiis vel pallide purpureis) patentibus involucri plusquam duplo longioribus.—*Michx. An. v. 2. p. 224. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30.*—*E. bellidifolius. Willd. Sp. Pl. v. 3. p. 1958. Sims, Bot. Mag. t. 2402.*—*E. Serpentaria. Banks, MSS.— β . foliis profunde dentatis.*

HAB. Woody country, from Canada to lat. 64°.— β . North West Coast of America. *Menzies.*—In all our specimens the ray in the dry state appears to be white.

14. *E. glabellus*; glaber vel pubescens, foliis lato-lanceolatis integerrimis nervosis ciliatis, radicalibus subspatulatis, floribus (inter majores) paucis (3-5) subcorymbosis, radiis (purpurascensibus nunc albis) numerosis patentibus involucri pubescente fere triplo longioribus.—*Nutt. Gen. v. 2. p. 148. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. Hook. Bot. Mag. t. 2923.*— β . *pubescens*; totus valde pubescens.— γ . *mucronatus*; foliis acutissimis mucronatis.

HAB. From the Saskatchewan, *Drummond*, throughout the woody country, to lat. 64°. *Dr. Richardson.*— β . Prairies of the Rocky Mountains. *Drummond.*— γ . Plentiful on low plains of the Columbia, near the coast. *Douglas. Dr. Scouler.*

15. *E.?* *hyssopifolius*; caule ramis sterilibus paniculato paucis in pedunculos nudos unifloros protractis, foliis linearibus integris glabellis ciliatis, radiis involucri cylindraceo multo longioribus. *Mich. Am. v. 2. p. 123. Pursh, Fl. Am. v. 2. p. 534?*

HAB. Hudson's Bay and near Lake Mistassins. *Michaux*.—With this I am unacquainted. In some of its characters, it comes near my *E. lonchophyllus*, but the involucre is said to be cylindrical, and the rays much longer than it. Pursh refers it to *Dill. Eth. t. 306, f. 394, (E. Carolinianus, Willd.)* evidently no true *Erigeron*, the *Phalacrocoma* of Cassini.

16. *E. Canadensis*; caule hispido, foliis lanceolato-linearibus ciliatis acutis, floribus (parvis) in paniculam terminalem oblongam foliosam dispositis, ramis quasi racemoso-multifloris, pedicellis foliolosis, radiis minutis (albis) pappo copioso vix longioribus.—*Linn.*—*Mich. Am. v. 2. p. 123. Pursh, Fl. Am. v. 2. p. 534.*

HAB. Throughout Canada. From Lake Huron to the Saskatchewan. Columbia River. *Dr. Scouler*.

17. *E.?* *florifer*; caule breviusculo ramoso piloso, foliis omnibus lineari-spathulatis pilosiusculis integerrimis glaucis, ramis pedunculiformibus unifloris (floribus inter maximos), involucri foliolis exterioribus pubescenti-hirsutis interioribus membranaceis fimbriato-ciliatis, radiis latiusculis (albis?) patentibus involucri duplo longioribus, pappi pilis albis incrispatis hirsutulis.

HAB. Dry rocks and sandy grounds near Priest's Rapids of the Columbia, and Lewis and Clarke's River; N.W. coast of America. *Douglas*.—This is evidently no *Erigeron*, yet it has as little affinity with any *Aster*. The hairs of the pappus are unusually thick and white.

(*Pappus duplex: cxtus perbrevis subpaleaceus.*)

18. *E. annuus*; foliis radicalibus subrotundo-ovatis profunde dentatis petiolatis, caulibus lanceolatis acutis medio subserratis, corymbo terminali.—*Aster annuus. Linn.*—*Erigeron heterophyllus. Willd. Sp. Pl. v. 3. p. 1956. Pursh, Fl. Am. v. 2. p. 534.*—*Diplopappus dubius. Cass. Bull.*—*Stenactis dubia. Cass. in Dict. des Sc. Nat. v. 37. p. 485.*—*S. annuus. Nees, Ast. p. 273.*

HAB. Canada. *Cleyhorn*.—Except in the pappus, this is so entirely an *Erigeron* that I am very unwilling to separate it from that Genus. The outer pappus consists of several very minute acuminate paleaceous scales. It has, like the *E. Canadensis*, been introduced from America into Europe, and thus found a place in our European Floras.

60. DIPLOPAPPUS,* *Cass.*

Radius uniserialis ♀. Discus ♂. Pappus biserialis. Cor. disci regularis. *Achenium* erostre.—*Herbæ vel fruticuli Americani, Asiatici vel Africani; foliis alternis, integris; capitulis terminatis solitariis, colore varie tinctis. Less.*

* I follow my own inclination, no less than the valued suggestion of Professor Lindle, in uniting *Diplostaphan*, Kunth, and *Doellingeria*, Nees, with *Diplopappus*.

* *Pappus conformis*, utrinque setaceus.

1. *D. albus*; foliis lineari-lanceolatis subintegerrimis scabris basi longe angustatis inferioribus petiolatis, caule simplici corymboso scabro ramulis subunifloris subaphyllis, involucri foliolis oblongo-linearibus glabriusculis obtusis.— α . radiis albis. *D. albus*. *Lindl. MSS.*—*Chrysopsis alba*. *Nutt. Gen. Am. v. 2. p. 152.*—*Doellingeria?* *ptarmicoides*. *Nees, Ast. p. 183.*— β . radiis luteis. *D. lutescens*. *Lindl. MSS. (in Herb. nostr.)*

HAB. On the banks of the Saskatchewan; but rare. *Dr. Richardson. Drummond.*—Lake Superior. *Dr. Pitcher, in Herb. Torrey.*— α . and β . Banks of the Red River. *Douglas.*—The outer pappus consists of very few and indistinct hairs; the inner has the hairs by no means clavate at the extremity, and therefore it cannot be a *Doellingeria* of Nees von Esenbeck.—*Dr. Pitcher* finds a single-flowered var. at Lake Superior.

2. *D. canescens*; pubescenti-canus, foliis lineari-lanceolatis integerrimis basi valde angustatis inferioribus longe petiolatis, caule simplici corymboso, ramulis unifloris elongatis foliolosis, involucri foliolis angustis acutissimis hirsuto-scabris.

HAB. Between Carlton House and Edmonton House on the Saskatchewan. *Drummond.*—Perhaps a variety of the following.

3. *D. grandiflorus*; canescens, caule subdecumbente infra basin ramoso, foliis lineari-oblongis inferioribus spatulatis, ramis plerumque simplicibus unifloris nudiusculis involucri foliolis angustis acutissimis hirsuto-scabris.

HAB. Plains of the Saskatchewan and Prairies of the Rocky Mountains. *Drummond.*—This is nearly allied to the preceding, but the flowers are twice as large, the plant is of more humble and less erect growth, and the ramification is different, less corymbose.

4. *D. linariifolius*; suffruticosus, ramis subcorymbosis unifloris, foliis linearibus patentibus scaberrimis serrulato-ciliatis, involucri foliolis subaxe imbricatis lineari-lanceolatis obtusis.—*Diplostegium linariifolium*. *Nees, Ast. p. 199.*—*Aster linariifolius*. *Linn.—Mich. Am. v. 2. p. 110.* *Pursh, Fl. Am. v. 2. p. 545.*—*Aster rigidus*. *Linn.—Mich. Am. v. 2. p. 110.* *Pursh, Fl. Am. v. 2. p. 544.* *Elliott, Carol. v. 2. p. 365.*

HAB. Canada. *Mrs. Sheppard.* Newfoundland. *Mr. Cornack.*

5. *D. incanus*; totus incanus, foliis linearibus mollibus distantibus acutis mucronulatis, ramis longis corymbosis monocephalis apice nudis, involucri ovati glandulosi foliolis linearibus multiseriatis exterioribus squarrosis. *Lindl. MSS.*

HAB. California and N.W. Coast of America. *Douglas, in Herb. Lindley.*—“*D. rigido (linariifolio) proximus. Caulis 2½ pedalis ab ima basi strictim racemosus, pube brevi mollis, foliis valde denudatus. Radii amœne violacei.*”—*Lindl.*

6. *D. filifolius*; incanus, foliis omnibus lineari-filiformibus, ramis longis subcorymbosis unifloris, involucri foliolis imbricatis angustis acutis pubescenti-scabris, radiis flavescentibus, pappo albo.

HAB. Common on the Great Falls of the Columbia and barren grounds of the interior. *Douglas.*—Ten inches to a foot high. *Leaves* very slender, an inch and a half long, almost filiform. *Pappus* white, exterior very short; *ovary* hairy.

7. *D. linearis*; humilis, caulibus subcaespitosis erectissimicibus apice nudiusculis unifloris,

foliis omnibus lineari-filiformibus subspathulatis, flore terminali, involucri foliolis angustis pubescenti-scabris, pappo fulvo.

HAB. Common on dry rocks and sandy grounds near the "Priest's Rapid" of the Columbia, and also on Lewis and Clarke's River. *Douglas*.—Four to six inches high, several stems arising from the same root, and universally bearing one flower. These flowers are old, and the corollas have fallen or are withered, the fruit with the tawny pappus alone remaining.

8. *D. pinnatifidus*; caulibus numerosis ex eadem radice erectis superne valde ramosis corymbosis multifloris, foliis subpinnatifidis pilosis, segmentis angustis linearibus pilo terminali mucronatis, involucri foliolis lineari-subulatis mucronatis pubescentibus, radiis luteis.—An *Amellus spinulosus*? *Pursh, Fl. Am. v. 2. p. 564*.

Radix lignosa, fusiformis, perennis. *Caulis* plurimi, palmares ad pedalem, erecti, superne corymboso-ramosi, ramis omnibus floriferis. *Folia* pinnatifida pilosa, laciniis linearibus, dentatis vel iterum pinnatifidis, pilo longiusculo terminali mucronatis. *Flores* copiosi flavi. *Ovarium* dense villosum. *Pappi* laciniis valde inæquales, exteriores sensim minores. *Receptaculum* alveolatum subpaleaceo-fimbriatum.

HAB. Rocky Mountains near Jasper's Lake, rare. *Drummond*.

* * *Pappus biformis*: ext. palcaceus; int. setaceus. (*Flores flavi*.) *Chrysopsis*. *Nutt. Ell.*

9. *D. villosus*; caulibus erectis patenti-villosis, superne corymbosis, foliis oblongis seu oblongo-spathulatis sessilibus acutis appresso-villosis ciliatis, ramulis floriferis pubescentibus, involucri foliolis lineari-subulatis acutis subpubescentibus ext. non raro foliaceis.—*Chrysopsis villosa*. *Nutt. Gen. Am. v. 2. p. 151. (et in Herb. nostr.)*—*Amellus villosus*. *Pursh, Fl. Am. v. 2. p. 564*.

HAB. Banks of the Saskatchewan. *Drummond*. Common on the Red Deer and Eagle Hills of the Saskatchewan River and banks of the Assinaboine; also on the low hills west of the Rocky Mountains, to the Pacific Ocean, on dry, rocky, or sandy soils. *Douglas*.—Pappus nearly white. Flowers yellow.

10. *D. hispidus*; totus pilis patentibus hispidus, foliis oblongo-spathulatis basi angustatis subpetiolatis, ramis subcorymbosis, involucri foliolis angustatis acutis glabriusculis.

HAB. Carlton-House Fort. *Dr. Richardson*.—This appears to be rare, if we may judge from the very few specimens collected. Though most allied to the preceding, it is nevertheless quite distinct. It is smaller and slenderer, the leaves more remote and more attenuated below, and they and the whole plant, even the floral branches, are clothed with long patent rigid leaves. Flowers yellow. Pappus tawny.

11. *D. scaber*; hispido-scaber, foliis grosse dentatis inferioribus ovalibus longe petiolatis, caulibus lato-oblongis, ramis terminalibus subcorymbosis nudiusculis unifloris involucriisque pubescenti-glandulosis, pappo intense fulvo.—*Chrysopsis scabra*. *Nutt. Gen. Am. v. 2. p. 151. Elliott, Carol. v. 2. p. 339.*—*Inula scabra*. *Pursh, Fl. Am. v. 2. p. 531*.

HAB. N.W. Coast of America. *A. Menzies, Esq.*—This quite accords in every essential particular with authentic specimens of *Chrysopsis scabra* I have received from Mr. Elliott, and with others gathered at Rio Brazos, in Texas, so that the species must have a very extensive range.

* * * *Pappus biformis*: ext. brevis; int. setaceus, pilis apice incrassatis. *Doellingeria*. *Nees*.

12. *D. umbellatus*; foliis oblongo-lanceolatis, caule angulato senbro apice corymboso-com-

posito, involucrio imbricato.—*Doellingeria umbellata*. Nees, *Ast.* p. 178.—*Aster umbellatus*. *Ait. Hort. Kew. ed. 1. v. 3. p. 199.*—*Chrysopsis amygdalina*. *Nutt. Gen. Am. v. 2. p. 153.*

HAB. Canada. *Dr. Holmes. Mr. Cleghorn.*

13. *D. amygdalinus*; foliis oblongis, caule angustato glabro apice corymboso-composito, involucrio laxo.—*Doellingeria amygdalina*. Nees, *Ast.* p. 179.—*Diplostephium amygdal.* *Cass.*—*Aster amygdalinus*. *Lam.*—*Mich. Am. v. 2. p. 109.* *Pursh, Fl. Am. v. 2. p. 549.*—*Chrysopsis humilis*. *Nutt. (excl. syn. Ast. cornifolii, Muhl. et Ast. infirmi, Mich., Nees.)*—*Aster humilis*. *Willd.*—*Pursh, Fl. Am. v. 2. p. 548.* *Elliott, Carol. v. 2. p. 367.*

HAB. Canada. *Mrs. Percival.* Newfoundland. *Miss Brenton. Mr. Cormack.*—I am by no means satisfied of the permanency of the distinguishing characters of this and the preceding species.

61. BOLTONIA. *L'Hérit.*

Radius ♀, uniserialis. *Discus* ♂. *Pappus* brevis, radii pluri-disci bi-setosus. *Cor.* disci regularis. *Achenium* erostre.—Herbæ *Boreali-Americanae, erectæ; foliis alternis, integris; ramis divaricatis florigeris monocephalis apiceque aphyllis; capitulis parvisculis, radio caruleo; rachide conica; involucriis imbricatis.* Less.

1. *B. glastifolia*; foliis inferioribus serratis, floribus breviter pedunculatis, seminibus obcordatis conspicue alatis pubescentibus aristis pappi duabus ipsorum longitudine. *Pursh,*—*L'Hérit. Sert. Angl. p. 27. Mich. Am. v. 2. p. 132. Pursh, Fl. Am. v. 2. p. 561. Sims, Bot. Mag. t. 2381.*

HAB. Canada. *Goldie.*—My plant does not exactly accord with either of the two species described by *Pursh*. The seed or achenium is oval and glabrous, as in *B. asteroides*; but it has the unequal pappus and the two paleæ longer than the rest, and the broad wings of *B. glastifolia*. *Elliott* has a third species, whose achenium is scarcely winged, and the pappus is as in our plant. May they not all be varieties of the same species? The figures and descriptions of *Dr. Sims* in the *Botanical Magazine*, *B. glastifolia* (t. 2381), and *B. asteroides* (t. 2554), do not at all help to clear the difficulties. There the two species have the most striking resemblance.

62. BRACHYRIS. *Nutt.*

Radius uniserialis ♀. *Discus* ♂. *Pappus* paleaceus uniserialis, paleis linearibus, 5–8. *Cor.* disci regularis. *Achenium* obconicum erostre.—Herbæ *perennis, Boreali-Americana, erecta; foliis anguste linearibus, integris, punctatis; capitulis solitariis ternis, ramos fastigiatis, caulibus terminalibus, radio et disco 5-floris; involucriis cylindraceis; rachide nuda.* Less.

1. *B. Euthamiæ.* *Nutt. Gen. Am. v. 2. p. 163.*—*Solidago Sarothræ.* *Pursh, Fl. Am. v. 2. p. 540.*

HAB. High grounds of the Saskatchewan (*Drummond*) and Red Rivers. *Douglas.*

63. MADIA. *Molina.*

Radius femineus, uniserialis. *Discus* hermaphroditus. *Corolla* radii lingulata, linguula triloba tubum superante. *Achenium* erostre, tetragono-compressum, quadricostatum, disco

epigyno parvo. *Pappus* nullus.—Herbæ *Chilenses et oris occidentalis Americæ borealis, viscidæ, erectæ; foliis alternis, semiamplexicaulis, oblongis; capitulis luteis, terminalibus vel axillaribus; rachide plana, nuda; involucriis uniserialibus, pubescentibus.* Less.

1. *M. viscosa*; capitulis axillaribus solitariis multifloris, radiis conspicuis.— α . capitulis subsessilibus radiis parvis.—*M. viscosa.* *Cav. Ic. v. 3. p. 50. t. 298. Sims, Bot. Mag. t. 2574.*—*Madia mellosa.* *Mol.—Jacq. Hort. Schoenbr. v. 3. t. 302.* (excellent.)—*M. sativa.* *Mol.— β . capitulis plerisque pedunculatis, radiis magnis.—M. elegans.* *Don, v. Bot. Reg. t. 1458.*

HAB. α . and β . Fort Vancouver on the Columbia. *Dr. Scouler. Douglas.*—The figure in the Botanical Register of *Madia elegans* is strangely altered, by cultivation in rich garden soil, from the form exhibited by the native plants from the Columbia. These differ very slightly from the more usual appearance of *M. viscosa*, as seen in specimens from Chili.

2. *M. glomerata*; capitulis (2-4) glomeratis paucifloris in corymbam terminalem dispositis, radiis obsolete.

HAB. Plains of the Saskatchewan. *Drummond.*—Aware as I am that *Madia viscosa* is liable greatly to vary, I still cannot bring myself to consider the present as a state of that species. The inflorescence is a true compound corymb, the branches, which are leafy, bearing at the extremity a cluster of 3-5 few-flowered capitula, much narrower than those of *M. viscosa*, and apparently quite destitute of ray. This is the first time that any *Madia* has been found on the east side of the great chain of mountains which separates eastern from western America.

64. CRINITARIA. Cass.

Capitulum homogamum discoideum multi—(pauci-)—florum. *Rachis* ebracteolata. *Pappus* pilosus biserialis. *Achenium* erostre, compressum, sericeum.—Herbæ *per Europam, Asiam meridionalem (et Americam septentrionalem) crexerunt; foliis alternis, confertis, linearibus, subintegerrimis; capitulis luteis, solitariis, ramulos corymbosim dispositos terminantibus; involucriis pauciserialibus, foliaceis.* Less.

1. *C. viscidiflora*; glaberrima, foliis lineari-lanceolatis rigidis integerrimis acutissimis uninerviis basi angustatis, floribus fastigato-corymbosis, pedunculis foliolosis, involucri glutinosi cylindrici 5-flori foliolis imbricatis oblongis exterioribus minoribus.

HAB. A common shrub, 2-4 feet high, on the barren plains of the Columbia, from the Great Falls to the Mountains, and along the Salmon River, N. W. America. *Douglas.*—My specimens of this are small and few. The species is in many respects allied to Nuttall's *Chrysocoma virgata*, but that is "herbaceous," and an inhabitant of swamps of New Jersey, near the coast. From the same author's *C. graveolens* it differs in the leaves being only single-nerved and the branches quite glabrous, not in the least "pulverulently tomentose."

2. *C. humilis*; annua nana vage ramosa, ramis hic illic hirsutulis, foliis lineari-lanceolatis denticulato-ciliatis mucronulato-acutis, floribus axillaribus terminalibusque, involucri glabri foliolis linearibus exterioribus majoribus foliaceis.

HAB. On the banks of the Saskatchewan, between Carlton House and Edmonton House. *Drummond.*—I introduce this small plant (3-4 inches high) into this place with much hesitation; very few specimens are in the Herbarium, and its affinity with *Crinitaria* is highly doubtful. The flowers, however, sufficiently accord with the Genus.

SUBTRIB. II. INULÆ. *Capitula nunquam dioica; si heterogama floribus marginalibus femineis sæpissime corollas lingulatas gerentibus, reliquis ♂. Rachis plerumque ebracteolata. Antheræ caudatæ. Pappus varius, nunquam gamophyllus, hinc inde nullus. Less.*

65. DONIA. Br.

Capitulum radiatum. Pappus setaceus, uniserialis, valde caducus, conformis, setis rigidissimis, subcorneis. Cor. floris fœminæ lingulata. Achenium erostre. Rachis ebracteolata. —Fruticuli Mexicani (Americæ septentrionalis) vel Canarienses, sæpe viscosi, foliis alternis, semiamplexicaulibus, oblongis, dentatis; capitulis magnis solitariis, terminalibus, luteis. Less.

1. *D. glutinosa*; caule herbaceo ("fruticoso" alior.) erecto, foliis obovato-oblongis obtusiusculis cum mucrone ante apicem mucronato-dentatis vel integerrimis, involucri glutinosi foliolis exterioribus subulatis squarrosis. —Br. Hort. Kew. ed. 2. v. 5. p. 82. Ker, Bot. Reg. t. 187. —Aster glutinosus. Cass. —Doronicum. Willd. —Grindelia. Spreng.

HAB. Common on dry soils, from the source of the Columbia to its confluence with the Pacific. Douglas. —Nutka. Dr. Scouter. —Our specimens have a deep, perennial tap-root, but a decidedly herbaceous stem.

2. *D. squarrosa*; caule herbaceo valde ramoso, foliis omnibus oblongis amplexicaulibus serratis subglaucescentibus, involucri glutinosi foliolis exterioribus subulatis squarrosis. —Pursh, Fl. Am. v. 2. p. 559. Sims, Bot. Mag. p. 1706. —Grindelia squarrosa. Rich. in Frankl. 1st Journ. ed. 2. App. p. 33.

HAB. Woody country between lat. 54° and 64°. Dr. Richardson. Abundant on the banks of the Saskatchewan, between Carlton House and Edmonton House. Drummond. Plains of the Red River and vallies of the Rocky Mountains, on the east side. Douglas.

3. *D. inuloides*; caule basi suffruticoso apice pubescente, foliis glabris radicalibus spathulatis caulinis subovatis serratis basi latioribus subamplexicaulibus, pedunculis pubescentibus, involucri vix glutinosi foliolis exterioribus subulatis squarrosis. —Grindelia inuloides. Desf. in Mem. du Mus. v. 5. p. 50. t. 15. —β. ramis foliis involucrique glanduloso-hirtis. —Grindelia inuloides. Ker, in Bot. Reg. t. 248. (excellent.)

HAB. β. Near the sources of the Multnomah River. Douglas. —The leaves of the whole upper part of the stem are ovate, acuminate, cordate at the base, and amplexicaul; and the species appears to me very distinct, although Sprengel has united it with *D. squarrosa*. Mr. Brown seems now inclined to unite his Genus *Donia* with *Grindelia*. I have followed Lessing in keeping them distinct.

4. *D. lanceolata*; herbacæ, glabra, foliis rigidis ciliato-dentatis acutis radicalibus lanceolatis longe petiolatis, caulinis lineari-lanceolatis petiolatis superioribus acuminatis basi cordatis sessilibus amplexicaulibus, caule erecto simplici, floribus 4-5 subcorymbosis, involucri subtomentosi (non viscosi) foliolis oblongo-linearibus acutis imbricatis erectis exterioribus sensim minoribus.

HAB. Saskatchewan, between Carlton House and Edmonton House. Drummond. —Root fusiform, perennial, clothed above with the fibrous remains of the former year's root-leaves. Stem a foot and a half high.

5. *D. uniflora*; herbacæ, subdecumbens, foliis rigidis radicalibus lanceolatis grosse acutis dentatis acuminatis longe petiolatis, caulinis oblongo-lanceolatis sessilibus superioribus basi

latioribus amplexicaulibus, caulibus simplicibus lanatis unifloris, involucri lanati foliolis laxis erectis linearibus acutis exterioribus longioribus. (TAB. CXXIV.)

Radix perennis crassa fusiformis, superne foliorum vetustorum reliquiis fibrosis hispida. *Caulis* 3-5 ex eadem radice, spithamæ et ultra, basi subdecumbentes, herbacei, lanati, simplices, 1-raro-2-3-flori. *Folia* radicalia, numerosa, lato-lanceolata, acuminata, glabra, juniora laxè lanata, grosse acute serrata, nunc, extrema præcipue, omnino integerrima, longè petiolata. *Caulina* omnia sessilia, integerrima, inferioribus oblongo-lanceolatis superioribus sensim minoribus magis acuminatis basi latioribus amplexicaulibus. *Flos* plerumque solitarius, magnus. *Involucri foliola* subæqualia, erecta, laxa, linearia, lanata, acuta. *Radii floreculi* flavi, omnes papposi, pilis numerosis scabris. *Receptaculum* subalveolatum. *Achenia* pilosa, superne præcipue pilis erectis sericeis.

HAB. Plains of the Saskatchewan and Prairies of the Rocky Mountains. *Drummond*.

TAB. CXXIV.—*Fig. 1*, Floret of the ray; *fig. 2*, Floret of the disk:—magnified.

COMPOSITÆ *Omissa*.

Post *Eupatorium occidentale*, v. 1. p. 305, *adde*

5.* *Eupatorium? grandiflorum*; glabrum, foliis alternis petiolatis cordato-triangularibus acuminatis grosse serratis venosis, paniculæ floribus glomeratis, involucri foliolis multiseriatis linearibus oblongis acutis striatis exterioribus e lata basi subulatis subsquarrosis, acheniis cylindraceis striatis scabridis.

HAB. On the low hills between the north and south branches of Lewis and Clark's River, in stony places. *Douglas*.—Three to four feet high, herbaceous. *Stem* rounded. *Flowers* large, white, clustered. The leaves bear a considerable resemblance to those of *E. occidentale*, but the flowers are totally different, larger than is usual in this Genus, each of many florets, and with the stigmas less exerted than usual. I possess only a solitary specimen.

Post *Ambrosiam acanthicarpam*, v. 1. p. 309, *adde*

4. *A. trifida*; elata scaberrima, foliis (amplis) petiolatis integris vel profunde 3-5-fidis serratis segmentis ovali-lanceolatis acuminatis, racemis elongatis paniculatis, fructu supra medium spinis 6 brevibus erectis.—*Linn.*—*Mich. An.* v. 2. p. 183. *Pursh, Fl. Am.* v. 2. p. 581. *Elliott, Carol.* v. 2. p. 476.

HAB. Canada. Common. *Dr. Holmes* (in *Herb. Greville*.)

ORD. LII. CAMPANULACEÆ. *Br.*

SECT. I. CAMPANULÆ. *Cor. monopetala, regularis. Antheræ liberæ. Br.*

1. CAMPANULA. (*L.*) *Alph. De Cand.*

Cal. 5-fidis, sinibus sæpe appendicibus obtectis. *Corolla* apice 5-loba, vel 5-fida, sæpius campanulata. *Stam.* 5, libera, filamentis basi latis et membranaceis. *Stylus* in alabastro pilis collectoribus (excepta ima basi) tectus. *Stigmata* 3-5, filiformia. *Ovarium* omnino inferum, 3-5-loculare. *Capsula* vulvis 3-5, lateraliter dehiscens. *Semina* sæpius ovata, complanata, interdum ovoidea et tunc minima.—*Herbæ perennes, rarius biennes v. annuæ; nunc humiles et cæspitantes, nunc contra 2-3-pedales, erectæ et multifloræ. Folia radicalia a*

caulinis sæpissime diversa, nempe majora, longius petiolata et obtusa. Flores plerunque pedunculati racemosi rarius spicati v. glomerati, pro ordine majusculi, cærulei vel (in eadem specie) albi. Omnes in hemisphæra boreali habitantes. *Alph. D. C.*

1. *C. dasyantha*; foliis radicalibus ovato-acutis petiolatis crenatis glabriusculis, caulinis sessilibus lanceolatis integris pubescentibus, lobis calycinis ovato-lanceolatis acutis corolla infundibuliformi triplo brevioribus, sinuum appendicibus minimis subulatis. *Alph. De Cand.*—*Bieb. Fl. Taur. Cauc. Suppl. p. 147. Reich. Ic. v. 1. t. 85. Cham. in Linnæa, v. 4. p. 37. Alph. De Cand. Camp. p. 230.*

HAB. Unalashka and Islands of Behring's Straits. *Chamisso.*

2. *C. petiolata*; glaberrima simplex pauciflora, foliis radicalibus longe petiolatis cordatis rotundatis dentatis petiolatis marginatis, caulinis inferioribus lanceolatis remote dentatis petiolatis, superioribus linearibus integris, lobis calycinis erectis subulatis corolla campanulata duplo brevioribus. *Alph. De Cand. Camp. p. 278.*

HAB. Slave Lake. *Dr. Richardson.*

3. *C. linifolia*; caule erecto, foliis radicalibus paucis petiolatis ovatis sinuatis, caulinis linearibus integris, laciniis calycinis longis erectis corolla campanulata ampla duplo vel triplo brevioribus. *Alph. De Cand. Camp. p. 179. Hænk. in Jacq. Coll. v. 2. p. 81.*—*C. rotundifolia*, β . *linifolia*. *Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*— δ . *Langsdorffiana*; glabra, caule erecto subuniflora, foliis radicalibus ovato-rotundatis integris, caulinis inferioribus obovato-lanceolatis. *Alph. De Cand.*

HAB. From Lake Huron. *Dr. Todd*, throughout the woody country, from lat. 54° to 64°. *Dr. Richardson.* Common on the N.W. Coast, and on the banks of the Columbia, from its source to its confluence with the sea, and at Puget's Sound. *Douglas.* Port Wentworth and Sledge Island, Behring's Straits. *Mr. Menzies.*— δ . Arctic America, from Greenland (*Hornemann*) to the Aleutian Islands. *Langsdorff (in Alph. De Cand.)*—My specimens from Mr. Menzies and Douglas exactly correspond with the European ones.

4. *C. rotundifolia*; foliis radicalibus petiolatis cordatis rotundatis crenato-dentatis, caulinis linearibus vel lanceolatis, alabastris erectis, calycis laciniis subulatis brevibus erectis corolla campanulata triplo brevioribus. *Alph. De Cand.*—*Linn.*—*Mich. Am. v. 1. p. 108. Engl. Bot. t. 866. Pursh, Fl. Am. v. 1. p. 159. Rich. in Frankl. 1st Journ. ed. 2. App. p. 65. Torrey, Fl. of Un. St. v. 1. p. 236. Alph. De Cand. Camp. p. 68.*

HAB. Throughout the woody country, between lat. 54° and 64°. *Dr. Richardson, l. c.* Near Quebec. *Mrs. Percival.*—I have seen no specimens from the west side of the Rocky Mountains; and, indeed, all those in Captain Franklin's Collection are referable, I think, rather to *C. linifolia*, if the two be really distinct.

5. *C. dubia*; glabra, caule uniflora, foliis caulinis erectis angustis inferioribus lineari-lanceolatis, superioribus longe acuminatis, lobis calycinis subulatis corolla infundibuliformi tubulosa duplo brevioribus. *Alph. De Cand. Camp. p. 286. (et in Herb. nostr.)*

HAB. Newfoundland. *Dr. Morrison.*—I should myself be disposed to consider this a single-flowered var. of *C. linifolia*.

6. *C. pratensis*; caule humili uniflora superne magis folioso, foliis omnibus petiolatis ovato-

acutis subcrenatis, laciniis calycinis longe acuminatis corolla infundibuliformi $\frac{1}{2}$ brevioribus. *Alph. De Cand. Camp. p. 287.*— β . foliis caulinis angustioribus linearibus. *Alph. De Cand.*

HAB. Near the Coast on the western side of Newfoundland. *De la Pylaie (in Alph De Cand. Camp.)*

7. *C. aparinoides*; glabra, caule debili ascendente simplici pauciflora angulis retro-scabra, foliis inferioribus lineari-obovatis aliis lineari-acuminatis remote denticulatis retrorsum scabris, lobis calycinis triangularibus corolla campanulata duplo brevioribus, capsula spheroiden. *Alph. De Cand.*—*Pursh, Fl. Am. v. 1. p. 159.* *Torrey, Fl. of Un. St. v. 1. p. 237.* *Alph. De Cand. Camp. p. 290.*—*C. crinoides.* *Muhl.—Bigel. Fl. Bost. ed. 2. p. 85.* *Elliott, Carol. v. 1. p. 263.*

HAB. Canada. *Mr. Goldie.* From Lake Huron (*Dr. Todd*) to the Saskatchewan. *Drummond.*

8. *C. Scouleri*; simplex vel ramosa pauciflora, foliis acute serratis glabriusculis inferioribus ovato-acutis petiolatis mediis ovato-lanceolatis superioribus lineari-lanceolatis sessilibus, floribus racemosis, calycis glabri lobis subulatis corolla 5-fida infundibuliformi triplo brevioribus, stylo exserto, capsula ovoiden. (TAD. CXXV.)—*Hook. in Alph. De Cand. Camp. p. 312.*— α . *hirsutula*; lobis calycinis magis erectis.— β . *glabra*; lobis calycinis patentissimis, foliis majoribus tenuioribus.

HAB. Fort Vancouver on the Columbia. *Dr. Scouler.* β . Common in partially shaded Pine Forests, on the N.W. Coast. Plentiful about Fort Vancouver. *Douglas. Dr. Scouler.*

TAB. CXXV.—*Fig. 1, Flower; fig. 2, Immature capsule:—magnified.*

9. *C. planiflora*; glaberrima, caule simplici, foliis sessilibus coriaceis nitidis radicalibus confertis ovatis vel obovato-obtusis crenulatis, caulinis lineari-lanceolatis acutis subintegris, floribus spicato-racemosis, lobis calycinis ovato-acutis latis erectis corolla campanulato-rotata triplo brevioribus. *Alph. De Cand.*—*Lam. Dict.—Alph. De Cand. Camp. p. 312.*—*C. nitida.* *Ait. Hort. Kew. ed. 1. v. 1. p. 246.* *Pursh, Fl. Am. v. 2. p. 731.*

HAB. North America; and *Pursh* supposes, but upon very vague authority, from Hudson's Bay. I have never seen any plant like it from that country, and the American Botanists seem to be unacquainted with it.

10. *C. Americana*; caule simplici, foliis radicalibus ovato-acutis subcordatis petiolatis serratis, caulinis ovato-lanceolatis utrinque acuminatis serrulatis, floribus longe spicatis, lobis calycinis valde acuminatis patulis corolla campanulato-rotata subbrevioribus, capsula cylindracea sulcata. *Alph. De Cand.*—*Linn.—Pursh, Fl. Am. v. 1. p. 159.* *Torrey, Fl. of Un. St. v. 1. p. 237.* *Alph. De Cand. Camp. p. 314.*—*C. acuminata.* *Mich. Am. v. 1. p. 108.* *Pursh, l. c. Elliott, Carol. v. 1. p. 262.* *Torrey, Fl. of Un. St. l. c.*

HAB. On rocks about the Falls of Niagara, *Mr. Cooper, (in Torrey's Fl.)*—I have never seen specimens of this from British America.

11. *C. lasiocarpa*; caule uniflora nudiusculo, foliis radicalibus confertis lanceolato-obovatis setaceo-denticulatis, petiolis ciliatis, calyce tubo villosa lobis acuminatis denticulatis, corolla infundibuliformi campanulata lobis calycinis duplo longiore, capsula subcylindracea. *Alph. De Cand.*—*Cham. in Linnæa, v. 4. p. 39.* *Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 127.*—*C. aligida.* *Fisch. MSS.—Alph. De Cand. Camp. p. 338. t. 11. f. 4.*

HAB. Summits of the highest of the Rocky Mountains, near Lake La Pierre. *Drummond*. Unglasebla, Sledge and Hedge Islands, in Behring's Straits, Kotzebue's Sound. *Lay and Collie*, in *Captain Poechey's Collection*.

12. *C. uniflora*; caule unifloro, foliis subintegris inferioribus obovatis petiolatis, mediis obovato-lanceolatis, superioribus rarioribus lineari-lanceolatis, calyce villosiusculo, lobis lineari-acuminatis corolla infundibuliformi subæqualibus, capsula cylindracea. *Alph. De Cand.*—*Linn.*—*Fl. Dan. t. 1512.* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.* *lph. De Cand. Camp. p. 330.*

HAB. Shores and Islands of the Arctic Sea, from the eastern to the western extremity. Alpine places in the Rocky Mountains. *Drummond*.

2. SPECULARIA. Heist.

Calyx 5-lobus, tubo elongato prismatico vel longe obconico. *Corolla* rotata, 5-loba. *Stam.* 5, inter se libera, corolla dimidio breviora; *filamenta* brevia, membranacea, pilosa; *anthera* filamentis longiores. *Stylus* inclusus, pilosus, pilis secundum ordines 10 dispositis. *Stigmata* tria, filiformia. *Capsula* longe prismatica, 3-locularis, 3-valvis, prope apicem vel paulo supra mediam partem sitis dehiscens. *Semina* ovoidea vel lenticularia, subcompressa, nitidissima.—Herbæ *annuae, humiles, in regione maris Mediterranei et Europa temperata præcipue habitantes: una species tantum in America.* Folia alterna, per caulem æqualiter sparsa parva; inferiora ab aliis parum dissimilia. Flores terminales et axillares, semper sessiles erecti. Corolla cærulea, rosea vel ex albo et cæcio variegata, sole luente rotata. *Alph. De Cand.*

1. *S. perfoliata*; caule erecto simplici, foliis ovato-rotundatis crenatis amplexicaulibus, floribus axillaribus longe foliaceo-spicatis, calyce glabro, tubo obconico lobis erectis lanceolatis, corolla lobis calycinis longiore.—*Alph. De Cand. Camp. p. 351.*—*Campanula perfoliata.* *Linn.*—*Pursh, Fl. Am. v. 1. p. 160.*—*Bigel. Fl. Bost. ed. 2. p. 85.*—*Campanula amplexicaulis.* *Mich. Am. v. 1. p. 108.* *Elliott, Carol. v. 1. p. 262.* *Torrey, Fl. of Un. St. v. 1. p. 256.*

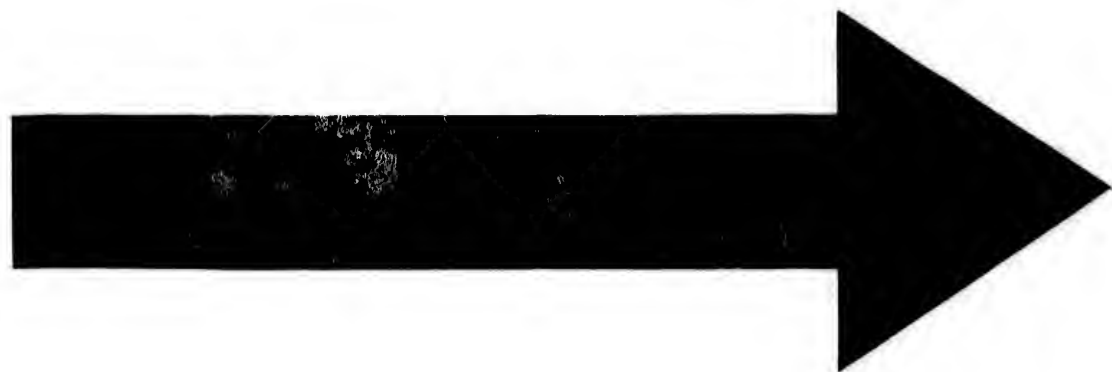
HAB. N.W. Coast of America; about the Columbia. *Douglas. Dr. Scouter.*

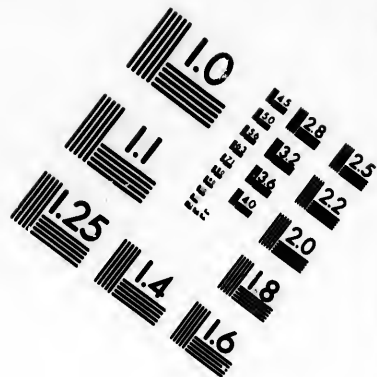
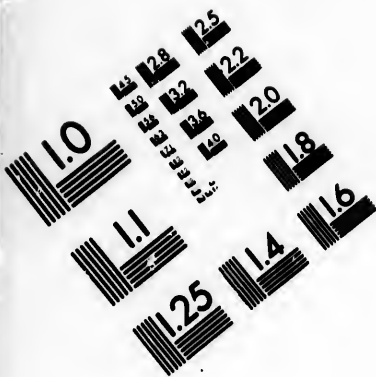
SECT. II. LOBELLE. *Corolla irregularis (nunc 5-petala).* *Antheræ sæpe connatæ.* *Br.*

3. LOBELIA. L.

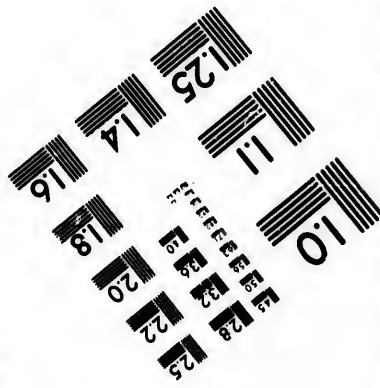
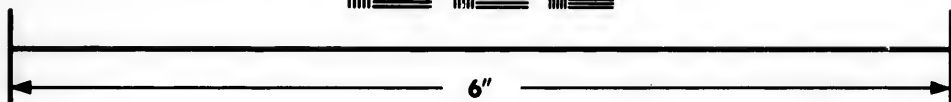
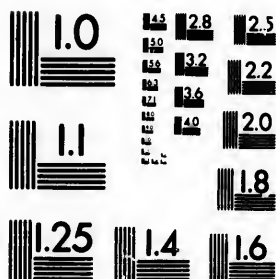
Corolla tubo hinc fissa (raro integro) limbo 5-partito. *Antheræ* connatæ. *Stigma* bilobatum (nunc indivisum). *Capsula* bilocularis (raro 3-loc.), apice supero bivalvi.—Herbæ (vel suffrutices) *pleræque lactescentes.* Folia alterna integra vel laciniata, raro fistulosa. Flores racemosi, terminales vel axillares, solitarii, pedicellis bibracteatis v. nudis. *Antheræ sæpius barbatae.* *Br.*

1. *L. Dortmanna*; foliis radicalibus subcylindricis obtusis bitubulosi, scapo parce folioso, floribus racemosis.—*Linn.*—*Engl. Bot. t. 140.* *Mich. Am. v. 2. p. 153.* *Pursh, Fl. Am. v. 2. p. 446.* *Bigel. Fl. Bost. ed. 2. p. 87.* *Torrey, Fl. of Un. St. v. 1. p. 239.*—*L. pululosa.* *Nutt.*





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HAB. Slave Lake, English River, and in a small Lake at the summit of Portage la Loche. *Dr. Richardson*.

2. *L. Kalmii*; glabra, caule erecto gracili ramoso, foliis lineari-elongatis subdentatis radicalibus brevibus spathulatis, racemis laxis paucifloris subfoliosis, pedicellis elongatis biglandulosis, calycis glaberrimi laciniis subulatis, germine basi attenuato.—*Linn.*—*Mich. Am. v. 2. p. 153.* *Pursh, Fl. Am. v. 2. p. 446.* *Bigel. Fl. Bost. ed. 2. p. 86.* *Torrey, Fl. of Un. St. v. 1. p. 239.*

HAB. From Lake Huron, *Dr. Todd*, throughout Canada to the Saskatchewan and Hudson's Bay, and in saline marshes in lat. 60°. *Dr. Richardson*.—The *L. gracilis* of Mr. Nuttall (*L. Nuttallii*, Roem. et Sch.), is a still slenderer plant than the present, with smaller flowers, shorter pedicels, bilobed at the base, but destitute of the two glands upon the pedicel, and the germen is obtuse at the base.

3. *L. Claytoniana*; erecta simplex pubescens, foliis oblongis subintegerrimis ciliatis basi attenuatis, radicalibus obovato-spathulatis, racemo gracili elongato nudo, bracteis solitariis pedicello eglanduloso longioribus, calycis glabri laciniis subulatis tubo corollæ parum brevioribus.—*Mich. Am. v. 2. p. 153.* *Pursh, Fl. Am. v. 2. p. 447.* *Elliott, Carol. v. 1. p. 265.* *Torrey, Fl. of Un. St. v. 1. p. 240.*—*L. pallida.* *Muhl.*—*Bigel. Fl. Bost. ed. 2. p. 86.*—*L. spicata.* *Lam.*

HAB. On the Saskatchewan, apparently rare, as very few specimens are in the Collection. *Drummond*.

4. *L. inflata*; pubescens, caule erecto simplici vel ramoso, foliis oblongo-ovalibus dentatis inferioribus in petiolum brevem attenuatis, racemis basi foliosis, capsulis globosis inflatis.—*Linn.*—*Mich. Am. v. 2. p. 152.* *Pursh, Fl. Am. v. 2. p. 448.* *Bigel. Fl. Bost. ed. 2. p. 86.* *Elliott, Carol. v. 1. p. 266.*

HAB. Lake Huron, *Dr. Todd*, to the Saskatchewan and Hudson's Bay. *Dr. Richardson.* *Drummond*.

5. *L. sylvatica*; subhirsuta, caule erecto simplici, foliis ovato-lanceolatis utrinque breviuminatis dentatis infimis in petiolum attenuatis, racemo elongato basi folioso, calycis hirsuti laciniis subulatis tubo corollæ brevioribus sinibus reflexis.—*Linn.*—*Mich. Am. v. 2. p. 151.* *Pursh, Fl. Am. v. 2. p. 447.* *Elliott, Carol. v. 1. p. 256.*

HAB. Lake Huron, abundant. *Dr. Todd*.—Flowers blue, vastly larger than any of the preceding species, and next in size to those of *L. cardinalis*.

6. *L. cardinalis*; glabra, caule erecto simplici, foliis lato-lanceolatis serratis, racemis elongatis secundis, floribus erectis, calycis glabri laciniis subulatis tubo elongato corollæ brevioribus, staminibus exsertis.—*Linn.*—*Curt. Bot. Mag. t. 320.* *Mich. Am. v. 2. p. 151.* *Pursh, Fl. Am. v. 2. p. 448.* *Bigel. Fl. Bost. ed. 2. p. 85.* *Torrey, Fl. of Un. St. v. 1. p. 242.*

HAB. Throughout Canada, from Lake Huron to the Saskatchewan. *Dr. Richardson.* *Drummond*.

4. CLINTONIA. Dougl.

Cal. superius, pentaphyllus, subæqualis. *Corolla* monopetala, bilabiata, labio inferiore cuneato trilobo superiore erecto bipartito. *Stamina* in tubo connata, incurva. *Antheræ* connatæ, duabus apice setigeris. *Ovarium* siliquiforme triangulare, contorturo, uniloculare, placentis duabus parietalibus. *Capsula* arida, chartacea, polysperma, in valvulis tribus lo-

reformibus dehiscens.—Herba annua, procumbens, microphylla. Flores solitarii, axillares. Lindl.

1. *C. elegans*. Dougl. in Bot. Reg. t. 1241.

Herba annua procumbens, parum ramosa, glabra. Caulis teres, angulatus. Folia sessilia, ovata, trivenia. Flores solitarii, axillares. Ovarium sessile, longe acuminatum, foliis 4-5-plo longius, triangulare, contortum. Corolla cœrulea, labio inferiore medio macula alba. Antheræ cœruleæ. Stigma conicum, barba papillosa circumdatum. Capsula foliis multoties longiores. Pollen ovale medio sulcatum. Lindl. l. c.

HAB. Common on overflowed grounds, near the sources of the Multnomack, and in the valleys of the western side of the Rocky Mountains. Douglas.—I have preferred giving Professor Lindley's remarks upon this interesting plant, made from living specimens, to any I could offer from the dried one. The same able Botanist observes that it exhibits an instance of unilocular fruit with parietal placentæ, in an Order which has multilocular fruit and axile placentæ; yet, what is very remarkable, this deviation from the normal structure of the Order is unaccompanied by any corresponding irregularity in the other parts of the fructification. As cultivated in the London Horticultural Society's Garden, "it forms one of the most beautiful annuals with which we are acquainted. Notwithstanding the want of spreading foliage to give its flowers effect, the latter are of so brilliant a colour, that the plants, when grown in broad patches, resemble a carpet of silver and blue."

ORD. LIII. VACCINIEÆ. De Cand.

1. VACCINIUM. Linn.

Cal. ovario adhærens limbo 4-5-dentato. Cor. 1-petala, ovata, campanulata seu rotata limbo 4-5-fido. Stam. 8, perigyna. Antheræ bicornes apice poris dehiscentes, dorso non raro bisetosæ. Ovarium subglobosum. Stylus simplex. Stigma obtusum. Bacca globosa, 4-5-locularis. Semina pauca, minuta. Frutices humiles. Folia sparsa latiuscula, decidua vel persistentia exstipulata. Flores saepe ante folia, solitarii vel racemosi, nutantes, inodori, sapissime incarnati. Baccæ plerumque edules.

A. corollis ovatis seu campanulatis. Vaccinium.

* *Foliis deciduis. Floribus racemosis.*

1. *V. resinosum*; foliis brevi-petiolatis ovali-oblongis integerrimis opacis subtus præcipue resinoso-punctatis, racemis lateralibus secundis bracteatis, corollis ovatis subangulatis.—Ait. —Mich. Am. v. 1. p. 230. Bot. Mag. t. 1288. Pursh, Fl. Am. v. 1. p. 286. Elliott, Carol. v. 1. p. 498. Bigel. Fl. Bost. ed. 2. p. 150. Torrey, Fl. of Un. St. p. 416.

HAB. Canada. Pursh. Mrs. Sheppard. Lake Huron. Dr. Todd, to the Saskatchewan. Drummond.

2. *V. corymbosum*; ramis floriferis subaphyllis, foliis oblongo-lanceolatis integerrimis junioribus pubescentibus, racemis compactis bracteatis, corollis ovato-cylindraceis.—Linn. —Pursh, Fl. Am. v. 1. p. 286. Elliott, Carol. v. 1. p. 498. Bigel. Fl. Bost. ed. 2. p. 150. Torrey, Fl. of Un. St. v. 1. p. 416.—V. dimorphum. Mich. Am. v. 1. p. 231.—V. amœnum. Ait.—Pursh.

HAB. About Quebec. Cleghorn. Mrs. Percival. Lake Huron. Dr. Todd. Newfoundland. Dr. Morrison.—Pursh describes the berries as black, Bigelow, as being covered with a blue powder.

3. *V. Pennsylvanicum*; foliis sessilibus ovali-lanceolatis subserrulatis junioribus nervis pubescentibus, racemis fasciculatis subterminalibus, corollis ovatis.—*Lam. Dict. v. 1. p. 72. Mich. Am. v. 1. p. 232. Torrey, Fl. of Un. St. v. 1. p. 416.*—*V. tenellum. Pursh, Fl. Am. v. 1. p. 288. Bigel. Fl. Bost. ed. 2. p. 150. (non Ait.)*

HAB. From Lake Huron, *Dr. Todd*, throughout Canada to the Saskatchewan. *Drummond. Dr. Richardson. Newfoundland. Dr. Morrison.*—This appears to be a very common species in Canada, judging from the number and various localities of the specimens that have been sent to me. Some of these, indeed, so far as can be judged in the dried state, seem to be very nearly allied to *V. corymbosum*, differing chiefly in the smaller size, more frequently serrulated leaves which are most copious on the flowering branches, and the shorter corollas. Berries clothed with a blue farina.

4. *V. Canadense*; foliis oblongo-lanceolatis integerrimis subtus præcipue pubescentibus ad nervos patenti-hirsutis, floribus fasciculato-racemosis, corollis ovatis.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 12.*

HAB. Throughout Canada from Lake Huron (*Drummond*), to Bear Lake, (*Dr. Richardson*), and from Missinabie River, Hudson's Bay (*Mr. Bolton, Douglas*), to the sources of the Columbia, (*Drummond*), and thence probably to the mouth of that river, (*Douglas*).—Of this, the flowers, fruit, and the foliage, in shape, very much resemble those of *V. Pennsylvanicum*, but the leaves, especially below, and in the oldest state, are clothed with a rather copious pubescence, and the nerves are rendered more conspicuous by the abundant spreading hairs. Berries as in the preceding species.

* * *Foliis deciduis. Pedunculis unifloris.*

5. *V. uliginosum*; foliis obovatis obtusis integerrimis subtus glaucis venosis, floribus sub-solitariis, corollis ovatis.—*Linn.—Engl. Bot. t. 581, (foliis nimis acutis.) Mich. Am. v. 2. p. 235. Pursh, Fl. Am. v. 1. p. 288. Rich. in Frankl. 1st Journ. ed. 2. App. p. 12. Bigel. Fl. Bost. ed. 2. p. 153. Torrey, Fl. of Un. St. v. 1. p. 417.*

HAB. From the Saskatchewan and Hudson's Bay to the extreme Arctic shores and islands. *Dr. Richardson. Drummond. Newfoundland. Mr. Cormack. Dr. Morrison. Labrador. Dr. Morrison. N. W. coast of America, probably far north of the Columbia. Mr. Menzies. Unalashka. Chamisso.*—In the low lands this plant does not appear to exist south of the Saskatchewan. In the United States, the summits of the White Hills of New Hampshire, where it was first detected by *Dr. Bigelow*, and *Dr. Boott*, is the only known station for it. A variety, slightly downy on the underside, found in Greenland, is the *V. pubescens* of *Hornemann* in *Fl. Dan.*, of which specimens are in my Herbarium.

6. *V. salicinum*; foliis cuneato-lanceolatis cuspidatis integerrimis glaberrimis subcoriaceis reticulato-venosis, floribus solitariis breviter pedunculatis axillaribus. *Cham. in Linnaea, v. 1. p. 525.*

HAB. Unalashka. *Chamisso*, (in *Herb. nostr.*)—This has remarkably narrow and cuspidate leaves.

7. *V. myrtilloides*; foliis ovalibus utrinque acutiusculis subserratis opacis membranaceis junioribus ad nervos subpubescentibus, floribus ovato-globosis axillaribus solitariis.—*Mich. Am. v. 1. p. 234. Pursh, Fl. Am. v. 1. p. 288.*—*V. angustifolium. Ait. Hort. Kew. ed. 1.—β. macrophylla*; foliis majoribus. *V. Myrtillus*, var. *Sm. in Rees's Cycl.*—*V. membranaceum. Dougl. MSS.—γ. ? rigidum*; foliis subcoriaceis.

HAB. Canada to Hudson's Bay. *Michaux.* Newfoundland and Labrador. (*Ait.*) Lake Huron. *Dr. Todd.* Hills and alpine woods of the Rocky Mountains. *Drummond.* Summit of the high mountains of the Grand Rapids and vallies on the west side of the Rocky Mountains; a common fruit, purplish-brown, and much esteemed by the natives. *Douglas.*— β . and γ . N. W. Coast. *Mr. Menzies.*—*Michaux's* name is certainly very applicable to this plant; more so than his character of the leaves (folia angusto-lanceolata). On the other hand, *Aiton's* character, especially of the leaves (elliptico-lanceolata), is more correct than his name; hence I have preferred *Michaux's*, though the Hortus Kewensis has the right of priority. I am doubtful about *Mr. Menzies's* plant, which has thicker and more coriaceous, and somewhat shining foliage.

8. *V. Myrtillus*; ramis acute angulatis viridibus, foliis ovatis serratis glaberrimis nitidis, floribus solitariis.—*Linn.*—*Engl. Bot. t. 456.*— β . *microphyllum*; foliis 2-3 lineas longis.

HAB. Unalashka? *Chamisso.*— β . Alpine woods near the Height of Land and Columbia Portage. *Drummond.*—The specimens have no flower, but there can be no question of this plant being a variety of *V. Myrtillus*. *Chamisso's* specimens from Unalashka were so imperfect that he could not determine whether they really belonged to this species or not; their leaves are said to be entire at the margin, or with a very few and obsolete teeth.

9. *V. cæspitosum*; pusillum, ramis cæspitosis, foliis obovatis basi cuneatis membranaceis serratis venosis nitidis, floribus (numerosis) solitariis, corollis oblongis suburceolatis, antherarum poris longe tubulosis. (TAB. CXXXVI.)—*Mich. Am. v. 1. p. 234.* *Pursh, Fl. Am. v. 1. p. 288.*— β . foliis majoribus.

Radix longè descendens. *Caulis* breves, cæspitosi. *Folia* densa, parva, obovata vel oblongo-ovata, basi cuneato-attenuata, serrata, membranacea, reticulatim venosa. *Flores* numerosi, solitarii, pendentes. *Pedicelli* breves. *Corolla* oblonga, suburceolata, 5-dentata. *Antheræ loculi* superne valde producti, tubulosi, dorso longissime aristati. *Baccæ* magnæ, globose, cæruleo-cæsiæ, edules.

HAB. About Hudson's Bay. *Michaux.* Dry elevated spots, and in pine woods of the Rocky Mountains; about Lake Winipeg, and on the Saskatchewan. *Drummond.* In the vallies on the west side of the Rocky Mountains. *Douglas.*— β . N. W. Coast. *Mr. Menzies.*

TAB. CXXXVI.—*Fig. 1,* Flower; *fig. 2,* Stamen; *fig. 3,* Pistil.

10. *V. ovalifolium*; foliis ellipticis muticis membranaceis integerrimis glabris subtus præcipue venosis, ramulis angulatis, floribus ante folia bracteatis solitariis, corollis oblongo-ovatis. (TAB. CXXXVII.)—*Sm. in Rees' Cycl.*

Frutex 10-12-pedalis. *Rami* teretes, glabri: ramuli angulati. *Folia* adulta unciam longa, elliptica, membranacea, glabra, subtus præcipue venosa. *Flores* axillares, solitarii, pendentes, e fasciculis foliorum juniorum terminalium, bracteati; bracteis ovatis, concavis, caducis. *Corolla* ovato-oblonga, suburceolata. *Antheræ loculi* superne longe producti tubulosi, dorso bisetosæ. *Bacca* cæcio-nigra.

HAB. North-west Coast of America. *Mr. Menzies.* Columbia River, near its confluence with the Sea, (*Dr. Scouler*), and on the mountains of the Grand Rapids. *Douglas.* Woods at the junction of the Portage River and the Columbia.

TAB. CXXXVII.—*Fig. 1,* Tuft of young leaves, and a flower; *fig. 2,* Front view of a stamen; *fig. 3,* Back view of do.; *fig. 4,* Flower:—magnified.

11. *V. parvifolium*; foliis ellipticis mucronatis integerrimis membranaceis glabris subtus glaucis venosis, caule ramisque acute angulatis, floribus solitariis, corollis globosis. (TAB. CXXXVIII.)—*Sm. in Rees' Cycl.*

Tota glabra. *Caulis* acute tetragonus, angulis fere alatis, ramis acute angulatis. *Folia* alterna, subdisticha, elliptica, mucronata, membranacea, integerrima, glabra, supra obscure subtus magis venosa subglauca. *Flores* axillares, penduli. *Pedunculi* superne incrassati. *Corolla* globosa, 5-fida. *Antheræ* fere ut in *V. ovalifolio*. *Bacca* rubra.

HAB. North-west Coast. *Mr. Menzies*. Common at Fort Vancouver, and along the sea-shore of the Columbia, in shady woods. *Douglas. Dr. Scouler*.

TAB. CXXVIII.—Fig. 1, Flower; fig. 2, Anther:—magnified.

* * * *Foliis sempervirentibus*.

12. *V. Vitis Ideæ*; foliis obovatis subtus pallidis punctatis marginibus parum revolutis subintegerrimis, racemis brevibus terminalibus nutantibus, corollis campanulatis, antheris muticis.—*Linn.*—*Engl. Bot. t. 598. Mich. Am. v. 1. p. 229. Pursh, Fl. Am. v. 1. p. 269. Bigel. Fl. Bost. ed. 2. p. 150. Torrey, Fl. of Un. St. v. 1. p. 418.*

HAB. Canada (*Pursh*), and from Newfoundland (*Dr. Morrison, Miss Brenton*) and Labrador (*Dr. Morrison*) to Hudson's Bay (*Douglas*). Bear Lake. *Dr. Richardson*. N.W. Coast. *Menzies* (in *Herb. nostr.*) Unalashka. *Chamisso* (in *Herb. nostr.*)

13. *V. ovatum*; ramis hispidis, foliis ovatis vel ovato-lanceolatis coriaceis glabris nitidis margine serratis revolutis, racemis brevibus axillaribus nutantibus, corollis campanulato-globosis 5-dentatis, dentibus calycinis majusculis acutis.—*Pursh, Fl. Am. v. 1. p. 290. Lindl. in Bot. Reg. t. 1354.*

HAB. Columbia. *Menzies. Lewis*. Common in rocky places on the N.W. Coast, from lat. 40° to 49°. *Douglas. Dr. Scouler*.—Fruit black and pleasant. *Douglas*.

14. *V. obtusum*; repens, foliis parvis utrinque rotundatis obtusis mucronatis integerrimis glabris coriaceis, pedunculis axillaribus solitariis unifloris. *Pursh, Fl. Am. v. 1. p. 290.*

HAB. North-West Coast. *Menzies*. (in *Herb. Banks*. according to *Pursh*.)—This is placed by *Pursh* among the species with evergreen persistent leaves; but it is a plant unknown to myself, as it was to Sir James E. Smith.

B. Corollis rotatis. Oxycoccus.

15. *V. Oxycoccus*; repens filiformis, foliis persistentibus ovatis acutis coriaceis glabris venis subtus glaucis, pedunculis 1-4 elongatis terminalibus, corollis 4-partitis.—*Linn.*—*Mich. Am. v. 1. p. 228. Engl. Bot. t. 319.*—*Oxycoccus vulgaris. Pursh, Fl. Am. v. 1. p. 263. Torrey, Fl. of Un. St. v. 1. p. 394.*—*O. palustris, æ. Pers.*—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 12.*

HAB. Canada. *Pursh*. Swampy places, from Lake Huron (*Dr. Todd*), Newfoundland (*Mr. Cormack, Miss Brenton*), Labrador (*Dr. Morrison*) to the Rocky Mountains, (*Drummond*), and to the Arctic sea-shore. *Dr. Richardson, Captain Sir E. Parry, &c.*

16. *V. macrocarpum*; repens, ramis erectis, foliis persistentibus oblongis coriaceis glabris venosis subtus albidis, pedunculis lateralibus elongatis basi bracteatis aphyllis, corollis 4-partitis.—*Ait.*—*Bot. Mag. t. 2086. Bigel. Fl. Bost. ed. 2. p. 154.*—*V. Oxycoccus, ß. oblongifolium. Mich. Am. v. 1. p. 228.*—*Oxycoccus macrocarpus. Pursh, Fl. Am. v. 1. p. 263. Torrey, Fl. of Un. St. v. 1. p. 393.*

HAB. Lake Huron. *Dr. Todd*. Throughout Canada to the Saskatchewan. *Dr. Richardson*. *Drummond*. Newfoundland. *Dr. Morrison*. *Mr. Cormack*. *Miss Brenton*. Plentiful in swampy grounds near the confluence of the Columbia with the Pacific, where its berries are boiled and eaten by the natives under the name of *Soolabich*. *Douglas*.

SUBCL. COROLLIFLORÆ. DC.

ORD. LIV. ERICÆÆ, *Juss.*

1. GAULTHERIA. *L.*

Cal. 5-4-fidus, basi carnosus infra bracteatus. *Corolla* ovata, limbo brevi 5-4-fido. *Stam.* 10-8. *Filamenta* plana sæpe hirsuta, imæ corollæ inserta v. hypogyna. *Antheræ* apice bifidæ, lobis biaristatis vel muticis. *Discus* hypogynus 5-10-dentatus vel nullus. *Capsula* calyce baccato inclusa, 5-locularis, valvis medio septiferis. *Semina* angulata.

1. *G. procumbens*; caule procumbente, ramis erectis inferne nudis, foliis obovatis basi attenuatis ciliato-serratis, floribus aggregatis subterminalibus nutantibus, disco hypogyno 5-dentato, filamentis pilosis, antheris bisetosis.—*Linn.*—*Mich. Fl. Am. v. 1. p. 249.* *Pursh, Fl. Am. v. 1. p. 283.* *Elliott, Carol. v. 1. p. 501.* *Bigel. Fl. Bost. ed. 2. p. 164.* *Torrey, Fl. of Un. St. v. 1. p. 412.*

HAB. Lake Huron. *Dr. Todd*. About Quebec. *Mrs. Percival*, *Mrs. Sheppard*; and this seems to be its most northern limit.

2. *G. Myrsinites*; humilis, ramis cæspitosis radicanibus, foliis late ovatis ciliato-serratis, floribus solitariis pluri-bracteatis, corolla vix calycem longiori, antheris muticis, filamentis glabris, disco hypogyno nullo. (TAB. CXXIX.)

Caulis brevis, ramosus; *rami* plurimi, cæspitosi, procumbentes, longe radicantes. *Folia* lato ovata, coriaceo-membranacea, nitida, venosa, ciliato-serrata. *Flores* minuti, solitarii, axillares. *Pedunculi* perbreves, bracteati, bracteis 4-5 ovatis. *Calyx* basi carnosus, limbo 5-fidus. *Corolla* vix calyce longior, 5-fida, subcampanulata. *Filamenta* pistillo paulo breviora, glabra. *Antheræ* oblongæ vix apice bifidæ, aristis nullis. *Discus* hypogynus nullus. *Ovarium* depresso-globosum, 5-lobum, calycis basi carnosæ incrassatæ insidens. *Stylus* cylindraceus. *Stigma* simplex. *Fructus*; *capsula* 5-locularis, 5-valvis, calyce ampliato baccato rubro tecta; valvis medio septiferis. *Semina* numerosa, reniformi-angulata, exarillata, nitida, fusca. *Albumen* carnosum. *Embryo* axillis, cylindraceus.

HAB. Rocky Mountains, between lat. 52° and 54°. *Drummond*.—This beautiful little plant is loaded with scarlet berries, which its discoverer describes as "delicious, and resembling the pine-apple in flavour." The anthers differ from those of the other known *Gaultheriæ*, but the rest of the fructification and the habit entirely correspond with the present Genus. I ought to observe that the flower is drawn from the only two blossoms I could find on the whole of the specimens, and that appearing at an unusual season (while the fruit is in perfection) they were probably smaller than usual, scarcely a line in length, and quite concealed among the foliage.

TAB. CXXIX.—*Fig. 1*, Leaf; *fig. 2*, Flower; *fig. 3*, Corolla; *fig. 4*, Stamens and Pistil; *fig. 5, 5*, Back and front view of a stamen; *fig. 6*, Pistil; *fig. 7*, Section of the ovary; *fig. 8, 8*, Fruits; *fig. 9*, Section of a capsule which has burst, surrounded by the fleshy calyx, and seated upon its thickened base (as in *G. procumbens* and *G. hispida*); *fig. 10, 10*, Seeds; *fig. 11*, Section of a seed:—*magnified*.

3. *G. hispidula*; caule repente filiformi hispido, foliis parvis late ovatis subintegerrimis ciliatis venis subtus præcipue hispidis, floribus solitariis 4-fidis, filamentis suborbiculatis pubescentibus, antheræ loculis biaristatis, disco hypogyno nullo.—*Muhl.*—*Torrey, Fl. of Un. St. v. 1. p. 413. Bigel. Fl. Bost. ed. 2. p. 165.*—*G. serpyllifolia. Pursh, Fl. Am. v. 1. p. 283. t. 13. (fig. mala).*—*Vaccinium hispidulum. Mich. Am. v. 1. p. 223. t. 23.*

HAB. Swamps. Newfoundland. *Dr. Morrison. Miss Brenton.* Throughout Canada, and as far as the banks of the Saskatchewan (*Dr. Richardson*), and thence to the Height of Land on the Rocky Mountains, and to the sources of the Columbia on the West side. *Drummond.*

4. *G. Shallon*; subrecta, foliis subcordato-ovatis acutis serratis coriaceis marginibus ramisque junioribus hispidis, racemis secundis elongatis multifloris bracteis, pedicello infirmo medium bibracteato, corollis ovato-globosis viscidis glandulosis, antheræ loculis bisetosis, disco hypogyno nullo.—*Pursh, Fl. Am. v. 1. p. 284. t. 12. Hook. Bot. Mag. t. 2843. Lindl. Bot. Reg. t. 1411.*—*G. fruticosa. Menzies, (in Herb. nostr.)*

HAB. North-west Coast. *Mr. Menzies. Dr. Scouler.* Common over a vast extent of country, from Cape Mendocino to Puget Sound, but never extending 100 geographical miles from the coast. *Douglas.*—A truly beautiful plant, with the leaves often 4 inches long, and racemes still longer, of a delicate waxy appearance. The fruit is much esteemed by the natives, and made into cakes, which keep for a great length of time. It is now introduced by Mr. Douglas and Dr. Scouler to our gardens, where it is a great acquisition, bearing copious blossoms and abundant fruit.

2. ARBUTUS.

Calyx parvus, 5-partitus. *Corolla* ovata v. globosa limbo 5-dentato reflexo, basi sæpe diaphana. *Stam.* 10 basi corollæ inserta. *Antheræ* loculi apice poro dehiscentes, dorso aristato. *Discus hypogynus* decangularis. *Stigma* obtusum. *Bacca* 5-locularis, polysperma, nunc *Drupa* subglobosa, putamine 5-loculari, loculis monospermis.

* *Bacca polysperma.* Arbutus.

1. *A. laurifolia*; arborea, foliis oblongis utrinque acuminatis acute serratis glabris, racemis axillaribus secundis sessilibus solitariis. *Linn. Suppl. p. 233. Pursh, Fl. Am. v. 1. p. 282.*

HAB. North America. *Linnaeus*; and Pursh suspects on the N. W. Coast, at the Columbia; which is the more probable, as no true *Arbutus* (excluding *Arctostaphylos*) is found on the East side of the Rocky Mountains.

2. *A. Menziesii*; arborea, foliis ovalibus integerrimis vel subserratis coriaceis petiolatis glaberrimis subtus glaucis, racemis elongatis compositis paniculatis densis pubescentibus, baccis rugosis polyspermis.—*Pursh, Fl. Am. v. 1. p. 282. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 143.*—*A. procera. Dougl. MSS. in Hort. Soc. Lond.*

HAB. North-west Coast. *Mr. Menzies.* Common at Puget Sound, Columbia River, and N. California, attaining a large size in hilly situations. *Douglas.*—This is so closely allied to *A. Andrachne*, especially to my specimens from southern Tauria, that I have hesitated about keeping it distinct. The leaves are perhaps larger; but the figure of that species in *Bot. Register*, t. 113, admirably represents our plant.

3. *A. tomentosa*; fruticosa erecta, foliis brevi-petiolatis acutis coriaceis ovalibus ovatis nunc subcordatis integerrimis junioribus pubescenti-tomentosis, racemis compositis brevibus terminalibus congestis folio brevioribus. (TAB. CXXX.)—*a. hispida*; ramis setosis, setis longis

patentibus.—*Pursh, Fl. Am. v. 1. p. 282. Hook. in Bot. of Beech. Voy. v. 1. p. 144.*—*Arctostaphylos tomentosa. Douglas, MSS.—β. nuda; ramorum setis nullis.*

HAB. Columbia. *Mensis.* Common on rocky places of the N.W. Coast, from California in the south, to Puget Sound in the north. *Douglas.*—This plant has, perhaps, a considerable geographical range. From Professor Lindley I possess a specimen gathered at Vera Cruz. Not having seen the fruit, I am doubtful whether this species belongs to the present or to the following division of the Genus.

TAB. CXXX.—*Arbutus tomentosa.*—*Fig. 1, var. α; fig. 2, Flower and bractea; fig. 3, Stamen, magnified; fig. 4, var. β:—nat. size.*

** *Drupa putamine 5-loculari, loculis monospermis. Arctostaphylos.*

4. *A. alpina;* caule procumbente, foliis obovatis basi attenuatis serratis membranaceis marcescentibus reticulatim rugosis, racemo paucifloro terminali.—*Linn.—Engl. Bot. t. 2030. Pursh, Fl. Am. v. 1. p. 283. Rich. in Frankl. 1st Journ. ed. 2. App. p. 13.*

HAB. Newfoundland. *Mr. Cormack. Dr. Morrison.* Canada. *Pursh.* Throughout the woody country, from lat. 54° to 64°. *Dr. Richardson.* Alpine swamps of the Rocky Mountains. *Drummond.*—Berries black.

5. *A. Uva Ursi;* caule procumbente, foliis obovatis integerrimis coriaceis nitidis sempervirentibus basi attenuatis subtus præcipue reticulatis, racemo terminali foliis brevioribus.—*Linn.—Mich. Am. v. 1. p. 249. Pursh, Fl. Am. v. 1. p. 283. Bigel. Fl. Bost. ed. 2. p. 165. Torrey, Fl. of Un. St. v. 1. p. 411. Rich. in Frankl. 1st Journ. ed. 2. App. p. 13.*

HAB. Throughout Canada, and as far as Fort Franklin on the Mackenzie River. *Dr. Richardson.* Common on the North-west Coast. *Douglas. Dr. Scouler.*—On the shores of the Columbia, the leaves are dried at the fire, pounded or bruised by the natives, and mixed with tobacco to render it more mild. It is the *Iss-salth* of the Chenook Indians.

3. ANDROMEDA. L.

Cal. 5-partitus, coloratus. Cor. campanulata vel urceolata, limbo 5-dentato reflexo. Stam. 8-10 basi corollæ inserta. Antheræ bicornes, apice poro gemino dehiscentes. Capsula 5-locularis, 5-valvis, polysperma, valvis medio septiferis.

* *Foliis sempervirentibus.*

1. *A. hypnoides;* procumbens humilis, foliis laxè imbricatis lineari-subulatis, pedunculis solitariis unifloris terminalibus, corolla campanulata 5-fida obtusa, stylo ovato-acuminato, antheris aristis 2 longissimis.—*Linn.—Pursh, Fl. Am. v. 1. p. 281. Hook. Bot. Mag. t. 2936.*

HAB. North-West Coast. *Nelson, in Herb. Banks. (Pursh.)* Labrador. *Dr. Morrison. Kohlmeister.*

2. *A. Stelleriana;* caule filiformi procumbente, foliis 4-6-fidis linearibus patentissimis obtusis supra planis dorso obtuse carinatis, pedunculo brevi terminali subsolitario arcuato, calyce 5-phylo, corolla lato-campanulata subpentapetala, stylo ovato-acuminato, antheris aristis duabus longissimis. (TAB. CXXXI.)—*Pall. Fl. Ross. v. 2. p. 58. t. 74. f. 2.—Menziesii Stelleriana. Fisch. in Herb. nostr.—Erica Stelleriana. Willd.—Spreng.*

Caulis filiformis, procumbens, inferne radicans; ramis erectiusculis subsimplicibus. Folia 4-6-faria,

linearis, integerrima, obtusa, patentissima, plus minus reflexa, supra plana, subtus dorso obtuse canaliculata. *Pedunculus* subsoltarius, terminalis, brevis, curvatus, uniflorus. *Flos* nutans. *Calyx* pentaphyllus, foliolis ovalibus obtusis valde concavis. *Corolla* lato-campanulata, profunde 5-partita, fere 5-petala. *Filamenta* subulata. *Antheræ* didymæ, dorso aristis duabus longissimis deflexis. *Ovarium* globosum, rugosum. *Stylus* basi insigniter incrassatus.

HAB. North-West Coast of America, probably on Banks' Islands. *Mr. Menzies* (in *Herb. nostr.*)—I am indebted for a small but original Pallasian specimen of this beautiful plant to Dr. Fischer, with which this exactly corresponds.

TAB. CXXXI. *Andromeda Stelleriana*.—Fig. 1, Flower; fig. 2, Corolla; fig. 3, Pistil; fig. 4, 5, Anthers; fig. 6, 7, Leaves:—magnified.

3. *A. lycopodioides*; caule filiformi diffuso vage ramoso, foliis quadrifariis arcte imbricatis appressis ovatis brevibus crassis obtuse carinatis, pedunculis subgeminis axillaribus, corollis campanulatis.—*Pall. Fl. Ross. v. 2. p. 55. t. 73. f. 1. Cham. in Linnæa, v. 1. p. 516.*

HAB. Unalascika. *Chamisso*.—At first sight this plant resembles a small state of *A. tetragona*, but it is truly distinct; much slenderer in all its parts, the branches more diffuse and flexuose, the leaves not furrowed on the back, the flowers fewer but larger, and the corolla more campanulate.

4. *A. cupressina*; caule suberecto valde subpinnatim ramoso, foliis quadrifariis arcte imbricatis appressis lato-lanceolatis carinatis, pedunculis solitariis lateralibus.

HAB. Rocky Mountains north of the Smoking River, lat. 46°. *Drummond*.—This partakes of some of the characters of the preceding and following species, yet is quite distinct from both; it has nearly the same firm and stout habit as *A. tetragona*, and is about of the same size; but, like *A. lycopodioides*, it wants the dorsal sulcus. Its leaves are longer and narrower than either, and distinctly, and often rather sharply carinated. It is probably a rare, and exclusively an alpine species; very few specimens are in the Collection, and those mostly in fruit. *Capsule* bearing the dissepiment in the middle of the valves, as is probably the case with all the quadrifariouly-leaved species, hence they are true *Andromeda*, not *Menziesia*, whither Dr. Fischer is disposed to refer them. The beautiful *A. ericoides*, which I have received from Dr. Fischer and Chamisso, and *A. Redowshii*, which I possess from Professor Lehmann, seem to be exclusively Siberian plants, and not to have been found on the opposite or American side of Behring's Straits.

5. *A. tetragona*; caule suberecto fere pinnatim ramoso, foliis quadrifariis arcte imbricatis appressis ovato-lanceolatis subtriquetris sulco dorsali, pedunculis solitariis axillaribus sparsis, corollis ovato-campanulatis.—*Linn.*—*Pursh, Fl. Am. v. 1. p. 290. Hook. Bot. Mag. t. 3181.*

HAB. From lat. 54° to the Arctic Islands (*Dr. Richardson, Captain Sir E. Parry, &c.*) and from Labrador on the east (*Kohlmeister, Dr. Morrison*), to the Rocky Mountains, both on the east and on the west side (*Douglas*). Unalascika. *Chamisso*.—Its southern limit is perhaps lat. 44°, where *Mr. Douglas* finds it on Mount Hood of the Columbia River.

6. *A. polifolia*; foliis lineari-lanceolatis subtus glaucescenti-albidis, pedunculis aggregatis unifloris terminalibus.—*Linn.*—*Mich. Am. v. 1. p. 254. Engl. Bot. t. 713. Pursh, Fl. Am. v. 1. p. 291. Bigel. Fl. Bost. ed. 2. p. 167. Torrey, Fl. of Un. St. v. 1. p. 419. Rich. in Frankl. 1st Journ. ed. 2. App. p. 13.*

HAB. From Lake Huron (*Dr. Todd*) to the Arctic sea-shore. *Dr. Richardson, Newfoundland, Dr. Morrison, Labrador, Pursh, Kohlmeister*.—The more northern specimens are smaller, and have much narrower leaves.

7. *A. calyculata*; foliis oblongo-ellipticis obtusis serrulatis squamuloso-furfuraceis sub-tusque præcipue ferrugineis, racemis terminalibus foliosis secundis, pedicellis bracteatis, corollis ovato-cylindraceis.—*Linn.*—*Mich. Am. v. 1. p. 254.* *Pall. Fl. Ross. v. 2. p. 33. t. 71. f. 1.* *Elliott, Carol. v. 1. p. 485.* *Torrey, Fl. of Un. St. v. 1. p. 419.* *Bigel. Fl. Bost. ed. 2. p. 166.* *Rich. in Frankl. 1st Journ. ed. 2. App. p. 13.*

HAB. From Lake Huron (*Dr. Todd*), throughout the woody, and part of the barren country. *Dr. Richardson. Drummond. Newfoundland. Miss Brenton.*

** *Foliis deciduis.*

8. *A. racemosa*; foliis elliptico-lanceolatis membranaceis serrulatis glabris, spicis terminalibus secundis simplicibus v. ramosis, bracteis lineari-lanceolatis, calycibus acutis, corollis cylindraceis, antheris aristis quatuor.—*Mich. Am. v. 1. p. 255.* *Pursh, Fl. Am. v. 1. p. 204.* *Elliott, Carol. v. 1. p. 492.* *Bigel. Fl. Bost. ed. 2. p. 167.* *Torrey, Fl. of Un. St. v. 1. p. 420.*—*A. paniculata. Linn.*

HAB. Canada. *Pursh.*—The flowers are said to be very fragrant.

9. *A. ligustrina*; pubescens, foliis obovato-lanceolatis acutis integerrimis, ramis floriferis terminalibus paniculatis subaphyllis, floribus secundis, corollis subglobosis pubescentibus, antheris muticis.—*Muhl.*—*Elliott, Carol. v. 1. p. 490.* *Torrey, Fl. of Un. St. v. 1. p. 421.*—*Vaccinium ligustrinum. Linn.*—*Andromeda paniculata. Willd.*—*Mich. Am. v. 1. p. 254.* *Pursh, Fl. Am. v. 1. p. 295.*—*Lyonia paniculata. Nutt.*

HAB. Canada. *Pursh.* *Saskatchewan. Drummond.*—The Genus *Lyonia* is distinguished by Mr. Nuttall from *Andromeda* by the 5 valves of the capsule being closed by 5 other, and marginal narrow ones. But these narrow marginal ones appear to be only a parenchymatous substance filling up the spaces formed by the introflexion of the true valves, and generally falling away when the capsule have burst; but not unfrequently remaining attached to one or other of the valves. *Dr. Torrey* informs us that Mr. Nuttall himself now hardly considers the Genus tenable.

4. MENZIESIA. *Sm.*

Cal. 4-5-partitus seu 5-phyllus. *Cor.* monopetala urceolata v. campanulata, limbo 4-5-dentato. *Stam.* 8-10, basi corollæ inserta. *Antheræ* muticæ, apice poro gemino dehiscences. *Capsula* 4-5-locularis, 4-5-valvis, polysperma, dissepimentis e marginibus introflexis valvarum.

* *Foliis persistentibus.*

1. *M. cærulea*; decandra, foliis linearibus obtusis denticulatis, floribus (3-6) fructibusque longe pedunculatis, calycibus acuminatis, corollis ovoideis subpubescentibus (roseis), stigmatibus incrassato capitato inclusis.—*Sw.*—*Engl. Bot. t. 2469.* *Pursh, Fl. Am. v. 1. p. 265.* *Cham. in Linnæa, v. 1. p. 515.* *Bigel. Fl. Bost. ed. 2. p. 149.* *Torrey, Fl. of Un. St. v. 1. p. 391.*—*Andromeda cærulea. Linn.*—*A. taxifolia. Pall. Fl. Ross. v. 2. p. 64. t. 72. f. 2.*

HAB. Labrador. *Sir Jos. Banks. Kohnmeister. Dr. Morrison.*—It is not certain that this is found any where in North America, except Labrador. In the alpine interior its place is taken by other allied and equally beautiful species. On the N.W. Coast, Chamisso only detected *M. Aleutica*, which is, perhaps, the one seen by *Steller*, whom *Pallas* mentions as having found *M. cærulea* "on the islands and continent of America, opposite Kamtschatka."

2. *M. Aleutica*; foliis linearibus obtusis denticulatis ciliatis, floribus (10-15) breviter fructibus longe pedunculatis, calycibus acuminatis, corollis (ochroleucis) glabris subglobosis, stigmatibus cum stylo claviformi æquali.—*Cham. in Linnæa*, v. 1. p. 513.—*M. phyllifolia*. *Fisch. in Herb. nostr.*

HAB. Unalaska. *Chamisso.*

3. *M. glanduliflora*; decandra, foliis linearibus obtusis obsolete glandulosis glanduloso-serulatisque, floribus (4-6) longiusculi-pedunculatis, pedunculo calycibus acuminatis corollisque globoso-concis (flavis) glanduloso-pubescentibus, stylo incluso. (TAB. CXXXII.)

HAB. Rare in the Alpine woods and mountains north of the Smoking River, lat. 56°. *Drummond*.—A very beautiful and distinct species, 6-7 inches high, with each one of its copious and subfasciculated branches bearing 5-6 gracefully drooping yellow flowers, clothed, as well as the peduncles, with a rather thick glandular down.

TAB. CXXXII.—*Fig. 1*, Flower; *fig. 2*, Corolla; *fig. 3*, Calyx and petals; *fig. 4, 4*, Stamens; *fig. 5*, Upper, and *fig. 6*, Under side of a leaf:—*magnified.*

4. *M. empetriformis*; decandra, foliis linearibus obtusis glanduloso-denticulatis subtus canaliculatis, floribus (10-12) longe pedunculatis, calycibus glabris obtusis, corollis campanulatis (roseis) glabris, stylo incluso.—*Sm. in Linn. Trans.* v. 10. p. 380. *Pursh, Fl. Am.* v. 1. p. 252.

HAB. Nutka on the N. W. Coast of America. *Mr. Menzies*. *Pursh* gives the Rocky Mountains, and near the mouth of the Columbia River, as other stations, upon the authority of *M. Lewis*.

5. *M. Grahamii*; decandra, foliis linearibus obtusis obsolete glanduloso-denticulatis, floribus (10-12) longiusculi pedunculatis, calycibus obtusis, corollis brevi-campanulatis (roseis) glabris, stylo filiformi exserto.—*M. empetriformis*. *Grah. in Bot. Mag.* t. 3176. (nec *Sm.*)

HAB. Alpine woods and open elevated situations of the Rocky Mountains, lat. 55°. *Drummond*.—On comparing the specimens of this plant with the original *M. empetriformis* from *Mr. Menzies*, I cannot but think them truly distinct. The latter is a much stouter and taller plant, the branches clothed with a smooth white shining bark, the leaves are flatter and thinner towards the edges, the margins distinctly toothed, and so curved back as to form a dorsal groove ("concave beneath," *Sm.*), the flowers are longer, and the style is included.

6. *M. intermedia*; decandra, foliis linearibus obtusis obscure glanduloso-serratis, floribus (4-7) sublonge pedunculatis, calycibus acuminatis basi subglandulosis, corollis (pallide roseis) cylindraceo-campanulatis glabris, stylo incluso.

HAB. Woods and open places in the Rocky Mountains. *Drummond*.—The longer and less expanded corolla, included style, and acuminate calycine segments, distinguish this from *M. Grahamii*, as do the campanulate corolla, nearly entire leaves, and smaller size of the whole plant, from *M. carulea*.

• • *Foliis deciduis.*

7. *M. ferruginea*; octandra, foliis oblongo-lanceolatis utrinque acutis apice glandula apiculata ciliato-serratis supra pilis longis appressis strigosis subtus pallidis glabriusculis ad costam paleaceis paleis subulatis, pedunculis glanduloso-pilosis, calyce 4-lobo lobis rotundatis fimbriato-glandulosis, corolla ovato-cylindracea.—*Sm. Plant. Ic.* t. 56.

HAB. North-West Coast. *Mr. Menzies*. Mouth of the Columbia. *Douglas, Dr. Scouler.*

8. *M. globularis*; octandra, foliis obovatis obtusis glandula mucronatis basi attenuatis minute ciliato-serratis supra subpubescentibus subtus glaucescentibus glabris costae paleis subulatis minutis, pedunculis glandulosis, calyce 4-lobo fimbriato glanduloso, corolla globoso-campanulata.—“*Salsib. Parad. Lond. t. 44.*” *Pursh, Fl. Am. v. 1. p. 264.* *Torrey, Fl. of Un. St. v. 1. p. 393.*—*M. Smithii. Mich. Am. v. 1. p. 235.*—*M. ferruginea, β. Sims, Bot. Mag. t. 1571.*

HAB. Alpine woods north of the Smoking River, in lat. 56°. *Drummond.*—This plant, which does not appear to be known to any of the living American Botanists, seems nevertheless to have an extensive range, being found in Pennsylvania by Muhlenberg, according to Pursh, and on the high mountains of Virginia and Carolina by Michaux, according to Pursh and Dr. Sims, for Michaux's Flora gives no station. It has been cultivated in the English Gardens, and the Botanical Magazine exhibits an excellent representation of our plant. The constantly obovate, more membranaceous leaves, glaucous beneath, the comparatively obsolete glands and hairs, and the different shape of the corolla, will surely abundantly distinguish this species from the true *M. ferruginea*, which is, besides, exclusively a native of the shores of the Pacific. The latter becomes almost black when dry; the former remains of a delicate green.

5. KALMIA. L.

Cal. 5-partitus, persistens. *Cor.* rotato-campanulata, limbo 5-fido patente. *Foveolae* 5 sub limbo, antheras biporosas recipientes, extus totidem tuberculis prominulæ. *Stam.* basi corollæ inserta. *Anthere* muticæ. *Caps.* 5-ocularis, 5-valvis: *dissepimenta* e marginibus introflexis vulvarum.

1. *K. latifolia*; foliis petiolatis alternis ternatisque coriaceis ovali-lanceolatis acutis utrinque viridibus, corymbis terminalibus pubescenti-glaucis viscidis.—*Linu.*—*Mich. Am. v. 1. p. 258.* *Curt. Bot. Mag. t. 175.* *Pursh, Fl. Am. v. 1. p. 296.* *Bigel. Fl. Bost. ed. 2. p. 169.* *Elliott, Carol. v. 1. p. 431.* *Torrey, Fl. of Un. St. v. 1. p. 422.*

HAB. Canada. *Pursh.*

2. *K. angustifolia*; foliis petiolatis ternatis oblongo-ellipticis obtusis coriaceis subtus subferrugineis, corymbis lateralibus terminalibusque, pedunculis calycibusque pubescenti-glandulosis. *Linu.*—*Mich. Am. v. 1. p. 257.* *Curt. Bot. Mag. t. 331.* *Pursh, Fl. Am. v. 1. p. 296.* *Bigel. Fl. Bost. ed. 2. p. 170.*

HAB. Throughout Canada, to Hudson's Bay. *Michaux. Mrs. Pexival. Newfoundland. Mr. Cormack. Miss Brenton.*

3. *K. glauca*; ramis ancipitibus, foliis oppositis subsessilibus oblongis coriaceis glaberrimis marginibus revolutis subtus glaucis, corymbis terminalibus, pedunculis calycibusque glaberrimis.—*Ait. Hort. Kew. ed. 1. p. 61. t. 8.* *Mich. Am. v. 1. p. 257.* *Curt. Bot. Mag. p. 177.* *Pursh, Fl. Am. v. 1. p. 296.* *Bigel. Fl. Bost. ed. 2. p. 170.* *Torrey, Fl. of Un. St. v. 1. p. 423.*—*β. rosmarinifolia*; foliis linearibus marginibus magis revolutis subtus vix glaucis. *Ph.*—*γ. microphylla*; foliis vix semipollicaribus subovalibus.

HAB. *α.* and *β.* throughout Canada, from Lake Huron, extending beyond the woody regions, but scarcely, I believe, to the Arctic Circle. *Newfoundland Mr. Cormack. Dr. Morrison. Miss Brenton.* On low swampy grounds of the Columbia, near the Pacific, rare. *Douglas.—γ.* Swamps in the Rocky Mountains. *Drummond.*

6. EPIGÆA. L.

Cal. 5-partitus, bracteis tribus suffultus. *Cor.* hypocrateriformis, tubo intus hirsuto, limbo patente quinquefido. *Stam.* basi corollæ inserta. *Antheræ* rimis geminis longitudine dehiscentes. *Stigma* sublobatum. *Caps.* 5-locularis, 5-valvis, polysperma; valvarum margine introflexis *dissepimenta* formantibus.

1. *E. repens*; ramis petiolis nervoque hirsutissimis, foliis cordato-ovatis integerrimis, corollis cylindricis.—*Linn.*—*Mich. Am. v. 1. p. 250.* *Pursh, Fl. Am. v. 1. p. 297.* *Elliott, Carol. v. 1. p. 501.* *Bigel. Fl. Bost. ed. 2. p. 164.* *Torrey, Fl. of Un. St. v. 1. p. 428.*

HAB. Newfoundland. *Mr. Cormack. Dr. Morrison.* Throughout Canada, (*Michaux, Mrs. Percival, Mr. Shepard.*) and as far as the Saskatchewan. *Drummond.*

7. RHODORA. L.

Cal. 5-dentatus, persistens. *Cor.* calyci adnata, ringens, subdipetala; petalo superiore profunde bi-tripartito, inferiore latiore bilobo. *Stam.* declinata; filamenta inæqualia. *Antheræ* biperosæ. *Caps.* 5-locularis, 5-valvis, loculis polyspermis; *dissepimentis* e marginibus introflexis vulvurum.

1. *R. Canadensis*.—*Linn.*—*Mich. Am. v. 1. p. 259.* *Curt. Bot. Mag. t. 744.* *Pursh, Fl. Am. v. 1. p. 298.*

HAB. Canada, near Sorel. *Michaux.* About Quebec. *Mrs. Percival, Mrs. Sheppard, Lady Dalhousie.* Newfoundland. *Mr. Cormack.*

8. RHODODENDRON. Don. Torrey.

Cal. profunde 5-partitus, persistens. *Cor.* infundibuliformi-campanulata, rarius rotata, limbo 5-lobo patente lobis nunc subinæqualibus. *Stam.* 5-10, hypogyna, sæpe declinata. *Antheræ* apice biperosæ. *Stigma* capitatum. *Capsula* 5-locularis, 5-valvis; *dissepimentis* e marginibus introflexis valvarum. *Semina* arillata.

* *Floribus pentandris (foliis deciduis.)*

1. *R. nudiflorum*; subnudiflorum, foliis lanceolato-oblongis utrinque glabriusculis concoloribus nervo supra lanuginoso subtus setigero margine ciliatis, floribus amplis non viscosis, tubo laciniis longiore, calycis dentibus brevibus ovali-subrotundis, staminibus longissime exsertis. *Ph.*—*Torrey, Fl. of Un. St. v. 1. p. 424.*—*Azalea nudiflora.* *Linn.*—*Curt. Bot. Mag. t. 180.* *Elliott, Carol. v. 1. p. 240.* *Bigel. Fl. Bost. ed. 2. p. 82.*—*A. periclymenoides.* *Mich. Am. v. 1. p. 151.* *Pursh, Fl. Am. v. 1. p. 153.*

HAB. Canada. *Pursh.*

2. *R. viscosum*; foliosiflorum, ramis hispida, foliis oblongo-oboventis utrinque glabris concoloribus nervo setigero margine ciliatis, floribus viscosis, tubo laciniis duplo longiore, calycis dentibus brevissimis rotundatis, filamentis corollæ vix longioribus. *Ph.*—*Torrey, Fl. of Un. St. v. 1. p. 424.*—*Azalea viscosa.* *Linn.*—*Mich. Am. v. 1. p. 150.* *Pursh, Fl. Am. v. 1. p. 153.* *Elliott, Carol. v. 1. p. 241.* *Bigel. Fl. Bost. ed. 2. p. 82.*

HAB. Canada. *Pursh.*

* * *Floribus plerunque decandris.*

3. *R. maximum*; foliis oblongis acutis subtus discoloribus, umbellis terminalibus, calycis laciniis ovalibus obtusis, corollis campanulatis. *Ph.—Linn.—Bot Mag. t. 951. Mich. An. v. 1. p. 259. Pursh, Fl. Am. v. 1. p. 297. Elliott, Carol. v. 1. p. 433. Bigel. Fl. Bost. ed. 2. p. 168. Torrey, Fl. of Un. St. v. 1. p. 426?*

HAB. Canada. *Fursh. N.W. Coast. Mr. Menzies. Douglas.*—Specimens without flower, with leaves a span long, and probably belonging to this species, were gathered by Mr. Douglas on the summit of the high mountains of the Grand Rapids, and on those forming the subalpine region of Mount Hood, but rarely.

4. *R. Lapponicum*; humile, procumbens, ramis divaricatis, foliis persistentibus ellipticis obtusis rigidis foveolato-punctatis subtus discoloribus lepidotis marginibus reflexis, floribus umbellatis 5-8-andris, corollis rotato-infundibuliformibus.—*Wahl. Lapp. p. 104. Torrey, Fl. of Un. St. v. 1. p. 426. Hook. Bot. Mag. t. 3106.—Azalea Lapponica. Linn. Fl. Lapp. p. 89. t. 6. f. 1. Pall. Fl. Ross. v. 2. p. 52. t. 70. f. 1.*

HAB. Norton Sound. *Nelson. Barren grounds from lat. 65° to the Arctic sea-shore, Dr. Richardson, and Islands, Capt. Sir E. Parry.* Summits of the Rocky Mountains, north of the Smoking River, lat. 56°. *Drummond. Labrador. Dr. Morrison.*—This has been detected on the White Mountains of New Hampshire, United States, by Dr. Bigelow, and Dr. Boott, from whom, as well as from Mr. Greene, who gathered it in the same locality, I have fine specimens.

5. *R. Kamtschaticum*; humile, procumbens, foliis persistentibus obovatis ciliatis venosis nitidis, calycibus amplis foliaceis, corollis rotatis, staminibus longioribus.—*Pall. Fl. Ross. v. 1. p. 48. t. 33. Cham. in Linnæa, v. 1. p. 513.*

HAB. Unalaska. *Chamisso. Banks' Island and Port Edgecombe, N.W. Coast. lat. 53°. Mr. Menzies, (in Herb. nostr.)*

6. *R. albiflorum*; erectum, foliis deciduis elliptico-lanceolatis integerrimis membranaceis glabris in apicibus ramorum pedunculisque fasciculatis, calycibus subfoliaceis hispidis, corollis (albis) rotato-campanulatis, staminibus 10 erectis æqualibus. (TAB. CXXXIII.)

Frutex 2-3-pedalis, erectus, ramosus, cortice fusco glabro tectus. Folia in apicibus ramorum fasciculata, decidua, membranacea, elliptico-lanceolata, glabra, brevissime petiolata, stipulata; stipulis ovatis, membranaceis, concavis, deciduis. Pedunculi fasciculati, laterales et terminales, unciali longi, appresso-setosi, uniflori. Calyx persistens, tubum corollæ æquans, 5-partitus, appresse setosus, lobis oblongo-lanceolatis subfoliaceis. Stamina 10, æqualia, erectiuscula. Filamenta subulata, inferne hirsuta. Ovarium 5-lobum. Stylus hirsutus. Stigma 5-lobum. Capsula coriacea, hirsuta. Semina serobiculata.

HAB. Alpine woods of the Rocky Mountains. *Drummond.*—A very beautiful and most distinct species, which would be a great ornament to our gardens if it could be introduced.

TAB. CXXXIII. *Rhododendron albiflorum.*—A. Flowering specimen, *nat. size*; *fig. 1*, Flower; *fig. 2*, Calyx, stamen, and pistil; *fig. 3, 4*, Anthers; *fig. 5*, Section of the ovary; *fig. 6*, Stigma, *magnified.*—B. Portion of a fruit-bearing branch, with gemmiferous scales, whence the leaves of the following year arise; *fig. 7*, Capsule, with its persistent calyx; *fig. 8*, Capsule, bursting; *fig. 9*, ^o, Seeds, covered with the arillus; *fig. 10*, Seed deprived of the arillus; *fig. 11*, Embryo;—*magnified.*

9. AZALEA. *Don. Hook.* (Azaleæ Sp. L.)

Cal. 5-partitus. *Corolla* brevi-campanulata, regularis. *Stam.* 5, basi corollæ inserta, recta, æqualia. *Antheræ* rima longitudinali dehiscentes. *Caps.* 2-3-valvis, 2-3-locularis; dissepimentis e marginibus introflexis valvarum.—Frutex *humilis, procumbens, ramosissimus; foliis persistentibus parvis coriaceis nitidis.* Flores *parvi, racemosi, terminales, rosei.*

1. *A. procumbens.*—*Linn.*—*Pursh, Fl. Am. v. 1. p. 154. Engl. Bot. t. 865. Bigel. Fl. Bost. ed. 2. App. p. 82. Torrey, Fl. of Un. St. v. 1. p. 232.*

HAB. Barren grounds from lat. 65° to the Arctic Islands. *Dr. Richardson. Captain Sir E. Parry, &c.* Newfoundland and Labrador. *Dr. Morrison.* Banks' Islands and Mount Edgecombe, lat. 54°. N.W. Coast. *Mr. Menzies.*—This has been found on the White Mountains of New Hampshire by Drs. Bigelow and Boott, and by Mr. Greene.

10. LEDUM. *L.*

Cal. 5-dentatus persistens. *Pet.* 5, patentiu. *Stam.* 10, receptaculo inserta. *Filamenta* capillaria æqualia, recta. *Stigma* 5-lobum. *Capsula* 5-locularis, 5-valvis, valvis e basi sursum dehiscentibus. *Semina* numerosa scrobiculata.

1. *L. palustre;* foliis oblongis linearibusve margine revolutis subtus ramisque junioribus ferrugineo-tomentosis, stamina 5-10 corolla longioribus. *Mich.—a. angustifolium,* foliis linearibus, floribus decandris.—*L. palustre. Linn.*—*Pursh, Fl. Am. v. 1. p. 30. Hook. in Fl. Lond. 2d Ser. t. 210.—β. latifolium;* foliis oblongis staminibus non raro 5.—*L. latifolium. Ait.—Jacq. Ic. Rar. v. 3. p. 464. Pursh, Fl. Am. t. 1. p. 300. Bigel. Fl. Bost. ed. 2. p. 172. Torrey, Fl. of Un. St. v. p. 437.*

HAB. Chiefly in the more northern and barren regions. *Dr. Richardson.* Newfoundland. *Miss Brenton. Mr. Cormack.* Labrador. *Dr. Morrison. Kohlmeister.* Hudson's Bay (*Dr. Richardson*) to the Arctic sea-shore and Islands (*Dr. Richardson, Captain Sir E. Parry, &c.*); often, however, mixed with specimens which cannot be distinguished from *β.* Cape Newenham. N.W. Coast, lat. 59°. *Mr. Menzies.* Rocky Mountains. *Drummond.* Fort Vancouver on the Columbia. *Dr. Scouler.* Chamisso's Island in Behring's Straits. *Chamisso.*—Much used as a substitute for tea: the narrow-leaved var. is said by *Dr. Richardson* to be preferred.

ORD. LV. MONOTROPEÆ. *Nutt.*1. TOLMIEA. (*nov. Gen.*)

Calyx profunde 5-partitus, laciniis longis linearibus demum foliaceis persistentibus. *Cor.* 5-petala, petalis obovatis patentibus deciduis. *Stam.* 10 hypogyna. *Antheræ* basi insertæ, biloculares, longitudinaliter dehiscentes, fissura superne latiore. *Ovarium* globosum liberum. *Stylus* elongatus, (siccitate) spiraliter tortus. *Stigma* dilatato-capitatum. *Capsula* 5-loba, 5-locularis, loculis medio longitudinaliter dehiscentibus. *Receptacula* axilia. *Semina* numerosa, scrobiculata.—Frutex *glaber, ramis lignosis cortice laxo deciduo obtectis.* Folia

sparsa decidua, in ramis articulata, lanceolata, mucronata, omnino sessilia, oblique obscure venosa. Pedunculi axillares, solitarii? uniflori, folio breviores, bracteati; bracteis linearibus.

1. *T. occidentalis.*

HAB. North-West Coast of America. *Mr. Menzies.*—Much as the flowers of this interesting plant accord in general structure with *Pyrola*, I can by no means consent to its forming a species of that Genus. The habit is totally different, and more like that of a *Kalmia* than a *Pyrola*. I have seen no other specimens in my Herbarium, except those (not very perfect ones) from Mr. Menzies. I have named the Genus in honour of *Mr. Tolmie*, one of my most zealous Botanical pupils, and now resident, as Surgeon in the Hudson's Bay Company's Service, in Puget Sound, N.W. America, where, it is to be hoped, he will rediscover this plant, and enable us more fully to illustrate its history.

2. PYROLA. *L.*

Cal. 5-fidus, seu 5-partitus. Pet. 5 decidua, erecta v. patenta. Stam. 10. Antheræ apice insertæ, pendulæ, apice subbicornes poris duobus superne dehiscentibus. Ovarium subglobosum 5-lobum. Stylus rectus vel curvatus. Stigma 5-lobum, nunc annulatum. Capsula 5-locularis, loculis medio longitudinaliter dehiscentibus. Receptacula axilia. Semina numerosa, scrobiculata.—Herbæ vix suffrutescentes, humiles. Folia sempervirentia, subrotunda, rarius oblonga, longe petiolata, integerrima vel dentata. Scapus nudus vel squamosus, simplex. Flores racemosi rarius uniflori, albi, lutescentes vel rubicundi.

* *Stylus rectus. Stamina erecta.*

1. *P. uniflora*; caule unifloro, foliis orbicularibus serratis, stigmatibus magno lobis 5 erectis.—*Linn.—Engl. Bot. t. 146. Mich. Am. v. 1. p. 251. Pursh, Fl. Am. v. 1. p. 299. Bigel. Fl. Bos. ed. 2. p. 173. Torrey, Fl. of Un. St. v. 1. p. 454. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18.*

HAB. From Lake Huron (*Dr. Todd*) throughout Canada to lat. 64° (*Dr. Richardson*), and from Newfoundland (*Mr. Cormack, Dr. Morrison, Miss Brenton*), and Labrador, (*Kohlmeister, Dr. Morrison*) to the woody country in the Rocky Mountains. Observatory Inlet (*Dr. Scouler*), and near Mount St. Helens on the West Coast, in shady woods, but not nearly so common as on the east side of the Rocky Mountains. (*Douglas.*)

2. *P. minor*; foliis ovato-rotundatis crenatis, floribus racemosis styli inclusi longitudine, stigmatibus dilatato lobis 5 radiatis.—*Linn.—Engl. Bot. t. 158, et t. 2543 (P. rosea.) Pursh, Fl. Am. v. 1. p. 299. Torrey, Fl. of Un. St. v. 1. p. 434.*

HAB. Canada. *Mrs. Percival.* Woods in the Rocky Mountains. *Drummond.* Barren country from lat. 64° to the Arctic Coast (*Dr. Richardson*) and Islands (*Captain Ross*). Labrador. *Dr. Morrison.* Observatory Inlet, N.W. Coast. *Dr. Scouler.* Unalashka. *Chamisso.*—The American plant exactly accords with the European. Petals rounded, concave, not spreading.

3. *P. secunda*; foliis ovatis acutis, floribus racemosis omnibus secundis, stylo exserto, stigmatibus dilatato 5-lobis.—*Linn.—Engl. Bot. t. 307. Mich. Am. v. 1. p. 250. Pursh, Fl. Am. v. 1. p. 299. Bigel. Fl. Bos. ed. 2. p. 174. Torrey, Fl. of Un. St. v. 1. p. 434. Rich. in Frankl. 1st Journ. ed. 2. App. p. 18.—β. foliis angustioribus acuminatis.*

HAB. Throughout Canada to the Mackenzie River (*Dr. Richardson*), and from Newfoundland (*Mr. Cor-*

mach, *Miss Brenton*), and Labrador (*Dr. Morrison*), to the Height of Land on the Rocky Mountains (*Drummond*), and the shores of the Pacific, at the mouth of the Columbia (*Douglas*), and Observatory Inlet (*Dr. Scouler*.) Bay of Eschscholtz. *Chamisso*.— β . Woods of Portago River, near La Grande Côte. *Drummond*.

* * *Stylus declinatus*. *Stamina adscendentia*.

1. *P. chlorantha*; foliis (parvis) rotundatis subintegerrimis petiolo brevioribus opacis subtus præcipue venosis, racemo paucifloro, calycis (parvi) laciniis ovatis, antheris poris tubulosis, stylo decurvo subflexuoso exserto annulato, disco laciniis 5 erectis. (TAB. CXXXIV.)—*Sv. Kongl. Acad. Handl. p. 190. t. 5. Nutt. Gen. Am. v. 1. p. 273. Rich in Frankl. 1st Journ. cd. 2. App. p. 13. (excl. syn. P. asarifoliæ Mich.) Don. in Wern. Trans. v. 5. p. 232.*—*P. convoluta. Banks. (fide Don.)—P. asarifolia. Torrey, Fl. of Un. St. v. 1. p. 433. (excl. syn. Mich. Pursh et Gold.)*

Radix subrepens, gracilis. *Folia* radicalia aut emradicalia, orbicularia, rarius elliptica, petiolo duplo breviora, coriacea, opaca, integerrima vel obscure crenata, vix $\frac{3}{4}$ unciam longa, supra obscure venosa, subtus venis reticulatis magis conspicuis. *Scapus* spithameus, nudus vel squama parva solitaria instructus. *Racemus* 5-6-florus. *Flores* undique versi inajusculi. *Calyx* parvus. *Petala* subpatentia olliptica. *Antheræ* poris tubulosis. *Stylus* declinatus subflexuosus.

HAB. Lake Winipeg (*Douglas*) to the Saskatchewan and the Rocky Mountains, thence to Bear Lake. *Drummond. Dr. Richardson.* Newfoundland. *Miss Brenton.* Labrador. *Dr. Morrison*.—This is most allied to *P. rotundifolia*; but the leaves are smaller than their smallest state in that species, and singularly opaque. The flowers are nearly the same in size, but the calyx is much smaller and more appressed; the anthers have two tubular horns, at the top of which the pores are situated. The style is shorter and less flexuose. It agrees in every respect with an original specimen from Swartz, and in America seems to be peculiarly abundant in the latitude of the Saskatchewan, from Hudson's Bay to the Mountains. The *P. chlorantha* of Hook. in Parry's 3d Voy. App., should be referred to *P. rotundifolia* δ . *pumila*.

TAB. CXXXIV.—*Fig. 1.* Flower; *fig. 2.* Stamen; *fig. 3.* Back view of an Anther; *fig. 4.* Pistil:—*magnified.*

5. *P. rotundifolia*; foliis subrotundis coriaceis nitidis reticulatis petiolis brevioribus, scapo bracteato, racemo plurifloro, calycis foliolis elongatis membranaceis, antheræ poris non tubulosis, stylo decurvo flexuoso exserto, stigmati annulato, disco laciniis 5 erecto.—*Linn.—Engl. Bot. t. 213. Mich. Am. v. 1. p. 251? Pursh, Fl. Am. v. 1. p. 299. Bigel. Fl. Bos. cd. 2. p. 173. Torrey, Fl. of Un. St. v. 1. p. 432.*— β . *asarifolia*; foliis majoribus reniformi-rotundatis.—*P. asarifolia. Mich. Am. v. 1. p. 251. Pursh, Fl. Am. v. 1. p. 299. Goldie in Ed. Phil. Journ. v. 6. p. 226. Don, in Wern. Trans. v. 5. p. 230.*— γ . *floribus purpureo-roseis.*—*P. incarnata. Fisch. MSS. in Herb. nostr.— δ . pumila*; minor, stylo brevior minus flexuoso.—*P. pumila. Horn. in Linnæa, v. 1. p. 514.—P. Grælandica. Horn. Fl. Dan. t. 1817.*

HAB. α . β . γ . (which all appear to grow in the same situations) from Lake Huron (*Dr. Todd*) throughout Canada to Bear Lake (*Dr. Richardson*), and from Hudson's Bay to the Rocky Mountains. *Drummond.* North-West Coast. *Douglas.* Unalasccha and Kotzebue's Sound. *Chamisso*.— δ . Labrador. *Dr. Morrison.* Arctic Islands. *Capt. Sir E. Parry.*—Very numerous specimens of this plant in my Herbarium have satisfied me that, in regard to foliage, this is a very variable species, and that none of them can with propriety be

separated from *P. rotundifolia*; whilst some have their leaves less than an inch in length, others are more than 2½ inches long, and full 3 inches broad. The flowers are the same shape in all, and essentially distinguished from *P. chlorantha* by the much larger and more membranaceous calyx, by the anthers destitute of tubular pores, and the longer and more flexuose style. Sometimes the flowers are white, at other times deep rose-colour, with the anthers quite red. There cannot be a question, I think, but the broader and reniform-leaved variety is the true *P. asarifolia* of Michaux, though some of the American Botanists have taken the *P. chlorantha* for it, which could hardly have suggested Michaux's name.

6. *P. occidentalis*; foliis subrotundis membranaceis obsolete denticulatis petiolo simplici duplo longioribus, racemo paucifloro, laciniis calycinis oblongis obtusis, stigmati disco 5-lobato. *Don, in Wern. Trans.*—*Brown, MSS. in Herb. Banks.*

HAB. Sledge Island, on the N. W. Coast. *Nelson*.—With this I am unacquainted, unless, as I cannot help suspecting, it may be my var. *pumila* of *P. rotundifolia*, with which it sufficiently accords, and which is found in Unalashka. Mr. Don says it resembles *P. minor* in general habit, but is much smaller, and possesses characters widely different.

7. *P. bracteata*; foliis lato-ovatis acutis integerrimis seu lævissimis crenatis coriaceis acutis nitidis, scapo subbisquamoso, racemo bracteato, bracteis lanceolatis acuminatis flore longioribus, calycis segmentis attenuatis alabastro longioribus.

HAB. N. W. Coast. *Dr. Scouler*.—Of this I regret I possess but one specimen, and that only in bud, bearing two scapes, more than a span long; bractees very long and much acuminate, as are the calyx-segments. Leaves 2 and 2½ inches long.

8. *P. elliptica*; foliis ellipticis membranaceis opacis obscure dentatis petiolo sublongioribus, scapo nudiusculo, calycis parvi laciniis ovatis, antheræ poris brevi-tubulosis, stylo decurvo flexuoso exserto, stigmati annulato disco lobis 5 erectis. (TAB. CXXXV.)—*Nutt. Gen. Am. v. 1. p. 273. Don, in Wern. Trans. v. 5. p. 233. Torrey, Fl. of Un. St. v. 1. p. 433.*—*P. rotundifolia. Mich. Am. v. 1. p. 251.*

HAB. Lake Huron, *Dr. Todd*, throughout Canada, *Mrs Percival*, to the Saskatchewan, *Dr. Richardson. Drummond*.—Well distinguished by Mr. Nuttall from *P. rotundifolia*, being very different in the foliage. The flowers are intermediate between those of *rotundifolia* and *chlorantha*, having the calyx of the latter, and the longer style of the former; the cells are a little produced below the pores. Blossoms exceedingly fragrant, white.

TAB. CXXXV.—*Fig. 1*, Flower, before the full expansion; *fig. 2*, Flower expanded, *fig. 3*, Petal; *fig. 4*, 4, Anthers; *fig. 5*, Pistil.

9. *P. dentata*; foliis oblongis coriaceis opacis remote dentatis inferne angustatis longitudine petioli, scapo nudo, racemo subsecundo, petalis erecto-patentibus, antheræ localis paululum productis, stylo deflexo flexuoso exserto. (TAB. CXXXVI.)—*Sm. in Rees' Cycl.*—*Don, in Wern. Trans. v. 5. p. 235.*

HAB. Nutka Sound, N. W. Coast, and Columbia River. *Mr. Menzies.*

TAB. CXXXVI.—*Fig. 1*, Flower; *fig. 2*, Anther; *fig. 3*, Pistil;—*magnified.*

10. *P. picta*; foliis ovatis subserratis, floribus secundis, antheræ poris contractis tubulosis stylo curvato, stigmati truncato disco 5-lobato.—*Sm. in Rees' Cycl.*

HAB. Nutka Sound, N. W. Coast. *Mr. Menzies*.—A solitary specimen of what I take to be this plant, I possess from *Mr. Menzies*, but I feel almost inclined to unite it with the preceding, differing, as it does, only in the more second and more numerous flowers, and in the shorter leaves more abrupt at the base, with some obscure pale blotches on the upper side, and a reddish tint beneath.

11. *P. aphylla*; foliis nullis, scapo basi squamato squamis lanceolatis membranaceis, racemo elongato subsecundo, antheræ poris tubulosis, stylo deflexo flexuoso, stigmatè annulato disco dentibus 5 elongatis erectis. (TAB. CXXXVII.)—*Sm. in Rees' Cycl.*—*Don, in Wern. Trans. v. 5. p. 227.*

ANNUA. *Radix* repens, ramosa, fibrosa, fibris tomentosis. *Folia* omnino nulla! *Scapus* erectus, pedalis, simplex, angulatus, inferne præcipue squamis lanceolatis erectis in axillis non raro geminiferis, superne spiritaliter tortus. *Racemus* terminalis, elongatus, subsecundus; floribus majusculis nutantibus. *Pedicelli* longitudine florum, basi bractea parva munita. *Calycis* laciniæ ovate acutæ, petalis ovalibus concavè patulis 3-plo breviores. *Stamina* sursum inclinata. *Filamenta* basi dilatata. *Antheræ* oblongæ basi acute, medio et lateribus sulcate, superne cornibus duobus brevibus apice poro dehiscentibus. *Ovarium* globosum; stylo arcte deflexo flexuoso, apice annulato, disco dentibus 5 erectis.

HAB. North-West Coast. *Mr. Menzies*. Fort Vancouver. *Dr. Scouler*. Plentiful in the dark shady pine woods among *Hypnum*, from Cape Mendocino to Puget Sound: it does not exist beyond 100 miles from the Coast. *Douglas*.

TAB. CXXXVII.—*Fig. 1*, Flower; *fig. 2, 3*, Stamens; *fig. 4*, Capsule; *fig. 5*, Stigma:—*magnified*.

3. PTEROSPORA. Nutt.

Cal. 5-phyllus. *Cor.* monopetala, ovata, 5-dentata. *Stam.* 10. *Antheræ* culcaratæ. *Capsula* umbilicata, 5-locularis, 5-valvis. *Semina* apice alata.—Herba brunnea, viscido-hirsuta. *Folia squamiformia*. Flores racemosi. *Lindl.*

1. *P. Andromeda*.—*Nutt. Gen. Am. v. 1. p. 269. Lindl. Collect. Bot. t. 5. Torrey, Fl. of Un. St. v. 1. p. 429.*—*Monotropa procera. Torrey, in Eat. Mem. of Bot. ed. 2. p. 324.*

HAB. Upper Canada, near the Falls of Niagara. *Mr. C. Whitlow* (in *Nutt.*) Near Quebec. *Mr. Goldie. Mrs. Percival. Mrs. Sheppard.* Saskatchewan. *Drummond.* High mountains of the Grand Rapids of the Columbia, in shady pine woods. *Douglas.*

4. MONOTROPA. L. (*Monotropa* et *Hypopithys*, *Nutt.*)

Cal. 0. *Cor.* 4-5-petala; petalis basi cucullatis. *Stam.* 8-10 hypogynæ. *Antheræ* transverse, 1-loculares, bilabiata. *Stigma* peltatum. *Caps.* 4-5-locularis, 4-5-valvis. *Semina* numerosa, serobiculata.—Herbæ parasiticæ, aphyllæ, succulentæ, siccitate nigrescentes, scapis squamosis, racemosis vel unifloris.

1. *M. Hypopithys*; glabra, floribus racemosis.—*Linn.—Engl. Bot. t. 713. Pursh, Fl. Am. v. 1. p. 303. Torrey, Fl. of Un. St. v. 1. p. 431.*—*Hypopithys Europæa. Nutt. Gen. Am. v. 1. p. 271.*

HAB. On the roots of Birch (*Pursh*); in the Pine Forests (*Nutt.*) of Canada.—I have never seen Canadian specimens of this species; and *Dr. Torrey* seems of opinion that the following must have been taken for it.

2. *M. lanuginosa*; pubescenti-lanata, floribus racemosis.—*Mich. Am. v. 1. p. 266. Pursh, Fl. Am. v. 1. p. 303. Elliott, Carol. v. 1. p. 478. Torrey, v. 1. p. 430.*—Hypophitys lanuginosa. *Nutt.*

HAB. Canada. Wood of Portage River. *Drummond. N.W. Coast. Menzies.*

3. *M. uniflora*; glabra, flore solitario decandro.—*L.*—*Mich. Am. v. 1. p. 266. Pursh, Fl. Am. v. 1. p. 303. Elliott, Carol. v. 1. p. 477. Hook. Exot. Fl. t. 85.*

HAB. Shady woods, Canada. *Lady Dalhousie. Lake Huron. Dr. Todd.*

5. CHIMAPHILA. *Pursh.*

Calyx liber, profunde 5-fidus. *Petala* 5, concava. *Stam.* 10. *Filamenta* erecta, medio disco orbiculato hirsuto vel ciliato. *Antheræ* medio affixæ, basi breviter bicornes poris dehiscentes. *Ovarium* liberum, 5-lobum. *Stylus* perbrevis, crassus. *Stigma* peltatum, planum, dilatatum, 5-lobum. *Capsula* 5-locularis, ab apice dehiscens. *Semina* minuta scrobiculata.—*Suffrutices caulescentes, ramosæ. Folia opposita, subverticillata, nunc alterna, coriacea, oblonga, dentato-serrata. Pedunculi terminales, bracteati vel nudî, uniflori vel umbellati.*

1. *C. umbellata*; foliis verticillatis cuneato-lanceolatis serratis immaculatis basi in petiolum perbrevem angustatis, umbella subquinqueflora.—*Pursh, Fl. Am. v. 1. p. 30. Nutt. Gen. Am. v. 1. p. 274.*—*Pyrola umbellata. Linn.—Mich. Am. v. 1. p. 251. Curt. Bot. Mag. t. 778. Bigel. Fl. Bost. ed. 2. p. 174. Torrey, Fl. of Un. St. v. 1. p. 435. Don, in Wern. Trans. v. 5. p. 243.*

HAB. Lake Huron. *Dr. Todd, Quebec, Mrs. Percival,* and to the Saskatchewan and Rocky Mountains, in lat. 53°. *Dr. Richardson, Drummond;* also from near the sources of the Columbia (*Drummond*) to the Pacific. *Douglas, Dr. Scouler, Mr. Menzies.*

2. *C. maculata*; foliis subverticillatis lanceolatis acuminatis grosse serratis brevi-petiolatis discoloribus superne variegatis, umbella 3-4-flora.—*Pursh, Fl. Am. v. 1. p. 300. Elliott, Carol. v. 1. p. 505. Nutt. Gen. Am. v. 1. p. 275.*—*Pyrola maculata. L.—Mich. Am. v. 1. p. 251. Bigel. Fl. Bost. ed. 2. p. 175.*

HAB. This was gathered in the route from New York to Cumberland House Fort, on the Saskatchewan: but whether in British America, or, as is probable, in the United States, is not mentioned.

3. *C. Menziesii*; foliis alternis rarius oppositis seu subverticillatis ovato-lanceolatis acutis serratis discoloribus superne immaculatis, pedunculo bracteato 1-2-floro, stylo distincto. (TAB. CXXXVIII.)—*Pyrola Menziesii. Br. in Herb. Banks.—Don, in Wern. Trans.*

Suffruticosa. Caulis basi decumbens, gracilis, flexuosus, squamosus, squamis late ovatis, concavis, membranaceis. *Folia* subunciam longa, plerumque alterna, coriacea, sempervirentia, brevi-petiolata, acuta, serrata, subtus purpurascens, supra viridia, unicoloria. *Pedunculus* terminalis, bracteatus, plerumque biflorus; bracteis late ovatis, concavis, membranaceis, fuscis. *Flores* majusculi, nutantes. *Calycis* laciniae oblongo-lanceolatæ. *Petala* ovalia demum patentissima. *Filamenta* disco piloso. *Stylus* quam in 2 speciebus precedentibus longior. *Stigma* planum, margine obscure 5-lobum.

HAB. N.W. Coast. *Mr. Menzies*. On high woody grounds at the base of Mount Hood, near the great Falls of the Columbia; not common.—Nearly allied to the preceding, but the leaves are much shorter. The peduncle has large concave bractæas, and I have never seen more than two flowers on any specimen.

Tab. CXXXVIII.—Fig. 1, Flower; fig. 2, Flower with the petals spread open; fig. 3, Stamens; fig. 4, Pistil:—*magnified*.

[Obs. When I published my *Tolmiea*, in the preceding part of this work, I was not aware that it was already described and figured by M. Bongard, in his *Vegetation de Sitcha*, under the name of *Cladotamnus pyrolifolius*, p. 37. t. 1,—a name which, of course, must be preferred to mine.]

ORD. LVI. JASMINEÆ. *Juss.*

1. LIGUSTRUM. *L.*

Cal. minutus, 4-dentatus. *Cor.* tubo brevi limbo 4-fido. *Stam.* 2. *Filamenta* brevia. *Stylus* brevissimus. *Stigma* bifidum. *Bacca* globosa, unilocularis, 2-4-sperma.—Frutices. *Folia interdum perennia.*

1. *L. vulgare*; foliis elliptico-lanceolatis glabris, panicula coarctata.—*L.*—*Engl. Bot. t. 764. Mich. Am. v. 1. p. 3. Pursh, Fl. Am. v. 1. p. 7. Torrey, Fl. v. 1. p. 7.*

HAB. Canada, (not indigenous.)

2. FRAXINUS. *L.*

Flores sæpe polygami. *Cal.* 4-partitus v. nullus. *Cor.* 4-partita v. tetrapetala v. nulla. *Stam.* 2. *Fructus*: *Samara* pendula basi monosperma.—Arbores regiones temperatas habitantes. *Folia opposita pinnata.* *Flores apetalæ et polygami* (*Fraxinus*), *vel hermaphroditæ subtetrapetalæ* (*Ornus, Scop.*)

1. *F. sambucifolia*; foliis sessilibus ovato-lanceolatis serratis rugoso-nitidis basi rotundatis inæqualibus axillis venarum subtus villosis, floribus nudis (*Pl.*), samaris ellipticis basi obtusis apice emarginatis (*Mx.*)—*Willd.*—*Mich. N. Am. Sylv. (ed. Philad. 1819) v. 3. p. 122. Pursh, Fl. Am. v. 1. p. 8.*

HAB. New Brunswick and Nova Scotia. *Michaux.* Canada. *Willd.*

2. *F. epiptera*; foliis ad summum 4-jugis oblongo-ovalibus acuminatis subintegris, capsulis obverse lanceolatis apice obtuse emarginatis ima parte teretibus apteris. *Mich. Am. v. 2. p. 56. Pursh, Fl. Am. v. 1. p. 8.*

HAB. Canada. *Pursh.*—I give this as a native of the British possessions on the authority of *Pursh*, who, however, makes no reference to *Michaux, Flora Bor. Am.*, where the species first appears, and where it is said to be a native of Virginia and Carolina. What I have called *F. epiptera*, in the *Companion to the Bot. Mag.*, from *Drummond's N. Ori. Coll.* (n. 210) has the leaves quite entire; the ripe samaras are 2½ inches long, terete at the base; wing very long, (as described by *Ellott*, and figured by *Gartner*), and of nearly the same width to the very apex. *Pursh* quotes "*F. discolor*, *Mich. Arb. Forest.*;" but in any ed. of the *Sylva* there is no such plant, either under that name, or under *F. epiptera*; there, however, is an *F. discolor* of *Muhl.* referred to *F. Americana*, *L. (F. acuminata, Lam.)*

3. *F. Americana*; foliis petiolatis oblongo-ovatis acuminatis integerrimis vel grosse serratis subtus pallidioribus, floribus calyculatis, capsulis basi teretibus ala lineari-lanceolata obtusa læviter emarginata. L.—Willd. *Sp. Pl.* p. 1102.—*F. acuminata*. Lam.—Pursh, *Fl. Am. v. 1. p. 9.* Elliott, *Carol. v. 2. p. 672.* Mich. N. Am. *Sylv. v. 3. p. 118.* Bigel. *Fl. Bost. (ed. 2.) p. 380.*

HAB. Canada (Ph.) to the Saskatchewan. Drummond.—This is the only *Ash* noticed in the *Boston Flora* of Dr. Bigelow; but I have seen no specimens from Canada exactly according with Pursh's description, that is, having the leaflets entire, shining, and glaucous beneath. Some of the leaves are deeply serrated.

4. *F. pubescens*; foliis petiolatis elliptico-ovatis serratis subtus petiolis ramulisque tomentosis, floribus calyculatis (Ph.), samaris oblongis obtusissimis emarginatis sensim in basin brevem teretem attenuatis.—Walt.—Ph. *Fl. Am. v. 1. p. 9.*—*F. tomentosa*. Mich. N. Am. *Sylv. t. 119.*— β . foliolis subintegerrimis.

HAB. Canada. Ph. Saskatchewan. Drummond.— β . Banks of the Columbia. Douglas, Dr. Scouler.

ORD. LVII. APOCYNÆ. Br.

1. APOCYNUM. Br. APOCYN sp. L.

Cor. campanulata. *Tubus* denticulis 5 acutis inclusis, laciniis limbi oppositis. *Faux* nuda. *Stam.* inclusa. *Antheræ* sagittatæ, medio stigmati cohærentes, lobis posticis polline vacuis. *Ovaria* 2. *Styli* subnulli. *Stigma* dilatatum, apice conico. *Squamæ* 5 hypogynæ. *Folliculi* graciles, distincti.—*Herbæ* perennes, erectæ. *Folia* opposita, membranacea. *Flores* cymosi. Br.

1. *A. androsæmifolium*; foliis ovatis supra glabris, cymis terminalibus lateralibusque, tubo corollæ calycem bis superante.—Linn.—Mich. *Am. v. 1. p. 121.* Rich. *App. p. 9.*

HAB. Canada and throughout the woody country; Hudson's Bay. Dr. Wright.—*Leaves* pubescent beneath in all my specimens which are from various parts of N. America.

2. *A. cannabinum*; foliis oblongis utrinque acutis glabris, cymis paniculatis, calyce tubum corollæ æquante. Linn. (TAB. CXXXIX.)—Br.—Torrey, *Fl. v. 1. p. 276.* Ell.— β . foliis subtus pubescentibus. *A. cannabinum*. Mich. *Am. v. 1. p. 122?* Ph. *Fl. Am. v. 1. p. 179?*—*A. pubescens*. Torrey, *Fl. v. 1. p. 276.* (viz Br.)

HAB. Canada. Lake Huron. Dr. Todd.—Michaux seems to have misled some of the American Botanists by describing the underside of the leaves as "*candicanti-tomentosa*,"—a circumstance common enough in *A. androsæmifolium*, but of rare occurrence in *A. cannabinum*, of which I have only seen one specimen, and that from Lexington, Kentucky, with its leaves downy beneath. The two species are truly distinct in the shape of their leaves, and the relative length of the calyx and corolla.

TAB. CXXXIX.—Fig. 1, Fruit.—nat. size.

3. *A. hypericifolium*; foliis cordato-oblongis glabris sessilibus mucronatis, cymis folio brevioribus, calyce tubum corollæ æquante.—(TAB. CXL.)—*Ait. Hort. Kew. v. 1. p. 304. Pursh, Fl. Am. v. 1. p. 179. Torrey, Fl. Am. v. 1. p. 276.*—A. Sibiricum. *Jacq. Hort. v. 3. p. 66. (non Pall.)*— β . foliis latioribus.

HAB. Throughout Canada to the Saskatchewan. *Dr. Richardson, Drummond. Lake Huron. Dr. Todd.*— β . West side of the Rocky Mountains. *Douglas.*—This is a stouter and more upright-growing plant, and less branched, than the preceding; but the upper leaves are sometimes acute at the base, and slightly stalked, and then it is with difficulty distinguished from *A. cannabinum*. Of the var. β . Mr. Douglas observes that the flax is used by the tribes residing on the west side of the Rocky Mountains to make their fishing-nets. They are strong, buoyant, and answer the purpose extremely well.

TAB. CXL.—Fig. 1, Flower; fig. 2, Stamens; fig. 3, Pistil:—magnified.

ORD. LVIII. ASCLEPIADEÆ. Br.

ASCLEPIAS. Br. Ascl. sp. L.

Corolla 5-partita, reflexa. *Corona* summo tubo filamentorum imposita, 5-phylla, foliolis cucullatis, e fundo exerentibus processum aversum corniformem. *Atheræ* membrana terminatæ. *Massæ pollinis* compressæ, apice attenuato affixæ, pendulæ. *Stigma* depressum muticum. *Folliculi* (plerumque) læves. *Semina* comosa.—*Herbæ Americanae erectæ. Folia opposita nunc alterna! vel verticillata. Umbellæ interpetiolares. Br.*

* *Folia semper opposita.*

1. *A. Syriaca*; caule subsimplici, foliis oblongo-ovalibus ovatisve acutis subtus tomentosis, umbellis multifloris, coronæ foliolis ovatis obtusis cornu longioribus intus bidentatis, folliculis muricatis.—*Linn.*—*Pursh, Fl. Am. v. 1. p. 181. Torrey, Fl. v. 1. p. 279.*— β . *Mich. Am. v. 1. p. 114.*

HAB. Canada (*Mrs. Percival, Mrs. Shepperd*) to the Saskatchewan. *Dr. Richardson, Drummond. Lake Huron. Dr. Todd.*

2. *A. variegata*; caule erecto simplici, foliis ovatis brevi-petiolatis, umbellis terminalibus, coronæ foliolis obovatis subeucullatis patentibus cornu acuminato brevioribus intus basin versus bidentatis.— α . *major*; foliis utrinque glabris, umbellis densifloris, coronæ foliolis late obovatis cornu latissimo rostrato.—*A. variegata. L.*—*Bot. Mag. t. 1182. Pursh, Fl. Am. v. 1. p. 181. Elliott, Carol. v. 1. p. 317. Torrey, Fl. v. 1. p. 281.*—A. hybrida. *Mich.*— β . *minor*; umbellis laxis paucifloris, foliis subtus præcipue pubescenti-tomentosis, coronæ foliolis obovatis cornu angustiore minus evidenter rostrato. (TAB. CXLI.)

HAB. β . Carlton House Fort. *Dr. Richardson.* Plains of the Red River and banks of the Assiniboine. *Douglas.*—The usual state of this plant I have not seen from British America; nor am I sure that I am correct in considering this a variety of that species. It is smaller in every part; the leaves very downy beneath, and more obtuse at the base; and there are the differences mentioned above in the inflorescence and flowers. The shape of the horn, however, in the solitary specimen I have from Mr. Douglas, is much broader, and more like that of the true *A. variegata*, than it is in Mr. Drummond's plants.

TAB. CXLI.—Fig. 1, Flower; fig. 2, Leaflet of the Corona with its horn:—magnified.

3. *A. Douglasii*; caule subsimplici, foliis cordato-ovatis acutis subtus umbellis multifloris calyce corollisque dense tomentosis, coronæ foliolis ovatis longe acuminatis cornu longioribus intus bidentatis. (TAB. CXLII.)

HAB. On low points of land on the banks of streams, west side of the Rocky Mountains; rare. *Douglas*.—Leaves somewhat resembling the last species, but broader and more coriaceous. The flowers thrice as large, and also remarkable for the great length of the coronal leaflet.

TAB. CXLII.—Fig. 1, Flower; fig. 2, Leaflet of the corona with its horn.

4. *A. nivea*; caule erecto simplici, foliis lato-lanceolatis acuminatis membranaceis glabris subtus pallidioribus, umbellis multifloris laxis, coronæ foliolis truncatis dentatis cornu brevioribus, folliculis lævibus.—*Linn.*—*Bot. Mag. t. 1187.* *Pursh, Fl. Am. v. 1. p. 181.*—*P. phytolaccoides.* *Lyon.*—*Pursh, Fl. Am. v. 1. p. 180.* *Elliott, Carol. v. 1. p. 319.* *Torrey, Fl. v. 1. p. 280.*

HAB. Canada. *Dr. Holmes*.—I have received the fruit, which is very rare and had not been seen by *Dr. Torrey*, from *Dr. Darlington*. The figure in the *Bot. Magazine* is excellent; and I think I am correct in uniting *Pursh's A. phytolaccoides* with *A. nivea*.

5. *A. viridiflora*; caule simplici pubescente, foliis ovalibus oblongis lanceolatisve subsessilibus apiculatis subtus præcipue pubescentibus, umbellis lateralibus densissime multifloris subsessilibus, coronæ foliolis oblongis retusis erectis appressis dorso canaliculato longitudine columnæ cornu nullo. (TAB. CXLIII. A.)—*Haf.*—*Pursh, Fl. Am. v. 1. p. 181.* *Torrey, Fl. v. 1. p. 264.*—*A. obovata.* *Ell.*—*β. lanceolata*; foliis elongato-lanceolatis crispatis. (TAB. CXLIII. B.)—*A. longifolia.* *Mich.?*—*A. lanceolata.* *Ives, in Sillim. Journ.*

HAB. Head of Lake Erie. *Mr. Goldie*. About Carlton House Fort, both *α.* and *β.* *Dr. Richardson.* *β.* Banks of the Red River. *Douglas*.—Exceedingly variable in the form and length of its leaves. The species agrees with *Gomphocarpus* in the absence of the horn to the leaflets of the corona, but differs in the smooth foliules. The leaflets of the corona are singularly erect, oblong, rotuse, channelled down the back; the margins incurved and united by their lower half with the neck of the column, each having a small auricle on either side, at the top of the juncture.

TAB. CXLIII.—Fig. 1, Flower; fig. 2, Portion of the corona, seen from within:—magnified.

6. *A. incarnata*; pubescens vel glabra erecta ramosa, foliis oblongis lanceolatisve, umbellis terminalibus plurimis sæpe geminis, columna elongata, coronæ foliolis erectis ovalibus obtusis cornu subulato incurvo brevioribus.—*L.*—*Mich. Am. v. 1. p. 115.* *Elliott, Carol. v. 1. p. 320.* *Bot. Reg. t. 250.* *Torrey, Fl. v. 1. p. 281.*

HAB. Throughout Canada to the Saskatchewan. *Dr. Richardson, Drummond*.—Extremely variable in the length, and breadth, and downiness of the foliage; generally quite glabrous. Frequently, when the stem is otherwise glabrous, a hairy line runs along one side of it. The figure in *Bot. Register* is excellent. All that I have received from the American Botanists as *A. amæna*, I cannot distinguish specifically from the present; indeed, the species of this genus have been very ill defined, and require careful revision. The leaflets of the corona and the horn appear to afford some of the best marks of distinction. The *A. amæna* of Sweet's *Fl. Garden*, t. 82, seems to me referable to a deep-coloured state of *A. Syriaca*.

7. *A. quadrifolia*; caule erecto simplici paucifoliato, foliis ovatis acuminatis ciliatis oppositis subverticillatisque petiolatis, umbellis terminalibus solitariis v. geminis laxis, coronæ foliolis patentibus oblongis obtusis intus basin versus bidentatis cornu longioribus. *Jacq. Obs.* 2. p. 23. *Pursh, Fl. Am. v. 1. p. 183. Elliott, Carol. v. 1. p. 319. Torrey, Fl. v. 1. p. 283.*

HAB. Canada. *Dr. Beck.*

* * *Folia sparsa seu verticillata.*

8. *A. tuberosa*; erecta ramosa pilosa, foliis alternis lanceolatis subsessilibus, umbellis numerosis terminalibus laxis, coromæ foliolis erectis lanceolatis intus bidentatis longitudine cornu subulati stricti.—*L.—Mich. Am. v. 1. p. 117. Pursh, Fl. Am. v. 1. p. 183. Elliott, Carol. v. 1. p. 325. Bot. Reg. t. 76. Torrey, Fl. v. 1. p. 285.*

HAB. Lake Huron. *Dr. Todd.*—Readily distinguished by its alternate leaves and bright orange-coloured flowers.

9. *A. verticillata*; erecta simplex gracilis, foliis sparsis verticillatisque linearibus, umbellis terminalibus axillaribusque, columna breviuscula, coronæ foliolis ovalibus cucullatis cornu curvato brevioribus.—(TAB. CXLIV.)—*L.—Mich. Am. v. 1. p. 110. Pursh, Fl. Am. v. 1. p. 183. Elliott, Carol. v. 1. p. 324. Torrey, Fl. v. 1. p. 284.*

HAB. Abundant on the alluvial plains of the Red River, and banks of the Saskatchewan, near Carlton House. *Douglas.*

TAB. CXLIV.—Fig. 1, Flower; fig. 2, Leaflet of the corona, with its horn:—magnified.

ORD. LIX. GENTIANEÆ.* *Juss.*

Trib. I. SWERTIEÆ. *Inflorescentia racemiformis. Sepala sublibera, membrana scariosa intracalyceina juncta. Antheræ immutæ, rima loculorum sursum dehiscente. Capsula corolla marcescente plerumque cincta, placentis l. cum endocarpio valvula connatis (semina ex ipsis valvulis oriunda,) l. in sutura valvularum spongiosis unilocularis, l. rarissime placentæ centrali bilocularis. Corolla cærulea, ochroleuca, l. purpurascens, sæpiissime punctis conspersa.—Herbæ, pleræque zonam arcticam subarcticam, tractusque alpinos, pauce temperatas terras incolentes.*

I. GENTIANA. *L.*

Foveæ epipetalæ glanduliferæ 0. Filamenta basi æqualia. Stigmata terminalia. Capsula unilocularis, placentis cum endocarpio connatis.

SECTIO I. CYANE, *Ren.*—*Corollæ plicâ intermediâ auctæ, eglandulosæ, lobi cum tubo continui. Stigmata distincta, revoluta. Capsula stipitata. Testa sæpius ala discolori cincta. Herbæ perennes.*

* I am indebted to the kindness of Dr. Grisebach for the following account of the British North American *Gentianeæ*, which he has drawn up purposely for this work.

* *Corolla clavata apice connivente.*

1. *G. Saponaria* (L.); caule ascendente, foliis ovato-lanceolatis obovatisque margine scabris, floribus aggregatis subsessilibus bracteatis, calycis integri lobis tubum subaequantibus, corollæ cyanæ lobis ovatis obtusis plicâ (fissa) duplo longioribus, antheris connatis, seminibus anguste natis. *L. Sp. Pl.* 1. p. 330, (excluso citat. Plukn.) *Lam. Encycl.* 2. p. 637. *Ait. Hort. Kew.* 2. p. 111. *Sims Bot. Mag.* t. 1030 (excl. syn. *Froel. et Mich.*) *Pursh, Fl.* 1. p. 185. (excl. cit. *Andr.*)—*G. Catesbei*. *Walt.* p. 109. *Nutt.* 1. p. 172.—*G. fimbriata*. *Vahl, Symb.* 3. p. 46.— β . *linearis*; foliis lineari-lanceolatis, antheris demum liberis.—*G. Catesbei*. *Ell.* 1. 339.—*G. linearis*. *Froel. Mon.* p. 37. *Pursh*, 1. p. 186.—*G. Pneumonanthe*. *Mich.* 1. p. 176.—*G. pseudopneumonanthe*. *H.* 5. et p. 146.—*G. puberula*. *Mich.* ? 1. p. 176.

HAB.— β . has been collected in Canada, (*Mrs. Percival*), in the neighborhood of Quebec, and at Lake St. Charles. *Mr. Sheppard*. I have seen specimens of the broad-leaved var. from as far northward as Maryland; but it undoubtedly occurs with its variety β . at the above-mentioned places, as they by no means specifically differ from each other. I am certain that this is the true *G. Saponaria* of Linnæus; for his diagnosis, and the drawings which he quotes, viz. those of *Catesby* (*Carol.* 1. t. 70) and of *Morison* (*vol.* 3. sect. 12. t. 5) leave no doubt of it. The quotation of *Plukenet* is, however, erroneous. The drawing of *Catesby* also proves that *G. Catesbei* (*Walt.*) is identical with our species; and it is natural that *Froelich* found fault with that drawing, from the absence of the plicæ, which may be easily overlooked in this species, but not in the following. *G. Saponaria* is much rarer than the following, which has been often taken for it as well by American as European botanists. The variety β . may be still commoner than α . which has been quite overlooked by some of the American botanists; as, for instance, *Melchoux*, *Ellot*, and lately, *Beck*. This species is always of lower growth, but scarcely smaller-flowered, than the following; the leaves are somewhat coriaceous; the flowers almost all terminal and crowded; nevertheless, these characters, though valuable in general, are not constant in all cases; but I have not found that the variations which take place in the proportions of the lobi and plicæ corollæ, ever exceed certain bounds. There are, besides, most valuable characteristic differences afforded by the seeds of these species: *G. Saponaria* L. has oblong-winged seeds, the wing of which is narrow on both sides, and long and attenuated towards the ends; the seeds of *G. Andrewsii* are orbicular, and very broadly and equally winged; while those of *G. ochroleuca* have no wing at all. The connexion of the anthers, and the length of the lobi calycis, are of much less consequence. By the investigation of *Sir W. Hooker*, (in the *Companion to the Bot. Mag.* p. 171.) it has been proved that *G. Pneumonanthe* of the American authors is merely a variety of this species; and however distant they may seem to stand when studied only in their common forms, nevertheless the variety β . of *G. Saponaria* is so similar in some cases to *G. Pneumonanthe*, that it is very difficult to distinguish them. For in those forms in which the plicæ is quite entire, (as, for instance, in that of *Dr. Boott*, in the *Hookerian herbarium*, quoted by himself,) it is impossible to find out any decided difference in the structure of the corolla. I examined authentic specimens from *Silesia*, the lobi corollæ of which were blunt and somewhat converging. On the other hand, *G. Saponaria* has sometimes an open corolla, as *G. Pneumonanthe* commonly has. But there is a minute character, which seems to be most constant, and certainly has an important connexion with the whole of the species—viz. a distinct roughness on the margins of the leaves, so that they appear serrated under a magnifying glass, while *G. Pneumonanthe* is always entirely smooth: I think that that roughness is the remains of those scabrous forms, which exist almost in all American species of *Gentiana*.

2. *G. Andrewsii* (Griseb.); caule ascendente, foliis ovato-lanceolatis acuminatis margine

scabris, floribus aggregatis subsessilibus bracteatis, calycis integri lobis tubo brevioribus, corollæ cyanæe plica fisso-subbiloba lobos corollæ oblitos excedente, antheris connatis, seminibus late alatis. *G. Saponaria*. *Froel. p. 32 (excl. synon.) Nutt. 1. p. 172. Elliott, 1. p. 339. Beck, p. 239.*—*β. linearis*; foliis anguste lanceolatis, calycis lobis tubum subæquantibus, caule asperisculo. *G. Catesbæi. Andrews Bot. Rep. 6. t. 418. Aiton Hort. Kew. 2. p. 112.*

HAB. Both forms occur in Canada. *Mr. Cleghorn. Lako Huron. Dr. Todd.*—It is indeed with regret that I must apply a new name to a plant so well known and widely dispersed; but it seemed necessary to call that plant of Linnaeus which has been proved to be identical with that of Walter *G. Saponaria*. The confusion of these species arose from Froelich's Monograph, who confounded this species with *G. Saponaria* of Linnaeus, of which he knew only the variety *β*; but that did not agree with Linnaeus's diagnosis, and was therefore described by him as a new species. The confusion increased, when Michaux took the *G. ochroleuca* for Linnaeus' *G. Saponaria*. The *G. puberula* of the former is now a doubtful synonym, all species of this group being occasionally rough. If Pursh was right in referring it to *G. linearis*, F., it belongs to *G. Saponaria*, L., and would differ from *G. Pneumonanthe*, Mich. merely by the form of the plica; but as *G. Andrewsii* is the commoner plant of the two, it is probable that Michaux designated by his *G. puberula* the variety *β*, of the latter, in which case his name should be adopted. It is desirable that this question should be determined by the inspection of Michaux's herbarium. Pursh does not seem to have well examined these species, as he quotes for his *G. Saponaria* the plates as well of Andrews as of Sims. He may have considered both the narrow-leaved varieties as one species, viz. his *G. linearis*, and the chief forms of both species as belonging to a second. This makes indeed the synonym of *G. puberula* Mich. the more doubtful: the corolla in both forms is described by Pursh in the same way, and indeed most unsatisfactorily. The best description of *G. Andrewsii* has been published by Elliott.

3. *G. ochroleuca (Froel.)*; caule ascendente, foliis ovato-lanceolatis obovatisque margine scabriusculis, floribus terminalibus aggregatis sessilibus bracteatis, calycis integri lobis inæqualibus tubum æquantibus, corollæ ochroleucæ lobis ovatis obtusis, plica integra acuta brevissima, antheris liberis, seminibus exalatis.—*G. major virginiana. Pluku. alm. 166. t. 186. f. 1.*—*G. villosa. L. sp. pl. 1. p. 330.*—*G. Saponaria. Walt. p. 109. Mich. 1. p. 176.*—*G. ochroleuca. Froel. p. 35. Pursh, 1. p. 185. Elliott, 1. p. 340. Beck, p. 239. Sims, Bot. Mag. 1531.*

HAB. Canada. *Mr. Goldie.* Grows in sandy fields.—The two preceding species prefer a fat and somewhat humid soil. It is remarkable how much the form of the leaves varies in these species. The most frequent form of *G. ochroleuca* is perhaps an obovate leaf, but the broadest part is also very often near its base; I have seen many specimens with cordato-lanceolate leaves. Mühlenberg, however, sent to Willdenow a specimen, the leaves of which are almost orbicular. It never occurs so narrow-leaved as the varieties of the preceding species, but generally the form of the foliage is analogous to that of *G. Saponaria*, while *G. Andrewsii* has commonly longer and narrower leaves, the broadest part of which is near their base. With respect to the similar variability of the corolla, see the excellent observations of Sir W. Hooker, in the *Companion to the Bot. Mag. l. c.*

* * *Corollâ sensim ampliata aperta.*

4. *G. affinis (Griseb.)*; caule ascendente, foliis margine scabris inferioribus obovato-oblongis obtusis, superioribus lanceolatis acutiusculis, floribus subsolitariis oppositis pedi-

cellatis bracteatis, calyce integro, corollæ cyanæ lobis oblongo-lanceolatis plicam apice fissam triplo superantibus, antheris liberis, seminibus ovalibus alâ tenui cinctis.

Habitus *G. Pneumonanthis*. Herba ascendenti-erecta, pedalis. Caudis solitarius, striato-subangulatus, pennam corvinam crassus, simplex, plerumque hirsutiusculo-scaber. Internodia inferiora semiuncialia, superiora sensim longiora. Folia erecto-patentia, glabra, margine ad lentem serrulata, substantiâ foliari usque ad punctum connationis producta, inferiora obtusissima (10" longa, 4" lata), cetera oblongo-lanceolata et lanceolata, rigidiuscula, obsolete 3-5nervi (unciam longa, 1½"-2½" lata.) Flores solitarii in superioribus axillis; inferiores longius pedicellati, tres summi approximati, singuli bracteati. Sepala follicea, subæqualia, membranâ intra calycina duplo breviori conglutinata, oblongo-linearia, acutiuscula, corolla duplo breviora, distantia (hinc membrana illa aucta), calyx truncatus, integer, turbatus. Corolla (facie *Gentiana Pneumonanthis*) cyanea, lobis oblongo-lanceolatis, obtusis, patentibus, tubo triplo brevioribus. Genitalia inclusa. Anthera ovales, basi obtuse cordatæ. Ovarium oblongo-lineare, utrinque attenuatum, stigmatibus connatis, sub anthesi cretiusculis. Capsula elliptico-oblonga, in brevem stipitem attenuata, corollam marcescentem æquans. Semina creberrima, plana, ovalia, alâ tenui æquali circumdata.—Differt a *G. Saponariâ* ß., cui proxima: inflorescentiâ, sepalis acutiusculis nec acuminatis, corollæ loborum ac tubi figurâ, antheris liberis, earum seminum formâ; a *G. adsurgente*. Cervant. mscript. floribus bracteatis, corollæ lobis oblongo-lanceolatis nec obovatis, rotundatis, caule scabro; a *G. triflora* Pall. floribus pedicellatis, plicâ apice fissâ, foliis margine scabris, inferioribus latioribus, caule scabro, seminibus alatis; a *G. angustifolia* Mich. inflorescentiâ, floribus bracteatis, corollæ lobis obtusis, foliis margine scabris, latioribus, etc.; a *G. Pneumonanthe*, L. antheris liberis cordatis, plicâ apice fissâ, foliis margine scabris, inferne densioribus, pedicellis oppositis.

HAB. Carlton House to Edmonton House. *Mr. Drummond*. Vallies of the Rocky Mountains. *Mr. Douglas*, *Mr. Drummond*. Abundant in the mountain vallies, between Spokane and Kettle Falls, in alluvial deposits. *Mr. Douglas*.—There is a variety in which the under leaves are reduced to scales. This species stands indeed very near those above mentioned.

5. *G. angustifolia* (Mich.); caule flexuoso, foliis linearibus obtusis (hinc cuspidatis) margine lævibus, flore unico terminali pedunculato ebracteato, calyce integro, corollæ cyanæ lobis ovato-oblongis obtusis plica multifidâ duplo longioribus, antheris connatis demum liberis.—*Mich.* 1. p. 177. *Pursh*, 1. p. 186. *Beck*, p. 240.—*G.* purpurea. *Walt. Carol.* 109.—*G.* porphyris. *Walt. App.*—*Gmel. Sib.* v. 5. p. 462.

HAB. Canada. *Mr. Goldie*. It grows in sandy fields and pine barrens.—*G. frigida*, H. and K., has been found by Chamisso on the opposite shore of Behring's Strait, at the Gulf of St. Lawrence, and must undoubtedly occur also on the American side, although it does not seem yet to have been detected.

6. *G. Sceptum* (Griseb.); caule stricto elato, foliis oblongo-lanceolatis elongatis obtusis margine lævibus, pedunculis axillaribus oppositis 2-3-floris, calyce integro, corollis cæruleis, plica vix producta integra, antheris liberis. (TAB. CXLV.)

Caudis 3-4-pedalis, pennam anserinam (inferne cygneam) crassus, strictus, teres, striatus, glaberrimus, foliosus, præter inflorescentiam simplex, siccitate flavescens. Internodia inferiora sesquiuncialia, superiora subæqualia 2-3 uncialia folia æquantia l. paulum excedentia. Folia erecta, cauli approximata, inferiora elongato-lanceolata (bluncialia), media oblongo-l. elliptico-lanceolata, basi lata, connata apice obtusa, (2-2½ unc. longa, 10-12 lin. lata), superiora elliptico-oblonga (sesquiuncialia, unciam lata,) omnia septemnervi, nervo medio prominente, lævia, glaberrima, margine subrevoluta lævi. Ex superioribus axillis enascuntur pedunculi oppositi, nudi, erectiusculi l. apice subcernui, inferiores folium superantes, superiores

vix æquantes, 2-3-flori, floribus subsessilibus in involucri duarum bractearum, (raro 1-flori, flore bibracteato.) *Flores* oblique erecti. *Sepala* foliacea, distantia, inæqualia, ovata lanceolataque, unciam longa, membrana intracalycina duplo brevior. *Corolla* fere biuncialis, ex basi attenuata sensim ampliata, lobis erectis late ovatis, obtusiusculis, tubo quinque brevioribus, plica truncata l. breviter triangulari. *Stamina* tubo breviora, antheris incumbentibus sagittatis. *Germen* oblongo-lineare, utrinque attenuatum, stylo recto longiusculo. *Capsula* elliptico-oblonga, in stipitem æque longum attenuata, stigmatibus duobus crassis atria reflexis coronata, corollam marcescentem auctam æquans. *Semina* oblonga, flavo-brunnea, testa grosse areolata, altero latere tenuissime alata, altero exalata, apice et basi processu aliformi instructa.

HAB. Plentiful in low moist soil near Fort Vancouver. *Mr. Douglas.* Swamps in woods near the Columbia River. *Dr. Gairdner.*—This is one of the most beautiful and distinct species of the genus; it has no resemblance whatever with any individual of the group *Cyane*, and stands nearer, as regards habit, the group of *Celanthe*, Ren., to which belong *G. purpurea*, L. and some other species: it is especially like a new one of that group from Kamschatka, but differs from all of them by the long-stalked capsules. The singular inflorescence contributes much to elucidate the pseudo-verticilli of *G. lutea*, L.

Tab. CXLV.—*Fig. 1.* Flower laid open :—*nat. size.*

7. *G. platypetala* (Griseb.); caule ascendente, foliis abbreviatis ovato-subrotundis, flore unico terminali sessili, calycis integri lobis ovatis acuminatis, corollæ cæruleæ lobis reniformibus mucronatis plicam triangularem integerrimam duplo superantibus, antheris liberis.

Radix repens, annulis densis obsessa, superne foliorum emarcidorum vestigiis tecta. *Caules* plures ex eadem radice, spithamei, inferne nudi, superne denso foliosi. *Folia* ovato-subrotunda l. ovato-oblonga (8" longa) internodia superantia. *Flos* in folia suprema immersus. *Calyx* patulus, 5-fidus, rubicundus, corolla duplo brevior, sepalis membranâ intracalycinâ basi connexis. *Corolla* basi lata, sensim ampliata, unciam longa; lobi erecti, vix 2" longi, ex basi angustiori dilatati, apice fere truncati, cuspidato-mucronati, medio latiores quam longi. *Plica* acutissima. *Genitalia* tubo multo breviora. *Antheræ* incumbentes. *Ovarium* elliptico-lineare. *Capsula* elliptico-oblonga.

HAB. In the island of Sitcha, where it was found during the second expedition of Capt. Kotzebue. I have seen specimens in the herbarium of Chamisso, and am not aware that it has been as yet described by Russian botanists.—This constitutes, together with the two following species, a small, but very remarkable and distinct group. Their general appearance is similar to *G. septemfida*, Pall.; they have a thick and creeping root, often marked by singular rings, formed by concentric ruptures of the epidermis;—these gradually loosen, and afterwards become contracted; the stem is low and ascending, sometimes more than one grows from the same root; their leaves are short, roundish, and bent downwards; the flowers have no peduncle whatever, they are always solitary at the summit of the stem, the calyx being in immediate connexion with the uppermost leaves; the seeds seem to be angular and not winged; at least such is the case in *G. calycosa*.

8. *G. calycosa* (Griseb.); caule ascendente, foliis abbreviatis ovato-l. cordato-subrotundis margine scabriusculis, floribus solitariis terminalibus sessilibus, calyce integro, lobis latissime foliaceis inæqualibus, corollæ cæruleæ lobis ovato-oblongis acutis, plica multifida, antheris demum liberis. (**Tab. CXLVI.**)—*β. stricta*; caulibus cæspitosis, strictissimis, simplicissimis, foliis acutioribus duplo brevioribus internodia æquantibus, radice fasciculata, hinc annulata.

Radix repens, crassa, nigra, absque annulis. *Caules* cæspitosi, æquales, laxi, spithamei, basi squamis involuti, teretes, sulcato-striati, simplices l. parco ramosi, ramis alternis flexuosis cauli similibus. *Internodia* uncialia, superiora paulum longiora. *Folia* infima squamiformia, ovata, obtusa, connato-vaginantia:

superiora sensim majora, ex basi cordata l. late ovata subrotunda l. rotundato-triangularia, obtusissima, 3-5nervia, margine ad lentem serrulata, horizontaliter patentia, summa flori approximata. Flores solitarii in apice caulis et ramorum immersi. Calycis tubus turbinatus, (4" longus,) membrana intracalycina formatus; lobi ejusdem fere longitudinis, foliacei, late ovati l. cordato-triangulares, basi supra incumbentes, obtusissimi, longiores dimidiam corollam æquantes. Corolla clavata, (unciam longa, dimidiam unciam lata.) Lobi ovato-oblongi, apice triangulari acuto, tubo triplo breviores, plica triangulari multifida acutissima duplo longiores. Genitalia dimidiam corollam æquantia. Anthera juniores connatæ, domum liberæ, oblongæ, sagittatæ, incumbentes. Germen oblongo-lineare, apice longe attonuatum, stigmatibus revolutis. Capsula elliptico-oblonga. Semina triangularia, 3-carinata, oblonga, striato-asperiuscula, altero latere acuta.

HAB. Both forms occur at Mount Rainier, on the north-west coast. *Mr. Tobnie*.—The structure of the lowermost leaves is remarkable; they are commonly reduced to little scales, the opposite pairs of which are so far coherent as to form a loose vagina round the stem of three or four lines in length. I saw a similar abortion in *G. Pneumonanthe*, L., but the vagina did not proceed so far. The same peculiarity occurs in the following species.

Tab. CXLVI.—A. var. β . Fig. 1, Flower laid open:—slightly magnified.

9. *G. Menziesii* (Griseb.); caule erectiusculo, foliis abbreviatis oblongo-ellipticis obtusis margine lævibus, flore unico terminali sessili, calyce dimidiato utrinque latissimo, corollæ lobis cordato-dilatatis triangulari-acutis, plica brevi 2-3srenata, antheris liberis.

Radix crassa, apice squamosa. Caulis solitarius, simplicissimus, pedalis, striatus, inferne squamatus, superne foliosus. Internodia subæqualia, uncialia. Folia patentia, connata, ex basi subobliqua, semi-ovata, late ovalia, obtusa l. obtusiuscula, 3-5-nervia, (unciam longa, 8" lata.) Vaginæ calycinæ subæqualis, late ovate l. ovato-oblongæ, apice hinc processibus viridibus (sepalorum rudimentis instructæ. Corolla uncialis, clavata, lobi ex basi transverse truncata dilatata, apice triangulari acuto, tubo duplo breviores, plica brevissima l. truncata crenulata. Stigmata elongata, revoluta. Germen oblongo-lineare.

HAB. North-West Coast. *Mr. Menzies*.—This plant is most like *G. platypetala*, from which it differs by the form of the leaves and of the corolla, the base of which runs to a point in this species, while it is very large in *G. platypetala*, and also by the form of the lobi corollæ and the plica intermedia, as is stated in the diagnosis.

10. *G. glauca* (Pall.); caule humili ascendente, foliis obovato-spathulatis glaucis margine læviusculis, floribus paucis terminalibus, calyce integro, corollæ pallide cæruleæ lobis ovatis obtusis plicam integram multo superantibus, antheris liberis, seminibus tenui ala cinctis. (Tab. CXLVII).—Pall. *Ross*. 2. p. 104. t. 93. f. 2.—*G. cæspitosa*. *Graham*, in *Edinburgh Philos. Journ.*

HAB. In the Rocky Mountains. *Mr. Drummond*.—This does not differ at all from the Asiatic plant. The circumstance of the existence of this species in the Rocky Mountains, is a valuable contribution to the laws of the geographical distribution of the Gentians; the greater part of those species which adorn the short summer of the Arctic Zone being again to be met with in the similar climate of the higher mountains of lower latitudes. Many examples of this fact are known with regard to European species, but scarcely one among those of the new continent, all the numerous species of the Andes being confined to those latitudes. *G. glauca*, however, affords an instance of a similar distribution to that above quoted; Steller having detected it in Behring's Island, Pallas in Kamschatka, and Chamisso on both shores of Behring's Strait. Now, though the spot where *Mr. Drummond* found it, in the Rocky Mountains, lies under the same latitude with Kamschatka, it is not to be forgotten that the isothermal line declines there to the south.

Tab. CXLVII.—Fig. 1, Flower; fig. 2, the same laid open; fig. 3, capsule; fig. 4, seeds:—magnified.

Sectio II. CHONDROPHYLLA, Bg.—Corolla plica intermedia aucta, eglandulosa, infundibuliformis. Stigmata distincta, revoluta. Capsula longe stipitata. Testa appressa, exalata. Folia margine cartilaginea.

11. *G. prostrata* (Hk.); caule basi ramoso, ramis unifloris, foliis ovali-spathulatis recurvato-obtusatis margine lævibus apice muticis, calycis lobis ovato-lanceolatis erectis, plicis parvulis bifidis, capsula juniore elliptico-oblonga basi attenuata adulta basi ovata apice attenuata.—*G. prostrata*. Hænk. in Jacq. Coll. 2. p. 66. t. 17. f. 2. Froel. p. 75.—*G. aquatica*, α. Froel. p. 78? ex descr.—*G. nutans*. Bg. in Mém. de l'Acad. de Moscou, v. 7. p. 232. t. 11. f. 2. (forma elongata flore nutante.)

HAB. Rocky Mountains. Drummond. Bay of Good Hope, Russian America. Chamisso.—There are two forms of this species, both collected by Mr. Drummond,—one scarcely an inch long, with two or three branches, and quite identical with the *G. prostrata* of the German Alps,—the other three to six inches high, with many ascending branches of equal length, and the leaves more distant; besides, the flowers are larger, but they are not drooping in the specimens from the Rocky Mountains, as in those collected by Chamisso. The latter form is peculiar to North America, but by no means specifically distinct. This species is very similar to *G. humilis*, Stev. or *aquatica* of many authors, but it differs by the small bifid plicæ, the form of the fruit and the leaves, and a short style, the latter having no style, oblong-lanceolate leaves, an obovate capsule, and roundish plicæ, nearly as long as the lobes of the corolla. Some other species, which stand next to *G. humilis*, have been well analyzed by Mr. Bunge. *G. prostrata* has been found by Mr. Darwin, at the Straits of Magellan!

Sectio III. TRETORRHIZA, Ren.—Corolla plica intermedia bifida aucta, eglandulosa, hypocrateriformis. Stigmata distincta, revoluta. Capsula sessilis. Testa appressa exalata.—Herbæ perennes.

12. *G. Douglasiana* (Bong.); caule a basi ramoso tenero, foliis ovalibus cordatisque margine læviusculis, calyce integro, corollæ albæ lobis oblongis obtusis tubo duplo brevioribus. (TAB. CXLVIII.) Bongard, Veg. de Sitcha, p. 38. t. 6.—β. *patens*, ovario obovato stiligero, caule altiori, ramis stricte patentibus nudiusculis subfastigiatis, corolla profundius partita, plica longiori. (TAB. CXLVIII. B.)—*G. trichotoma*. Meuz. mscr. in Herb. Hook.

HAB. In swamps; abundant at Fort MacLoughlin, Millbank Sound, N.W. Coast. Mr. Tobnic. In the island of Sitcha. Mr. Mertens. β. in the marshes of the N.W.C. Dr. Scouler, Mr. Menzies. Near Fort Vancouver. Mr. Garry.—The dried plant has always a somewhat dirty yellow colour. The plate of Mr. Bongard, though representing with great precision the specimens which had been collected by the late Mr. Mertens, does not well express the appearance of the common form, as those specimens were not yet quite developed: the flowers are not so crowded; the internodia are longer; the branches elongated, rather feeble, and commonly one-flowered. As the fruit has not been seen by Mr. Bongard, I add the following notes to his description:—Capsula elliptico-oblonga, apice attenuata, compressa, superne marginata, corollam æquans. Semina nigra, oblonga, angulata, exserta, utrinque acuta, lævia, juniora pilosula, valvulæ utriusque binis seriis juxta suturas inserta.—The appearance of the variety β. is very singular, and the characters of its germen seem to be constant; but I sometimes saw a short distinct stylus also in the common form, and the shape of the leaves is quite identical.

TAB. CXLVIII.—A. var. α.—B. var. β.—Fig. 1, Flower; fig. 2, The same laid open.

Sectio IV. ARCTOPHILA.—*Corolla plica intermedia destituta, inter basi. filamentorum glandulifera, infundibuliformis. Stigmata distincta, revoluta. Capsula sessilis. Semina globosa, exalata.*—*Herbæ annua. Glandulæ corollinæ hinc inde abortu deunt.*

13. *G. aurea* (L.); caule humili basi in ramos cauli similes diviso superne subsimplici, foliis septemnerviis, imis elliptico-oblongis basi attenuatis, caulinis late ovatis obtusiusculis, sepalis margine lævibus vix basi junctis inæqualibus versus apicem ampliatis corollam subæquantibus, corollæ 5-v. 4-fidæ albæ lobis ovato-lanceolatis cuspidatis setula terminatis tubum campanulatum sensim ampliatum subæquantibus.—*L. Sp. Pl. 1. p. 331.*—*G. involucrata. Fries, in Act. Hafn. 10. t. 1. f. 2. A. B.*

HAB. Greenland. *Vahl, jun.*

14. *G. aleutica* (Cham. et Schlecht.); caule humili a basi ramoso, foliis obscure trinerviis, imis spatulatis, caulinis ovatis acutis, calycis lobis lineari-oblongis inæqualibus margine scabris tubum æquantibus, longioribus corollæ tubo subbrevioribus, corollæ 4-fidæ violacæ lobis ovatis acutiusculis muticis (margine hinc setulosis) tubo campanulato sensim ampliato duplo brevioribus. *Cham. et Schlecht in Linnæa, 1. p. 175.*—*G. Unalaschkensis. Bg. in Nou v. Mém. de la Soc. de Moscou, 1. p. 240. t. 9. f. 2.*

HAB. Unalaschka. *Chamisso.*

15. *G. arctophila* (Griseb.); caule humili basi in ramos cauli similes diviso superne simplici triflori, foliis obscure 3-nerviis, imis obovato-oblongis basi attenuatis, caulinis ovato-oblongis acutis, sepalis margine scaberrimis vix basi junctis inæqualibus, majoribus corollæ tubo brevioribus, corollæ 4-fidæ cæruleæ lobis ovato-triangularibus basi superincumbentibus acutissimis setula terminatis (margine lævibus) tubo ex basi lata sensim æqualiter ampliato triplo brevioribus. (TAB. CXLIX.)—*β. densiflora*; floribus tribus terminalibus approximatis, foliis caulinis cordato-ovatis l. cordato-lanceolatis obtusiusculis, sepalis duobus maximis corollæ tubum æquantibus l. superantibus, minoribus anguste lanceolatis abbreviatis. (The colour of the flowers is, perhaps, also different, since all the corollæ of this variety have kept their bright blue, as the colour was stated by Mr. Drummond; while the specimens from the Arctic sea-coast have now whitish flowers, with a violet tint here and there.) TAB. CXLIX. B.B.

Radix tenuis, simplex, curvæ descendens. *Caulis* basi infra ramificationem folia quibusdam rosulatus; rami inæquales, partim decumbentes, partim descendentes, medius plerumque major erectiusculus 2-3-uncialis, minores uncialis, omnes 3-(rarius 1) flori, unico pari foliorum instructi, teretiusculi. *Folia* ima obovato-oblonga obtusa l. elliptico-oblonga acutiuscula, margine ad lentem tenuissime serrulata, (6-8" longa, 3" lata); caulina supra medium ramum sita, ovato-oblonga, sessilia, acuta, sepe acutissima, (6-9" longa, 2-4" lata.) *Pedicelli* laterales ex axillis foliorum caulinarum 2-6" longi; *pedunculus* terminalis 8-12" longus, ebracteoatus. *Calyx* fere ad basin divisus, sepalis foliis caulinis simillimis. *Corolla* fere uncialis, infundibuliformi-hypocrateriformis, tubo basi 2", apice 4" lato. *Filamenta* alata, basi latorum. *Antheræ* parvæ, oblongæ, violacæ, incumbentes. *Ovarium* oblongo-lineare, stamina corollæque tubum æquans. *Stigmata* 2 oblongo-linearibus, revoluta, ovario imposita, quam in ceteris *Arctophilis* longiora. *Capsula* oblongo-linearis, corollam marcescentem æquans, seminibus minutissimis fuscis applauatis lævibus exalatis in utraque valvula biserialibus.—Species ludit sepalis æqualibus; etiam scapis uniflora cæspitosis.

HAB. Arctic Sea-Coast. *Dr. Richardson*. β . Rocky Mountains. *Mr. Drummond*.—This affords another instance of the occurrence of the same species at the level of the sea in the north, as well as at a certain height in lower latitudes. It approaches nearly to *G. propinqua*, Rich., but it seems to differ constantly, since its exterior habit, and the manner of its ramification, is indeed anything but analogous. In Chamisso's specimens of the latter species, the lobes of the corolla are lanceolate, and not superincumbent, at their base; but, among that great series of specimens which have been collected on Capt. Franklin's expedition, are to be found flowers wholly similar to those of *G. arctophila*, differing, indeed, only in having their corolla always much slenderer and narrower at the base of its tube, as well as somewhat serrated at its lobes.

Tab. CXLIX.—A. var. α . B.B. var. β .—Fig. 1, Flower of β ; fig. 2, The same laid open:—*magnified*.

16. *G. propinqua* (Rich.); caule gracili basi flagellifero superne subsimplici, foliis imis spathulatis, superioribus oblongo-lanceolatis lanceolatisque acutis, sepalis margine lævibus basi junctis valde inæqualibus, binis ovatis acutis tubum corollæ æquantibus, binis lanceolato-linearibus brevioribus, corollæ 4-(5?)-fidæ cærulæ lobis ovato-lanceolatis acuminatisimis setula terminatis (margine hinc setulosus) tubo obconico fere duplo brevioribus. (Tab. CL.)—*Richardson in Narr. of a Journey by Frankl. p. 734.*—*G. Rurikiana. Cham. et Schlecht. in Linnæa, 1. p. 176.*—*G. setiflora. Bg. t. c. p. 242. t. 9. f. 4.*— β . *densiflora*; floribus terminalibus aggregatis a foliis floralibus involucratissimis, foliis caulinis ovato-oblongis obtusis, foliis radicalibus spathulatis rosulatis, flagellis erectiusculis foliosis apice densifloris caule dimidio minoribus, caule humiliori.

HAB. Alpine swamps in the Rocky Mountains (*Mr. Drummond*), together with the variety. Cumberland House to Bear Lake, and Bear Lake River. *Dr. Richardson*. Escholtz's Bay. *Chamisso*.—This species is chiefly characterised by a great many small branches or flagella, which rise from the axillæ of the radical leaves, and from the inferior ones of the stem. They are very slender, one or two inches long, commonly with one pair of leaves and one terminal flower, which is considerably smaller than the flowers of the stem. There are specimens with twenty such branchlets. This species grows along with *G. acuta*, Mich., some forms of which are so strikingly like this plant, that one would easily think them not specifically different, the more so as the beard of *G. acuta* sometimes almost totally disappears, and the existence of glands between the filaments in the section *Arctophila* is also variable. The cuspidate lobes of the corolla, however, afford a character which never fails.—The original specimens did not present a 5-cleft corolla; but this is a point of no value at all in this group of *Gentianæ*, and Chamisso's and Richardson's plants are quite the same. In the drawing of Mr. Bungo, the shape of the leaves, and of the lobes of the corolla, is not well given.—The variety β , is in fact so similar to *G. aleutica*, Cham., that it is impossible to distinguish them in any other way than by the calyx, the lobes of which are regular in the latter, and united in a tube half as long as themselves. Also, the leaves of the stem are still larger and more stem-clasping. It seems that the constancy of these characters is still to be proved by investigations on the spot. Transition forms between that variety and the common appearance of *G. propinqua*, Rich., are frequent.

Tab. CL.—Fig. 1, Flower; fig. 2, The same laid open:—*magnified*.

17. *G. quinqueflora* (Lam.); caule vegeto a basi ramoso, ramis oppositis, foliis imis ovato-linearibus paucis, ceteris cordato-ovatis (acutissimis) 5-7 nerviis, calycis corolla quadruplo brevioris lobis subulatis æqualibus margine scabriusculis tubum æquantibus, corollæ 5 fidæ cærulæ lobis triangularibus acutissimis setula terminatis (margine lævibus) tubo

obconico quadruplo brevioribus.—*Lam. Encycl.* 2. p. 643. *Bot. Mag. t.* 3496.—*G. quinquefolia*. *L. Sp.* 1. p. 338.—*G. amarelloides*. *Mich.* 1. p. 177. *Pursh*, 1. p. 186.

HAB. Canada. *Mrs. Percival*.—The specimens differ somewhat from the common form, in having blunt leaves and a divaricating inflorescence.

18. *G. tenuis* (Griseb.); caule stricto subsimplici, foliis linearibus obtusis (mucronatis), sepalis margine scaberrimis basi vix junctis inæqualibus longioribus tubum corollæ æquantibus, corollæ 4-fidæ albidæ (?) lobis oblongis obtusissimis mucronulatis tubo cylindrico duplo brevioribus. (TAB. CLI.)

Radix tenuis, descendens, ramosa. *Caulis* spithameus l. pedalis, strictissimus, subsimplex, teretiusculus, a basi ad apicem æqualiter foliosus, basi rubicundus. *Internodia* ima semiuncialia, cetera uncialia, hinc sesquiuncialia. *Folia* exacte linearia, basi latiuscula, apice rotundato mucronulato, l. cuspidato, l. acuminato, obsolete trinervia, margine ad lentem creberrime serrulata, obscure viridia, basi connato-amploxantia, (unciam longa, 1-1½" lata.) *Flores* tonnes, parvi, in axillis superioribus subsessilis, erecto-appressi: terminalis longius pedicellatus. *Sepala* lanceolata, acuminata. *Corolla* sicca albidæ, infundibuliformi-hypocrateriformis, (5" longa, 1½-2" lata.) *Glandulæ* inter basin filamentorum. *Capilli* hinc 3-5 tenuis in lobis corollæ. *Genitalia* tubum æquantia. *Antheræ* rotundæ, incumbentes. *Germen* ellipticum, stigmatibus parvulis vix revolutis. *Capsula*—?

HAB. At the Mackenzie River. Cumberland House to Bear Lake. *Dr. Richardson*.—There is no species of the least analogy with this in the group of *Arctophila*, the appearance being exactly that of *G. Amarella*, or *G. acuta*; but as glands occur between the filaments, which have not been observed in the group of *Endotricha*, and on the other hand, as there is seldom a trace of a beard in the corolla, it will be more convenient to bring this species into this group, although it must be observed that it unites most naturally with that of *G. Amarella*. Besides, it differs from the latter by the peculiar form of the leaves, and of the lobes of the corolla.

TAB. CLI.—Fig. 1, Flower; fig. 2, Pistil:—magnified.

SECTIO V. ENDOTRICHÆ, Bg.—*Corolla plica intermedia destituta, eglandulosa, hypocrateriformis, corona fimbriarum aucta. Stigmata distincta, revoluta. Capsula sessilis. Semina globosa, exalata.*—*Herbæ annuæ.*

19. *G. tenella* (Fries); caule basi ramoso, ramis nudis elongatis unifloris, sepalis obtusis duobus majoribus, corollæ 4-fidæ tubo cylindrico lobos subæquante.—*Fries, in Act. Hafn.* 10. p. 436.—*G. glacialis*. *Thom. App. Vill. Delph.* 1. App. 532.—*G. dichotoma*. *Pall. Ross.* 2. p. 110.—*G. borealis*. *Bg. l. c. p.* 257. t. 10. f. 2.

HAB. At Behring Strait, on the shore of the sea at Kotzebue's Sound. *Chamisso*.—This form is a foot high, and very straight; the sepals are almost as long as the corolla: on which differences Mr. Bunge established his *G. borealis*. But the same appearance occurs not only in Norway, but sometimes also in the Alps, and there is no constancy in these characters.

20. *G. acuta* (Mich.); caule gracili erecto ramoso, foliis connato-vaginantibus, inferioribus oblongo-spathulatis, superioribus oblongo-lanceolatis acutissimis, calyce subæquali corollam dimidiam vix æquante.—*Mich. Bor. Am.* 1. p. 177.—*G. plebeja*. *Bg. l. c. p.* 250. t. 9. f. 5.—*G. Amarella*. *Richards. in Narrat. l. c.*—*β. stricta*, caule 2-4 pedali, racemis axillaribus strictis elongatis erectis, calyce inæquali, foliis æqualibus, floribus siccis flavescens.

HAB. *α.* and *β.* Canada to the Rocky Mountains and Slave Lake. *Michaux, Dr. Richardson, Douglas, Drummond*.—The common appearance is much more slender than in the drawing of Mr. Bunge, the leaves are narrower and the branches shorter; but the same form as that from Unalashka occurs also in the Rocky Mountains.

This species is extremely like our *G. Amarella*; it seems, however, to differ constantly in the way the leaves embrace the stem. In *G. Amarella* the lamina of the two leaves ends at that point where they are affixed to the stem, so that they are separated from each other by an interstice formed by the stem; while in *G. acuta* the bases of both leaves touch each other without any interstice, so that the substance of the leaves itself is somewhat connate: this character seems to be invariable throughout all those numerous forms in which these species are so rich; the upper leaves of *G. acuta* are, besides, always longer and more acute, and the leaves near the root are more or less spatulate, while in *G. Amarella* the leaves are always more equal in the same individual; the beard of *G. acuta* is longer and thinner, so as to disappear almost wholly here and there; the flowers are somewhat smaller; the calyx is shorter and more unequal; the stem more angular, and commonly almost winged. Besides, most of its forms are much stiffer, taller, and more branched; the stem often produces such slender and numerous branchlets from the under axillæ as has been mentioned above of *G. propinqua*.—*G. acuta*, Nutt., which has been doubtfully referred to *G. campestris*, certainly is the species of Michaux, which seems the only one of *Endotricha* widely dispersed through the northern parts of the new continent, and the varieties of which are as manifold as those of *G. Amarella*.

SECTIO VI. CROSSOPETALUM, *Froel.*—*Corollæ, plica intermedia destituta, glandulis inter basin filamentorum auctæ, lobi cum tubo continui l. expansi margine fimbriati. Stigmata lata orbiculata distincta. Capsula stipitata l. basi attenuata. Testa exalata aculeis molibus tecta (l. rarius lævis).*—*Herbæ annuæ et perennes.*

21. *G. detonsa* (Fries.); caule stricto, pedunculis superne nudis, foliis oblongo-lanceolatis linearibusque basi attenuatis, corollæ lobis tubum subæquantibus oblongis rotundatis margine versus apicem serratis medio ciliato-pectinatis basi integerrimis, seminibus aculeatis.—*Fries, in Act. Hafn. l. c. t. 1. f. 3.*—*G. brachypetala. Bg. l. c. p. 225. t. 11. f. 3. (specimen defloratum).*—*G. ciliata. Gunn. Norv. 2. p. 88. t. 2. f. 3-5.*—*G. serrata. Gunn. 2. p. 101. (forma cor. 5-fida.) Fl. Dan. 317.*—*β. barbata, radice bienni, caule erecto ramoso, foliis caulinis longissime acuminatis, corolla duplo majori, stigmatibus ovario obovato impositis (in planta sibirica; in americana plerumque ovarium ellipticum et stylus conspicuus).*—*G. barbata. Froel. p. 114. Sims, Bot. Mag. t. 639.*—*G. ciliata. Pall. Ross. 2. t. 92. f. 2.*—*γ. simplex, radice bienni, caule simplici unifloro gracillimo superne nudo, corolla ut in β., foliis imis lineari-spathulatis, superioribus linearibus. G. barbata, simplex. Bg. l. c. p. 224. t. 9. f. 1.*—*G. intermedia. Richards. ms.*

HAB. Huron Lake. *Dr. Todd.* Slave Lake, passing into *β.* *Dr. Richardson.* Edmonton House to Carlton House on the Saskatchewan. *Mr. Drummond.* Arctic sea-shore. *Dr. Richardson.*—*β.* Canada. *Mrs. Percival, Mr. Sheppard.* Huron Lake. *Dr. Todd.* Banks of the Maitland River. *Mr. J. Macnab.* Cumberland House to Bear Lake. *Dr. Richardson.* Saskatchewan and Rocky Mountains,—with forms passing into *α.* and *β.* *Mr. Drummond.*—The name given by Fries is the oldest one for this polymorphous species: the variety, which has been nicely drawn by Mr. Bunge, proving that there are no certain limits between *G. barbata*, *Froel.* of the Altai, and *G. detonsa*, Fries, of the Arctic Zone and Lapland. This was the more clearly shown by the large collection of American specimens which I have been able to examine:

even the shape of the ovarium, which I considered before to afford constant characters, is here not less failible than the regularity or irregularity of the calyx, as well as the large size of the flower. It seems to depend upon the nature of the locality, whether the root be biennial or annual.—The American *G. barbata* differs somewhat from the Altaic form, by the lower leaves being more blunt, and by having a distinct style and nearly equal calyx. Though these characters are by no means constant, one may form, on these grounds, an American variety; but we find, here and there, specimens which are quite identical with some Siberian ones; besides, the variety β . occurs in both countries.

22. *G. crinita* (Froel.); caule stricto multifloro folioso, foliis cordato-lanceolatis, pedunculis superne nudis elongatis, corollæ lobis oblongis rotundatis margine fimbriatis, fimbriis deorsum longioribus basi loborum nullis, ovario ovato-lanceolato, seminibus aculeolatis. *Froel. p.* 112. *Pursh, l. p.* 188. *Beck, p.* 240. *Bot. Mag. t.* 2031.—*G. fimbriata. Andr. Bot. Repos. t.* 509.—*G. ciliata, Americana. L.*

HAB. Canada. *Mr. Goldie.*—This is widely dispersed throughout the United States.

23. *G. ventricosa* (Griseb.); caule stricto gracili, foliis caulinis ovato-oblongis obtusis, calyce inæquali alato ventricoso corollam involvente, corollæ lobis æqualiter crenato-fimbriatis. (TAB. CLII.)

Radix annua, tenuis, ramosa. *Caulis* pedalis, strictus, glaber, teres, striatus, præter ramos quosdam inæquales unifloros secundos simplex, superne gracilis. *Internodia* ima uncialia, cetera sensim longiora, 2-3-uncialia. *Folia* margine ad lentem tenuissime scabrida, ima rosulata obovato-subrotunda l. obovato-oblonga, in petiolium attenuata, (4-6" longa,) caulina ovato-oblonga obtusa, (uncium longa, 4"-6" lata.) *Rami* pedunculares, flexuosi, simplices, uno pari foliorum a flore remoto instructi; *pedunculus* terminalis l. floribus, ebractestus, (3-4 uncialis.) *Calyx* clausus, ovoideus, (9" longus, 4-5" latus,) acuminatus, corollam tertio parte superans, lobis tubum æquantibus, binis lanceolatis acuminatissimis longe mucronatis, binis ovatis acuminatis paulo minoribus latius alatis (alse per sepala, cetera per scariosam membranam intracalycinam formantur.) *Corolla* inclusa, convoluta, 4-fida, lobis ovato-oblongis, tubum sensim ampliatum æquantibus, elegantissimo æqualiter crenato-fimbriatis, obtusis. *Filamenta* brevissima (1-2" longa,) lata, membranacea, sub apice tubi inserta. *Antheræ* ex tubo exsertæ, introrsæ, loculis basi distantibus extrorsum connectivo membranaceo cum filamento contiguo junctis. *Ovarium* elliptico-oblongum, stamina paulum superans, stylo nullo, *stigmatibus* orbiculatis 2-lamelatis. *Capsula* ignota.

HAB. Grand Rapids of the Saskatchewan. Between Cumberland House and Hudson's Bay. *Drummond.*—One of the most remarkable species: the appearance is exactly like *G. utriculosa*, but from the structure of the flower, it is nearest *G. detonsa*.

TAB. CLII.—*Fig. 1*, Flower; *fig. 2*, Corolla; *fig. 3*, Corolla laid open; *figs. 4, 5*, Back and front view of a stamen; *fig. 6*, Section of a calyx:—*magnified.*

2. PLEUROGYNE. ESCHSCHOLZ. SP. CHAM. *Linnaea*, l. p. 190.

Foveæ epipetalæ glanduliferæ 0. *Filamenta* basi æqualia. *Stigmata* lateralia (ad suturas valvularum decurrentia.) *Capsula* unilocularis. *Corolla* rotata, corona fimbriarum brevissima aucta.

1. *P. rotata* (L. sub *Swertia*); foliis lanceolatis linearibusque, calycis lobis lanceolato-linearibus corollam æquantibus, ovario acuto, seminibus suturæ valvularum insertis.—*L. Sp. Pl.* l. p. 328. *Pallas*, 2. p. 98. (*excl. synonym. et fig. III.*) t. 89. f. 1. 2.—*Gentiana rotata. Froel. p.* 105. *ex descriptione (exclus. synonym. et var. β .)*—*Swertia sulcata. Fries, l. c.*

p. 438. t. 1. f. 4.—*γ. Americana*, caule humili fastigiato-ramosissimo, ramis 1-3-floris, foliis oblongo-linearibus obtusis, imis rosulatis.

HAB. Between Cumberland House and Hudson's Bay. *Drummond*. Kotzebue Sound. *Captain Beechey*. Eschscholtz Sound. *Mr. Von Chamisso*; *γ*. Labrador. *Dr. Morison*.—The variety *β* grows in the Altai. See an account of the confusion of synonyms of this species in Chamisso and Schlechtendal (*Linnaea* 1. p. 188.) where they have stated all points with their usual exactness.—The *Swertia* of Mr. Pursh are quite doubtful; his *Swertia pusilla* is certainly *Sw. Stelleriana*, Cham. Schlecht.—another species of *Pleurogyne*, which I do not consider specifically distinct from *Sw. Carinthiaca*, Wulf; Mr. Pursh states that he has seen specimens of it from Labrador in the Banksian herbarium, but as the variety *γ*, of *Pl. rotata* is indeed very similar to it, I did not deem it convenient to follow his statement, not having seen specimens from that country. There are specimens of our plant scarcely an inch high, the sepals being sometimes larger than in the common form; *Pleurogyne Stelleriana* differs from them only by its blunt ovary, broader leaves, shorter sepals, and the insertion of the seeds being analogous to *Gentiana*.

3. SWERTIA. L.

Foveæ epipetalæ glanduliferæ, fimbriis cinctæ. *Stigma* terminale, ovario inpositum, continuum, reniforme. *Capsula* unilocularis, seminibus indefinitis valvulis affixis. *Corolla* rotata pentamera absque corona.

1. *Sw. perennis* (L.); caule basi ascendente, petalis elliptico-oblongis coriaceis sepala lanceolata duplo superantibus, foveis binis, fimbriarum cristis distinctis, seminibus alatis.—*L. Sp. Pl.* 1. p. 328. *Engl. Bot.* t. 1441. *Jacq. Austr.* 3. t. 243.—*β. obtusa*; petalis latioribus obtusioribus, foliis radicalibus obtusioribus, caulinis plerisque alternis.

HAB. *β*. N.W. Coast. *Mr. Menzies*.—There is no difference from the Altaic form. I have examined the same variety collected at Königsberg, and its characters are not constant.—*Swertia fastigiata*, Pursh, may be another species of this genus: it seems, however, more probable that it is a *Frasera*, as Mr Pursh refers the genus to *Tetrandria*.

4. FRASERA. Walt.

Foveæ epipetalæ glanduliferæ fimbriis cinctæ. *Stigmata* distincta, stylo imposita. *Capsula* unilocularis, compressa, seminibus subdefinitis magnis alatis, valvularum suturæ affixis. *Corolla* rotata decidua tetramera.

1. *F. Carolinensis* (Walt.); caule erecto tereti glabro, foliis oppositis verticillatisque oblongo-lanceolatis, racemo elongato densifloro, calyce corolla longiore, fovea orbiculari solitaria.—*Walt. Car.* p. 87. *Torrey*, p. 187.—*F. Walteri*. *Mich. Am. v.* 1. p. 97. *Pursh*, v. 1. p. 101. *Ell. Car. v.* 1. p. 205.—*F. verticillata*. *Muhl. Cat.*

HAB. Shores of the Columbia. *Douglas*.—[*Hook.*]

2. *F. speciosa* (Dougl. ms.); caule erecto tereti sulcato glabro, foliis quaternis oblongo-linearibus acutiusculis, racemo elongato densifloro, calyce corollam æquante, foveis elliptico-oblongis binis. (TAB. CLIII.)

Radix perennis, pollicem crassa, apice comosa, etiam foliorum vaginis tecta, partim emortuorum nigrescentibus. *Caulis* strictus plurimum orgyrum, inferne digitum crassus, dense foliosus, simplex, superne in racemum pedalem abiens, (siccus cum tota planta flavidus.) *Internodia* caulis 2-3 uncialia, axis racemi

1½-uncialia. *Folia* radicalia semipedalia, unciam dimidiam lata, in latum petiolum attenuata, acuminata, acutiuscula, 7-9 nervia, glabra, caulina quaterna, concato-vaginantia, 4 uncias longa, *floralia* sensim minor, summa sesquialia. *Inflorescentia* racemosa, verticillastri distincti composita; *pedunculi* communes quaterni, axillares, unciales, apice cyma umbelliformi bibracteata terminati, flore centrali longius pedicellato internodium axis superante; eodem modo caulis summus terminatur, pedicello ultimo 1½-2-unciali, ebracteato. *Sepala* 4 linearia, acuminata, obtusiuscula, viz basi junctæ, 9" longa. *Petala* oblongo-elliptica, obtusa, albida, apice punctata, erecta, basi barbata, fimbriarum cristis foveas cingentibus longis pectinatis. *Filamenta* basi in anulum brevem connexa et abrupte arcuato-dilatata, demum connectivi apiculi inserta. *Antheræ* introrsæ, loculis oblongis connectivo duplo longioribus, obcordatis. *Ovarium* ovale stylum tenue superans, stigmate breviter bilobo. *Capula*—?

HAB. On the low hills near Spoken and Salmon Rivers and subalpine parts of the Blue Mountains, near the Kooakooska River, N.W.C. *Douglas*.—[This is quite distinct from the preceding, much larger in every part, with longer petals and constantly 2 oblong foveæ upon each of them.—*Hook.*]

Tab. CLIII.—*Fig. 1*, Flower; *fig. 2*, Petal—*magnified*.

3. *Frasera albicaulis* (Dougl. ms. sub *Swertia*); caule ascendente tereti pilis albidis brevissimis scabrido, foliis oppositis linearibus obtusis, racemo densifloro, calyce corollam æquante, fovea neari unica. (**Tab. CLIV.**)

Radix perennis, foliorum emaricidorum vaginis tecta. *Caulis* ex basi ascendente stricte erectus, pedalis, simplex, foliis paucis et apice racemo denso instructus. *Internodia* 4-8-uncialia, præter inflorescentiam plerumque in toto caule bina. *Folia* elongato-linearia, nervosa, pilis quam in caulo brevioribus densioribusque subalbescentia, alto concato-vaginantia, *radicalia* duo 3-4-uncialia, 3-4" lata, *caulina* 3-uncialia patula, *floralia* minor, paucissima ex inflorescentia exserta. *Inflorescentia* racemiformis, ex verticillastri 2-4 approximatis cymaque densa umbelliformi terminali constituta, accedente hinc verticillastro in sequentibus axillis, 4 uncias remotis; *pedunculi* verticillastrorum communes, plerumque in utraque axilla bini, alter semiuncialis densa umbellula terminatus, alter minor pauciflorus; pedicellis brevibus confertis, centrali longiori. *Sepala* linearia, acuminata, sublibera. *Petala* 3-4" longa, cærulea, oblongo-lanceolata, acuminata, uninervia, fovea dimidium petalum æquante, crista fimbriarum brevi ad basin petali producta. *Filamenta* tenuia; *anthera* ad indolem præcedentis speciei. *Ovarium* oblongo-ellipticum, apice attenuatum, stylum tenuem æquans, stigmate breviter bilobo. *Ovula* oblonga, alata, pauca, (suturis affixa.) *Caps.*?

HAB. In the Mountain Valleys between Spoken and Kettle Falls, in moist soil. *Mr. Douglas*.

Tab. CLIV.—*Fig. 1*, Flower; *fig. 2*, Petal; *fig. 3*, Stamen; *fig. 4*, Pistil—*magnified*.

5. HALENIA. *Borkh.*

Petala basi calcarata, glandulis fundo calcarum impositis. *Stigmata* terminalia. *Capula* unilocularis, seminibus indefinitis suturis valvularum affixis. *Corolla* breviter campanulata.

1. *H. deflexa* (Sm. sub *Swertia*); caule erecto folioso, foliis 3-5 nerviis, radicalibus oblongo-spatulatis in petiolum æque longum attenuatis caulinis oblongo-lanceolatis acutis subsessilibus, calcaribus cylindricis obtusis curvo-descendentibus corolla duplo brevioribus. (**Tab. CLV.**)—*Swertia* corniculata. *Mich. Am.* 1. p. 97.—*Sw.* Michauxiana. *R. S. G. p.* 130.—*Sw.* Americana. *Spreng. Syst.* 1. p. 861.

HAB. Spencer Wood, Canada. *Mrs. Percival*, *Mr. Sheppard*. Norway House to Canada. *Dr. Richardson*, *Drummond*. Lake Huron. *Dr. Todd*. Rocky Mountains. *Drummond*.—This species is very nearly allied to *H. Sibirica*, *Borkh.*; and since both vary much in the form of their leaves as well as in

their ramification, their characters require much to be explained. *H. deflexa* differt: caulo vegetiori, strictiori, magis virante, alato nec angulato; ramis aut abbreviatis aut elongatis strictis, nec laxis patulis apice cernuis; foliis majoribus, plerumque latioribus, imis confertis obovatis longo petiolatis late virentibus, nec ellipticis parvulis, sub anthesi jam emarcescis; calcaribus corolla duplo brevioribus curvo-descendentibus, demum curvo-subascendentibus crassiusculis, nec corollam æquantibus stricte patentibus dentibusque pilliformibus.

TAB. CLV.—Fig. 1, Flower; Fig. 2, Stamen; Fig. 3, Pistil; Fig. 4, Capsule; Fig. 5, Section of do.; Fig. 6, Seed; Fig. 7, Section of do.; Fig. 8, Embryo:—*magnified*.

2. *H. Brentoniana* (Griseb.): caule humili erectiusculo diffuse ramoso, foliis 3-5-nerviis elliptico-oblongis acuminatissimis in petiolum attenuatis, summis subsessilibus oblongo-lanceolatis, cyma terminali umbellæformi 3-flora, flore centrali longius pedicellato, calcaribus crassiusculis obtusis curvo-descendentibus l. subhorizontalibus corolla brevioribus. (TAB. CLVI. A.)

Radix curvo-descendens, annua. *Caulis* triuncialis, obsoleto tetrapterus, glaber, sicco obscuro cæruleo-viridescens. *Rami* erecto-patentes, cauli similes. *Internodia* inferiora brevissima, superiora 4-6-8" longa. *Folia* patentissima 1-1½" longa, 4-8" lata, glabra, subinæqualia, ima longius petiolata, spatulato-oblonga, acuta, media elliptico-oblonga, acutissima, subsessilia, floralia minora. *Pedicelli* breviusculi, verticillastris accedentibus cum cyma terminali et cum inflorescentia ramorum confluentibus. *Sepala* 4 oblongo-lanceolata, acutissima, corollam dimidiam æquantia. *Corolla* campanulata-cylindrica, (5" alta et lata,) lobis ovato-triangularibus acutis erectis tubum æquantibus. *Calcar* corolla fere duplo breviora. *Antheræ* flavæ, parvulæ, nutantes. *Ovarium* ovato-oblongum acutum, stylo nullo, stigmatibus vix distinguendis.

HAB. Newfoundland. *Miss Brenton, Dr. Morrison.*

TAB. CLVI. A.—Fig. 1, Flower:—*magnified*.

3. *H. heterantha* (Griseb.): caule humili erectiusculo ramoso, foliis 5-nerviis, imis spatulatis petiolatis, superioribus ovato-subrotundis subsessilibus apice rotundatis apiculatis, floribus confertis, calcar tenui corolla triplo breviori, floribus inferioribus ecalcaratis. (TAB. CLVI. B.)

Radix curvo-descendens, annua. *Caulis* 4-uncialis, in ramis æquales plerosque oppositos divisus, ascendenti-erectus, glaber, teretiusculus l. alis binis ex foliis decurrentibus tenuibus fere anceps. *Internodia* inæqualia, ima 4" longa, media uncialia, suprema semiuncialia. *Folia* ad lentem serrulata, æqualia, (8" longa, 6" lata,) sed inferiora longius petiolata, obtusiora. *Cyma* terminalis umbellæformis 3-flora, pedicellis inæqualibus 1-4 linearibus, cui accedunt verticillastra 2-6-flora. *Sepala* 4 ovato-oblonga, acuminata, juniora recurvata, corollam dimidiam æquantia. *Corolla* ochroleuca, breviter campanulata, lobis ovato-triangularibus acutis erectis 2-3" longis tubum rotundatum æquantibus; *calcar* obliquo descendens rectiusculum; *flores* ecalcarati minores. *Antheræ* globulosæ parvulæ, filamenti latitudinem subæquantes. *Ovarium* ovale, stigmatibus sessilibus erectis brevibus connatis. *Capsula* corollam marcescentem fere duplo excedens, elliptico-oblonga. *Semina* magna, albida, globosa, lævissima, (suture affixa.)

HAB. Newfoundland. *Miss Brenton.*—This is a most remarkable species, on account of the absence of the calcar in the lower flowers, which are also much smaller, at the same time that the branches are more slender, on the top of which these flowers are crowded. This abortion, however, affords no reason to doubt of the constancy of the generic characters of *Halenia*, since the genus is as well limited by the structure of its ovarium and by the insertion of its seeds, as by its spurs; also, the form of the corolla itself is constantly different from *Swertia*.

TAB. CLVI. B.—Fig. 1, Flower:—*magnified*.

Tribus II. ERYTHRACEÆ.—Inflorescentia dichotoma, caule per florem alarem dichotomia terminato. Sepala sublibera. Antheræ sæpe spirales, rima loculorum sursum dehiscente (Chironiæ rima loculorum deorsum dehiscentis, hinc abbreviata, plerumque utriusque loculi contigua.) Stylus distinctus deciduus (raro 0), stigmate variabili. Capsula unilocularis l. marginibus introflexis semibilocularis, placentis suturalibus, l. placentis centrali bilocularis. —Corolla rubra, alba, l. flava, eglandulosa, infundibuliformis, demum supra capsulam torta, l. decidua. Herba pleræque annua, per totum terrarum orbem dispersa, in temperatis australioribus utriusque hemisphæra frequentiores.

6. CICENDIA. Adans.

Corolla regularis, 4-fida. Antheræ immutatae. Stigma indivisum. Capsula unilocularis l. semibilocularis.

I. *C. exaltata* (Griseb.); caule ascendente, stricto ramoso, foliis lanceolato-linearibus, corollæ tubo gracili lobos oblongos obtusos æquante, stylo nullo, capsula semibiloculari. (TAB. CLVII. A.)

Radix annua. Caulis spithameus, glaber, obsolete tetragonus l. alis duabus tenuissime fere anceps, gracilis, basi ascendens, stricto dichotomo ramosus. Internodia 1-2 uncialia. Inflorescentia quater dichotoma, pedicellis alaribus nudis internodia subæquantibus. Folia caulina lanceolato-linearibus, acuminata, internodiis duplo breviora, superiora minora, omnia nervosa, basi 1-1½" lata, nervo medio subtus conspicuo decurrente. Folia 2 floralia sub quavis ramificatione cymæ, pedicellis ebracteatis. Corolla infundibuliformis, tubo curvo gracili. Calyx corollæ tubo subbrevior, lobis ovato-oblongis acutis inæqualibus tubum subæquantibus. Filamenta brevissima, tubo supra medium inserta, antheris oblongis erectis, loculla connectivum æquantibus domum patentibus crispatis (nec spiruliter tortis.) Ovarium ovato-oblongum, obtusum, stigmate vix distinguendo. Capsula oblongo-linearis, calyce duplo longior, badia, inferne corollæ emarctidæ vestigiis vestita. Semina minutissima, rotunda, badia.

HAB. Near mountain springs and streams, not uncommon between the Kettle Falls, "and Narrows" of the Columbia River, N.W.C. Douglas.—It differs somewhat from the genus, and even from the tribe, by the absence of any style: but, besides the characters taken from the flower, the *Erythraceæ* are so well marked by their inflorescence, that I am of opinion the present would be the most convenient place for this species. I have seen only one specimen, which was already in a very advanced state. *Exacum pulchellum*, Pursh, which I have not yet obtained, may be another North American species of this genus, with which *Orthostemon*, Br., may perhaps be not improperly joined, as it seems to differ only by its stigma, the characters of which are at least variable in *Erythræa* and *Canscora*.

TAB. CLVII. A.—Cicendia exaltata.

Tribus III. CHLOREÆ.—Inflorescentia dichotoma. Corolla eglandulosa, rotata, demum circa capsulam marcescens. Antherarum loculi distincti. Stylus distinctus, deciduus, stigmate variabili. Capsula unilocularis l. semibilocularis.—Herba pleræque annua, Europæ et Americæ incolæ, Europæarum floribus plerumque flavis, Americanarum sæpius roseis.

7. SABBATIA. Adans.

Flos 5 (-12)-merus. Antheræ erectæ, demum recurvæ. Stigmata bicurria, demum spiraliter torta. Capsula unilocularis, valvulis parum introflexis.

I. *S. gracilis* (Salisb.); caule teretiusculo effuse paniculato, ramis alternis, foliis lineari-

bus inferioribus ovatis lanceolatisque, calycis corollam fere æquantis tubo brevissimo, lobis subulatis, corollæ 5-fidæ rosæ lobis elliptico-oblongis obtusis.—*Chironia campanulata*. *L. sp.* 1. p. 272. *Willd!*—*Ch. gracilis*. *Mich. Am.* 1. 146.—*Sabbatia gracilis*. *Salisb. Paradis. Londin. t.* 32. *Pursh*, 1. p. 137.—*S. campanulata*. *Torrey*.

HAB. Canada. *Willd. herb.*—The specimens originate probably from Mühlenberg, but lately botanists seem not to have met with it in British North America. *S. paniculata*, Ell., is very near, and it differs especially by a very short calyx and white flowers, both characters of not much value in *Sabbatia*: besides, however, the filaments of the latter and the leaves are shorter; the inferior ones more blunt.

2. *S. angularis*; caule tetragono paniculato, ramis oppositis, foliis cordato-ovatis basi connatis obtusis, calycis tubo brevi, lobis lanceolatis acutis corolla brevioribus, corollæ rosæ 5-fidæ lobis obovato-ellipticis obtusis.—*Chironia angularis*. *L. sp.* 1. 272. *Mich.* 1. p. 146.—*Sabbatia angularis*. *Pursh*, 1. p. 137.

HAB. Canada. *Mr. Goldie*.—The leaves are sometimes smaller and longer, as well as the lobes of the corolla. There occur also white-flowered specimens.

Tribus IV. MENYANTHIDEÆ.—*Æstivatio corollæ induplicativa*. *Capsula unilocularis*. *Corolla apparatu glanduloso instructa, decidua*.

8. MENYANTHES. L.

Semina in nervo medio utriusque valvulæ 1-serialia. *Capsula* juxta suturam valvularum ruptilis.

1. *M. trifoliata*; foliis ternatis.—*L. Sp. Pl.* 1. p. 208. *Engl. Bot. t.* 495.

HAB. Canada. *Mrs. Percival, Mr. Cleghorn, Mr. Sheppard*. Newfoundland. *Miss Brenton, Dr. Morrison*. Labrador. *Miss Brenton*. Lake Winnipeg and Saskatchewan. *Dr. Richardson*. Rocky Mountains. *Mr. Drummond*. North West Coast. *Dr. Scouler*. Sitcha. *Mr. Mertens*.

9. VILLARSIA. Vent.

Placentæ suturales. *Capsula* 2-valvis, valvis demum bifidis.

1. *V. Crista galli* (Menz. sub *Menyanthide*); scapo elato, foliis late reniformibus crenatis emarginatis a petiolo distinctis, floribus paucis congestis.—*Hook. bot. misc.* 1. p. 45. *t.* 24. *Bongard Vég. de Sitcha.* p. 38.

HAB. Port Edgecombe. *Mr. Menzies*. Sitcha. *Mr. Mertens*.

2. *V. pumila* (Dougl. sub *Menyanthide*); scapis humilibus unifloris, foliis elliptico-oblongis integerrimis obtusis in petiolum attenuatis. (TAB. CLVII. B.)

Rhizoma repens, crassiusculum, radices filiformes tenuissimas simplices deorsum emittens, apice hinc divisum petiolorumque vaginis alternis tectum. *Petioli* unciales, erecti, tenues. *Folia* 1-1½ uncias longa, semiunciam lata, subrepanda, nervo medio subtus conspicuo cum petiolo confluyente. *Scopi* erecti, tenuissimi, 1-2 unciales. "Flores albi, venis rubris, fimbriis flavis." *Dougl. Calyx* ebracteatus, tubum corollæ subsequans, lobis oblongis obtusis tubo calycino duplo longioribus. *Corolla* rotata, aperta, tubo infundibulari lobis ovalibus duplo brevioribus; faux corollæ cum basi loborum fimbriatæ. *Antheræ* subglobosæ, incumbentes. *Ovarium* basi glandulis minutis cinctum, pubescentia pilosa undique tectum, ovatum, stylum sequans; *stigmata* linearia, patentia, 2" longa. *Ovula* minutissima suturis affixa? *Capsula*—?

HAB. Common near springs and on marshy ground in the Vallies of the Rocky Mountains, between Kettle Falls and Spokane. *Douglas*.—Not having seen the fruit, it is still doubtful to me whether this be really a *Villarsia*, or perhaps a *Menyanthes*, as, in the dried germen it is indeed difficult to make out where the ovula are attached. But from the calyx-leaves, as well as from a great analogy of structure with *V. ovata*, Vent., it will be more convenient to refer it to this genus.

TAB. CLVII. B.—Fig. 1, Corolla laid open; Fig. 2, Stamen; Fig. 3, Calyx and pistil; Fig. 4, Germen laid open; Fig. 5, ovules:—magnified.

10. LIMNANTHEMUM. *Gmel.*

Placenta suturales. Capsula evalvis, demum maceratione aperta.—*Folia natantia. Petala fugitiva.*

1. *L. lacunosum* (Vent. sub *Villarsia*); foliis supra asperiusculis subtus spongioso-asperimis, corolla alba glabra nuda, glandulis epipetalis breviter stipitatis, stylo brevi crasso, calyce capsulam vix æquante, seminibus muricatis ecarinatis.—*Menyanthes trachysperma. Mich. 1. p. 126? an hujus forma macrophylla?*

HAB. Norway House to Canada. *Drummond, Dr. Richardson*.—The germination of this plant is quite analogous to that of *Trapa natans*, so remarkable on that account. On the top of each branch there arise three groups of different organs—viz. on one side, a leaf; on the other, the umbel of flowers; and below, a great many thick, short, and simple radicles, each of which is able to produce a new plant: the latter organs are, in *Trapa*, analogous to those which De Candolle took for stipulæ, but which Reper has declared to be a sort of root—a theory which is fully proved by the present case.

ORD. LX. POLEMONIACEÆ. *Juss.*1. POLEMONIUM. *L.*

Cal. 5-fidus, persistens, laciniis acutis. Cor. campanulata rotata, 5-partita, fundo clausa valvis 5 staminiferis, limbo plano, laciniis rotundatis. Filamenta basi dilatata. Capsula ovato-trigona, trivalvis. *Semina* plurima angulosa.

1. *P. cæruleum*; erectum, foliis pinnatis plurifoliolatis, floribus erectis.—*L.—a. vulgare*; caule solitario elato, foliolis majoribus, floribus paniculato-racemosis speciosis. *P. cæruleum*. Auct.—*β. humile*; caule solitario 2–3 unciali ad spithamæam, foliolis minoribus, floribus corymbosis speciosis. *P. cæruleum*, nanum. *Hook. Spitz. Pl. in Linn. Trans. v. 14.*—*P. humile. Willd. Herb. ex Rœm. et Sch. p. 311. Lindl. Bot. Reg. t. 1304.*—*P. Richardsoni. Grah. in Bot. Mag. t. 2800. Hook. et Arn. in Bot. of Beech. Voy. p. 123.*—*P. speciosum. Fisch. ms. in Herb. Nostr.*—*P. villosum, ex Don, in Sw. Br. Fl. Gard. t. 266.*—*P. lanatum. Fisch. in Herb. Nostr.*—*P. cæruleum, var. piliferum. Lindl. in Bot. Reg. t. 1303.*—*P. pulchellum. Bunge, in Herb. Nostr. (e mont. Altaic).*—*P. cæruleum, formæ 2, 3, 4, 5, et 6. Chamisso, in Herb. Nostr.*—*P. moschatum. Wormsk. in Herb. Nostr.—γ. pulcherrimum; caulibus aggregatis humilibus gracilibus, foliolis parvis, floribus corymbosis duplo triplove minoribus, laciniis subacutis. P. pulcherrimum. Hook. in Bot. Mag. t. 2979.*—*P. acutiflorum. Willd. Herb. ex R. et. S. Syst. Veg. v. 4. p. 792.*

HAB. α. Canada (*Mr. Sheppard*) to the bases of the Rocky Mountains (*Drummond*) and Arctic Coast.

Dr. Richardson.— β . and γ . From lat. 66° to the Arctic sea-coast, in deep sand, both in the north (*Dr. Richardson*), and in N. W. America, Kametchatka, &c. *Menzies, Chamisso, Langsdorff, Lay, and Collie*.—Few plants are more variable, and few more extensively distributed in the temperate and colder regions of the northern hemisphere, than the present; from Kamoan and Kolghur, in Northern India, to Spitzbergen and the Arctic sea-shores of Europe, Asia, and America. I have long hesitated whether or not I should consider the var. γ . as distinct from the true *caruleum*, but I fear it presents no valid points of difference. The species is met with of all sizes, in all states of hairiness, and with all sizes of the flower. In specimens from poor Douglas's last communications, are some from New Albion, which I would refer to var. γ ., but with the corolla shorter than the calyx! In another specimen from the same country, with the habit and flowers of *pulcherrimum*, the leaflets are as large as in the common state of *P. caruleum*, and as acute, or nearly so, as those of *Dr. Wallich's* specimens from India.

2. PHLOX. L.

Cal. 5-fidus, subcylindricus, persistens, laciniis angustis. *Cor.* hypocrateriformis, tubo cylindrico. *Stam.* inæqualia tubo inserta. *Antheræ* sagittatæ. *Stigma* trifidum. *Cap-sula* ovato-triangularis, trivalvis, loculis submonospermis.

1. *P. maculata*; tota glabra, caule erecto maculato, foliis lanceolatis superioribus ovatis longe acuminatis sessilibus margine scabriusculo, paniculæ oblongæ ramis confertis abbreviatis, dentibus calycinis breviusculis erectis acutis, corollæ laciniis rotundatis.—*Jacq. Hort. Vind. t. 127. Pursh, Am. v. 1. p. 149. Torrey, v. 1. p. 228.*—*P. paniculata. Ait.*

HAB. Upper Canada? *Mr. Sheppard*.—The specimen from *Mr. Sheppard* is certainly the *P. maculata* of American authors, but I do not see how it is to be distinguished from *P. paniculata* of the *Hort. Kew.*

2. *P. divaricata*; decumbens, pubescens, ramis divaricatis laxis paucifloris, foliis ovato-lanceolatis supremis alternis, dentibus calycinis subulatis, corollæ laciniis orbicatis.—*L.*—*Bot. Mag. t. 163. Mich. Am. v. 1. p. 144. Ph. Am. v. 1. p. 150. Elliott, Carol. v. 1. p. 248. Torrey, p. 229.*

HAB. Canada. *Mrs. Percival.*

3. *P. speciosa*; erecta ramosa frutescens, glabra, foliis linearibus acuminatis pungentibus basi dilatatis subciliatis margine callosis: supremis alternis, floribus corymbosis, sepalis acuminatis margine membranaceis tubo corollæ subæqualibus, laciniis corollæ cuneato-oblongis integris. *Lindl.*—*Ph. Am. v. 1. p. 149. Lindl. Bot. Reg. t. 1351.*— β . caule foliisque pubescentibus.—*P. humilis. Dougl. ms.*— γ . *elatior*; caule foliisque glaberrimis.—*P. Sabini. Dougl. ms.*

HAB. a. N. W. America. Plains of the Columbia. *Lewis, Douglas.*— β . Subalpine range of the Rocky Mountains near perpetual snow, and on the Blue Mountains, N. W. Am.— γ . Limestone Rocks of the Blue Mountains. *Douglas.*—In deference to the opinion of Professor Lindley, I retain this as a species; but I must confess it borders too closely on *P. subulata*, and that again I have elsewhere observed, (*Comp. to the Bot. Mag. v. 1. p. 172.*) I am totally unable to distinguish from *P. setacea*, to which belongs *P. nivalis*, Lodd and Sweet. *Dr. Lindley* has already noticed its affinity with our next species, *P. Sibirica*, L., which indeed is very close, and probably they might all be safely considered as belonging to one and the same species. The leaves in this latter, however, are more flaccid, the lower ones are constantly marcescent, and the corymbs are fewer flowered.

4. *P. Sibirica*; humilis perennis basi suffruticosa, foliis linearibus subflaccidis mucronatis villosis, inferioribus marcescentibus, pedunculis subternis, calycis lanati laciniis subulatis tubum corollæ subæquantibus, corollæ laciniis cuneatis integris vel emarginatis.—*L.*—*Gmel. Sibir. 4. p. 87. t. 46. f. 2. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 128.*

HAB. Kotzebue's Sound. *Lay and Collie.*—These specimens, from Captain Boeckey's Voyage, differ in no respect whatever from the numerous Siberian and Dahurian ones in my herbarium, and from others gathered by Redowski, probably also on the American side of Behring's Strait. Besides the differences alluded to under the preceding species, this is certainly less shrubby than *P. speciosa* and its more immediate allies. The old marcescent leaves are numerous, and peculiarly flaccid and waved.

5. *P. Douglasii*; humilis pubescens dense cæspitosa basi fruticosa lignosa, ramis numerosissimis erectis, foliis arctis subulatis rigidis erecto-patentibus mucronatis inferioribus marcescentibus strictis albidis, floribus terminalibus solitariis subsessilibus, calycis villosi laciniis subulatis rigidis mucronatis corollæ tubo brevioribus, corollæ laciniis obovatis obtusis. (TAB. CLVIII.)— β . foliis subsquarrosis.

HAB. N.W. America: common on the limestone range of the Blue Mountains, and on the Rocky Mountains, near the confines of snow. *Douglas.*—A most beautiful species, bearing copious and almost sessile blossoms, and intermediate in habit, as it were connecting the *P. speciosa*, *subulata*, &c. with the little *P. Hoodii*.

TAB. CLVIII.—*Fig. 1, Flower; fig. 2, Leaves:—magnified.*

6. *P. Hookeri*; fruticosa, ramis alternis elongatis pubescentibus dense foliosis, foliis fasciculatis subulato-acicularibus rigidis pungentibus inferioribus marcescentibus albidis, floribus numerosis sessilibus terminalibus lateralibusque, calycis laciniis acicularibus corollæ tubo gracili elongato brevioribus. (TAB. CLIX.)—*P. Hookeri. Dougl. ms. apud Hort. Soc. Lond.*

HAB. Common on arid, sandy, and rocky soils near the narrows of the Oakangan and Priest's Rapid of the Columbia. "Flowers bright yellow!"—A very singular and most distinct species.

TAB. CLIX.—*Fig. 1, Flower; fig. 2, Leaves:—magnified.*

7. *P. Hoodii*; nana multicaulis densissime cæspitosa, foliis arcte imbricatis erectis argenteo-nitidis subulatis mucronatis rigidiusculis margine lanatis inferioribus marcescentibus albidis, floribus terminalibus sessilibus solitariis, calycis lanati laciniis lato-subulatis brevibus tubo corollæ brevioribus, corollæ laciniis obovatis integris.—*Richards. in Frankl. Journ. App. ed. 2. p. 6. t. 28.*

HAB. Sandy plains, Carlton House Fort, and other places in lat. 54°. (*Dr. Richardson*) to the Rocky Mountains. *Drummond.* Eagle and Red Deer Hills on the Saskatchewan, abundant. *Douglas.*—"This beautiful species is a striking ornament to the plains in the neighbourhood of Carlton House, forming large patches, which are conspicuous from a distance. The specific name is a small tribute to the memory of my lamented friend and companion, whose genius, had his life been spared, would have raised him to a conspicuous station in his profession, and rendered him an ornament to any science in which he might have chosen to direct his attention." *Richards. l. c.*

8. *P. Richardsoni*; nana multicaulis densissime cæspitosa, foliis arcte imbricatis erecto-subincurvis carnosiusculis laxè lanatis oblongo-lanceolatis obtusis cum mucrone marginibus

insigniter plicato-reflexis, inferioribus marcescentibus demum nigrescentibus, calycis lanati laciniis lato-subulatis mucronatis tubo corollæ brevioribus, corollæ laciniis rotundato-cuneatis integris. (TAB. CLX.)

HAB. Arctic sea-coast, July, Aug., 1826. *Dr. Richardson*.—Flowers most abundant, and of a brilliant lilac colour. It must be allowed that *Dr. Richardson*, and Messrs. *Drummond* and *Douglas*, have been pre-eminently successful in discovering new and beautiful species of the Genus *Phlox* in N. America, especially if we take into account the *P. Drummondii* (from the southern extremity of that vast country), which is now the pride and ornament of our gardens. It is much to be lamented that these more hardy species from the north have not yet been introduced alive to our collections; for there is no doubt, from the rich variety in the colour of their blossoms, and the great quantity of flowers yielded by every little tuft, that they would be nearly, if not quite, as ornamental as *P. Drummondii*.

TAB. CLX.—*Fig. 1*, Flower; *fig. 2*, Leaves:—*magnified*.

Γ. GILIA. Cav.

Cal. campanulatus, 5-fidus, margine et sinibus membranaceis. *Cor.* infundibuliformis v. subcampanulata, limbo 5-partito, laciniis obovatis integris. *Stam.* ad faucem v. vix intra tubum inserta. *Anthera* ovato-subrotundæ. *Capsula* loculi polyspermi. *Benth.* in *Bot. Reg. sub t. 1622*.

1. *G.* (SECT. *Dactylophyllum*) *pharnaceoides*; foliis oppositis basi membrana connatis profunde palmato-partitis laciniis setaceis, corollis calyce duplo longioribus. (TAB. CLXI.) *Benth. l. c.*

HAB. Sandy soils at Oakanagunca and Wallawallah, rather rare: flowers white, delicate. *Douglas*.—*Mr. Douglas* afterwards saw this curious species (and another of the same section) more abundantly in California. They and the *G. pusilla* have the habit of *Arenaria*, as observed by *Mr. Bentham*: perhaps still more that of *Spergula*.

TAB. CLXI.—*Fig. 1*, Flower; *fig. 2*, Leaves:—*magnified*.

2. *G.* (SECT. *Ipomopsis*) *pulchella*; caulibus strictis superne paniculatis, foliis carnosis arachnoideis pinnatifidis laciniis remotis linearibus planis acutis, corollis elongatis tubulosis limbi patenti-reflexi laciniis ovato-lanceolatis.—*Dougl. ms.*—*Benth. l. c.*—*Ipomopsis elegans. Lindl. Bot. Reg. t. 1281. (excl. Syn. Sm. Mich. et. Pers.)*

HAB. Banks of the Spokane River, N.W. America, particularly near its junction with the Columbia. *Douglas*.—A tall and very handsome plant, but which, we fear, is now lost to our gardens. *Mr. Bentham* has well distinguished it from the *Gilia coronopifolia*, *Pers. (Ipomopsis elegans, Sm.)* which is a native of the southern United States.

3. *G.* (SECT. *Eugilia*) *inconspicua*; caule gracili paniculato-ramoso calycibusque pubescenti-glandulosis, foliis pinnatifidis inferioribus bipinnatifidis laciniis linearibus remotis, floribus subsolitariis, calyce corollæ tubum æquante, corollæ laciniis ovatis.—*Dougl. in Hook. Bot. Mag. t. 2883. Benth. l. c.*—*G. parviflora. Spr.*—*Ipomopsis inconspicua. Sm. Ex. Fl. t. 14.*—*Cantua parviflora. Ph. Am. v. 2. p. 730.*

HAB. Southern branches of the Columbia, growing under the shade of *Purshia tridentata*, and various species of *Artemisia. Douglas.*

4. *G. (Sect. Eugilia) capitata*; glabra, gracilis ramosa, foliis bi-tripinnatifidis segmentis linearibus acutis, floribus dense capitatis, calyce tubo corollæ brevior, corollæ laciniis linearibus.—*Hook. Bot. Mag. t. 2698. Lindl. Bot. Reg. t. 1170. Benth. l. c.*

HAB. N.W. America; Rocky Mountains to the Pacific, following the course of the Columbia. Frequent in potato fields about Fort Vancouver. *Douglas, Dr. Scouler.*

5. *G. (Sect. Eugilia) congesta*; lanata subsimplex, foliis bipinnatifidis carnosis laciniis linearibus obtusis, floribus (albis) densissime capitatis capitulis racemosis, calycibus 5-dentatis bracteisque dense lanatis.—*Phacelia furcata. Dougl. ms.*

HAB. Sandy plains of the Columbia. *Douglas*.—A span high, with a rather stout stem, and singularly fleshy leaves. The whole, especially the very dense capitula, is very woolly. Corolla white, with a yellow eye. *Douglas*. Germen obovato-trigonous. Stigma 3-fid.

4. NAVARETIA. R. et P.—*Ægochloa. Benth.*

Cal. tubulosa-campanulatus, basi membranaceus, apice 5-fidus, laciniis inæqualibus rigidis, integris multifidisve, spinosis. *Cor. hypocrateriformis* calycem subæquans, limbo 5-partito, laciniis oblongis integris. *Stam.* inter partem superiorem tubi inserta. *Antheræ* ovato-subrotundæ. *Caps.* loculi polyspermi.—*Herbæ plerumque glutinosæ fetidæ. Folia pinnatisecta, segmentis incisus acutissimis. Flores dense capitati, bracteis inciso-multifidis spinosis suffulti. Benth. l. c.*

1. *N. intertexta*; erecta ramosa, foliis glabris pinnatisectis, segmentis lineari-subulatis acutissimis incisus divaricatis subspinosis, calycis sublanati dentibus plerumque multifidis, corollis calyce subbrevioribus, staminibus exsertis. *Benth. l. c.* (sub *Ægochloa*.)

HAB. New Albion, N.W. America. *Douglas.*

2. *N. pungens*; viscoso-pubescent, foliis pinnatisectis segmentis integris incisive, laciniis lanceolato-linearibus acutissimis spinosis, bracteis ciliato-hirtis basi dilatatis, dentibus calycinis lanceolatis subintegris, corollis exsertis, staminibus tubo inclusis. *Benth. l. c.* (sub *Ægochloa*.)—*Gilia pungens. Dougl. in Hook. Bot. Mag. t. 2977.*

HAB. Mountain Vallies near the sources of the Multnomack, a southern tributary of the Columbia, N.W. Am. *Douglas.*

5. COLLOMIA. Nutt.

Cal. campanulatus 5-fidus v. sub-5-partitus, lobis lanceolatis linearibusve æqualibus integris. *Cor. hypocrateriformis*, tubo tenui exserto, limbo patente 5-partito, laciniis oblongis integris. *Stam.* versus medium tubi inserta. *Antheræ* ovato-subrotundæ. *Caps.* loculi 1-2 spermi.—*Herbæ. Flores dense capitati, bracteis late ovatis integerrimis suffulti. Benth. l. c.*

1. *C. heterophylla*; pubescens, caule erecto ramoso, foliis inferioribus pinnatifidis incisus superne sensim magis integris, involucris omnino integris, capitulis paucifloris. *Dougl. in Hook. Bot. Mag. t. 2895. Lindl. Bot. Reg. t. 1347. Benth. l. c.*

HAB. Frequent on the subalpine hills of N.W. Am., and about Fort Vancouver. *Douglas, Dr. Scouler.*

2. *C. grandiflora*; foliis lato-lanceolatis nitidis inferioribus sæpissime serratis glabris superioribus ramisque junioribus pubescentibus, capitulis viscosis, corollæ limbo obliquo erectiusculo tubum subæquante.—*Dougl. in Bot. Reg. t. 1174. Hook. Bot. Mag. t. 2894. Benth. l. c.*

HAB. Columbia River, N.W. America, from the source in the Rocky Mountains to the mouth. *Douglas, Dr. Scouler.*

3. *C. linearis*; foliis lineari-lanceolatis lato-lanceolatisve opacis plerumque glabris, ramis superioribus patentissimis pubescentibus, corollæ limbo patente tubo gracilimo triplo brevior.—*Nutt. Gen. v. 1. p. 126. Dougl. in Bot. Reg. t. 1166. Hook. Bot. Mag. t. 2893. Benth. l. c.*

HAB. From the Saskatchewan to Fort Franklin and the Rocky Mountains. *Dr. Richardson, Drummond.* From Lake Winnipeg, across the Rocky Mountains, to Menzies' Island in the Columbia, thirty miles from the Pacific. *Drummond, Douglas, Scouler.*

4. *C. gracilis*; glanduloso-pubescent, caule valde ramoso, foliis lineari-oblongis obtusis inferioribus oppositis, calycis 5-partiti laciniis longe subulatis tubum corollæ æquantibus. *Dougl. ms.—Benth. l. c.—Gilia gracilis. Hook. Bot. Mag. t. 2924.—β. humilior*; foliis inferioribus latioribus.—*Collomia humilis* and *C. bellidifolia. Dougl. ms.*

HAB. N.W. America, Vallies of the Mountains near the Kettle Falls, and β. Fort Vancouver, and at the Multnomack. *Douglas.*

ORD. LXI. DIAPENSIACEÆ. *Lindl.*

1. DIAPENSIA. *L.*

Cal. 5-partitus, 3-bracteatus. *Cor.* 1-petala, regularis, æstivatione imbricata. *Stam.* 5 æqualia, filamentis dilatatis ad summum tubi corollæ insertis, limbi laciniis alternis; antheris 2-ocularibus transversim dehiscentibus ecalcaratis. *Stigma* sessile. *Capsula* cartilaginea, 3-locularis, infra medium trivalvis, medio placentifera, dissepimentis e medio valvarum. *Semina* plurima minuta, areolata.—*Suffrutices arctici, humiles, cæspitosi, prostrati. Folia parva imbricata sempervirentia.*

1. *D. Lapponica. L.—Torrey, Fl. v. 1. p. 231. Hook. in Parry's 2d. Voy. App.—D. obtusifolia. Salisb. Parod. Lond. t. 104. Pursh, Am. v. 1. p. 147.*

HAB. Labrador. *Dr. Morison, Miss Brenton.* Whale Island, Arctic America. *Captain Sir E. Parry.* Mouth of the Great Fish River. *Capt. Back.*—This does not appear to exist on the Pacific side of the Rocky Mountains, nor further to the west than the Great Fish River. The only station in the United States is the White Hills of New Hampshire, whence I have received it from Dr. Boott and Mr. Greene.

ORD. LXII. CONVULVULACEÆ. *Juss.*

1. CONVULVULUS. *Jacq. Br.*

Cal. 5-partitus, nudus, v. bracteis 2 minoribus imbricatis. *Corolla* campanulata, 5-

plicata. *Stamina* limbo breviora. *Ovarium* 2-loculare (raro 3-loculare?) loculis dispermis. *Stylus* indivisus. *Stigmata* 2, filiformia. *Capsula* valvata.—*Herbæ* (raro frutices) *volubiles v. prostratæ, sæpius lactescentes. Br.*

1. *C. arvensis*; caule angulato-striato, foliis sagittatis subauriculatis, pedunculis sæpius unifloris apice bibracteatis, sepalis ovato-rotundatis, corolla alba aut rosea. *Chois.*—*L.*—*Pursh, Am. v. 1. p. 144. Torrey, v. 1. p. 224.*

HAB. Canada. *Mrs. Percival, Lady Dalhousie.*

2. *C. panduratus*; volubilis pubescens, foliis lato-cordatis integris lobatisve panduriformibus, pedunculis longis, floribus fasciculatis, calycibus glabris muticis, corollis tubulato-campanulatis. *Mich. Am. v. 1. p. 138. Ph. Am. v. 1. p. 144. Elliott, v. 1. p. 254. Torrey, Fl. v. 1. p. 225.*

HAB. Canada. *Pursh.*

2. CALYSTEGIA. Br.

Cal. 5-partitus, bracteis duabus foliaceis inclusus. *Cor.* campanulata, 5-plicata. *Stam.* subæqualia limbo breviora. *Ovarium* semibiloculare, 4-spermum. *Stylus* indivisus. *Stigmata* 2 obtusa (teretia v. globosa). *Capsula* unilocularis.—*Herbæ lactescentes, glabræ, volubiles v. prostratæ (extra tropicum provenientes). Pedunculi solitarii uniflori. Br.*

1. *C. sepium*; foliis sagittatis acutissimis posticis obtusis truncatisve integris, bracteis acutis calyce longioribus dimidio corollæ brevioribus, pedunculo angulato petiolum superante. *Br.*—*Ph. v. 1. p. 142.*—*Convolvulus sepium. L.*—*Torrey, v. 1. p. 225.*—*C. repens. L.*—*Mich.*—*Ell.*

HAB. Canada to the Saskatchewan, *Pursh, Dr. Todd, Dr. Richardson*; and to the Rocky Mountains. *Drummond.* Shores and Islands of the Columbia. *Dr. Scouler, Dr. Gairdner.*

2. *C. spithameus*; pubescenti-tomentosa, caule erecto, foliis oblongo-ovatis basi cordatis, pedunculis unifloris folio longioribus, bracteis ovatis acutis, laciniis calycinis lanceolatis.—*Ph. Am. v. 1. p. 143. Hook. Ex. Fl. v. 1. t. 97.*—*C. tomentosa. Ph. l. c.*—*Convolvulus spithameus. L.*—*Elliott, v. 1. p. 251. Torrey, Fl. v. 1. p. 225.*—*C. stans. Mx.*

HAB. Canada to the Saskatchewan. *Mr. Cleghorn, Mrs. Percival, Dr. Richardson, Drummond.*

3. CUSCUTA. L.

Cal. raro 4-fidus. *Cor.* globoso-urceolata, limbo 5-fido, marcescens. *Ovarium* 2-loculare, loculis dispermis. *Caps.* bilocularis, circumscissa.—*Herbæ aphyllæ, volubiles, parasiticæ. Flores aggregati, subcapitati v. spicati, unibracteati. Squamæ 5, epipetalæ, infra filamenta, iisdemque oppositæ, raro deficientes. Br.*

1. *C. Americana?* floribus pedicellatis globoso-campanulatis 5-fidis, filamentis subulatis, corollæ laciniis brevioribus infra basin squama fimbriata, stylis gracilibus exsertis.—*L.?*—*Ph.?*—*Mich.?*—*Torrey, Fl. v. 1. p. 289.*—*C. arvensis. Beyrich, in Herb. Nostr.*

HAB. N.W. America. *Douglas.*—This I believe to be the *C. Americana* of Dr. Torrey. The flowers though small, are larger than in our *C. Epithimum.*

2. *C. umbrosa*; floribus sessilibus campanulatis 5-fidis, filamentis subulatis corollæ laciniis longioribus infra basin squama fimbriata, stylis brevibus crassis inclusis.—*C. umbrosa*. *Beyrich*, in *Herb. Nostr.*—*C. Europæa*. *Torrey*, v. 1. p. 230?—*C. Americana*. *Griswold*, in *Herb. Nostr.*

HAB. Canada. *Mrs. Percival*. Norway House Fort? *Drummond*. N.W. Coast of America. *Douglas*.—The *Cuscuta*, both of the old and the new world, are in a sadly confused state. The present species is probably frequently called by the American authors *C. Americana*. Of this, I am certain, that it is the *C. umbrosa* of *Beyrich* (whose name I therefore adopt), and the *C. Americana* of *Dr. Griswold*; but whether it is the Linnæan plant of that name, I have no means of ascertaining. *Mr. Drummond's* specimens are too imperfect for determination. The flowers of the present species are larger than either of our two British ones.

ORD. LXIII. HYDROPHYLLEÆ.* *Br.*

(*Br.* in *Prodr. Flor. Nov. Holland*, p. 492. *Benth.* in *Linn. Trans.* v. 17. p. 272.)

I. HYDROPHYLLUM. *L.*

Cal. 5-partitus persistens. *Cor.* campanulata 5-fida, intus striis 5 melliferis marginatis filamenta amplexantibus. *Stam.* exserta, medio barbata. *Stig.* bifidum. *Caps.* globosa, 1-locularis, 1-sperma; seminibus tribus abortivis.

1. *H. virginicum*; foliis pinnatifidis, laciniis ovali-lanceolatis inciso-serratis, fasciculis florum conglomeratis, pedunculis petiolo longioribus.—*L.*—*Mich. Am.* v. 1. p. 134. *Ph.* v. 1. p. 134. *Bot. Reg. t.* 331. *Elliott*, v. 1. p. 232. *Torrey*, *Fl.* v. 1. p. 219.

HAB. Canada. *Mrs. Percival*, *Mrs. Sheppard*, *Dr. Holmes*. N.W. Coast of America. *Dr. Scouler*, who observes that the roots are eaten by the Indians.

2. *H. appendiculatum*; foliis infimis pinnatisectis, caulinis palmato-lobatis, racemis laxissimis, calycis hispidi sinubus reflexo-appendiculatis. (*Benth. l. c.* p. 273.)—*Mich. Am.* v. 1. p. 134.

HAB. Canada. *Cleghorn*. [*H.*]

3. *H. Canadense*; foliis palmato-lobatis angulatisve, florum cymis laxis, calycibus glabris. (*Benth. l. c.* p. 273.) *L.*—*Mich. Am.* v. 1. p. 133. *Ph.* v. 1. p. 134. *Torrey*, v. 1. p. 220.

HAB. Canada. *Pursh*.

4. *H. capitatum*; foliis pinnatisectis, segmentis inciso-dentatis, laciniis calycinis lanceolatis ciliato-hispidis. (*Benth. l. c.* p. 273.) *Dougl. ms.*

HAB. Fort Vancouver. *Douglas*.—This is very different from the *H. macrophyllum* of *Nuttall*, of which I have noble specimens from *Dr. Short*.—[*H.*]

* The characters, with remarks on the genera and species of this and the following order (*Boraginæ*), have been kindly drawn up for this work by *Dr. Lehmann*. I have only added a few species which have since been received by me from British N. America, and made a few alterations suggested by *Mr. Bentham's* valuable paper on the first of these two orders, lately published in the Linnæan Transactions.

2. EUTOCA. Br.

Cal. 5-partitus, persistens. *Cor.* subcampanulata: membranulæ tubi decem, par paria filamentis alternantes. *Stam.* exserta. *Stylus* bifidus. *Caps.* polysperma, unilocularis bivalvis, valvis indivisis medio placentiferis.

1. *E. Franklinii*; foliis pinnatifidis bipinnatifidisve pilosis, laciniis lanceolatis integerrimis dentatisve ciliatis, spicis racemosis in summo caule confertis, staminibus corolla sublongioribus.—*Br.* in *Richards. App. to Frankl. Journ. ed. 2. p. 51. t. 27. Hook. Bot. Mag. t. 2985.*

HAB. From the Saskatchewan to the Bear Lake and English Rivers. *Dr. Richardson*; and in burnt woods from the Grand Rapid to the Rocky Mountains. *Drummond.*

2. *E. sericea*; foliis pinnatifidis semibipinnatifidisque sericeis, laciniis lanceolatis integerrimis, racemis in summo caule confertis, staminibus corolla duplo longioribus. *Lehm.—Grah. in Bot. Mag. t. 3003. Benth. l. c. p. 278.—E. pulchella. Lehm. in Pugil. Pl. II. p. 18.*

HAB. Sandy debris of the Rocky Mountains. *Drummond.*

3. *E. Menziesii*; erecta foliis linearibus lanceolatisve integerrimis quandoque trifidis pinnatifidisve, placentis 20-multiovulatis. (*Benth.*) *Br.* in *Richards. App. to Frankl. Journ. ed. 2. p. 51. Benth. l. c.—E. multiflora. Dougl. in Bot. Reg. t. 1180. Lehm. l. c. p. 19.—E. echioides et E. glomerata. Dougl. ms. (sive Benth.)—E. congesta. Dougl. in Herb. Nostr.—Lehm. l. c. p. 18.—Hydrophyllum lineare? Ph. (Br.)*

HAB. First discovered in California by *Mr. Menzies (Herb. Nostr.)*. Interior of the Columbia, N.W. Am. *Douglas.*—*Dr. Lehmann*, whom I was able to supply only with imperfect specimens of this species, was disposed to separate them into two: but I feel assured that *Mr. Bentham* has done correctly, in reducing all the supposed species of *Mr. Douglas* to one, which is indeed very variable in the form of the leaves. [*H.*]

3. NEMOPHILA. Bart.

Cal. persistens 10-partitus laciniis alternis minoribus reflexis. *Cor.* campanulata 5-loba. *Nectarium*, foveolæ 10 ad marginem faucis. *Stamina* corolla breviora. *Stylus* bifidus. *Caps.* 1-locularis.

1. *N. parviflora* (Dougl.); foliis pinnatifidis lobis paucis latis subdentatis, calycis sinibus breviter appendiculatis, corollis calycem vix superantibus, placentis biovulatis. *Benth. l. c. p. 275.*

HAB. First found in California by *Mr. Menzies*. Banks of the Columbia. *Douglas, Scouler.*—Perhaps not really distinct from the following, which *Mr. Bentham* thus characterizes:—" *N. pedunculata*; foliis pinnatifidis, calycis sinibus breviter appendiculatis, corollis calycem vix superantibus, placentis 6-ovulatis." [*H.*]

2. *N. pedunculata* (Dougl.); caule dichotomo ramoso, foliis subpinnatifido-quinquelobis pilosis; lobis obtusis, pedunculis alaribus solitariis nutantibus.

Caulis herbaceus, succulentus, procumbens? retrorsum setoso-hispidus, dichotomo-ramosus, ramis divaricatis. *Folia* opposita, petiolata, remota, pinnatifida, 5-loba, adpresso-pilosa, reticulato-venosa; lobis obovatis integerrimis vel grosse dentatis. *Petioles* foliis dimidio breviores, setosi. *Pedunculi* alaros, solitarii, teretes, filiformes, retrorsum setoso-hispidi, subpollicares, nutantes. *Calyx* persistens 10-partitus: laciniis setoso-ciliatis, alteris majoribus erectis, lanceolatis, acutis; alteris minoribus, linearibus, reflexis. *Corolla* minuta longitudine calycis, 5-loba; lobis integerrimis. *Stamina* corolla breviora; *filamenta* tubo inserta glabra; *antheris* lanatis. *Capsula* magnitudine pisii, ovata, acuta, pubescens.

HAB. Columbia River, N.W. America. *Douglas*.

4. PHACELIA. *Mx.*

Cal. 5-partitus. *Cor.* subcampanulata 5-fida basi intus 5-sulcata. *Stamina* exserta. *Stylus* filiformis bipartitus. *Caps.* 4-sperma 2-valvis: valvula singula dissepimento dimidiata.

1. *P. heterophylla*; erecta hispida, foliis inferioribus petiolatis pinnatifidis laciniis lanceolatis integerrimis nervosis: impari elongata, superioribus simplicibus, racemis bifidis densifloris, laciniis corollæ integerrimis. *Ph. Am. v. 1. p. 140. Nutt. Gen. v. 1. p. 117. Ram. et Schult. Syst. Veget. v. 4. p. 189.*

HAB. Banks and Islands of the Columbia, near the ocean. *Dr. Scouler, Douglas*.—Mr. Bentham unites this (and no doubt the following) with the *P. circinata*, Jacq. Fil. Ecl. 1. 135. t. 91; and adduces the following synonyms:—*Heliotropium pinnatum. Vahl. Hydrophyllum Magellanicum. Lam. H. aldea. R. and S. Aldea pinnata. R. and P. A. circinata. Willd. Phacelia Peruviana. Spr. P. Californica. Cham. P. rudis. Dougl. m.*

2. *P. hastata* (Dougl.); erecta tomentosa, foliis petiolatis lineatis acutis: radicalibus linearilanceolatis, caulinis lanceolatis elongatis basi utrinque auriculatis, racemis terminalibus corymbosis bifidis, laciniis corollæ integerrimis.

Caulis subpedalis, herbaceus, teres, erectus, simplex, tomentosus, basi rudimentis petiolorum tectus. *Folia* petiolata, supra tomentosa, tomentum pilis rigidis adpressis intermixtum, nervis impressis parallelineata, subtus tomentosa, ad nervos protuberantes adpresso pilosa; *radicalia* linearilanceolata in petiolum elongata, acuta, integerrima; *caulina* elongato-lanceolata, basi auriculata, ita quidem ut fere hastata appareant. *Petioles* canaliculati, hispidi, foliorum inferiorum circiter pollicares, versus apicem caulis sensim breviores. *Flores* in racemis terminalibus corymbosis dispositi: *Racemi* bifidi, secundi, imbricati, multiflori, ante anthesin revoluti. *Pedunculi* ac pedicelli calyce dimidio breviores hispidi. *Calyx* 5-partitus: laciniis linearibus obtusis, hispido-ciliatis, 3-nerviis. *Corolla* campanulata, (pallide rosea?) calycem superans, venis saturatoribus picta, laciniis integerrimis. *Filamenta* corolla duplo longiora in medio pilosa: *antheris* ovatis incumbentibus. *Ovarium* hispidum. *Stylus* ad medium usque bifidus, glaber, longitudine staminum: *stigmatibus* simplicibus.

HAB. Barren sandy plains of the Columbia, and on the Blue Mountains; N.W. America. *Douglas*.

3. *P. ramosissima* (Dougl.); erecta hispido-glandulosa, foliis petiolatis imparipinnatis, foliolis oblongis pinnatifido-incisis, spicis terminalibus circinatis globosis.

Caulis herbaceus, erectus, teres, fistulosus, hispidus, pilis glanduliferis. *Folia* alterna, petiolata, imparipinnata: pinnis superioribus confluentibus. *Foliola* oblonga, obtusissima, pinnatifido-incisa, hispidiuscula, pilis glanduliferis. *Spicæ* in summo caule ramisque, circinate, subglobosæ, floribus confertissimis. *Calyx* sessilis, profunde 5-partitus: laciniis obovato-lanceolatis, acutis, 3-nerviis, pilis mollibus glanduli-

feris elliptis. Corolla calyce duplo longior, glabra, venosa; laciniis rotundatis integerrimis; genitalia corolla duplo longiora, cum germine, glabra.

HAB. Dry rocky plains of the Columbia, near the Priest's Rapid, "and at the Stony Islands," N.W. America. *Douglas*.

ORD. LXIV. BORAGINEÆ.* *Juss.*

1. HELIOTROPIUM. *L.*

Cor. hypocrateriformis: fauce pervia (in nonnullis barbata); *Limbi* laciniis plicatura simplex vel dente instructa interjecta. *Stigma* subconicum. *Nuces* 4, uniloculares, coherentes, basi clausæ. *Receptaculum* commune manifestum nullum.

1. *H. Curassavicum*; caule herbaceo, foliis suboppositis lanceolatis obtusissimis obsolete venosis glabris glaucis, spicis conjugatis solitariisve.—*L.*—*Lehm. Asper. v. 1. p. 34. Nutt. Gen. v. 1. p. 112. Elliott, v. 1. p. 745.*

HAB. Valles of the Blue Mountains (far removed from the sea). *Mr. Douglas* found it there only.—[In one of my specimens from *Mr. Douglas's* last journey, the leaves are nearly an inch broad, and the spikes quaternate and quinate: in all, the leaves are much broader than in any specimens I have ever seen of *H. Curassavicum*.] (*Hook.*)

2. MYOSOTIS. *L.*

Cor. hypocrateriformis: fauce squamis brevibus instructa. *Limbus* 5-partitus obtusus. *Stamina* inclusa. *Nuces* 4, uniloculares, fundo calycis affixæ, basi perforatæ.

a. nucibus laevibus glabris.

1. *M. alpestris*; foliis lanceolatis acutiusculis obsolete trinerviis hirsutis, racemis ebracteatis, pedicellis in fructu patentibus calyce 5-fido clauso paulo longioribus, limbo explanato tubo longiore.—*Schmidt, Bohem. Cent. 3. Lehm. Asper. v. 1. p. 86.*—*M. lithospermifolia. Horn. H. Hafn. v. 1. p. 173.*—*M. suaveolens. Waldst. et Kit.*—*M. rupicola. Engl. Bot. t. 2559.*

HAB. Common in the Rocky Mountains. *Drummond.* Arctic sea-shore. *Dr. Richardson.*—The American plant corresponds exactly with the European one, and varies also with blue and white flowers.

2. *M. palustris*; calyce satis rectis appressis fructifero campanulato patente pedicellis divergentibus breviora, corollæ limbo plano tubum excedente, pube caulis patente (vel nullo),—var. *micrantha*; caulis pube appressa.—*M. lingulata. Lehm. Asper. v. 1. p. 110. inter species in quas inquirendum esset.*—*M. cæspitosa. Schultz. Flor. Starg. Suppl. p. 11. Spreng. Syst. Veget. v. 1. p. 557. (excl. synon.)*

HAB. Canada. *Mrs. Percival, Mrs. Sheppard.* Newfoundland. *Dr. Morrison, Mr. Cormack.*—This plant, though in my opinion only a variety, is, however, as such, a very distinct one.

3. *M. versicolor*; foliis lanceolatis obtusiusculis hirsutis, racemis ebracteatis, pedicellis in fructu erecto-patentibus calyce 5-fido acuto brevioribus, limbo patente tubo breviora.—*Pers. Syn. v. 1. p. 156. Engl. Bot. t. 480. Lehm. Asper. v. 1. p. 93.*

* By Professor Lehmann.

HAB. N.W. Coast. *Douglas*.—(There are specimens in the collection of this, or a closely allied species, a foot in height, with the young spikes densely capitate, the flowers twice or thrice larger than the usual appearance of *M. versicolor*, and with the hairs of the spikes yellowish.—H.)

4. *M. flaccida* (Dougl.); caule erecto ramoso, foliis linearibus calloso-strigosis, spicis ebracteatis bifidis, calycibus 5-partitis in fructu arcte adpressis clausis basi apiceque hispidissimis.

Planta annua. *Caulis* erectus, 1-1½ pedalis, teros, adpresso-pilosus, ramosus, ramis erecto-patentibus, in spicam bifidam densis. *Folia* sessilia, linearia, (1-1½ poll. longa 1½ lin. lata,) acutiuscula, integerrima, calloso-strigosa, uninervia, patentia. *Spicæ* caulem et ramos terminantes, ebracteatae, multifloræ, ante anthesin revolutæ, dein elongatæ, flaccidæ. *Flores* subsecundi, sessiles, crescente fructu, distantæ. *Calycis* 5-partiti: laciniis linearibus obtusis basi apiceque hispidissimis, floriferi erecti, fructiferi clausi, rhamchium arcte adpressi. *Corolla* (ut videtur) flava, glabra. *Tubus* longitudine calycis. *Limbus* brevis, planus, laciniis integerrimis. *Nuces* 4, ovatæ, acuminato-rostellatæ, glaberrimæ, fusco-nitidæ.

HAB. N.W. Coast, in dry plains. *Douglas*.

β. *nucibus rugosis.*

5. *M. glomerata*; caule erecto foliisque spatulato-linearibus hispidis, spicis solitariis axillaribus subpedunculatis bracteatis glomeratis, floribus confertis, calycibus hispidissimis, nucibus dorso rugosis. (TAB. CLXII.)—*Nutt. Gen. Am. v. 1. p. 112.*—*Cynoglossum glomeratum. Fras.—Pursh, Am. v. 2. p. 729. Lehm. Asper. v. 1. p. 176.*

HAB. Barren sands of the Columbia, near Lewis and Clarke's River. *Douglas*. About Carlton House Fort. *Dr. Richardson*.—One of the most beautiful species, with white flowers of the size of those of *Anchusa officinalis*. All the spikes are not, as said in Nuttall's description, *bifid*, but (according to my specimens) only the superior ones; the inferior ones are *simple*. In the description now referred to, the bractes of the spikes are not mentioned, which are linear, hispid (hispidissimæ); the inferior ones of the length of the calyx. The inflorescence is rather a spica terminalis composita e spiculis alternis approximatis simplicibus bifidisque, than what is called spicæ axillares, which becomes more evident since the leaf at the base of the spikelets (quite of the same structure as the stem-leaves) is not affixed to the stem, but at the branch of the spike.

TAB. CLXII.—*Fig. 1*, Flower; *fig. 2*, Pistil; *fig. 3*, Fruit; *fig. 4*, Single achenium, anterior view:—*magnified.*

6. *M. leucophæa* (Dougl.); caule erecto, foliis lanceolato-linearibus supra sericeis subtus strigosis, spicis in summo caule congestis paucifloris, calycibus hispidissimis, nucibus,..... (TAB. CLXIII.)

Planta pulcherrima. *Radix* perennis. *Caulis* erectus, subpedalis, angulatus, inferne pilis adpressis, superne pilis patentibus tomentoso-hispidus. *Folia* sessilia, alterna, lanceolato-linearia, acuta, integerrima, supra sericea, subtus strigosa, trinervia, nervis lateralibus submarginalibus obscurioribus. *Spicæ* plures in apice caulis axillisque foliorum superiorum densissime congestæ, hispidissimæ, paucifloræ. *Calyx* 5-partitus, 4 lineas longus: laciniis linearibus obtusis uninerviis intus apice tomentosus. *Corolla* magna, alba. *Tubus* calyce paullo longior, glaber. *Limbus* 5-partitus, planus, laciniis obovato-subrotundis. *Anthera* supra medium tubi adnata. [*Nuces* 4, suborbiculatæ, ovatæ, acutæ, glabræ, læves, dorso planæ, marginibus subalatis. *Semen* ovatum, obtusum.—*Hook.*]

HAB. Arid barrens of the Columbia, and of its northern and southern tributaries. *Douglas*.

TAB. CXLIII.—Fig. 1, Flower; Fig. 2, Calyx with the pistil; Fig. 3, Corolla laid open; Fig. 4, Pistil; Fig. 5, Fruit; Fig. 6, Single achenium; Fig. 7, the same cut open showing the seed.—*magnified.*

7. *M. fulva*; hispida, caule erecto, foliis oblongo-linearibus obtusis v. acuminatis calloso-strigosis, racemis demum valde elongatis, calycibus pilis flava hispidiis 5-partitis sessilibus fructiferis ampliatis laciniis erectis, nucibus 2 (alteris abortientibus) reniformi-ovatis rugosis nigris.—*Hook. et Arn. in Bot. of Beechey's Voy. v. 1. p. 38.*

HAB. Dry prairies of the Columbia. *Mr. Toimie.*—These specimens entirely agree with the originals from Chili. The species is indeed very distinct and well-marked, remarkable for the large size of the calyx, especially when in fruit. (*Hook.*)

8. *M. Chorisiana*; caulibus filiformibus adscendentibus subramosis, foliis sessilibus angusto-linearibus calloso-strigosis, racemis terminalibus secundis, calycibus hispidis in fructu erectis apice barbatis, nucibus verrucosis rugosis.—*Cham. in Lin. v. 4. p. 444. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 152.*

Caulis ex eadem radice plures, adscendentes, ramosi, subpalmares, incumbenti-pilos. *Folia* sessilia, angusto-linearis, acutiuscula, utrinque strigosa, 3-nervia, nervis lateralibus obscuris. *Racemi* multiflori, in summo caule ramisque secundi, ebracteati, floribus infimis axillaribus. *Calyces* brevi-pedicellati, erecti, 5-partiti; laciniis lanceolato-linearibus, hispida, apice fulvo-barbatis. *Pedicelli* sub calyce incrassati. *Corolla* parva, flava. *Tubus* calycem subsuperans: *Limbi* laciniae rotundate, integerrimæ. *Nuces* rugosæ, verrucosæ.

HAB. Columbia. *Dr. Scouler.*—This was found in California by the officers of Captain Beechey's Voyage. (*Hook.*)

3. ECHINOSPERMUM. *Lehm.*

Cor. hypocrateriformis: fauce squamis brevibus instructa. *Limbus* 5-partitus, obtusus, patulus. *Nuces* 4, uniloculares, echinatae, columnæ centrali affixæ, basi imperforatæ.

α. fructibus nutantibus vel deflexis.

1. *E. Virginicum*; foliis ovato-oblongis acuminatis nervoso-venosis, supra scabris subtus pubescentibus, racemis divaricatis bracteolatis, nucibus aculeis glochidiatis dense asperis.—*Lehm. Asper. v. 1. p. 117.*—*Rochelia Virginiana. Ræm. et Schult. v. 4. p. 108. Torr. Am. v. 1. p. 208.*—*Myosotis Virginica. Lin. Sp. Pl. v. 1. p. 163. Pursh, Am. v. 1. p. 134. Nutt. Gen. Am. v. 1. p. 112.*

HAB. Canada to the Saskatchewan. *Dr. Richardson, Drummond.*

2. *E. diffusum*; caule foliisque hirsutis: radicalibus petiolatis oblongo-lanceolatis, caulinis superioribus ovatis obtusis sessilibus, racemis erectis simplicibus bracteatis, nucibus aculeis glochidiatis undique adpersis.—*Lehm. Pugil. II. p. 23.*—*Myosotis diffusa. Dougl. ms.*

Caulis subpedalis, erectus, teres, hirsutus, apice in ramulis racemiferis divisus. *Folia* integerrima, utrinque hirsuta, sub 3-nervia: nervo medio subtus protuberante: *radicalia* longo petiolata, oblongo-lanceolata, obtusiuscula; *caulina* sparsa conferta, *inferiora* radicalibus simillima sed minorâ et brevius petiolata; *superiora* sessilia, ovata, obtusa. *Racemi* simplices, hirsuti, erecti, bracteati. *Bractea* inferiores ovato-lanceolatae, longitudine pedicellorum, superiores lineares, breviores. *Pedicelli* subsecundi, 3 lin. longi, hir-

suti, floriferi erecti, in fructu nutantes. *Calyx* 5-partitus, laciniis oblongo-linearibus, obtusissimis, hirsutis, patentibus. *Corolla* alba? magna: *tubus* calyce paulo longior sensim ampliatus, fauce subclausa, fornicibus papillois. *Limbus* 5-lobus: lobis obovatis, rotundatis, venosis, tubo duplo longioribus. *Filamenta* inclusa brevissima: *antheris* ovatis. *Nuces* 4, aculeis glochidiatis undique adpersis.

HAB. N.W. America. *Douglas*.

3. *E. floribundum*; foliis subsessilibus lineari-lanceolatis acutatis subciliatis utrinque pubescentibus, radicalibus lanceolatis petiolatis, racemis bifidis bracteolatis, nucibus glabriusculis aculeis glochidiatis serie simplici margine dispositis. (TAB. CLXIV.)—*Lehm. Pügil. II. p. 24.*

Caulis herbaceus, 1½–2-pedalis, strictus, teres, fistulosus, pilis adpressis subhirsutus. *Folia* integerrima, utrinque pubescentia subciliata; *radicalia* lanceolata, acuta, in petiolum longitudine folii attenuata; *caulina* sparsa, approximata, lineari-lanceolata longe acuminata, infima in petiolum decurrentia, reliqua sessilia. *Racemi* axillares, pedunculati, in summo caule paniculati, bifidi, bracteolati, multiflori. *Pedicelli* pilosi; *floriferi* longitudine calycis erecti; in fructu calyce duplo longiores refracti. *Bractea* lanceolata, minutæ. *Calyx* 5-partitus, hirsutus, laciniis ovato-lanceolatis obtusis. *Corolla* cærulea, magnitudine florum *Myos. palustr.* *Tubus* longitudine calycis. *Limbus* planus: laciniis rotundatis. *Antheræ* ovatæ, basi bifidæ, in tubo subsessiles. *Pistillum* tubo brevior: *stigmatibus* capitato. *Nuces* 4, ovatæ, acutæ, glabriusculæ, aculeis subulatis apice glochidiatis versus marginem simplici serie dispositis.

HAB. Lake Pentanguishene to the Rocky Mountains. *Drummond*.

TAB. CLXIV.—*Fig. 1*, Flower; *fig. 2*, Pistil; *fig. 3*, Fruit; *fig. 4*, Single achenium:—*magnified*.

4. *E. deflexum*; foliis oblongo-lanceolatis obtusiusculis hirsutis, racemis erecto-patentibus inferne bracteolatis, nucibus aculeis basi connatis apice glochidiatis serie simplici margine dispositis.—*Lehm. Asper. v. 1. p. 120.*—*Rochelia deflexa. Ræm. et Schult. Syst. Veg. v. 4. p. 109.*—*Myosotis deflexa. Wahl. Act. Holm. 1810. p. 113. t. 4. Flor. Dan. t. 1568.*

HAB. Cumberland House Fort. *Drummond*.

β. *fructibus erectis.*

5. *E. Lappula*; caule superne ramoso, foliis lanceolatis incumbenti-pilosis ciliatis, corolla parva, limbo erecto patente, nucibus aculeis glochidiatis serie duplici margine dispositis.—*Lehm. Asper. v. 1. p. 121.*—*Rochelia Lappula. Ræm. et Schult. Syst. Veg. v. 4. p. 109. Torr. Fl. v. 1. p. 208.*—*Myosotis Lappula. L. Sp. Pl. v. 1. p. 189. Flor. Dan. t. 692. Pursh, Am. v. 1. p. 134. Nutt. Am. v. 1. p. 112. Rich. App. p. 5.*

HAB. Lake Huron. *Dr. Todd*. N.W. America. *Douglas*.

6. *E. patulum*; ramis patulis, foliis oblongo-lanceolatis patulo-pilosis, nucibus aculeis distantibus elongatis glochidiatis serie simplici margine dispositis.—*Lehm. Asper. v. 1. p. 124. Spreng. Syst. Veg. v. 1. p. 566. (excl. syn. Myos. Redowskii).*—*Myosotis squarrosa. Bieberst. Fl. Taur. Cauc. v. 1. p. 120. (excl. syn. Retzii.) Willd. Enum. Plant. v. 1. p. 176.*

HAB. Cumberland House to Bear Lake. *Dr. Richardson*.

4. CYNOGLOSSUM. L.

Cor. infundibuliformis fauce fornicibus erectis instructa. *Nuces* 4, uniloculares, compressæ, echinatæ vel margine membrana plana circumdatæ, columnæ centrali affixæ, basi imperforatæ.

a. nucibus depressis, exteriore latere aculeis plerumque glochidiatis tectis.

1. *C. ciliatum* (Dougl.); caule erecto simplici hirsuto, foliis linearibus acutis elongatis trinerviis tomentoso-hirsutis ciliatis, racemis terminalibus bracteatis secundis, staminibus inclusis. *Lehm. Pugil. II. p. 24.*

Caulis erectus, 1½-pedalis, teros, simplicissimus, canescens, hirsutus: pilis retrorsis, in summo caule patentibus. *Folia* distantia, sessilia, linearia, acuta, incana, tomentoso-hirsuta, ciliata, 3-nervia; *inferiora* 4 poll. longa, 2 lin. lata, *suprema* pollicaria. *Racemi* terminalis, subcorymbosi, villosi, secundi, bracteolati, ante anthesin revoluti. *Bracteæ* lineares, longitudine pedicellorum. *Calyx* 5-partitus: laciniis lanceatis obtusis, villosis. *Corolla* cærulea, calyce dimidio longior. *Tubus* brevissimus: *Limbus* 5-fidus: laciniis oblongis rotundatis, tubo duplo longioribus. *Fornices* 5 erecti, conniventes. *Filamenta* tubo inserta, brevissima: *antheris* elliptico-oblongis usque ad faucem porrectis. *Stylus* crassus brevis, stigmatè capitato. *Nuces*.....

HAB. Dry banks of the mountain streams, Little falls of the Columbia, and upwards to the Rocky Mountains. *Douglas.*

2. *C. officinale*; caule erecto folioso, foliis inferioribus late lanceolatis basi attenuatis superioribus basi latioribus acutis pubescenti-tomentosis, racemis ebracteatis durante florentia paniculatis, staminibus inclusis.—*L. Sp. Pl. v. 1. p. 192. Engl. Bot. t. 921. Flor. Dan. t. 1147. Bigel. Bost. p. 47. Pursh, Am. v. 1. p. 139. Lehm. Asper. v. 1. p. 152. Rœm. et Schult. Syst. Veg. v. 4. p. 74. Torr. Fl. v. 1. p. 208.*

HAB. Canada to the Saskatchewan. *Mrs. Percival, Lady Dathouse, Dr. Richardson.* Lake Huron. *Dr. Todd.*

3. *C. Virginicum*; caule erecto, foliis ovato-oblongis acutis superioribus basi cordatis amplexicaulibus hirsutissimis, racemis brevibus corymbosis ebracteatis, staminibus inclusis.—*L. Sp. Pl. v. 1. p. 193. Lehm. Asper. v. 1. p. 156. Torr. Fl. v. 1. p. 208.—C. amplexicaule. Mich. Fl. v. 1. p. 132. Pursh, Am. v. 1. p. 133.*

HAB. Canada and Lake Huron, (*Mrs. Percival, Dr. Todd*), to the Rocky Mountains (rare). *Drummond.*

4. *C. grande* (Dougl.); caule erecto glabro superne nudo, foliis petiolatis subtus pilosis: inferioribus maximis cordato-ovatis undulatis, superioribus oblongo-lanceolatis, racemis ebracteatis glabris pedunculatis paucifloris, calyce villosis.—*Lehm. Pugil. II. p. 25.—C. officinale. Hook. et Arn. Bot. of Beech. Voy. v. 1. p. 152. (nec alior).*

Caulis herbaceus, sub-2-pedalis, erectus, angulatus, fistulosus, laxis, glaber, basi foliosus apice nudus. *Folia infima* cordato-ovata, acuta, undulata, ciliata, venosa, supra viridia pilis raris adpressis obsita, subtus pallidiora adpresso pilosa, 9 poll. longa, 4 lin. lata, *superiora* e basi cordato in petiolum producta, acuta, undulata, ciliata, 8 poll. longa, 2-3 lin. lata, *suprema* sensim minora, oblongo-lanceolata, acuminata, plana. *Petioli* glabri, ciliati. *Racemi* pauciflori, pedunculati, in summo caule paniculam laxam constituentes. *Pedunculi* glabri, nudi, 1½-2½ poll. longi. *Pedicelli* 2-4 lineas longi, glabri, apice pilosi. *Calyx* 5-fidus, densissime villosus: laciniis elliptico-lanceolatis, obtusis. *Corolla* cærulea, calyce duplo longior, major quam in *C. officinale*. *Filamenta* brevissima, supra medium tubi inserta, *antheris* ellipticis faucem attingentibus. *Stylus* longitudine tubi, stigmatè capitato.

HAB. Shady woods, N.W. Coast. *Douglas, Mr. Tolmie, Dr. Gairdner.*—A truly distinct species, found also in California by the officers of Captain Beechey's Voyage.

5. OMPHALODES. *Juss.*

Cor. rotata; fauce fornicibus brevibus clausa. *Limbus* 5-partitus, obtusus. *Nuces* 4, uniloculares, depressæ, margine membrana inflexa, calathiformes, columni centrali affixæ, basi imperforatæ.

1. *O. linifolia*; foliis radicalibus cuneiformibus, caulinis lineari-lanceolatis glabris margine denticulato-ciliatis, racemis ebracteatis.—*Mœnch, Method. p. 419. Lehm. Asper. v. 1. p. 187.*—*Cynoglossum linifolium. L.—Moris. Hist. 3. Sect. 11. t. 30. f. 11. Barrel. Icon. 1234.*—*Ricotia linifolia. Rœm. et Schult. Syst. Veg. v. 4. p. 86.*

HAB. Sent by *Dr. Morison* from Labrador. An *re vera* in America boreali indigena?—[Probably cultivated; yet it is singular that a tender annual of Spain and Portugal should come to perfection and bear seed, as the specimen shows, in so northern a region as Labrador. *Hook.*]

6. LITHOSPERMUM. *L.*

Cal. 5-partitus. *Cor.* infundibuliformis: fauce pervia, nuda. *Antheræ* oblongæ inclusæ. *Nuces* 4, uniloculares, ovatæ, fundo calycis affixæ, basi imperforatæ.

Sectio I. *Floribus subpaniculatis. Nucibus lævibus vel rugosis. Foliis radicalibus post florescentiam exrescentibus. (PULMONARIAÆ.)*

1. *L. maritimum*; caulibus procumbentibus ramosis, foliis ovatis obtusiusculis carnosis glabris glaucescentibus, calycibus glabris.—*Lehm. Asper. v. 2. p. 291. Torr. Fl. v. 1. p. 202.*—*Pulmonaria maritima. L. Sp. Pl. v. 1. p. 195. Engl. Bot. t. 368.*—*Pulmonaria parviflora. Mich. Fl. v. 1. p. 131. Pursh. Fl. v. 1. p. 131.*

HAB. Canada. *Mrs. Percival.* Newfoundland and Labrador, (*Miss Brenton, Dr. Morison*), throughout the Arctic sea-shores (*Dr. Richardson, Captain Sir E. Parry, &c.*) to Behring's Strait, (*Lay and Collie, Chamisso, &c.*), and the N.W. Coast. *Menzies.*

2. *L. marginatum*; caule glabro erecto, foliis radicalibus petiolatis obovato-oblongis, caulinis oblongo-spathulatis acutis semiamplexicaulibus margine hispidis, calycibus glabris laciniis acuminatis margine hispidis.—*Spreng. Syst. Veg. v. 1. p. 547.*—*Pulmonaria marginata. Nutt. Am. v. 1. p. 115.*—*Pulmonaria lanceolata. Pursh, Am. v. 2. p. 729.*

HAB. Elevated banks of the Columbia (common). *Douglas.*

3. *L. Drummondii* (*Lehm.*); caule glabro ascendente, foliis radicalibus ovato-lanceolatis caulinis sessilibus oblongo-lanceolatis callosis subdenticulatis glaucis, paniculis terminalibus congestis, calycibus glabris laciniis acutiusculis subdenticulatis.—*Lehm. Pugil. II. p. 26.*

Caules plures ex eadem radice, ascendentes, glaberrimi, toretes, semipedales. *Folia* radicalia, ovato-lanceolata; *caulina* oblongo-lanceolata, acuta, subdenticulata, glauca, superne callosopunctata, 3-nervia. *Flores* paniculati, in summo caule congesti. *Pedunculi* foliis multo breviores, 2-3 lin. longi, 2-5 flori. *Pedicelli* calycibus breviores, glaberrimi, suberecti. *Calyx* glaber, 5-partitus: laciniis lanceolatis acutiusculis, margine subdenticulatis. *Corolla* calyce subtriplo longior, fere semipollicaris, cyanea. *Tubus* cylindricus calyce duplo longior, intus glaber, fauce notata protuberantis quinque. *Limbus* campanulatus, longitudine tubi, 5-fidus, laciniis integerrimis, rotundatis. *Filamenta* summo tubo inserta, brevissima, plana, membranacea; *antheris* linearibus. *Stylus* stamina æquans, linearis, compressus: stigmatibus capitato.

HAB. Arctic sea-shore. *Dr. Richardson.*—[To me this seems to have too close an affinity with *L. Virginicum.*] *Hook.*

4. *L. denticulatum*; caule erecto, foliis nervosis subglabris acutis margine denticulato-scabris, radicalibus ovatis, caulinis oblongis, laciniis calycis oblongis margine denticulatis.—*Lehm. Asper. v. 2. p. 294. Torr. Fl. v. 1. p. 203.*—Pulmonaria Sibirica. *Pursh, v. 2. p. 729. (excl. syn.)*—*P. denticulata. Ram. et Schult. Syst. Veg. v. 4. p. 746.*

HAB. Canada. *Pursh.* Shady woods near the confluence of the Columbia with the sea. *Douglas, Mr. Tohmie.*

5. *L. paniculatum*; caule erecto, foliis nervosis scabriusculis acuminatis, inferioribus ovato-cordatis, superioribus ovato-oblongis, floribus paniculatis, calycibus piloso-hispidis.—*Lehm. Asper. v. 2. p. 289. Rich. App. p. 5.*—Pulmonaria paniculata. *Atl. Kew. ed. 1. v. 1. p. 181. Pursh. Am. v. 1. p. 131. Nutt. Am. v. 1. p. 115.*

HAB. Saskatchewan to Hudson's Bay and Bear Lake. *Dr. Richardson, Drummond.* Blue Mountains, N.W. Coast. *Douglas.*

6. *L. corymbosum* (Lehm.); caule erecto piloso, foliis ovatis acutis in petiolum attenuatis glabriusculis margine et subtus pilosis, floribus racemoso-corymbosis, laciniis calycis lanceolato-linearibus elongatis acutis.—*Lehm. Pugil. II. p. 27.*—Pulmonaria pilosa. *Cham. in Linnaea.*—Lithosp. denticulatum. *Hook. et Arn. Bot. of Beech. Voy. p. 128.*

Caules ex eadem radice plures, erecti, simplices, subpedales, fistulosi, pilosi. *Folia radicalia* late-ovata longe petiolata; *caulina* alterna, ovata, acuta, in petiolum attenuata, integerrima, venosa, supra glabriuscula, subtus et margine pilosa, suprema sessilia. *Petioli* planus, pilosus, basi caulem subamplexans. *Flores* terminales in racemis corymbosis 5-8-floris dispositi. *Racemi* simplices vel bifidi, corymbosi, hirsuti, basi bracteæ lanceolata, acuminata, hirsuta instructi. *Calyx* 5-partitus, laciniis lanceolato-linearibus, acutis, longitudine tubo corollæ. *Corolla* infundibuliformis, cærulea, semipollicaris. *Tubus* limbo subtus pilosus. *Limbus* 5-lobus: lobis rotundatis. *Filamenta* brevissima, membranacea, fauci inserta. *Antheris* linearibus. *Stylus* subulatus, basi compressus, longitudine corollæ: *stigmatibus* capitulato.

HAB. Fort-William to the Rocky Mountains. *Drummond.* Hudson's Bay. *Douglas.* Kotzebue's Sound. *Lay and Collie.*

Sectio II. *Floribus subsolitariis luteis, corolla intus ad basin annulo barbato cincta.* (BATSCHIAE.)

7. *L. incisum*; caule herbaceo simplici erecto, foliis linearibus revolutis sericeo-villosis, corollæ tubo longissimo, limbi laciniis fimbriatis. (TAB. CLXV.)—*Lehm. Asper. v. 2. p. 303. Rich. App. p. 5.*—*L. longiflorum. Spr. Syst. Veg. v. 1. p. 544.*—*Batschia longiflora. Pursh, Am. v. 1. p. 132. Nutt. Am. v. 1. p. 114.*

Caulis erectus, subpedalis, strigosus. *Folia* alterna, sessilia, linearia, margine revoluta, utrinque sericeo-villosa, bipollices longa. *Flores* in axillis foliorum superiorum subsessiles. *Calyx* hirsutus, 5-partitus: laciniis linearibus, acuminatis, 3 lineas longis. *Corolla* flava. *Tubus* angustus, subpentagonus, superne ampliatas, pollicem superans, fauce instructa procerantibus 5 planis, rotundatis. *Limbus* 5-lobus, laciniis fimbriatis.

HAB. Banks of the Saskatchewan to lat. 55°. *Dr. Richardson, Drummond;* and Eagle and Red Rivers: also in the valleys of the Rocky Mountains, near the sources of the Athabasca. *Douglas.*—[This species has a most extensive range. I possess specimens gathered by Bradbury on the Missouri, and at Galveston Bay, by Drummond (n. 304 of his 3d Texas collection.)—H.]

TAB. CLXV.—Fig. 1, Flower, fig. 2, Pistil:—magnified.

8. *L. Mandanense*; caule decumbente hirsuto, foliis lanceolato-linearibus sericeo-strigosis margine revolutis, floribus pedicellatis, corollæ limbo fimbriato-crenato. (TAB. CLXVI.)—*Spr. Syst. Veg.* v. 1. p. 544.—*Batschia decumbens*. *Nutt. Am.* v. 1. p. 114.

Affinis precedenti, differt foliis latioribus, floribus dimidio brevioribus et habitu omnino diversa.—*Radix* lignosa multiceps. *Caules* decumbentes, hirsuti, 4-6 pollicares, superne in ramis floriferis dichotomo-vel trichotomo-divisi. *Folia* lanceolato-linearia, obtusissima, margine revoluta, sericeo-strigosa, 5-9 lineas longa, suprema longiora et latiora. *Flores* breviter pedicellati in axillis foliorum superiorum. *Calyx* 5-partitus laciniis linearibus, acutis. *Corolla* semipollicaris: *Limbus* planus, laciniis fimbriato-crenulatis. *Stamina* summo tubo inserta. *Stylus* longitudine tubi: *stigmata* biloba.

HAB. Mountains and Plains of the Saskatchewan. *Drummond*.

TAB. CLXVI.—Fig. 1, Flower; fig. 2, Pistil:—magnified.

9. *L. hirtum*; caule herbaceo erecto simplici hirtio, foliis lineari-lanceolatis obtusis, floralibus ovato-lanceolatis rotundato-obtusis utrinque hirtis, corollæ tubo calycem subæquante, limbo integerrimo.—*Lehm. Asper.* v. 2. p. 304. *Torr. Am.* v. 1. p. 204. *Spr. Syst. Veg.* v. 1. p. 544.—*Anchusa hirta*. *Mühlenb. Cat. Plant. Am. Sept.* p. 19.—*Batschia Gmelini*. *Mich. Am.* v. 1. p. 130. *Pursh. Am.* v. 1. p. 132.—*B. Carolinensis*. *Gmel. Syst. Nat.* v. 2. p. 315.—*B. Caroliniana*. *Ræm. et Schult. Syst. Veg.* v. 4. p. 52.

HAB. Upper Canada. *Goldie*. Lake Huron. *Dr. Todd*.—This species is also found as far South as Galveston Bay, Texas. (No. 310 of Mr. Drummond's 3d collection.)

10. *L. canescens*; caule herbaceo erecto subsimplice villoso, foliis oblongo-lanceolatis obtusis emarginatis utrinque adpresse villosiusculis, junioribus candicantibus demum scabriusculis, corollæ tubo calyce duplo longiore, limbo integerrimo.—*Lehm. Asper.* v. 2. p. 305. *Torr. Am.* v. 1. p. 203. (excl. syn. *Anchuse virg.*)—*Anchusa canescens*. *Mühl. Cat. Plant. Am. Sept.* p. 19.—*Batschia canescens*. *Mich. Am.* v. 1. p. 130. t. 14. *Pursh, Am.* v. 1. p. 132.—*B. conspicua*. *Rich. App. ed.* 1. p. 49.

HAB. Canada to the Saskatchewan. *Dr. Richardson, Drummond, Douglas*.

11. *L. sericeum*; caule basi suffruticoso erecto trichotomo-ramoso superne villoso, foliis oblongo-lanceolatis obtusis supra sericeis subtus subvillosis canescentibus, corollæ tubo calyce duplo longiore, limbo integerrimo.—*Lehm. Asper.* v. 2. p. 306.—*Lithospermum Virginianum*. *Moris. Hist. 3. Sect. 11. t. 28. f. 4.*—*Anchusa Virginica*. *L. Sp. Pl.* v. p. 191.—*Batschia sericea*. *Ræm. et Schult. Syst. Veg.* v. 4. p. 743.

Affinis precedenti, differt caule apice trichotomo-diviso, foliis integerrimis (nec emarginatis) majoribus magis sericeis, corollis duplo fere majoribus.

HAB. Banks of the Saskatchewan. *Dr. Richardson, Drummond, Douglas*.

Section III. *Corolla fauce nuda, foliis radicalibus post florescentiam non excrescentibus.* (LITHOSPERMÆ veræ.)

12. *L. officinale*; caule erecto ramis numerosis, foliis lanceolatis acutis nervosis scabris subtus oppresse hirsutis, corollæ tubo longitudine calycibus nucibus brevissimis impunctatis. *L.*—*Lehm. Asper.* p. 313. (excl. syn.)—*L. latifolia*. *Mühl. Cert.* p. 18. *Torrey, Fl.* p. 202.

HAB. Falls of Niagara. *Mr. Greene*. Quebec. *Mrs. Sheppard*.—(I quite agree with my friend Dr. Torrey, that *L. latifolium* of American authors is a very distinct species, and exclusively a more southern plant.)—*Hook.*

13. *L. ruderale* (Dougl.); caule herbaceo stricto hirsuto, foliis linearibus acuminatis strigosis, spicis foliosis, corollis villosis, tubo longitudine calycis. *Lehm. Pugil. II. p. 28.*

Caulis herbaceus, strictus, angulatus, sulcatus, simplex, apice ramosus, 1-1½-pedalis, hirsutus. *Folia* sparsa, conferta, sessilia, acuminata, strigosa, versus marginem et ad nervum medium subtus hispida: inferiora linearia, erecta, bipollicaria et ultra: superiora lineari-lanceolata, erecto-patentia. *Ramuli* spica solitaria, foliosa, pauciflora terminati: floribus subsessilibus. *Calyx* hirsutus, 5-partitus; laciniis inæqualibus, erectis, linearibus. *Corolla* extus villosa, flava. *Tubus* longitudine laciniarum calycis longiorum cylindricus: laciniis limbi ovatis rotundatis. *Filamenta* tubi corollæ inserta; *antheris* oblongis usque ad faucem porrectis. *Stylus* longitudine tubi, stigmati simplici.

HAB. Gravelly banks of the Columbia and Multnomack Rivers. *Douglas.*

14. *L. angustifolium*; caulibus herbaceis procumbentibus, foliis linearibus undique strigosis, floribus sparsis lateralibus axillaribusque, fructibus turgide ovatis nitidis impresso-punctatis.—*Mich. Am. Bor. v. 1. p. 130. Ph. Am. v. 1. p. 131. Lehm. Asper. v. 2. p. 309.*

HAB. Head of Lake Ontario. *Goldie*. Canada. *Dr. Holmes*. Norway House on the Saskatchewan. *Drummond*.—In fruit, and only one specimen gathered. (Drummond's plants, from Brazosia and San Philipé in Texas, III. n. 297 and 306, are probably the same species.)

15. *L. lycopsoides* (Lehm.); caulibus herbaceis procumbentibus ramosis folisque ovato-lanceolatis denticulatis setoso-ciliatis utrinque hirtis, floribus sparsis lateralibus axillaribusque, nucibus ovato-trigonis basi emarginatis dorso convexis rugosis.—*Lehm. Pugil. II. p. 28.*

Caulis procumbens, teres, hirtus, di-vel trichotomo-ramosus: ramis ascendentibus. *Folia* sessilia, ovato-lanceolata, acute, utrinque o punctis sparsis callosis hirta, undulato-denticulata, denticulis callosis setosis. *Flores* laterales axillaresque breviter pedicellati. *Calyx* hispidissimus, 5-partitus, laciniis lanceolatis, 2 lineas longis, in fructu cornuus, subinflatus. *Corolla* longitudine calycis, flava, glabra, limbo erecto minimo. *Genitalia* inclusa. *Nuces* ovatae, trigonae, acutae, brunneae, dorso convexae, rugosae.

HAB. Straits of de Fuca, N.W. America. *Dr. Scouler.*

7. ECHIUM. L.

Cal. 5-partitus. *Cor.* infundibuliformis vel campanulata: fauce ampliata nuda. *Limbi* laciniis in plurimis inæqualibus. *Nuces* 4, uniloculares, turbinatae, gigartoideae, scabrae, fundo calycis affixae, basi imperforatae.

1. *E. Menziesii*; caule herbaceo erecto retrorsum hispido, foliis sessilibus acutis hispidissimis, inferioribus angusto-lanceolatis, superioribus ovato-lanceolatis, racemis multifloris imbricatis hispidissimis, staminibus corolla parva subtubulosa multo brevioribus.—*Lehm. Pugil. II. p. 29.*

Radix simplicissima. *Caulis* herbaceus, erectus, angulatus, sulcatus, retrorsum hispidissimus, 1½-pedalis, ramosus. *Folia* sessilia, obscure 3-nervia, undique o punctis callosis hispidissima. *Radicalia* et *caulina inferiora* angusto-lanceolata (3 poll. longa, 4 lin. lata) acuta, integerrima: superiora ovato-lanceolata.

Racemi caulem et ramos terminantes, solitarii, multiflori, secundi, ebracteati, hispidissimi, ante anthesin revoluti. *Calyces* hispidissimi, 5-partiti; laciniis linearibus, æqualibus. *Corolla* subtubulosa, glabra, flavescens? *Tubus* cylindricus, calyce dimidio longior, apice paulo inflatus. *Limbus* erectus, 5-lobus, inæqualis: lobis tribus reliquis duplo latioribus. *Filamenta* brevissima, æqualia, versus basin tubi inserta. *Stylus* filiformis, glaber, longitudine staminum: stigmate capitato. *Noces* 4, incurvæ, ovatæ, trigonæ, rugosissime.

HAB. N.W. Coast of America. *Mr. Menzies*.

[Obs. I have received *Lycopsis Europæa*, *Borago officinalis*, and *Symphytum officinale*, from Canada, gathered by Mrs. Percival, but I fear they cannot be considered natives.

ORD. LXV. SOLANÆÆ, *Juss.*

1. SOLANUM. *L.*

Cal. 4-5-rarius 10-fidus. *Cor.* subrotata, plicata, 4-5-rarius 10-fida. *Anthera* conniventis, apice poro gemino dehiscentes (interdum inæquales.) *Bacca* subglobosa, 2-(rarius 3-4-)locularis.—*Herbæ* v. frutices *inermes* v. *aculeati*. *Folia indivisa* v. *lobata*, nunc *imparipinnata*. *Inflorescentia varia*, sæpius *extra-axillaris*. *Br.*

1. *S. nigrum*; inerme herbaceum, foliis ovatis repandis, corymbis subumbellatis pedunculatis lateralibus nutantibus.—*L.—Ph. Am.* v. 1. p. 156. *Ell. Car.* v. 1. p. 80. *Torr. Fl.* v. 1. p. 235. *Hook. et Arn. in Bot. of Beech. Voy.* v. 1. p. 152.

HAB. Canada to Hudson's Bay and the Saskatchewan. *Dr. Richardson. Drummond.* N.W. America. *Douglas. Scouler.*—This is called var. *Virginicum* by the American Botanists; but it seems to differ in no respect from the European plant of the same name.

2. *S. triflorum*; inerme herbaceum procumbens, caule hirsuto, foliis lato-lanceolatis pinatifidis segmentis ovatis acutis, pedunculis lateralibus bi-trifloris hirsutis.—*Nutt. Gen. Am.* v. 1. p. 128.—*α. major*; foliis glabris.—*β. minor*; foliis subtus hirsutis.

HAB. *α.* About Carlton House Fort. *Dr. Richardson.* *β.* In the Garden (a weed) of Carlton House Fort, and entrance of Badger's Hole, and thence to Edmonton House. *Drummond.*

2. PHYSALIS. *L.*

Cal. 5-fidus. *Cor.* subrotata. *Stam.* basi corollæ inserta. *Anthera* longitudinaliter dehiscentes. *Bacca* bilocularis, calyce inflato colorato tecta.

1. *P. Pennsylvanica*; herbacea pubescenti-villosa, foliis ovatis subcordatis repandodentatis, floribus pedunculatis subsolitariis nutantibus, calycibus hirsuto-viscosis.—*L.—Ph. Am.* v. 1. p. 157. *Torrey, Fl.* v. 1. p. 234. *Ell. Car.* v. 1. p. 273.—*P. viscosa. Jacq.*

HAB. Lake Huron (plentiful). *Dr. Todd.*

2. *P. grandiflora*; herbacea pubescenti-viscosissima, foliis (inferioribus præcipue) longe petiolatis ovato-lanceolatis acuminatis margine undulatis, pedunculis subsolitariis, floribus magnis albis nutantibus, calycibus fructiferis globosis.

HAB. Sandy banks of the Saskatchewan, (sparingly). *Drummond.* Near old encampments where fires have been made, on the shores of Lake Winnipeg (*Dr. Richardson*), and Red River (rare). *Douglas.*—I

cannot find the description of any species which corresponds with this. It is remarkable for the great size and white colour of its flowers, which are nearly an inch broad. The whole plant is exceedingly viscid. A bad specimen, apparently of the same species, is found by Mr. Sheppard at Port au persil, below Murray Bay, Canada, and sent to me as *P. lanceolata*, from which, however, I consider it perfectly distinct.

3. NICOTIANA. L.

Cal. tubulosus, 5-fidus. *Cor.* infundibuliformis v. hypocrateriformis, limbo 5-fido. *Stigma* capitatum. *Caps.* bilocularis apice 4-fariam dehiscens.—Herbæ v. suffrutices. Flores terminales, racemosi. Br.

1. *N. nana*; 2-3-uncialis, foliis lanceolatis pilosis, radicalibus quam flores solitarii longioribus, corolla calyce longiore, laciniis obtusis.—*Lindl. in Bot. Reg. t. 833.*

HAB. N.W. America. *A. Menzies, Esq. (Herb. nostr.)* Rocky Mountains. *W. Bird, Esq.*—A singularly dwarf and almost stemless species, originally discovered by the excellent Menzies.

2. *N. quadrivalvis*; annua, caule humili erecto diffuse ramoso, foliis lanceolatis breviusculis acutis sessilibus nunc basi auriculatis, calycibus campanulatis tubo corollæ paululum brevioribus subinflatis clausis segmentis acuminatis, corollæ limbo patente planiusculo segmentis acutis, capsula globosa 4-valvis. *Nutt.—Ph. Am. v. 1. p. 141. Nutt. Gen. v. 1. p. 132.*

HAB. Mr. Nuttall was informed that it grew spontaneously on the banks of the Columbia, but probably the following species was there taken for it, if, indeed, the two be really distinct. Pursh gives the present as an inhabitant of the Missouri, and of the Mandan and Ricara Rivers, on the authority of Lewis' Herbarium. The foliage yields an excellent tobacco, but the most delicate kind is prepared by the Indians from the dried flowers. (*Ph.*)

3. *N. multivalvis*; herbacea viscido-pilosa, foliis lanceolatis inferioribus petiolatis, floribus axillaribus solitariis, calyce multipartito, capsula multiloculari, corollæ laciniis obtusis alte venosis.—*Lindl. Bot. Reg. t. 1057.*

HAB. Abundant within the recesses of the Rocky Mountains, and westward to the Pacific Ocean, in all dry light soils, *Douglas*, who further observes that it is greatly esteemed by the different tribes for smoking, and is the only vegetable which the natives of the Columbia cultivate.

[Obs. I have received the *Hyoscyamus niger* from Canada, sent by Mrs. Percival. It is doubtless an imported plant.]

ORD. LXVI. OROBANCHEÆ. Juss.

1. OROBANCHE. L.

Cal. bracteatus, varius. *Cor.* ringens; *labium* sup. integrum v. bilobum: *inf.* trifidum, laciniis subæqualibus. *Stamina* basi planiuscula: *Antheræ* biloculares. *Stigma* sæpissime bilobum. *Caps.* unilocularis, bivalvis, placentifera, placentis 2 v. 4. *Semina* numerosa rugosa.—Plantæ *aphyllæ plerumque parasiticæ.*

* *Calyx* cyathiformis, 3-dentatus. *Antheræ* basi obtusæ facie anteriori dehiscentes. *Placentæ* 2.—BOSCHNAJAKIA. Bunge.

1. *O. glabra*; glaberrima, caule squamato basi incrassato reticulato, squamis cordatis

acutis (siccitate) intense fuscis opacis, calyce cyathiformi obliquo tridentato, corollæ tubo inflato, labio superiore elongato integro, inferiore abbreviato obscure trilobo. (TAB. CLXVII.)—*Boschnajakia glabra*. Bunge, in *Herb. nostr.*—*Stellara lathræoides*. Fisch. in *Herb. nostr.*

HAB. N.W. Coast of America. *Mr. Menzies (Herb. nostr.)* Great Slave Lake to Fort Franklin on the Mackenzie River. *Dr. Richardson*.—This, and the following, with *O. Americana*, L. (which I possess from various parts of the United States, and from Mexico,) doubtless constitute a good genus, *Boschnajakia* of Bunge: but I regret I do not know where that author has described it. His specimens from Eastern Siberia are precisely the same as those gathered by Mr. Menzies and Dr. Richardson, and are remarkable for the very imperfect lower lip of the corolla, by which the species is at once distinguished from *O. Americana*, as well as from the following.

TAB. CLXVII.—*Fig. 1*, Fruit; *fig. 2*, Side view of a flower; *fig. 3*, Calyx; *figs. 4 and 5*, Fruit:—*magnified*.

2. *O. tuberosa*; glaberrima, caule squamato basi tuberoso, squamis ovatis acuminatis (siccitate) intense fuscis opacis, tubere reticulato areolis tuberculiformibus pentagonis, spica densa, floribus unibracteatis, calyce cyathiformi obliquo 3-dentato, corolla tubulosa bilabata, labiis erectis, superiore ovato integro, inferiore 3-lobo brevior, lobis ovali-oblongis obtusis erectis. (TAB. CLXVIII.)

Parasitica. *Caulis* erectus, simplex, digitalis et ultra, squamosa, basi in bulbum reticulatum incrassatum squamis laxiusculis fusco-nigrescentibus. *Flora* in spicam elongatam congesti erecti, paululum curvati. *Stamina* inclusa. *Filamenta* basi barbata. *Antheræ* ovate, erectæ, apiculatæ, facie anteriori dehiscentes, rimis longitudinalibus superne junctis. *Germen* ovali-subrotundum; *Stylus* supra curvatus. *Stigma* subquadriobum.

HAB. N.W. Coast of America. *A. Menzies, Esq.*—This is remarkable for its decidedly tuberous roots, and by that character, as well by the very dark brown opaque (not pale brown and shining) scales of the stem, it may readily be known from the *O. Americana*, L., which has not, I believe, yet been detected in British North America.

TAB. CLXVIII.—*Fig. 1*, Side view of a flower; *fig. 2*, Front view of do.; *fig. 3*, Pistil; *fig. 4*, Stamen; *fig. 5*, Back view of an anther; *fig. 6*, Front view of do.:—*magnified*.

* * *Calyx plerumque 5-fidus. Antheræ basi acuminatæ, lateraliter dehiscentes. Placentæ 4.*—OROBANCHE VERA.

3. *O. Ludoviciana*; pubescenti-glandulosa, caule brevi simplici v. subramoso, spica elongata densiflora, calyce inæquali profunde 5-fido bibracteato laciniis linearibus, corollæ intus extusque pubescentis tubo elongato curvato, labiis subæqualibus, sup. bifido inferiore trifido, lobis acutiusculis, staminibus inclusis.—*Nutt. Gen. v. 2. p. 58.*

HAB. Plains of the Saskatchewan (rare.) *Drummond*. New Caledonia. *Douglas*.—Mr. Drummond met with the same plant in Texas, (1st Coll. n. 69). Mr. Douglas' specimens are taller, more generally branched, and more hoary with down: the calyx is often 6-cleft, the upper lip of the corolla sometimes nearly entire; but I do not see that they are otherwise different from those of the eastern side of the Rocky Mountains.

* * * *Caulis fasciculatim ramosus, floribus solitariis (non spicatis) ebracteatis.*—FASCICULATÆ.

4. *O. comosa*; pubescens, caule brevi densissime fasciculatim ramoso, ramis squamosis,

calyce 5-partito ebracteato laciniis subulatis, corollæ tubo longe exserto curvato labiis elongatis recurvis, superiore oblongo bifido, inferiore tripartito laciniis lineari-oblongis apice bidentatis, antheris pilosis. (TAB. CLXIX.)

HAB. Banks of the Columbia. *Douglas, Dr. Scouler, Dr. Gairdner*.—Stom short, with broad scales bearing copious fasciculated, or almost corymbose branches, which have subulate scales.

TAB. CLXIX.—*Fig. 1, Flower; fig. 2, Stamens; fig. 3, Pistil; fig. 4, Capsule;—magnified.*

5. *O. fasciculata*; pulverulento-pubescens, caule brevi fasciculatim ramoso, ramis seu pedunculis nudis unifloris, calyce 5-fido ebracteato lobis triangularibus acutis, corollæ tubo longe exserto curvato, labiis erectis concavis brevibus obtusis, superiore bifido, inferiore trifido lobis integris, filamentis glandulosis, antheris glabris. (TAB. CLXX.)—*Nutt. Gen. v. 2. p. 59.*

HAB. About Carlton House Fort on the Saskatchewan. *Dr. Richardson*. Columbia. *Dr. Scouler*.—Well distinguished from the following by Mr. Nuttall.

TAB. CLXX.—*Fig. 1, Flower; fig. 2, Stamen; fig. 3, Pistil;—magnified.*

6. *O. biflora*; pubescenti-glandulosa, caule brevissimo parce fasciculatim ramoso, ramis seu pedunculis valde elongatis nudis unifloris, calyce profunde 5-fido lobis subulato-acuminatis, corollæ tubo longe exserto curvato, labiis erecto-patentibus concavis, superiore bifido, inferiore trifido, lobis integris, filamentis inclusis glabris, antheris ciliatis.—*Nutt. Gen. v. 2. p. 59.*—*O. uniflora. L.—Mich.—Ph.—Ell.*

HAB. Canada. *Ph.* Newfoundland. *Miss Brenton.*

2. EPIPHEGUS. *Nutt.*

Polygama. *Cal.* abbreviatus, 5-dentatus. *Cor.* floris *sterilis* ringens, compressa, 4-fida, labio inferiore plano: floris *fertilis* minuta 4-dentata, decidua. *Caps.* truncata, obliqua, 1-locularis, subbivalvis hinc deliiscens.—*Aphylla, parasitica ad radices Fagi.*—*Nutt.*

1. *E. Americana. Nutt. Gen. Am. v. 2. p. 60.*—*O. Virginiana. L.—Mich. Ph. Ell.*

HAB. Canada. *Mr. Cleghorn, Mrs. Percival, Mrs. Sheppard.* New Brunswick. *Mr. Kendal.*

ORD. LXVII. SCROPHULARINEÆ. *Juss.*

TRIB. VERBASCEÆ. *Benth. in Bot. Reg. sub folio 1770.*

1. VERBASCUM.* *L.—Benth. l. c. n. 1.*

1. *V. Thapsus. L.—Ph.—Ell.—Bigel.—Torr.*

HAB. Canada. *Mrs. Percival.* Lake Huron. *Dr. Todd.* Saskatchewan. *Dr. Richardson, Drummond.*—Probably introduced; yet both Pursh and Torrey observe that it springs up in great abundance in

* A desire not to extend the present work beyond the two volumes announced in the prospectus, has induced me to omit the generic and specific characters, and particular references of well-known plants. Without such an arrangement, it would be impossible to include all the species, even of phænogamous plants, within the prescribed limits; the number having considerably accumulated since the commencement of the work.

newly-cleared lands, especially after the woods have been destroyed by fire, though not a plant had previously been seen within the compass of a hundred miles.

2. *V. Blattaria*. L.—Mich.—Pursh.—Ell.—Torr.

HAB. Lake Huron (abundant). Dr. Todd.

2. SCROPHULARIA. L.—Benth. l. c.

1. *S. Marylandica*. L.—Ph. Ell.—S. nodosa, var. Mich.

HAB. Canada. Mrs. Percival, &c., and thence to the Pacific. Douglas, Dr. Scouler.

TRIB. ANTIRRHINEÆ. *Chavannes*. Benth. l. c.

3. LINARIA. Tourn. Benth. l. c.

1. *L. vulgaris*. Mœnch.—Antirrhinum *Linaria*. L.—Nutt.—E. Bot. t. 658.

HAB. Canada, naturalized. Mrs. Sheppard. Mrs. Percival.

2. *L. Canadensis*; erecta glabra glauca, foliis linearibus obtusis, floribus racemosis, labio inferiore maximo palato obsoleto, calcare subulato, stolonibus procumbentibus.—Spreng.—Hook. Bot. Mag. t. 3473.—Antirrhinum Canad. L.—Ph.—Ell.

HAB. Canada. Ph. Plentiful in the swampy soils between Fort Vancouver and the Grand Rapids. Douglas.

TRIB. SALPIGLOSSIDEÆ. Benth. l. c.

4. COLLINSIA. Nutt.

Cor. basi supra gibba, limbo valde irregulari 5-fido. Caps. globosa, 4-valvis. Benth. l. c.

1. *C. grandiflora*; caule erecto, foliis lineari-oblongis basi angustatis, pedunculis verticillatis floribus brevioribus, corollæ laciniis dilatatis retusis, calyce glabro corolla duplo brevior.—Lindl. Bot. Reg. t. 1107.

HAB. Dry gravelly banks of the Columbia. Douglas. Dr. Scouler. Dr. Gairdner. Wallacet River. Mr. Tolmie.—Probably the *C. violacea* of Nutt., of which I possess specimens from the author, is not distinct from this. The form of the leaves, and shorter peduncles, will readily distinguish it from *C. verna*.

2. *C. pauciflora*; caule prostrato, foliis oblongo-lanceolatis infimis ovatis petiolatis, pedunculis axillaribus solitariis floribus multo longioribus, corollæ laciniis subacutis integris, calyce pubescente corollæ subæquali.—Lindl. Bot. Reg. t. 1082.

HAB. Moist places of the Columbia, from its source to the Pacific. Douglas. Dr. Scouler. Dr. Gairdner. Saskatchewan. Dr. Richardson. Lake Winipeg. Captain Back.

TRIB. DIGITALEÆ. Benth. l. c.

5. CHELONE. L.—Benth.

Cor. labium superius amplum concavum. Stamen quintum præsens sterile. Semina membranacea alata. Benth. l. c.

1. *C. glabra*; foliis ovato-lanceolatis inæqualiter serratis, floribus dense spicatis, corollæ limbo contracto.—L.—Mich. Ph. Nutt. Ell.—et var. β . lanceolata. Nutt.

HAB. α , and β . Canada. Newfoundland. Dr. Morison. New Brunswick. Mr. Kendal.

2. *C. ramosa*; foliis ovatis acuminatis serratis, superioribus amplexicaulibus cordatis, pedunculis nudis trifloris pubescentibus. *Dougl. in Bot. Reg. t. 1211.*

HAB. Mountain woods near springs and rivulets, N.W. America. *Douglas (Bot. Reg.)*

6. PENTSTEMON.* *L'Hérit. Benth.*

Cor. laciniæ subplanæ. Stamen quintum præsens sterile. Semina nuda. Benth. l. c.

1. *P. glandulosus*; elatus glanduloso-pubescentibus, foliis radicalibus ovatis grosse dentatis, caulibus cordatis acutis amplexicaulibus subintegerrimis, calyce capsulam glabram subæquante, corolla speciosa, filamentum rudimento glabro.—*Lindl. Bot. Reg. t. 1262.*

HAB. Undulating ground of Lewis and Clarke's River, near the Forks, among small stones (not common). *Douglas*.—Mr. Douglas' native specimens are in fruit. The flowers as shown in the Bot. Reg. are very large, and pale purple.

2. *P. serrulatus* (Menz. ms.); caule glabro, foliis omnibus argute serratis superioribus ovatis subhastatis, panicula bi-trifurcata, filamentum sterili barbato. *Sm. in Rees' Cycl. n. 5.*

HAB. N.W. Coast of America. *A. Menzies, Esq.*—My specimens of this are not very perfect; but it seems to have many characters in common with the following.

3. *P. diffusus*; caule ramoso, foliis ovato-oblongis glabris inæqualiter serratis, pedunculis axillaribus multifloris, calycibus turbinatis laciniis laceris aristatis. *Dougl. in Bot. Reg. t. 1132.*

HAB. Common on limestone Rocks of the Columbia at the Grand Rapids. *Douglas*.—Flowers numerous, large, purple.

4. *P. venustus*; caule suffruticoso erecto glabro, foliis sessilibus rectis ovato-lanceolatis acuminatis denticulatis glabris, floribus paniculatis, corollis ventricosis ciliatis, calycibus glaberrimis, antheris pilosis. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1309.*

HAB. Gravelly channels of rivulets near the Blue Mountains and near the source of the Wallawalla River.—This fine species, with large pale purple flowers, bears the name of *P. suffruticosus*, *Dougl. ms.* in my herbarium. Dr. Lindley points out its near affinity with *P. diffusus*, from which, he observes, it differs "caule magis erecto, foliis sessilibus longioribus rectoribus, corollæ colore obscuriore, calycibusque glaberrimis."

5. *P. glaucus*; caule herbaceo glabriusculo, foliis omnibus glaberrimis radicalibus lanceolatis petiolatis integerrimis denticulatisve, caulibus bracteisque ovato-lanceolatis sessilibus amplexicaulibus, panicula thyrsoides, corollis inflatis calycibusque extus glanduloso-pubescentibus, filamentum sterili porrecto barbato. (*Lindl.*)—*Grah. in James. Journ. July, 1829. p. 348. Bot. Reg. t. 1286.*—*P. gracilis. Bot. Mag. fol. 2945.* as to the description, not the figure.

HAB. According to Dr. Graham, the seeds of this were sent to Edinburgh by Dr. Richardson, from Mr. Drummond's collection; but it does not appear to exist in the Herbarium. By some misunderstanding, I

* Of this difficult, and now (mainly by the labours of Mr. Douglas) extensive genus, I gladly avail myself of the characters drawn up by Dr. Lindley, in the Bot. Reg., from living specimens of the majority of the species. The distinguishing marks are with difficulty recognisable in dried specimens.

was induced to believe that Dr. Graham's plant was the same as one of Mr. Drummond's, of which I then had a drawing, (*P. gracilis*, Nutt.) and I inadvertently gave Dr. Graham's description with that species. With *P. glaucus* I am entirely unacquainted, unless it be, as I cannot help suspecting, from the figure and the two lines of hairs described by Dr. Graham within the under lip, a variety of *P. pubescens*. Flowers varied with white and purple.

6. *P. ovatus*; herbaceus, floribus caule pedunculique glanduloso-pilosis, foliis cordato-ovatis amplexicaulibus glabris grosse dentatis, inferioribus longe petiolatis, corollis tubulosis, filamento sterili apice barbato basi unidentato.—*Dougl. in Bot. Mag. t. 2003.*

HAB. Grand Rapids of the Columbia. *Douglas*. Wallamet River. *Mr. Tolmie*.—Flowers moderately large, of a bright ultramarine blue.

7. *P. pruinosis*; foliis cæsiis, radicalibus petiolatis integris dentatisve, caulinis dentatis sessilibus, bracteis superioribus integris, floribus verticillatis, calycibus bracteisque villosis, corollis glabris calyce duplo longioribus, limbi laciniis rotundatis integris. (*Lindl.*)—*Dougl. Bot. Reg. t. 1280.*

HAB. Junction of the Oakanagan River, and on the high banks of the Columbia, near the Priest's Rapid. *Douglas*.—Flowers rather small, brilliant blue.

8. *P. Richardsonii*; caule herbaceo, foliis sessilibus pinnatifidis, calycibus glanduloso-pubescentibus, laciniis ovatis acutis, corollæ labio superiore bilobo, inferiore trilobo transverso, pedunculis racemosis bi-trifloris. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1121. Hook. Bot. Mag. t. 3391.*— β . minor.

HAB. On the Columbia and its tributary streams. *Douglas*.—Flowers large, purple.

9. *P. triphyllus*; herbaceus humilis, foliis ternis quaternisve glabris incisis, inferioribus oblongis, floralibus integerrimis, pedunculis bi-trifloris calycibusque arachnoideis, corollæ aciniis oblongis obtusis, labii inferioris æqualibus. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1246.*

HAB. Rocks of the River Wallawallah, near the base of the Blue Mountains, N.W. America. *Douglas*.—Flowers much smaller than the preceding, bluish purple.

10. *P. Scouleri*; suffruticosus, foliis obovato-lanceolatis serrulatis supremis integerrimis obtusis, floribus solitariis racemosis, corollis (speciosis) ventricosis serrulatis, antheris lanatis. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1277.*

HAB. N.W. Coast of America. *Menzies* in Herb. nostr. Rocks and mountains about the Kettle Falls, and near the sources of the Columbia. *Douglas*.—Flowers large, pale purple. In drying, the whole plant becomes black.

11. *P. deusatus*; caule subsimplici ascendente glabro, foliis inciso-serratis, radicalibus ovato-oblongis, proximis spatulatis, caulinis oblongis acutis sessilibus, supremis subintegris, calycibus glabris, limbi plani laciniis retusis supremis minoribus. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1318.*

HAB. Lewis and Clarke's River, between the Forks and its confluence with the Columbia, and at the junction of Spokan River. *Douglas*.—Flowers pale sulphur-yellow.

12. *P. confertus*; foliis integerrimis glabris, radicalibus spatulatis acuminatis longe pe-

tiolatis, superioribus sessilibus ovatis acuminatis, verticillis multifloris confertis subaphyllis, corolla calyce longiore. (Lindl.) Dougl. in Bot. Reg. t. 1260.

HAB. Mountain Pine woods, in dry sandy soils, between Salmon River and the Kettle Falls of the Columbia, and in the valleys of the Rocky Mountains, at an elevation of 7000 feet above the level of the sea. Douglas.—Flowers small, crowded, sulphur-yellow.

13. *P. procerus*; herbaceus, caule erecto stricto subsimplici, foliis lanceolatis integerrimis, inferioribus petiolatis superioribus sessilibus subconnatis, floribus verticillato-spicatis, calycis segmentis membranaceo-laciniatis mucronatis, filamentis sterilibus edentulis. —Dougl. in Bot. Mag. t. 2054. Grah. in Ed. Phil. Journ. July, 1829.

HAB. Plains of the Saskatchewan to the Rocky Mountains. Dr Richardson. Drummond. Banks of the Columbia, between Fort Vancouver and the Grand Rapids. Douglas.—Wahamet River. Dr Polak. —Habit of *P. confertus*, but the flowers are blue-purple, variegated with a redder tinge. Dr Douglas' specimens are very luxuriant, 2-3 feet high, those from the Saskatchewan 1 foot to 16 inches.

14. *P. attenuatus*; caule stricto apice piloso, foliis radicalibus ellipticis acutis petiolatis, superioribus ovato-oblongis amplexicaulibus sessilibus, omnibus glabris integerrimis, panicula stricta, calycibus corollisque pubescentibus, capsulis glaberrimis. (Lindl.) Dougl. in Bot. Reg. t. 1293.

HAB. Mountains of Lewis and Clark's River. Douglas.—Flowers moderately large, pale-yellow. —My specimens, however, under this name from Douglas, have decidedly purple flowers: and are perhaps rather referable to the following.

15. *P. acuminatus*; caule ascendente foliisque glabris valde glaucis, horum radicalibus ovato-oblongis longe petiolatis integerrimis subcordatis, caulinis bracteisque cordatis acuminatis sessilibus amplexicaulibus, fasciculis florum subsessilibus, sepalis acuminatis glaberrimis, corollis tubo infundibulari fauce inflata, limbi laciniis latis retusis. (Lindl.) Dougl. in Bot. Reg. t. 1285.— β , minor.—*P. nitidus*. Dougl. in Hook. Herb.

HAB. Barren sandy plains of the Columbia. Douglas.— β , Red Deer and Eagle Hills, and other dry places of the Saskatchewan and Assinaboine and Red Rivers. Dr Richardson. Douglas.—Flowers rather large, bright purple.

16. *P. pubescens*; caule pubescente erecto, foliis lato-lanceolatis lanceolatisve dentato-serratis infimis subspathulatis supremis basi subcordatis, panicula laxa erecta, pedunculis plurifloris, corollæ tubo elongato, labio superiore bifido brevioris, inferiore porrecto trilobulato filamentoque sterili apice dense fulvo-barbato. Ait. Hort. Kew. v. 2. p. 366. Mich. —Ph.— α , latifolius. Sims, Bot. Mag. t. 1424.— β , angustifolius.

HAB. Upper Canada. Lady Dalhousie. Lake Huron. Dr Todd.—Flowers white suffused with purple and red. I cannot distinguish the *P. levigatus* specifically from the present. Nuttall justly observes, that both are hairy (they have two bright yellow tufts) on the base of the lower lip within: as also has *P. glaucus*. Grah.

17. *P. gracilis*; caule erecto gracili, foliis magis minusve serratis glabris, inferioribus spathulatis caulinis lanceolatis basi subcordatis, panicula laxa stricta pubescente, pedunculis plurifloris, corollæ tubo elongato labio superiore bifido brevioris, inferiore porrecto

3-lobo intus nudo, filamento sterili fulvo-barbato.—*Nutt. Gen. v. 2. p. 522. Hook. Bot. Mag. t. 2945. (excl. descr. et syn. P. glauci.)*

HAB. Red River and the Saskatchewan. *Dr Richardson. Drummond. Douglas.*—Flowers long, purplish-blue, slightly tinged with green beneath.

18. *P. speciosus*; glaucus, glaber, foliis integerrimis; radicalibus spatulatis; caulinis lanceolatis subundulatis sessilibus, floribus verticillatim paniculatis, corollæ lobis subæqualibus rotundatis, rudimento glaberrimo. (*Lindl.*)—*Dougl. in Bot. Reg. t. 1270.*

HAB. On the high sandy banks of the Columbia, near Oakanagan, and on Spokane River. *Douglas.*—A splendid species, with very brilliant blue flowers slightly tinged with bluish.

19. *P. Tolmiei*; humilis herbaceus cæspitosus glaberrimus, foliis lanceolatis acutis subcoriaceis integerrimis marginatis sessilibus sub lente impresso-punctatis inferioribus petiolatis, verticillis florum racemosis densis, pedicellis plurifloris brevibus, corollis parvis, limbi laciniis acutis subæqualibus, capsulis fuscis calycem æquantibus.

HAB. Mt. Rainier, N. of the Columbia. *Mr Tolmie.*—A very distinct species, scarcely a span high, with woody horizontal roots, sending out copious fibres below, and above numerous tufted stems. The specimens are all in fruit: one withered corolla alone remaining, which is scarcely half-an-inch long, with acute segments to the limb. Inflorescence almost spicate.

20. *P. frutescens*; caule fruticoso, ramis angulatis superne pubescentibus, foliis lanceolatis obsolete denticulatis sessilibus glabriusculis, racemis terminalibus subcorymbose, filamento sterili longitudinaliter barbato. (*Ph.*)—*Lamb. in Linn. Trans. v. 1. p. 259. Ph. Am. v. 2. p. 428. Digitalis dasyantha. Pal. MS. (fide Lamb.)*

HAB. Unalaska. *Pallas.* North-west coast. *Lewis. (fide Pursh.)*—A most beautiful shrubby plant, with leaves 3-4 inches long and 1 inch broad. I know not to what particular part of the N.W. coast Lewis gathered it. Pallas is reported to have found it also in Kamtschatka; but notwithstanding I have received several collections from these three stations, I have never been so fortunate as to obtain a specimen; nor have I ever seen one.

21. *P. Menziesii*; fruticosus humilis vage ramosus, foliis glabris obovato-cuneatis obtusis coriaceis apicem versus serratis brevi-petiolatis, racemis terminalibus, floribus speciosis oppositis tubuloso-campanulatis.—*Gerardia fruticosa. Ph. Am. v. 2. p. 423. t. 18.*

HAB. Nutka. *A. Menzies, Esq.* In great abundance in the Pine forests of the Rocky Mountains. *Lewis. (ex. Pursh.)* I am not sure how far Mr Lewis' stations for plants, as given in Pursh, are to be depended upon. Mr Douglas does not appear to have found this in any of the numerous Pine forests of the Rocky Mountains which he traversed; and my only specimens are from Nutka, where the fine species was gathered by Mr Menzies so long ago as 1788.—Flowers as large as in the preceding species.

22. *P. Douglasii*; fruticosus humilis, ramis subfastigiatis erectis, foliis glaberrimis obovato-lanceolatis acutis coriaceis integerrimis sessilibus, racemis terminalibus, pedicellis oppositis, capsulis nigrescentibus calyce paululum longioribus.

HAB. Blue Mountains of N.W. America. *Douglas.*—Allied to the last, but quite distinct. Leaves $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, almost black in drying, the old withered ones pale yellow-brown. Calycine segments ovato-lanceolate, slightly serrated, much paler than the dark-coloured capsules. There are no flowers on any of my specimens.

23. *P. Gairdneri*; fruticosus humilis minute puberulus, ramis subfastigiatis erectis strictis, foliis alternis lineari-spathulatis (supremis linearibus) coriaceis integerrimis sessilibus, racemis elongatis, pedicellis alternis (!) bracteatis, capsulis rufo-fuscis calyce concolori paululum longioribus.

HAB. Blue Mountains of N.W. America, where it was gathered by *Mr Douglas*, but communicated to me by *Dr Gairdner*.—The above four well-marked species constitute a very natural group of *Pentstemon*, or probably a distinct genus, of humble growth and with decidedly fruticose stems; the lower part quite woody. The present individual differs remarkably from the rest, in the leaves and pedicels being alternate; but the capsule is altogether that of *Pentstemon*, and the mode of growth similar to the preceding species. I have named it in compliment to *Dr Meredith Gairdner*, an accomplished naturalist and surgeon in the H. B. C. possessions on the Columbia, whence he has lately been obliged to visit the Sandwich Islands for the recovery of his health.

TRIB. GRATIOLEÆ. *Benth. l. c.*

7. MIMULUS. L.

1. *M. guttatus*, *De Cand.*—*Hook. et Arn. in Bot. of Beech. Voy. p. 152.*—*M. luteus. Ph. 1. p. 426. (excl. syn.) Curt. Bot. Mag. t. 1501.*

HAB. Moist woods, N.W.C. from California to Unalaska; and from the sea to the mountains.—This is readily known from the Chilian *M. luteus*, now common in our gardens, by the more copious flowers, of which the floral leaves are so small that they constitute a bracteated raceme, by the shorter peduncles and broader and more inflated calyx when in fruit.

2. *M. moschatus* (*Dougl.*); caule diffuso foliisque petiolatis ovatis dentatis glanduloso-villosis, pedunculis geminis foliis brevioribus, calycibus tubulosis fructiferis oblongis dentibus lanceolatis inæqualibus, corollæ limbo subæqualiter 5-lobo lacinia inferiore pubescente.—*Lindl. Bot. Reg. t. 1118.*

HAB. Moist springs about Fort Vancouver. *Douglas.*

3. *M. propinquus* (*Lindl.*): annuus, undique glanduloso-pubescentibus, caule decumbente tereti, foliis ovatis dentatis supremis sessilibus, pedunculis axillaribus folio brevioribus pubescentibus, corollæ lobis obtusis: fauce pubescente; tubo calyci æquali.—*Lindl. Bot. Reg. t. 1330.*

HAB. N.W. America, according to *Dr Lindley*, who considers it to have sprung from seeds sent by *Mr Douglas*; but there is no such plant in his Herbarium, nor among his notes, and it has so striking a resemblance with *M. parviflorus* from Chili (*Bot. Reg. t. 874*), that I cannot but suspect that there is some mistake as to its origin. *Mr Bentham* quotes the figure doubtfully under *M. glabratus*, *H. B. K.*, a native of Mexico.

4. *M. floribundus* (*Lindl.*); patenti-pilosus diffusus viscosus gracilis basi præcipue ramosus, foliis cordatis petiolatis dentatis, pedunculis axillaribus solitariis ex omnibus fere foliis iisque longioribus, calycibus ovatis 5-carinatis dentibus brevibus subæqualibus.—*Lindl. Bot. Reg. t. 1125.*— β minor. *M. peduncularis.* Dougl. Mt.*

* I may remark, that *Mr Bentham*, whose opinion is so important in this family, considers the *M. peduncularis* of *Dougl.* a good species, to which, in a note in his "Scroph. Ind." he gives the following character:—"pubescentibus humilis, foliis petiolatis ovatis subdentatis basi acutis rotundatisve, calycibus (parvis) ovato-tubulosis, dentibus brevibus acutis subæqualibus."

HAB. Moist rocks of the Columbia, towards the mountains. *Douglas*.

5. *M. alsinoides* (Dougl. mst.); *gracilis glaberrimus diffusus*, foliis omnibus petiolatis ovatis cordatisque sinuato-dentatis, pedunculis axillaribus unifloris folio duplo triplove longioribus, calycibus ovatis dentibus perbrevibus subæqualibus, corolla flava maculis purpureis.—*β. minimus*; caule subnullo 1-3-floro. *Benth. in Scroph. Ind. adnot. p. 29.*

HAB. N.W. Coast. *Menzies* (in *Herb. nostr.*). Tongue Point and other moist rocky places of the Columbia. *Douglas. Dr Scouler.*

6. *M. Scouleri*; *glaberrimus*, caule erecto basi ramoso, foliis petiolatis lanceolatis dentatis 5-nerviis floralibus brevioribus subovatis, pedunculis folio brevioribus, calycibus demum inflatis.

HAB. Columbia River. *Dr Scouler*.—There are no flowers to these specimens, but the leaves are very different from any of the preceding in shape, and very unlike the *M. ringens* in nervation and in the calyx.

7. *M. roseus* (Lindl.); *erectus, pubescenti-viscidus*, foliis ovato-acuminatis 5-nerviis sessilibus inferioribus præcipue dentatis subæqualibus, corollæ laciniis lato-oblongis obtusis subæqualibus.—*Lindl. Bot. Reg. t. 1591. Hook. Bot. Mag. t. 3353. M. Lewisii. Ph. Am. 2. p. 427?—β. glabrior.*

HAB. *β.* Mountains N. of the Smoking River (*Drummond*); apparently very rare, or too early for the blossoming, for there are only two specimens in the collection, and only one in flower; and these are more glabrous than Mr Douglas's specimens, which, as far as I know, were all gathered in California.—I think the *M. Lewisii, Ph.* is probably a dwarf state of this species.

8. *M. ringens*. L.—*Bot. Mag. t. 426. Ph. Am. 2. p. 426.*

HAB. Throughout Canada to the Saskatchewan.

9. *M. primuloides* (Benth.); *caule perbrevis parce hirsuto stolonifero subulato*, foliis sessilibus obovatis nervosis obscure dentatis glaberrimis, pedunculo elongato solitario terminali, calycibus tubulosis breviter dentatis.—*Benth. l. c. p. 29.*

HAB. N.W. Am. *Douglas* (last journey).—A very beautiful little plant, with a habit something like *Pyrola uniflora*.

8. GRATIOLA. L.

1. *G. Virginica*. L.—*Ph. Am. 1. p. 12.*

HAB. Canada. *Mrs Percival*. Lake Winipeg. *Dr Richardson*. Plains of the Red River; and sandy soil on the N.W. Coast. *Douglas*. Walla-Wallah River. *Tolmie*.

9. LIMOSELLA. L.

1. *L. aquatica*. L.—*E. B. t. 357.—L. subulata. Eat. Am. Bot.*

HAB. York Factory, Hudson's Bay. *Drummond*.—This is quite the same with our European plant. Eaton's *L. subulata*, according to specimens received from Mr Greene, only differs in its narrower leaves, in which state it is sometimes found in Europe.

TRIB. VERONICEÆ. Benth. l. c.

10. VERONICA L.—Benth.

1. *V. alpina*. L.—*E. Bot.* t. 484.— β . *Wormskioldii*; elatior simplex, foliis multo majoribus, calyce capsulaque glanduloso-hirsutis. *Hook. Bot. Mag.* t. 2975. var. *Unalaskensis*. *Cham. et Schlecht. in Linnæa*. v. 2. p. 556.—*V. Wormskioldii*. *R. et S.*

HAB. *M. Rainier*. N. of the Columbia R. *Mr Tolmie*.— β . Alpine Prairies of the Rocky Mountains. *Drummond*. Labrador. *Dr Morison*. Unalaska. *Chamisso*.—It is frequent in Greenland.

2. *V. nutans* (Bong.); corymbo terminali caule simplicissimo nutante, foliis sessilibus ovatis serratis acutiusculis, capsula subglabra calycem subæquante.—*Bong. Veget. de Sitcha*. p. 39.

HAB. Sitcha, N.W.C. *Bongard*.—The specimen which M. Bongard has kindly sent to me appears to differ from *V. alpina* β . only in being more glabrous, and in having the upper part of the stem drooping; but that author rather compares it with *V. Stelleri*, to which he says it is "maxime affinis, sed distincta caule semper nutante, corymbo paucifloro, floribus triplo minoribus, corolla intus glabra, capsula subglabra (nec pilosa), calycem vix superante (nec sequilongiore), stylo calyce multo brevior terminata."

3. *V. Stelleri* (Pall.); caule simplici hirsuto, foliis sessilibus cordatis serrato-crenatis obtusis, racemo brevi, bracteis crenatis pedicello brevioribus, calyce hirsuto.—*Link. in R. et S. Syst. Veg.* v. 2. *Mant. p.* 102. *Cham. et Schlecht. in Linnæa*. 2. p. 557.

HAB. Unalaska. *Chamisso*.—The habit and leaves are those of *V. Pona*, and the capsule similar to that of *V. alpina* β ., from which the foliage and longer style, and larger and more pedicelled flowers, will distinguish it.

4. *V. serpyllifolia*. L.—*E. B. t.* 1075. *Ph. Am.* 1. p. 11.

HAB. From Unalaska in the north, throughout British America (in the Rocky Mountains, becoming var. *humifusa*), and thence south, throughout the whole Continent of America, to the Falkland Islands.

5. *V. Beccabunga*. L.—*E. B. t.* 635. *Ph. Am.* 1. p. 11.

HAB. Canada to Norway House.

6. *V. Anagallis*. L.—*E. B. t.* 781 *Ph. Am.* 1. p. 11.

HAB. Throughout Canada, to the Rocky Mountains. *Drummond*. N.W.C. *Douglas*. Sitcha. *Bongard*.

7. *V. scutellata*. L.—*E. B. t.* 782. *Ph. Am.* 1. p. 11.

HAB. Canada to English River. *Dr Richardson*. Abundant in N.W. Am. *Douglas*. *Tolmie*.

8. *V. Chamdrys*. L.—*E. B. t.* 623.

HAB. Canada. *Mrs Sheppard*.—Scarcely indigenous.

9. *V. peregrina*. L.—*F. Dan.* p. 407. *Ph. Am.* 1. p. 11. *Cham. et Schlecht. in Linnæa*. 2. p. 559.

HAB. Throughout Canada to Mackenzie River. *Dr Richardson*. Common on the margins of lakes, and still streams in N.W. Am. *Douglas*. *Dr Scouler*.—This, like the *V. serpyllifolia*, extends over the whole of the New World, and I possess specimens from the extreme point of S. America, gathered by Mr Darwin. *Chamisso* and *Schlechtendal* refer to it, as synonyms, *V. Romana*. L., *V. Xalapensis*, *Chilensis*, and *Peruviana*. Humb., *V. Marylandica*. Murr., *V. Caroliniana*. Wall., and *V. carnosula*. Lam.

11. WULFENIA. *Jacq.*

Cal. 4-5-partitus. *Cor.* tubulosa subbilabiata, fauce hirsuta, labio superiore integro, inferiore 3-lobato. *Stam.* 2, labio superiorie adpressa. *Stylus* simplex; *stigmatē* obtuso. *Capsula* compressa, bivalvis, superne ad marginem utrinque dehiscens. *Semina* plurima. —*Herbæ foliis plerisque radicalibus petiolatis. Flores racemosi, bracteati.*

1. *W. reniformis* (Dougl. Mst.); foliis radicalibus longe petiolatis reniformibus crenatis, scapo bracteato laxo racemoso, calycibus 4-partitis longe ciliatis. (TAB. CLXXI) *Benth.* in *Scroph. Ind.* p. 46. (*in not.*)

Rhizoma perennis, repens, fibras copiosas emittens. *Folia* radicalia longe petiolata, coriaceo-membranacea, glabra vel pilis deciduis sparsis hirsuta, reniformia v. cordato-reniformia, crenata. *Petiolus* digitalis, glabra vel deciduo-pilosa. *Scapus* florifer longitudine foliorum, demum fructiferus elongatus, foliis subduplo longior, erectus, nudus vel nudiusculus. *Flores* in racemum laxum dispositi, bracteati, bracteis ovatis pedicello brevioribus. *Calyx* 4-partitus, laciniis ovato-lanceolatis acutis planis appressis longo ciliatis. *Corolla* calyce duplo longior, subinfundibuliformi-tubulosa, cærulea, limbo subbilabiato, labio superiore integro, inf. 3-lobato, lobis subæqualibus. *Stamina* 2, fauci hirsuta inserta, filamentis subulatis exsertis. *Antheræ* magne, dorso affixæ, biloculares. *Ovarium* subglobosum compressum. *Stylus* filiformis, tubo corollæ brevior. *Stigma* obtusum. *Capsula* elliptica nigra membranacea obscure reticulata compressa, bilocularis; superne ad marginem utrinque dehiscens, ut in *Veronicis* plerisque. *Dissepimentum* e marginibus introflexis valvarum recte coherentibus.

HAB. Common about the Grand Rapids of the Columbia, and in the valleys of the Blue Mountains. *Douglas.* Woods N.E. of Fort Vancouver. *Dr Gairdner.*—A genus differing in habit, but in fructification nearly allied to *Veronica*.

TAB. CLXX. WULFENIA RENIFORMIS.—*Fig. 1,* Flower; *f. 2,* the same laid open; *f. 3,* Capsule; *f. 4,* Transverse section of do. below the middle:—*magnified.*

12. GYMNANDRA. *Pall.*

Calyx bipartitus, spathaceus v. 0. *Cor.* labium superius integrum: inferius 2-3-partitum. *Stam.* 2 ad basin labii superioris, exserta. *Capsula* bilocularis, “loculis monospermis.”—*Herbæ siccitate nigricantes. Folia radicalia petiolata, caulina superiora bracteiformia. Flores spicati densi, bracteati.*

1. *G. Gmelini* (Cham. et Schl.); foliis radicalibus subrotundo-aut elongato-ovatis basi parum attenuatis obtusiusculis grosse inæqualiter crenatis, staminibus labio superiore duplo brevioribus, stylo illo brevior. *Linnaea*, 2. p. 561.—*G. ovata.* *Willd. Mag. Ges. Nat. t. 10. f. 8.*—*G. reniformis.* *Willd. l. c.*—*G. borealis, var. Pall.*—*Lagotis glauca.* *Gartn.*—*Bartsia Gymnandra.* *Willd.—Ph. Am. 2. p. 430.*

HAB. Unalaska. *Chamisso.*—Whole plant very glabrous, succulent, and thick. If this is really the plant of Lewis, mentioned by Pursh, it is also found in the Columbia.

2. *G. Stelleri* (Cham. et Schlecht.); foliis radicalibus oblongis utrinque infra vero magis attenuatis acutis inæqualiter obtuse serratis, staminibus fere longitudine labii superioris, stylo illo longiore.—*Linnaea*, 2. p. 563. *Hook. et Arn. in Bot. of Beech. Voy. p. 128.*—*G. minor, G. dentata et G. gracilis.* *Willd. l. c. p. 393, et seq. t. 9.*—*G. borealis. Pall.*

HAB. Bay of St Lawrence. *Chamisso.* Coast of the Arctic Sea. *Dr Richardson.* Immarook, Kotzebue's Sound. *Lay and Collie.*—Glabrous like the last.

3. *G. rubra* (Dougl. mst.); foliis radicalibus longe petiolatis late ovatis subcordatis obtusis profunde duplicato-crenatis, caulinis minoribus superioribus sessilibus sensim in bracteis ovatis abeuntibus, spica gracili densa tota lanato-hirsuta, calycibus nullis, corollis parvis, staminibus styloque longe exsertis. (TAB. CLXXII)

Raciz e fibris crassiusculis, simplicibus, descendentibus. *Caulis* erectus, pedalis, foliosus, simplex, superne præcipue tomentosus. *Spica* elongata, bracteata. *Bractea* flore longiores, inferiores majores, lanatæ. *Calyx* omnino nullus. *Corolla* parva, subcoriaceo-carnosa, rubra? extus intusque hirsuto-lanata; tubo brevi, limbo profunde quadripartito, lacinia superiore majore; 3 inferioribus minoribus inæqualibus omnibus erectiusculis. *Stamina* 2, longe exserta. *Filamenta* glabra. *Anthera* magnæ. *Ovarium* ovatum lanatum. *Stylus* gracilis stamina superans. *Stigma* obtusum.

HAB. Banks of M'Gillivray's and Flathead Rivers, near the Kettle Falls of the Columbia, and in the valleys of the Rocky Mountains. *Douglas*.—The absence of a calyx, the succulent nature of the corolla, together with its small size and very short tube, might perhaps justify the making a new Genus of this plant; but its habit is entirely that of the other *Gymnandra*, and till we are acquainted with the fruit, I prefer leaving it where its discoverer had placed it. The petioles, and even the leaves themselves, are partially clothed with deciduous hairs.

TAB. CLXXI.—GYMNANDRA RUBRA.—Fig. 1, Bractea; fig. 2, Corolla; fig. 3, Pistil:—magnified.

13. ? ROMANZOFFIA. Cham.

Cal. 5-fidus, inferus persistens. *Cor.* hypocrateriformis, decidua. *Filamenta* imo tubo inserta. *Stigma* simplex. *Caps.* ovata, obtusa, bivalvis, bilocularis, dissepimento valvulis contrario, polysperma. *Cham.*

1. *R. Unalascchensis* (Cham.); hirsuto-lanata, foliis longe petiolatis reniformi-cordatis profunde 5-rarius 7-lobis, floribus subcapitatis, pedicellis flore brevioribus post anthesin erectis, calycibus capsulam superantibus.—*Hor. Phys. Ber. p. 71. t. 14. De Cand. Prodr. v. 1. p. 319. Cham. et Schlecht. in Linnæa. 2. p. 608.*

HAB. Unalasccha and islands in Behring's Straits. *Chamisso. Langsdorff*.—I am not aware that any of our British Naturalists have gathered this species.

2. *R. Sitichensis* (Bong.); parce pilosa, foliis longe petiolatis reniformibus sub-9-lobatis, floribus laxè racemosis, pedicellis flore longioribus demum subpatentibus, calycibus capsulam duplo brevioribus.—*Bong. Veg. de Sitcha. p. 40. t. 4.*— β . *gracilis*; triplo minor.

HAB. Sitcha. *Bongard.* Fort Vancouver (*Mr Garry*) and Observatory Inlet. *Dr Scouler*.— β . Trinidad, N.W. America. *Mr Menzies*.—A larger and very different species from the preceding, having smaller flowers, very slender pedicels much elongated in fruit, and a calyx only half the length of the capsule. Mr Menzies was certainly the first to discover and distinguish this curious genus, and his original specimens and very accurate description are in my possession. I am aware that Mr Bentham does not consider this genus to belong to *Scrophularineæ*, and that Choisy is disposed to refer it to *Hydroleaceæ*, whilst *Mr Don* makes of it, and *Sibthorpia*, a separate Order, *Sibthorpiaceæ*: but in habit it so much resembles the *Veronica* group of the present Order, and the capsule and whole aspect have so striking an affinity with our *Wulfenia reniformis*, that I prefer for the present to place it here, notwithstanding the regular corolla and five stamens.

TRIB. GERARDIÆ. *Benth.*14. GERARDIA. *L.*

1. *G. purpurea* (L.); foliis linearibus acutiusculis planis margine scabris, floribus breviter pedunculatis, calycibus subnerviis dentibus acutis tubo dimidio brevioribus, corollis glabris ample campanulatis, basi breviter tubulosis. *Benth. Syn. Gerard. in Hook. Comp. to B. Mag.* 1. p. 208.—*Ph. Am.* 2. p. 422.

HAB. Lake Huron, *Dr Todd*, to the Saskatchewan. *Drummond*.

2. *G. longifolia* (Nutt. *Tr. Am. Ph. Soc.* 5. 180.); foliis anguste linearibus margine scabris, floralibus flores superantibus, pedunculis calyce multo longioribus, calycibus subnerviis dentibus lanceolatis acutis tubo vix brevioribus, corollis glabris ample campanulatis basi breviter tubulosis. *Benth. l. c. p.* 208.—*G. aspera. Dougl. Ms.*

HAB. Pastures of the Red River, *East*, not on the "*West*," side (*Benth.*) of the Rocky Mountains. *Douglas*.—Plant more scabrous than the preceding; leaves narrower, peduncles much longer, and flowers larger.

TRIB. RHINANTHÆ. *Benth.*15. ORTHOCARPUS. *Nutt.*

Cal. tubulosus v. campanulatus, 4-fidus. *Cor.* bilabiata, clausa; *lab. sup.* minore compresso, marginibus inflexis; *inf.* concavo obsolete 3-dentato. *Antherarum loculi* tennes, mutici, inæquales. *Caps.* bilocularis, bivalvis, loculicide dehiscens. *Semina* marginata.

1. *O. bracteosus* (*Benth.*); caule duro pubescente, foliis lanceolatis apice lineari-trifidis, floribus spicatis, bracteis latis divaricato-trifidis rigidis, dentibus calycinis lanceolatis rigidis viridibus corollæ (purpurascens) tubo brevioribus. *Benth. in Scroph. Ind. in not. p.* 13.

HAB. N.W. Coast. Columbia and Puget Sound, *Douglas*; Wallamet. *Tolmie*.—1-2 feet high. Corollas rather large, broad at the upper end, much exserted, pale-purple.

2. *O. strictus* (*Benth.*); caule duro hispido, foliis lanceolatis integris trifidisve, floribus distantibus longe spicatis, bracteis divaricato-trifidis laciniis longe lanceolatis corollas superantibus, dentibus calycinis lanceolatis brevissimis viridibus, corollis (luteis) glabris, tubo longe exserto. (Tab. CLXXIII) *Benth. l. c. p.* 13.

HAB. Plains of the Saskatchewan and mountain Prairies. *Drummond*. Red River; and N.W. America, at Puget's Sound, and Mount St Helen's. *Douglas*.—A foot to a foot and a half high, simple, or slightly branched, very leafy. Flowers yellow, resembling those of *Melampyrum pratense*.—May this not be the original *O. luteus* of Nuttall? from the Mandan country.

TAB. CLXXII.—*Fig. 1*, Flower; *fig. 2*, Fruit enclosed in the calyx; *fig. 3*, Fruit burst open; *fig. 4*, Seed:—*magnified*.

3. *O. hispidus* (*Dougl.*); subramosus, piloso-hispidus, foliis e basi lanceolata longe subtrifidis laciniis lineari-subulatis, floribus distantibus, bracteis viridibus corollas superantibus, calycis dentibus lineari-setaceis viridibus corollæ (flavescentis) tubo glabro brevioribus. *Benth. l. c. p.* 13.

HAB. Common on the low mostly grassy plains of the river Columbia. *Douglas*.

4. *O. tenuifolius* (Benth.); piloso-pubescent, foliis 3-5-fidis laciniis lineari-subulatis, floralibus latissimis incisiss, floribus dense spicatis dentibus calycinis brevibus subulatis. *Benth. l. c. p. 12.*—*Bartsia tenuifolia. Ph. Am. 2. p. 429.*

HAB. N.W. Coast. *Mr Menzies.* Mounts Hood and St Helen's, and in the valleys of the Rocky Mountains. *Douglas.*

16. CASTILLEJA. *Mut.*

Cal. tubulosus compressus hinc fissus. *Cor.* tubulosa compressa bilabiata; *lab. sup.* lineari canaliculato; *inf.* brevissimo dentato. *Antherarum loculi* tenues mutici inæquales. *Caps.* ovata compressa. *Sem.* membrana reticulata laxa obtecta.

1. *C. coccinea* (Kunth); pilosa, foliis plerisque incisiss calycibus utrinque fississ segmentis latis integris retusiss corollam subæquantibus vel vix brevioribus. *Benth. ms.*—*Euchroma coccinea. Nutt.*—*Bartsia cocc. L.*—*Ph. Am. 2. p. 429.*— β . bracteis lutescentibus. *Ph. l. c.*

HAB. Throughout Canada to the Saskatchewan.

2. *C. hispida* (Benth. ms.); piloso-hispida, foliis plerisque incisiss calycibus utrinque præsertim infra fississ segmentis apice bifidiss laciniis oblongo-linearibus corolla parum brevioribus. *Benth.*—*C. coccinea. Dougl. ms. and Lindl. Bot. Reg. t. 1136.*

HAB. Common on dry soils of the N.W. Coast, especially about Fort Vancouver. *Douglas. Dr Scouler. Tohnie. Dr Gairdner.*—This western plant seems to me scarcely to differ from *C. coccinea*, except in being more villous, rather than hispid. Bracteis sometimes full yellow, as is the case with the preceding. Mr Bentham remarks (ms.): "Flowers of *C. pallida*; foliage of *C. coccinea*. Nearly allied to this is the *C. parviflora, Bong. Veg. de Sitch. p. 40,*" but of which no specific character is given; there is however the observation, "valde affinis *C. coccinea*, a qua autem tam habitu quam floribus duplo minoribus differt." The author has kindly sent me specimens, but the flowers do not appear to be fully developed.

3. *C. septentrionalis* (Lindl.); pilosa v. rarius glabrata, foliis plerisque incisiss calycibus utrinque præsertim infra fississ segmentis apice bifidiss laciniis ovatis corollam æquantibus. *Benth. Lindl. Bot. Reg. t. 925.*—*Bartsia pallida. Mich. Ph. et auct. Am. Sept.*

HAB. Rocky Mountains. *Drummond.* Arctic Sea-Coast. *Dr Richardson.* N.W. Coast. *Douglas* (last journey).—The species of this genus are liable to much variation, and their essential characters difficult to be determined; hence there is much confusion among authors. Chamisso and Schlechtendal consider the *C. septentrionalis* of Lindley, and the European *pallida* (Lindley's *Sibirica*) to be identical. I will not attempt to decide the point from dried specimens, where the flowers cannot satisfactorily be examined, but content myself with Mr Bentham's definitions, made from our own specimens.

4. *C. pallida* (Kunth); glabra tomentosa vel apice pilosa, foliis caulinis plerisque integris, calycibus utrinque præsertim infra fississ segmentis apice bifidiss, laciniis oblongis linearibus corollam æquantibus v. vix brevioribus. *Benth.*—*Hook. et Arn. in Bot. of Beech. p. 128.*—*C. Sibirica. Lindl. Bot. Reg. t. 925 (in descr.)*—*Bartsia pallida. L. et auct. Europ.*—*Bartsia acuminata. Ph. l. c.*

HAB. Pastures of the Rocky Mountains; and throughout Canada to Hudson's Bay and Fort Franklin on the Mackenzie River. *Drummond. Dr Richardson.* N.W. Coast, to Behring's Straits. *Chamisso. Men-*

zies. *Tolmie*. Labrador. (*Ph.*)—Extremely variable in size, in the width and incision of the leaves and bractæ, and in the colour of the latter: so that I fear the following is scarcely a distinct species. Probably Pursh's *Bartsia acuminata* is only a narrow-leaved state of the present.

5. *C. miniata* (Dougl. mst.); glabra v. apice pilosa, foliis caulinis integris calycibus utrinque præsertim infra fissis, segmentis apice bifidis laciniis lanceolatis oblongisve corollæ tubum vix æquantibus. *Benth.*

HAB. Blue Mountains, N.W. America. *Dougl. Tolmie*.—"The flower, though generally altogether shorter than in *C. pallida*, has yet usually the whole upper lip exserted from the calyx."

17. EUPHRASIA. L.

1. *E. officinalis*. L.—*E. Bot. t. 1413. Ph. Am. 2. p. 430.*— β . var. *rotundifolia*, laxiflora.—*E. latifolia. Ph. l. c. (non L.)*

HAB. Canada and Newfoundland, to lat. 64° N. (*Dr Richardson.*) β . Prairies of the Rocky Mountains. *Drummond.*

18. BARTSIA. L.

1. *B. alpina*. L.—*E. Bot. t. 361. Ph. Am. 2. p. 430.*

HAB. Labrador. *Kohmeister. Dr Morison.*

19. RHINANTHUS. L.

1. *R. Crista Galli*. L.—*E. Bot. t. 637. Ph. Am. 2. p. 429.*

HAB. Newfoundland, and throughout Canada, to the shores of the Slave Lake, and to Fort Franklin. (*Dr Richardson.*) Prairies of the Rocky Mountains. *Drummond.* Fort Vancouver on the Columbia. *Dr Scouler.*

20. MELAMPYRUM. L.

1. *M. sylvaticum*. L.—*E. Bot. t. 804.*—*M. Americanum. Mich.*—*M. lineare. Lam.*—*Ph. Am. 2. p. 430.*

HAB. From Lake Huron, and throughout Canada, to the plains of the Saskatchewan. *Dr Richardson. Drummond.*—I quite agree with Mr Bentham, who considers this plant identical with our European *M. sylvaticum*; varying, however, much in the breadth of the foliage, and in the entire or toothed bractæ.

21. PEDICULARIS. L.

§ I. PERSONATE. *Stev.*—*labio inferiore erecto.*

1. *P. capitata* (Adams in *Mem. Nat. Cur. 5. p. 100*); subpubescens, caule brevi subaphyllo, foliis pinnatis pinnis inciso-pinnatifidis, floribus paucis capitatis, corolla calyce quadruplo longiore corollæ clausæ labio inferiore duplo brevior, galea obtusa, stylo exserto. *Stev. Monogr. Pedicul. in Mem. Soc. Imp. Mosc. v. 6. p. 19. t. 3. f. 2.*—*P. Nelsonii. Br. in Rich. App. p. 743. Hook. in App. to Parry's Second Voy. p. 402. t. 1.*—*P. verticillata. Ph. Am. 2. p. 426. (non Willd.)*

HAB. Arctic Sea-shore and Islands. *Dr Richardson. Capt. Sir E. Parry. Behring's Straits. Langsdorff. Chamisso. Beechey.*

2. *P. lanceolata* (Mich.); caule erecto folioso, foliis oppositis lanceolatis duplicato-inciso-crenatis, floribus dense spicatis, corollæ clausæ (calyce triplo longioris) labiis subæqualibus, galea subrostrata. *Ph. Am.* 2. p. 425. *Stev. l. c. p. 18. t. 4. f. 2.*—*P. Virginica. Poir.*—*P. pallida. Nutt.*— β . corolla brevior.

HAB. Canada. *Mr Goldie.*— β . St Clair Bay, Upper Canada. *Mr J. M. Nab.*—Upper Canada is probably the northern limit of this fine species.

§ II. VERTICILLATÆ. *Stev.*—*foliis quaternis.*

3. *P. Chamissonis* (Stev.); glaberrima erecta simplex, foliis quaternis pinnatifidis inciso-serratis, floribus verticillatis in spicam interruptam, corollæ galea uncinata. *Stev. l. c. p. 20.*

HAB. Unalashka. *Langsdorff and Chamisso. (Herb. nostr.)*.

4. *P. verticillata* (Linn.); foliis quaternis pinnatifidis laciniis obtusis, floribus verticillato-spicatis, corollæ galea recta obtusa labium inferius subæquante, calyce quinque-dentato. *Stev. l. c. p. 24. Cham. et Schlecht. in Linnæa, 2. p. 582. Hook. et Arn. Bot. Beech. p. 128.*

HAB. Kotzebue's Sound. *Beechey. Chamisso. Sitcha. Bongard.*

§ III. FAUCIDENTES. *Stev.*—*Cor. lab. sup. utrinque infra med. dentato.*

5. *P. Wlassowiana* (Stev.); corollæ labio superiore antice rectilineo, denticulo infra medium. *Stev. l. c. p. 27. t. 9. f. 1.*—*P. macrodontis. Rich. App. p. 24.*—*P. palustris. Hook. et Arn. Bot. Beech. p. 128.*

HAB. Plains of the Saskatchewan; and York Factory, Hudson's Bay. *Dr Richardson. Drummond. N. W. Coast. Mr Menzies.* Kotzebue's Sound. *Beechey.*—"Readily distinguished from *P. palustris* by the smaller flowers, without any tooth at the apex, but only one on each side, near the base." (*Benth.*) Mr Bentham also remarks that probably Wahlenberg's Swedish, and Chamisso's N. American *P. palustris*, belong to this species, as is certainly the case with Dr Arnott's and my "*P. palustris*," from Kotzebue's Sound. On the other hand, Turczaninow's Dahurian specimens, under the name of *P. Wlassowiana*, are a var. of *P. palustris*.

6. *P. palustris* (Linn.); corollæ labio superiore denticulo infra medium, galea dilatata gibba. *Stev. l. c. p. 28. E. Bot. t. 399.*— β . parviflora. *Benth. mst.*

HAB. Newfoundland. *Dr Morison.*— β . Carlton House Fort. *Dr Richardson.*

§ IV. ROSTRATÆ. *Stev.*—*Cor. lab. sup. basi edentulo, rostrato.*

7. *P. surrecta* (Benth. mst.); erecta glabra, foliis pinnatisectis segmentis lanceolato-linearibus subcartilagineo-serratis, spicis elongatis multifloris, calycibus tubulosis 5-dentatis, dente supremo minore lateralibus altius crenatis corollæ galea fornicata calycem subduplo superante in rostrum subulatum surrectum calycem plus triplo superantem desinentem. *Benth.*

HAB. N. West Interior. *Douglas* (last journey).—"Corollæ duplo majores quam in sequente."

8. *P. Groenlandica* (Retz, *Obs.* 4. t. 1); erecta glabra, foliis pinnatisectis segmentis lanceolato-linearibus subcartilagineo-serratis, spicis elongatis multifloris, calycibus tubulosis 5-dentatis dente supremo minore lateralibus altius connatis, corollæ galea fornicata calycem vix superante in rostrum subulatum surrectum calycem duplo superantem desinente. *Benth.*—*Stev. l. c.* p. 32. *Ph. Am.* 2. p. 426.

HAB. Plains of the Columbia and N.W. Coast. *Lewis. Douglas.* Labrador. *Dr Morison.* Alpine marshes of the Rocky Mountains, and York Factory, Hudson's Bay. *Drummond.*

9. *P. contorta* (Benth. mst.); erecta glabra, foliis pinnatisectis segmentis linearibus inciso-serratis, spicis laxiusculis, calycibus campanulatis lacinia suprema parva lateralibus utrinque basi latis connatis apice linearibus integris, corollæ tubo calycem æquante, galeæ arcuatæ rostro lineari in labium inferius latissimum decurvo, apice vix surrecto. *Benth.*

HAB. Mt. Rainier, N. of the Columbia River. *Tolmie.*—A very fine species; the neck of the root very thick and woody, and bearing copious stems and leaves, the former 10 inches to a foot high.

10. *P. racemosa* (Dougl. mst.); ascendens glabra, foliis petiolatis lanceolatis duplicato-serratis, racemis elongatis laxis, calycibus hinc fissis brevissime bifidis membranaceis obtusis, galeæ arcuatæ rostro subulato deflexo suberecto, labio latissimo. *Benth.*

HAB. Abundant on the summit of the high mountains of the Grand Rapids of the Columbia; *Douglas*: gathered also in his last journey. Mt. Rainier; north of the Columbia. *Tolmie.*—A most distinct and remarkable plant, frequently with lax axillary leafy racemes. Allied to *P. teucrifolia*, *carnea*, and *resupinata*. (*Benth.*)

11. *P. ornithorhynchos* (Benth. mst.); foliis ad basin caulis approximatis pinnatisectis, segmentis profunde pinnatifidis laciniiis inciso-dentatis, calycibus ovato-inflatis breviter quinquefidis, laciniiis integris subdentatisque, corollæ tubo calycem vix superante, labio patente, galea falcato-rostrata rostro tenui recto. *Benth.*

HAB. Mt. Rainier, N.W. America. *Tolmie.* "A *P. rostrata* cui affinis est differt foliis magis dissectis, calycis forma et corollæ labio minore."—A humble growing plant, its scapes, or almost naked stems, scarcely more than 6 inches high, with copious foliage at the base, more than half the length of the scape.

12. *P. Lapponica* (Linn.); caule erecto simplici, foliis lanceolatis pinnatifidis laciniiis lanceolatis incisiss, calycibus ovatis brevissime dentatis subtus fissis, corollæ galea uncinata, spica capitata laxa.—*Stev. l. c.* p. 35. *Ph. Am.* 2. p. 309. *Rich. App.* p. 24.

HAB. Labrador. *Kohlmeister. Dr Morison.* Barren grounds between lat. 64° and the Arctic Sea. *Dr Richardson.*—Corolla primulaceo-flava; labio inferiore latiusculo reclinato trilobo, lobo intermedio minore recurvo, lobis omnibus eroso-dentatis; galea in rostro brevi deciso decurvo spectante attenuata. *Stigma* exsertum.

§ V. BICUSPIDATÆ. *Stev.*—*Cor. lab. sup. basi edentulo, galea brevi apice bidentata.*

13. *P. Canadensis*. Linn.—*Ph. Am.* 2. p. 425. *Stev. l. c.* p. 41.—β. spica elongata. *P. gladiata. Mich. Ph. Nutt*

HAB. Canada, *Mrs Percival. Cleghorn. Goldie*; and from Lake Huron, *Dr Todd*, to the Grand Rapid of the Saskatchewan, near Lake Winnipeg. *Douglas.*

14. *P. euphrasioides* (Steph.); caule ramoso, foliis pinnatifidis infimis bipinnatifidis laciniis oblongis dentatis, racemis terminalibus laxis, calyce obtuso subtus fissis brevissime tridentato, corollæ galea convexa bidentata.—*Gmel. Sib. 3. t. 43. Stev. l. c. p. 42. Ph. Am. 2. p. 424.*—*P. Labradorica. L.*—*P. ramosa. Wormskjöld in Herb. nostr.*

HAB. Moist mossy places. North of the Saskatchewan to the Arctic Sea-shore. *Dr Richardson.* Woods of *Pinus Banksii* in the Rocky Mountains. *Drummond.* Labrador. *Kohlmeister. Dr Morison.* Kotzebue's Sound. *Beechey. Chamisso.*—*Dr Richardson* thus describes the flower from living specimens:—"Cal. pedunculatus glabriusculus bilabialis, sinu superiori obtuso, sinu inferiori profundiori acuto labellis unidentatis. Cor. flava, tubo calyce fere duplo longiori; labio inferiori 3-lobo, lobis rotundatis integerrimis; galea rostrata decisa bidentata; pistillo exserto."

15. *P. nasuta* (Bieb.); foliis radicalibus longe petiolatis bipinnatifidis, laciniis angustis, scapo erecto subunifolio, spica capitata foliosa, calyce quinquefido pubescente, corollæ galea arcuata brevissime rostrata bidentata. *Stev. l. c. p. 43. t. 15.*

HAB. Sitcha. *Bongard*, who observes that his specimens are the same with the original ones in Bieberstein's Herbarium from Kamtschatka.

16. *P. Sudetica* (Willd.); foliis pinnatifidis laciniis lanceolatis serratis, spica densa, calyce quinquefido, corollæ galea obtuse bidentata. *Stev. l. c. p. 44. t. 15. f. 2. Rich. App. p. 25. cum descript.*

HAB. Bear Lake to the Arctic Sea-coast. *Dr Richardson.* Kotzebue's Sound. *Beechey. Chamisso.*—Of this plant *Mr Bentham* remarks, that the flowers are rather shorter, and the galea rather broader, especially near the base, than in the Sudetic plant.

§ VI. EDENTULÆ. *Stev.*—*Cor. lab. sup. omnino edentulo galea brevi.*

17. *P. Langsdorffii* (Fisch. mst.); foliis bipinnatifidis radicalibus copiosis cælinorum rachis dilatata, spica densa lanata, calyce quinquefido corolla quadruplo brevior, galea obtusa truncata (nonnunquam sub apice dentata). *Stev. l. c. p. 49. t. 9. f. 2. (1823.) Cham. in Linnæa, 2. p. 584.*—*P. arctica. Brown, in Parry's First Voy. App. p. CCLXX.*—*P. purpurascens. Spreng.*—*P. hirsuta. Rich. App. p. 25. (fide specim. in Herb. nostr.)*—*β. elatior*; foliis paucioribus, spica elongata laxiore, galea majore (an spec. distincta?).—*γ.* spica maxima elongata, foliis bipinnatifidis, segmentis angustis.—*P. lanata. Hook. et Arn. in Beech. Bot. p. 128.—an Cham.?*

HAB. Behring's Straits. *Menzies. Langsdorff. Chamisso. (Herb. nostr.)* Melville Island. *Sir E. Parry.* Summits of the Rocky Mountains, abundant. *Drummond.*—*β.* Bear Lake River to the Arctic Sea. *Dr Richardson.*—*γ.* Kotzebue's Sound. *Beechey.*—*Chamisso* in the *Linnæa (l. c.)* considers the more common woolly spiked state of the plant to be a distinct species (*P. lanata*); but it is that latter var. which *Dr Fischer* himself marked in my Herbarium as his *P. Langsdorffii*; and *Steven's* figure affords an accurate representation of the more usual form of the plant. My var. *β.* has a different appearance, and a longer, more incurved, and blunter upper lip; whilst my var. *γ.* has a short and narrow upper lip, and leaves which are finely cut in a pinnatifid manner.

18. *P. hirsuta* (Linn.); lanata, caule folioso, foliis pinnatifidis, rachis in petiolum foliaceum dilatata, spica foliosa, calyce quinquefido hirsuto, corollæ calyce duplo longioris galea

obtusissima. *Stev. l. c. p. 51. Rich. App. p. 25. Hook. in Parry's 2d. Voy. App. p. 402. Fl. Dan. t. 1105 (bona).*

HAB. Arctic Islands, frequent; from the Continent I have seen only one specimen, and that of gigantic growth (a foot tall), from Bear Lake, gathered by *Dr Richardson* in his second journey. The "*P. hirsuta*" of the former journey I refer to *P. Langsdorffii* (*arctica*, Br.). The present may be at once recognised by the remarkable dilatation of the petiole, of which the rachis is an equally broad continuation; and on this, at the margins, are set the little segments, or rather pinnules, like the teeth on the broad snout of a sword-fish, at regular distances. This character has not escaped the notice of *Wahlenberg*. The flowers are smaller, and much paler coloured than in the preceding.

19. *P. flammea* (Linn.); humilis, foliis præcipue radicalibus pinnatis pinnis ovatis retro-imbricatis dentatis, calyce 5-fido (glabro, *Stev.*), spica brevi, corollæ galea obtusissima rotunda, labii inferioris laciniis linearibus.—*α.* galea purpureo-fusca. *Fl. Lapp. t. 4. f. 2. Ph. Am. 2. p. 426. Stev. l. c. p. 51.—β.* corolla tota flava.

HAB. Labrador. *Kohlmeister* (*Ph.*). Arctic America. *Dr Richardson.* *α.* and *β.* Summits of the Rocky Mountains. *Drummond.*—In all our American specimens, and in many European ones, the calyx is decidedly, but not thickly, woolly.

20. *P. versicolor* (*Wahl.*); foliis pinnatis pinnis retro-imbricatis, calyce 5-fido pubescente, corollæ galea obtusa antice angulata. *Stev. l. c.*

HAB. Islands of N. W. America. (*Steven.*)—Except in the larger flowers and larger size, generally, of the plant, and the minute angle in front of the galea, this species comes very near *P. flammea*.

21. *P. bracteosa* (*Benth. mst.*); erecta elata, foliis pinnatisectis segmentis lanceolatis inferioribus distantibus pinnatifidis laciniis serratis, spica elongata densa, bracteis membranaceis ovatis acuminatis, calycibus quinquefidis pilosis, corollæ galea obtusa subincurva antice acuta vel vix obsolete dentata. *Benth.*—*P. alata. Ph. 2. p. 425? (non Willd.)*

HAB. Shady alpine woods of the Rocky Mountains. *Drummond.* N. W. Am. *Douglas* (last journey).—A very fine plant, 2 feet and more high; some of the leaves are 6 inches, and even longer, and some of the pinnæ four inches; spike long and dense.

Mr *Pursh* gives the *P. recutita* as a native of the N. W. Coast, on the authority of Mr *Menzies*, "and probably throughout Canada." But, doubtless, some very different species has been mistaken for it.*

* Among the notes on the N. American species of *Pedicularis*, kindly communicated to me by Mr *Bentham*, and from which I have greatly profited, is the character of a very beautiful new species, found by Mr *Douglas* in North California, with the flowers much resembling those of *recutita* :—

P. (Edentula) densiflora (*Benth. mst.*); erecta elata, foliis amplis profunde pinnatifidis pinnatisectis segmentis ovali-oblongis pinnatifidis, laciniis oblongis inciso-dentatis, spica densa multiflora, calyce inæqualiter 5-dentato, corollæ galea recta obtusa antice hiente, labio minimo.

HAB. N. California. *Douglas.*

ORD. LXVIII. LABIATÆ. *Juss.*TRIB. MENTHOIDEÆ. *Benth.*1. MENTHA. *L.*

1. *M. Canadensis*. *Benth.*—*a. villosa*. *Benth.* *M. Canadensis*. *L.*—*Ph. Am.* 2. p. 405.
—*β. glabrior*. *M. borealis*. *Mich.*—*Ph. Am.* 2. p. 405.

HAB. From Canada to the Mackenzie River. (*Dr Richardson.*) Newfoundland. Abundant in N.W. America.

Obs. The above seems to be the only indigenous Mint; but *M. viridis*, *L.* (*M. tenuis*, *Mich. et Ph.*), *M. piperita*, *M. aquatica*, and *M. pulegium*, are occasionally found in cultivated grounds.

2. LYCOPUS. *L.*

1. *L. Virginicus* (*Linn.*); *glabriusculus*, caule basi stolonifero, foliis oblongo-ellipticis utrinque angustatis remote dentatis, calycibus 4-dentatis, dentibus ovatis obtusis, staminum sterilium rudimentis nullis. (*Benth.*) *Ph. Am.* 2. p. 16. *Richards. App.* p. 2.—*β. pauciflorus*. *Benth.*—*L. uniflorus*. *Mich.*—*L. pumilus*. *Vahl.*—*Ph.*

HAB. Plains of the Saskatchewan. *Drummond.*

2. *L. macrophyllus* (*Benth.*); caule erecto firmo obtuse tetragono, foliis petiolatis amplis ovatis longe acuminatis grosse sinuato-dentatis basi angustatis glabris, verticillastris multifloris, calycibus irregulariter 4-5-dentatis, dentibus ovatis obtusis, staminum rudimentis nullis (?) acheniis calycem æquantibus. *Benth. Lab. Gen. et Sp.* p. 185.—*L. Virginicus*.—*β. quercifolius*. *Ph. Am.* 1. p. 16?

HAB. Juan de Fuca, N.W. Coast. *Dr Scouler.*

3. *L. obtusifolius* (*Mich. ex Vahl Enum.* 1. 212?); caule erecto firmo subsimplici, foliis sessilibus oblongo-ellipticis profunde serratis basi rotundato-angustatis, verticillastris multifloris, calycibus irregulariter 5-dentatis, acheniis calyce vix brevioribus, staminum rudimentis subnullis. *Benth. l. c.* p. 186. *Ph. Am.* 1. p. 10.

HAB. Carlton House Fort on the Saskatchewan. *Drummond.* Red River. *Douglas.*

4. *L. sinuatus* (*Ell.*); caule erecto acute tetragono glabriusculo, foliis petiolatis oblongo-lanceolatis utrinque angustatis infimis pinnatifidis mediis sinuato-dentatis supremis linearibus subintegerrimis, verticillastris multifloris, calycibus 5-dentatis acutis, staminum sterilium rudimentis capitatis, acheniis tubo calycis brevioribus. *Benth. l. c.* p. 187.—*L. Europæus*. *Mich. (non L.)*—*Ph. Am.* 1. p. 16.—*L. bracteatus* and *Americanus*. *Muhl.*—*α. dissectus* (*Benth.*); foliis plerumque pinnatifidis. *L. exaltatus*. *Ell. (non L.)*—*β. vulgaris* (*Benth.*); foliis plerumque sinuatis. *L. sinuatus*. *Ell.*—*L. vulgaris*. *Nutt.*—*γ. angustifolius* (*Benth.*); foliis plerumque linearibus subintegerrimis. *L. angustifolius*. *Nutt.*—*L. longiflorus* and *L. longifolius*. *Rafin.*—*L. Pennsylvanicus*. *Muhl.*

HAB. Throughout Canada to the Saskatchewan. N. W. America, abundant.

3. SALVIA. *L.*

1. *S. obovata*. *Ell. Carol.* 1. p. 33. *Benth. l. c.* p. 307.—*S. lyrata*, β . *obovata*. *Ph. Am.* 1. p. 20. *Dill. Elth.* 219. t. 173. f. 216.

HAB. Canada. *Michaux*:—but I have never seen specimens from so far north.

4. AUDIBERTIA. *Benth.*

Cal. ovatus, bilabiatus, labio superiore concavo integro v. breviter tridentato, inferiore bifido, intus fauce nuda. *Corolla* tubo calycem æquante vel exserto, limbo bilabiato, labio superiore bifido lobis patentibus, medio latissimo emarginato. *Stam.* fertilia 2 (inferiora) adscendentia, sæpius exserta, superiorum rudimenta parva claviformia v. nulla. *Antheræ* dimidiatæ, connectivo lineari in filamentum articulado adscendente, apice antheram linearem unilocularem ferente postice non producto v. brevissime acuminato. *Stylus* breviter subulato-bifidus.

1. *A. incana* (Benth); suffruticosa, ramis divaricatis ramosis canescentibus, foliis obovato-oblongis obtusis integerrimis basi angustatis canescentibus, floralibus bracteisque lato-ovatis, racemo simplici, genitalibus exsertis. *Benth. in Bot. Reg. t.* 1469. *Lab. Gen. et Sp. p.* 314.—*Salvia carnosæ*. *Dougl. mst.*

HAB. N.W. America; at Priest's Rapid on the Columbia und plains from Walla-wallah to Spokan Rivers. *Douglas*.—A very beautiful and very distinct genus, of which five other species were found by Mr Douglas in Northern California.

5. MONARDA. *L.*

1. *M. didyma* (Linn.); foliis petiolatis ovato-lanceolatis acuminatis basi rotundato-subcordatis utrinque hispidulis vel rarius glabratibus, floralibus sessilibus bracteisque exterioribus oblongo-lanceolatis basi longe angustatis coloratis glabris fauce subnuda, corollis glaberrimis. *Benth. l. c. p.* 316. *Bot. Mag. t.* 546.—*M. fistulosa*, var. *Bot. Mag. t.* 145? —*M. coccinea*. *Mich.*—*M. purpurea*. *Lam.*—*M. Klamiana*. *Ph. Am. t. p.* 17. t. 1. (*mala*).

HAB. Canada. *Mrs Sheppard*.

2. *M. fistulosa* (Linn.); foliis petiolatis ovato-lanceolatis basi rotundato-subcordatis utrinque glabris pubescentibus hispidisve, floralibus sessilibus bracteisque exterioribus subcoloratis, calycibus subincurvis vix coloratis, fauce intus hispida, corollis glabris villosisve. *Benth. l. c. p.* 316. *Ph. Am. t. p.* 18. *Reich. Ic. Exot. t.* 172.—*M. Clinopodium*. *L.*—*M. allophylla*. *Mich.*—*M. purpurea*. *Ph. Am. t. p.* 17. (*non Lam.*)—*M. oblongata* et *rugosa*. *Ait.*—*M. glabra* et *longifolia*. *Lam.*—*M. altissima*. *Willd.*—*Reich. Ic. Exot. t.* 27.— β . *mollis*, foliis molliter pubescentibus corollæ labio superiore densius barbato. *Benth. l. c. p.* 317.—*M. mollis*. *Linn. Am. Acad. t. p.* 399. *Reich. Ic. Exot. t.* 171.—*M. menthaefolia*. *Grah. in Bot. Mag. t.* 2958.

HAB. Canada to the Saskatchewan, where var. β . is particularly abundant.

TRIB. SATUREINÆ. *Benth.*6. PYCNANTHEMUM. *Mich.*

1. *P. incanum*. *Mich. Am. 2. p. 7. Ph. Am. 2. p. 409.*—*Clinopodium*. *L.*

HAB. Canada. *Goldie.*

7. MONARDELLA. *Benth.*

Cal. ovato-tubulosus, sæpe elongatus, 10-13-nervius, 5-dentatus, dentibus brevibus subæqualibus rectis, fauce intus nuda. *Cor.* tubo calycem æquante vel breviter exserto, fauce intus glabra, limbo subbilabiato, labio superiore bifido, inferiore trifido, lobis omnibus oblongis linearibusve planis subæqualibus. *Stam.* 4, subæqualia, vel inferiora longiora, recta, divergentia, exserta. *Antheræ* biloculares, loculis parallelis, demum divergentibus vel divaricatis. *Stylus* apice brevissime bifidus, stigmatibus minutis. *Achenia* sicca.—*Herbæ perennes.* Verticillastri magni, subglobosi, bracteis latis suffulti, solitarii, terminales. *Benth.*

1. *M. odoratissima* (*Benth.*); caule procumbente, foliis subsessilibus oblongo-lanceolatis utrinque angustatis integerrimis canis, verticillastris dense globosis magnis solitariis, bracteis exterioribus lato-ovatis obtusissimis coloratis, calycibus tubulosis elongatis subæqualiter dentatis. *Benth. l. c. p. 332.*

HAB. Gravelly soils near the Narrows and Kettle Falls of the Columbia and Salmon River; and on limestone rocks on the Blue Mts., N. W. America. *Douglas.*

8. COLLINSONIA. *L.*

1. *C. Canadensis*. *L.—Ph. Am. 1. p. 20,—and 21 (C. ovalis).*

HAB. Canada. *Ph.*

9. CUNILA. *L. Benth.*

1. *C. Mariana*. *L.—Ph. Am. 2. p. 400.*—*Ziziphora*. *R. and Sch.*

HAB. Canada. *Ph.*

TRIB. MELISSINÆ. *Benth.*10. HEDEOMA. *Pers.*

1. *H. pulegioides*. *Pers.—Melissa. L.—Ziziphora. R. and Sch.*

HAB. Canada. *Ph.*

11. MICROMERIA. *Benth.*

Cal. 13-rarius sub-15-striatus, 5-dentatus, subæqualis. *Cor.* tubus exannulatus, exsertus; limbus bilabiatus, labiis planiusculis. *Stam.* adscendentia, superioribus brevioribus antheriferis. *Benth.*

1. *M. glabella* (*Benth.*); glabra, caule herbaceo erecto pusillo, foliis sessilibus oblongo-

linearibus obtusis integerrimis, verticillastris subsexfloris, pedicellis elongatis nudis, calycibus subbilabiatis dentibus omnibus subulatis, fauce intus villosa. *Benth. l. c. p. 370.*—*Cunila. Mich.*—*Ziziphora. R. and Sch.*—*Hedeoma glabra. Nutt.*

HAB. Canada. *Goldie.* Lake Huron. *Dr Todd.*

2. *M. Douglasii* (Benth.); caule herbaceo prostrato, foliis petiolatis ovato-rotundatis obtusis crenatis basi rotundato-truncatis utrinque glabris, pedunculis elongatis basi v. medio bracteatis, calycis dentibus subulatis, fauce intus nuda. *Benth. l. c. et in Linnæa, 6. p. 80.*—*M. Chamissonis. Benth. in Linnæa, 6. p. 80.*

HAB. N. W. America, in shady Pine-woods, especially about the Columbia. *Menzies. Douglas. Dr Scouler. Tohmie.*

12. MELISSA. *L. et Benth.*

1. *M. Clinopodium. Benth.*—*Clinopodium vulgare. L.—E. Bot. t. 1401. Ph. Am. 2. p. 410.*

HAB. Canada, in various places. Norway House Fort. *Dr Richardson.* (Introduced.)

TRIB. SCUTELLARINÆ. *Benth.*

13. PRUNELLA. *Benth.*

1. *P. vulgaris. L.—E. Bot. t. 961. Ph. Am. 2. p. 411.*—*β. major, foliis angustioribus. P. Pennsylvanica.*

HAB. Canada. Newfoundland.—*β. Saskatchewan, and Portage River near the source of the Columbia. Drummond.* Abundant on the N. W. Coast, often a foot high, and with the flowers of a very large size. *Douglas. Scouler. Tohmie.*—An extremely variable plant, in size and hairiness and in the breadth of its leaves.

14. SCUTELLARIA. *L.*

1. *S. canescens* (Nutt.); caule elato ramoso pubescente, foliis petiolatis ovatis v. ovato-lanceolatis acutis crenatis basi angustatis rotundatis v. infimis cordatis utrinque pubescentibus subtus incanis, floralibus oblongis calyces superantibus, racemis laxis paniculatis canescentibus, floribus oppositis secundis, calycibus cano-tomentosis, corollis extus pubescentibus. *Benth. Lab. p. 422.*—*S. serrata* and *S. incana. Spr.*

HAB. Canada. *Goldie.*

2. *S. angustifolia* (Ph.); glabriuscula, caule erecto simpliciusculo, foliis infimis petiolatis ovatis dentatis superioribus subsessilibus oblongo-linearibus integerrimis omnibus basi rotundato-cuneatis, floralibus conformibus supremis sterilibus, floribus axillaribus oppositis secundis, calycibus pedicello brevioribus. *Benth. l. c. p. 436.*

HAB. N. W. America. Kooakoosky. *Lewis.* Columbia River, near the sources. *Douglas. Wallamet. Tohmie.*

3. *S. galericulata. L.—E. Bot. t. 523. Ph. Am. 1. p. 412.*

HAB. Newfoundland. *Miss Brenton.* Throughout Canada. Saskatchewan, abundant (*Drummond*), and as far north as Fort Franklin on the Mackenzie River. *Dr Richardson.* N. W. Coast. *Douglas.*

4. *S. parvula*. Mich.—*Ph. Am.* 2. p. 411. *Hook. Ex. Fl. t.* 106.—*S. ambigua*. Nutt.

HAB. Canada. Michaux. Mrs Sheppard. Saskatchewan. Dr Richardson.

5. *S. antirrhinoides* (Benth.); caule diffuso ramoso glabro, foliis breviter petiolatis ovatis obtusis integerrimis basi angustatis crassiusculis glabris vel tenuissime pubescentibus, floralibus conformibus supremis sterilibus, floribus axillaribus oppositis secundis, calycibus pedicello brevioribus. *Benth. l. c. p.* 440.

HAB. N.W. America. About Fort Vancouver. Douglas. Dr Scouler. Wallamet. Tohmie.

6. *M. lateriflora*. L.—*Ph. Am.* 2. p. 412.

HAB. Throughout Canada to the Saskatchewan; and N.W. Am. Douglas. Dr Scouler. Dr Gairdner.

TRIB. NEPETÆ. *Benth.*

15. LOPHANTHUS. *Benth.*

Cal. tubulosus, 15-nerviis, subincurvus, ore obliquo 5-dentato, dentibus superioribus sublongioribus. *Cor.* tubo calycem æquante, intus nudo, limbo bilabiato, labio superiore suberecto emarginato-bifido, inferiore subpatente trifido, lobo medio lato-crenato. *Stam.* 4 didynama, inferioribus brevioribus, distantia v. divaricata. *Antheræ* biloculares. *Achenia* lævia, nuda. *Benth.*

1. *L. urticæfolius* (Benth.); glaber, foliis cordato-ovatis crenatis utrinque viridibus, spicis densis oblongis, laciniis calycinis lineari-subulatis, genitalibus longe exsertis. *Benth. l. c. p.* 462.—*Hyssopus urticæfolius*. Dougl. *mst.*

HAB. Lewis and Clarke's River, N.W. America. Douglas.

2. *L. anisatus* (Benth. in *Bot. Reg. t.* 1582); glaber, foliis ovatis v. ovato-lanceolatis acutis crenatis supra viridibus subtus albis, spicis cylindricis basi interruptis, laciniis calycinis lanceolatis acutis, genitalibus exsertis. *Benth. Lab. p.* 463, and in *Bot. Reg. t.* 1282.—*Hyssopus*. Nutt. *H. discolor*. Desf.—*H. Fœniculum*. Spr.—*Stachys Fœniculum*. *Ph. Am.* 2. p. 407.

HAB. Plains of Saskatchewan, abundant, to Fort Franklin on the Mackenzie River. Dr Richardson. Drummond. Assinaboine River. Douglas.

16. NEPETA. L.

1. *N. Cataria*. L.—*Ph. Am.* 2. p. 406.

HAB. Canada. Norway House on the Saskatchewan. Dr Richardson. (Not indigenous?)

17. DRACOCEPHALUM. L.

1. *D. parviflorum* (Nutt.); caule erecto ramoso pubescente, foliis petiolatis lanceolatis inciso-crenatis serratisve utrinque viridibus subtus pubescentibus, verticillastris capitato-spicatis, bracteis ovato-cuneatis aristato-dentatis, calycis dente supremo lato-ovato, corollis calycem vix excedentibus. *Benth. l. c. p.* 496.

HAB. Saskatchewan River to Fort Franklin. *Dr Richardson. Drummond. Douglas.*

TRIB. STACHYDEÆ. *Benth.*

18. PHYSOSTEGIA. *Benth.*

Cal. obscure venosus post anthesin inflatus. Cor. longe exserta, fauce amplissima. Benth.

1. *P. Virginiana. Benth.—Dracocephalum. L.—Bot. Mag. t. 467. Ph. Am. 2. p. 411.—D. speciosum. Sw. Br. Fl. Gard. 1. t. 93.—D. denticulatum. Ait.—Ph.—Bot. Mag. t. 214.—D. obovatum. Ell.—D. lancifolium. Moench.—D. variegatum. Vent. Cels. t. 44. Ph.—D. intermedium. Nutt.—β. floribus dense imbricatis. Physost. imbricata. Hook. Bot. Mag. t. 3386.*

HAB. Canada.—β. Plains of Saskatchewan. *Dr Richardson. Drummond. Banks of the Columbia. Douglas. Tohnie.—A very variable plant.*

19. LAMIUM. *L.*

1. *L. amplexicaule. L.—E. Bot. t. 77. Ph. Am. 2. p. 406.*

HAB. Canada (naturalized). *Mrs Percival.*

20. LEONURUS. *L.*

1. *L. Cardiaca. L.—E. Bot. t. 286. Ph. Am. 2. p. 408.*

HAB. Lake Huron. *Dr Todd. Norway House Fort. Drummond. (Not indigenous.)*

21. GALEOPSIS. *L.*

1. *G. Tetrahit. L.—E. Bot. t. 207. Ph. Am. 2. p. 407.*

HAB. Canada; Newfoundland (introduced).

22. STACHYS. *L.*

1. *S. ciliata (Dougl.); herbacea erecta subglabra, caulis angulis obverse ciliatis, foliis petiolatis ovatis breviter acuminatis crenatis basi cordatis glabris v. supra pilis raris hispidulis, verticillastris 6-floris supremis subapproximatis, bracteis subnullis, corollis glabrisculis calyce triplo quadruplo longioribus, tubo longe exserto. Benth. l. c. p. 538.*

HAB. Columbia; and banks of other streams in N. W. Am. *Douglas. Dr Scouler. Tohnie. Gairdner.*

2. *S. palustris. L.—E. Bot. t. 1675.—β. ambigua, foliis latioribus magis petiolatis.—S. ambigua. E. Bot. t. 2089.*

HAB. Throughout Canada to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond. Columbia and Walla-wallah Rivers, N. W. America. Douglas. Tohnie. Newfoundland. Miss Brenton.—E. Canada. Mrs Sheppard. Norway House Fort. Drummond.*

3. *S. aspera. Mich. Am. 2. p. 5. Ph. Am. 2. p. 407. Benth. l. c. p. 543.—S. hispida. Mich. Am. 2. p. 5. Ph. Am. 2. p. 407.*

HAB. Canada. *Mrs Sheppard*. Norway House Fort. *Drummond*. *Dr Richardson*. Newfoundland. *Mr Cormack*. Wallamet, N.W. America. *Tolmie*.—I fear that, except by the coarser and more reflexed hairs at the angles of the stem, this is hardly to be distinguished from *S. palustris*, which is assuredly a very variable species, both in the form of the leaves and in the pubescence. The specimens from Wallamet are all over very hairy.

23. MARRUBIUM. L.

1. *M. vulgare*. L.—*E. Bot. t.* 410. *Ph. Am. 2. p.* 408.

HAB. Lake Huron. *Dr Todd*.

TRIB. AJUGOIDEÆ. *Benth.*

24. TEUCRIUM. L.

1. *T. Canadense*. L.—*Ph. Am. 2. p.* 403.

HAB. Canada; near Quebec. *Mrs Sheppard*.

25. TRICHOSTEMMA. L.

1. *T. dichotomum*. L.—*Ph. Am. 2. p.* 414.

HAB. Canada. *Ph.*

2. *T. oblongum* (*Benth.*); pubescens v. villosum, foliis oblongis basi angustatis, cymis axillaribus, calycibus subæqualiter 5-fidis, corollæ tubo incluso. *Benth. l. c. p.* 657.

HAB. Low grassy pastures near Fort Vancouver. *Douglas*.

3. *T. lanceolatum* (*Benth.*); villosum, foliis lanceolatis, cymis axillaribus, calycibus inæqualiter 5-fidis, corollæ tubo exserto. *Benth. l. c. p.* 658.

HAB. N.W. America. Dry sandy soils on the Multnomah and Columbia. *Douglas*.

ORD. LXIX. VERBENACEÆ. *Juss.*

1. VERBENA. L.

1. *V. bracteosa*. *Mich.*—*Ph. Am. 2. p.* 416. *Hook. Bot. Mag. t.* 2910.

HAB. Menzies Island; and banks of the Columbia. N. W. America. *Douglas*. Walla-wallah River. *Tolmie*.

2. *V. paniculata* (*Lam.*); caule scabro, foliis petiolatis ovato-lanceolatis acutis inæqualiter serratis subtus venoso-reticulatis, spicis filiformibus corymboso-paniculatis, floribus imbricatis. *Lindl. Bot. Reg. t.* 1102. *Ph. Am. 2. p.* 416.

HAB. Low alluvial soils, N.W. Coast, abundant. *Douglas*. Fort Vancouver; and Walla-wallah River. *Tolmie*. Canada to the Saskatchewan. *Dr Richardson*. *Drummond*.—Scarcely, I fear, different from the following.

3. *V. hastata*. L.—*Ph. Am. 2. p.* 416.

HAB. Canada to the Saskatchewan. *Dr Richardson*. *Drummond*.

4. *V. urticifolia*. L.—*Ph. Am.* 2. p. 416.

HAB. Canada to the Saskatchewan.—The broader leaves, and longer slender spikes, with lax flowers, distinguish this from the two preceding.

2. PHRYMA. L.

1. *P. leptostachya*. L.—*Ph. Am.* 2. p. 415.

HAB. Canada. *Pursh. Mrs Sheppard. Mrs Percival.*

ORD. LXX. LENTIBULARIÆ. *Richard.*

1. UTRICULARIA. L.

1. *U. vulgaris*. L.—*E. Bot. t.* 253. *Ph. Am.* 1. p. 15.

HAB. Pools, Canada. *Goldie.* Lakes near the Rocky Mountains. *Drummond.* Salmon River and higher parts of the Columbia. *Douglas.*

2. *U. intermedia*. *Heyne.*—*E. Bot. t.* 3489. *Rich. App. p.* 2.

HAB. Lake Huron (*Dr Todd*) to Bear Lake, *Dr Richardson*; and near the Rocky Mountains. *Mr. Drummond.* I possess the same plant gathered at Tewksbury, Massachusetts, by Mr Greene, marked "*U. Millefolium*, Nutt. mst."

3. *U. setacea* (Mich.); minuta aphylla, caule tenui-setaceo distanter 2-3-floro, floribus longiuscule pedicellatis, calicæ longiusculo. *Mich. Am.* 1. p. 12.—*M. subulata. Ph. Am.* 1. p. 15.

HAB. Canada. *Ph.*—Barren specimens, apparently of this species, were gathered by *Mr Drummond* near the Saskatchewan.

4. *U. cornuta*. *Mich. Am.* 1. p. 12. *Ph. Am.* 1. p. 16.

HAB. Canada. *Michaux. Nuttall. Mrs Percival. Dr Todd.* Newfoundland. *Miss Brenton.*

2. PINGUICULA. L.

1. *P. vulgaris*. L.—*E. Bot. t.* 70. *Richards. App. p.* 2.

HAB. Woody and barren territories to Mackenzie's River. *Dr Richardson.* Rocky Mountains. *Drummond.* Labrador. *Dr Morison.* Newfoundland. *Miss Brenton.*

2. *P. grandiflora*. *Sm. E. Bot. t.* 2184.

HAB. Swamps, near Miet's Rock in the Rocky Mountains, rare. *Drummond.* Bogs, Milbauk Sound, N. W. America. *Tolmie.*

ORD. LXXI. PRIMULACEÆ. *Juss.*

1. DODECATHEON. L.

1. *D. integrifolium* (Mich.); foliis integerrimis, umbellis plurifloris, pedunculis divaricatis, filamentis in tubum elongatum connatis.—*α. vulgare*; foliis oblongo-lanceolatis in

petiolum sensim attenuatis, tubo stamineo flavo. *Hook. Bot. Mag. t. 3622. Ph. Am. 1. p. 136. Rich. App. p. 6.*—*β. minus*; foliis ovato-spathulatis petiolatis, tubo stamineo flavo.—*γ. latifolium*; foliis latissime ovatis petiolatis, tubo stamineo purpureo-nigro.

HAB. *α.* Woody country of the Hudson's Bay territories to Carlton House Fort, and in Prairies of the Rocky Mountains. *Dr Richardson. Drummond.* Common along the beach at Sitkine Sound and Clarence's Straits, N. W. America. *Tobnie.*—*β.* and *γ.* Dry banks about Fort Vancouver on the Columbia. *Dr Scouler. Dr Gairdner. Tobnie.* Sitcha (*Bongard*) and N. W. American Islands. *Pallas.*

2. *D. frigidum* (Cham. et Schlecht.); foliis oblongo-ovatis integerrimis subrepandis, umbellis paucifloris, pedunculis umbellatis divaricatis, bracteis lanceolatis, filamentis in tubo brevissimo connatis. *Linnaea, 1. p. 217. Hook. et Arn. in Bot. of Beech. Voy. p. 129.*

HAB. Kotzebue's Sound. *Beechey.* Arctic sea-shore. *Sir John Franklin and Captain Back.* West side of the Rocky Mountains. *Douglas.*

3. *D. dentatum*; foliis lato-ovatis grosse dentatis longissime petiolatis, umbellis paucifloris, pedunculis umbellatis suberectis, antheris sessilibus vel annulo brevissimo solummodo unitis.

HAB. N. W. interior (last journey). *Douglas.*—This appears a very distinct species, and to have white flowers.

2. ANDROSACE. L.

1. *A. septentrionalis*. L.—*Bot. Mag. t. 2021. Cham. et Schlecht. in Linnaea, 1. p. 217. Hook. et Arn. Bot. of Beech. Voy. p. 129.*—*A. occidentalis?* *Nutt. Gen. Am. 1. p. 118.*—*A. elongata. Rich. App. p. 5. (non L. and Jacq.)*

HAB. From Fort William on the Saskatchewan to the heights of the Rocky Mountains, and to lat. 68° on the Mackenzie River. *Dr Richardson. Drummond.* Bay of Escholtz in Beering's Straits. *Chamisso. Beechey.*—An exceedingly variable plant, from 1 to 9 inches high. Leaves toothed, pinnatifid or entire. Peduncles with a single flower, or an umbel either few- or many-flowered; the pedicels short or elongated. In *Dr Richardson's A. elongata*, the calycine teeth are much smaller than in the Linnaean *elongata* (though certainly a little larger than is usual in *septentrionalis*); the involuere is much smaller and the peduncles more upright.

2. *A. Chamæjasme. Wulff.*—*Cham. et Schlecht. in Linnaea, 1. p. 318. Hook. et Arn. Bot. of Beech. Voy. p. 129. Rich. App. p. 5.*

HAB. Islands of Behring's Straits. *Menzies. Chamisso.* Cape Newenham (*Nelson in Herb. nostr.*) and Kotzebue's Sound. *Beechey.* Heights of the Rocky Mountains. *Drummond*; and from Fort Norman to the Arctic coast. *Dr Richardson.*

3. DOUGLASIA. Lindl.

Cal. obconicus, angulatus, 5-dentatus. *Cor.* infundibularis, tubo ventricoso, limbo plano 5-partito, fauce callo lineari sub utroque sinu. *Ovarium* uniloculare, placenta centrali libera pedicellata fungilliformi, margine 5-dentato; *ovula* 5, dentibus placenta oppo-
sita. *Capsula* vestita, unilocularis, 5-valvis. *Semina* 2, concava, scrobiculata.—*Cæspites suffruticulosi (Américæ borealis), foliis linearibus indivisis, floribus umbellatis solitariisque. Lindl.*

1. *D. nivalis* (Lindl. in *Brande's Journ.* Jan. 1828, p. 383.); foliis pube brevissima stellata incana. Lindl. *Bot. Reg.* t. 1886. Hook. *Ic. Plant.* t. 180.

HAB. Near the sources of the Columbia, at an elevation of 12,000 feet above the level of the sea. Douglas. 1827.—Specimens were also gathered by Mr Douglas in his last journey, in another part of the interior; but the locality is not mentioned.

2. *D. arctica*: glabra, foliis pilis brevibus simplicibus ciliatis.

HAB. Arctic Sea-shore, between the Mackenzie and Coppermine Rivers. Dr Richardson.—This is probably very rare, as only one specimen exists in the collection. It is quite distinct from the preceding, though agreeing exactly in habit, in the form of the leaves and flowers, and in the repeatedly dichotomous and densely tufted stems: thus confirming the interesting Genus, which, whether we consider its beauty or its localities, has so appropriately been dedicated to the talented and unfortunate Douglas.

4. PRIMULA. L.

1. *P. nivalis* (Pall. *It. t.* 9. f. 2.); foliis spathulato-lanceolatis planis dentatis glabris nudis, umbella multiflora erecta, involucri foliolis basi coadunatis.—Lehm. *Prim.* p. 67. Cham. et Schlecht. in *Linnaea*, 1. p. 215.

HAB. Behring's Straits. Capo Newenham (Nelson); and Mount Edgecomb. Menzies (in *Herb. nostr.*). Unalashka. Chamisso.

2. *P. farinosa* (L.); foliis cuneato-lanceolatis crenato-dentatis subtus dense farinosis, umbella multiflora, pedicellis patentibus, calyce oblongo-ovato, corollæ laciniis obovatis attenuatis subdistantibus tubo subdimidio brevioribus.—E. Bot. t. 6. Rich. *App.* p. 5.

HAB. Canada (Goldie) to the Rocky Mountains (Drummond); and to lat. 66° on the Mackenzie River. Dr Richardson.

3. *P. Scotica* (Hook.); foliis obovato-lanceolatis denticulatis subtus dense farinosis, umbella subcapitata pluriflora, calyce ventricoso, corollæ laciniis late obovatis approximatis tubo subdimidio brevioribus. Hook. *Fl. Lond. N. S. t.* 33. *Brit. Fl. ed.* 4. p. 94.

HAB. Labrador. Miss Brenton.—This lady has kindly communicated to me specimens of the *Primula*, now under consideration, from Labrador, precisely agreeing with our *P. Scotica*, which had hitherto only been found in the extreme northern parts of Scotland, and on the Alps of Koordistan (Fischer in *Herb. nostr.*). The whole plant is as mealy as *P. farinosa*: flowers deep purple-blue, in almost capitate umbels, with broader and more approximate segments to the corolla and more distinct glands at the mouth of the tube.

4. *P. Hornemanniana* (Lehm. *Prim.* p. 55. t. 4.); foliis obovato-spathulatis dentatis nudis vel cum seapo calycibusque ventricosis parce farinosis, umbella pauci-1-6-flora, corollæ laciniis obovato-cuneatis tubo subdimidio brevioribus.—Rich. *App. ed.* 1. n. 58.—*P. stricta*. Horn. *Fl. Dan.* t. 1385.—*P. Mistassinica*. Mich. *Am.* 1. p. 124. Ph. *Am.* 1. p. 137. Lehm. *Prim.* p. 63. t. 7. Hook. *Bot. Mag.* t. 2073. Cham. et Schlecht. in *Linnaea*, 1. p. 213.—*P. pusilla*. Hook. in *Ed. Phil. Journ.* 6. p. 322. t. 11. f. 2. Ex. *Fl.* 1. t. 68. Bot. *Mag.* t. 3020. Rich. *App. ed.* 2. p. 5.—*P. farinosa*, β. *stricta*. Wahl. *Lapp.* p. 60.—*P. farinosa*. Sm. in *Linn. Fl. Lapp.* n. 79.—β. omnino efarinosa, calycibus nigricantibus.

HAB. α. Canada (Dr Todd, Goldie, Mrs Sheppard, Mr McNab) to Great Bear Lake (Dr Richardson):

and from Labrador (*Dr Morison*) in the East, to the Rocky Mountains (*Drummond, Douglas*); and the North-West Coast to Fort Vancouver (*Mr Garry*).—*β*. Unalashka. *Chamisso*. Arctic Sea-coast. *Dr Richardson, Sir John Franklin, Captain Back*.—A plant with so very extensive a range, may be expected to vary somewhat, as is really the case, in the outline of its leaves, the length of the pedicels, and the relative length and breadth of the lacinae of the corolla and tube. Its more usual form is so exactly that of the European *P. Hornemanniana* (*P. stricta*, Horn.), that I can have no hesitation in considering it the same, and in adopting that name as the most appropriate. The arctic state of the plant, as found by *Chamisso* and *Dr Richardson*, in two very different localities, exhibits not the smallest traces of meanness, and the calyces are almost black; the leaves too, in the specimens of *Dr Richardson*, are most frequently quite entire; those from *Chamisso* generally toothed.

5. *P. saxifragifolia* (Lehm.); foliis obovato-cuneatis petiolatis serrato-lobatis, umbella 2-3-flora, calycibus profunde 5-partitis tubo triplo brevioribus, limbi laciniis semibifidis. *Lehm. Prim. p. 89, t. 9. Hook. et Arn. in Bot. of Beech. Voy. p. 128.*

HAB. Unalashka. *Menzies* (*in Herb. nostr.*). *Chamisso*. Cape Newenham. *Nelson* (*in Herb. nostr.*). *Kotzebue's Sound. Beechey*.—A very distinct and well-marked species.

6. *P. Sibirica* (Jacq.); foliis ovatis subovatisve tenui-petiolatis integerrimis v. obsolete dentatis, umbella pauciflora laxa, involucri 2-3-phylli foliolis auriculatis vaginantibus. *Gmel. Sib. 4. p. 46. f. 1. Lehm. Prim. p. 60. t. 5.*—*P. Norvegica. Retz.—Lehm.*—*P. integrifolia. Oed. Fl. Dan. t. 188. (non L.)—P. Finmarchica. Willd.—Wahl.*—*P. Egaliccensis. Horz. Fl. Dan. t. 1511. Lehm. Prim. p. 64. t. 7.*

HAB. Barren country between lat. 60° and 69°, in clayey soil, by river-banks and in marshy grounds. *Dr Richardson*.—This very distinct and well-marked species does not appear to have been found in the second expedition. I have carefully compared *Dr Richardson's* specimen with authentic ones of the European *P. Norvegica*, the Asiatic *P. Sibirica*, and the *P. Egaliccensis* from *Hornemann* himself, and there can be no question about the propriety of referring them all to one and the same species. *P. rotundifolia*, *Pall. It.*, and *P. intermedia*, *Ledeb. in Mém. de l'Acad. des Sc. de Petersb.*, may also be cited as synonyms.

5. TRIENTALIS. L.

1. *T. Americana* (Ph.); foliis terminalibus (reliquis abortivis squamæformibus) lanceolatis serrulatis petalisque acuminatis. *Ph. Am. 1. p. 254. Rich. App. p. 12.—T. Europæa. Mich.;—var. Americana. Torr.*

HAB. Canada to the Saskatchewan, frequent. Labrador and Newfoundland. *Miss Brenton*.

2. *T. latifolia*; foliis terminalibus (reliquis abortivis squamæformibus) ovatis integerrimis petalisque vix acuminatis.

HAB. N. W. America. About Fort Vancouver. *Walla-wallah River. Tolmie*.—I can neither refer this Western plant to our European *Trientalis*, nor to the one of Eastern America. The leaves are almost exactly ovate, slightly acuminate or rather acute, and in some of the specimens two inches broad.

3. *T. arctica* (Fisch. mst. *in Herb. nostr.*); caule folioso, foliis obovato-cuneatis integerrimis petalisque obtusissimis.—*T. Europæa. Cham. et Schlecht. in Linnæa, 1. p. 224. Hook. et Arn. in Bot. of Beech. Voy. p. 116. (excl. syn. E. Bot.)*

HAB. Western shore and islands, from Sandy Bay, in Clarence Straits (*Tolmie*), to Unalashka. *Langs-*

dorff. Chamisso (in Herb. nostr.).—The same plant is found at Kamschatka by Pallas, Langsdorff, and Beechey.—The long leafy stem, and obovate very obtuse foliage, give a remarkable appearance to the plant; and I cannot but think that this very northern *Trientalis* is, like the preceding, a really distinct species. It has quite the habit of a *Samolus*. In all, the number of the parts of the flower varies from 6, which is most usual, to 7. In this and the preceding, the margins of the leaves are quite entire, in the *T. Americana* and *Europea* slightly (but when seen under a microscope distinctly) serrulated.

6. LYSIMACHIA. L.

1. *L. stricta*. Ait.—*L. racemosa*. Mich. Ph.—*L. bulbifera*. Curt. Mag. t. 104.

HAB. Canada, to the Saskatchewan. Dr Richardson. New Brunswick. Mr Kendal.

2. *L. revoluta* (Nutt. Gen. Am. 1. p. 122); caule tetragono ramoso, foliis oppositis sessilibus rigidis linearibus marginibus revolutis, pedunculis subterminalibus unifloris. Torr. Fl. 1. p. 212.

HAB. Falls of Niagara (Nuttall and Torrey, in Herb. nostr.). Lake Huron. Goldie. Dr Todd.—I have received the same plant from Dr Schweinitz from Pennsylvania, and from English gardens, as the *L. angustifolia*, Mich., but whether it be so or not I have no means of determining. The *L. quadrifolia*, Bot. Mag. t. 660 (*L. longifolia*, Ph.) much resembles it also. It is of a very dry and harsh character, and Dr Torrey not unaptly compares its aspect with that of *Hypericum galioides*: but the foliage is larger and coarser. Young leaves frequently arising from the axils of the older ones, give them an appearance of being verticillate.

3. *L. ciliata*. L.—Ph. Am. 1. p. 210.

HAB. Throughout Canada to the Saskatchewan. Dr Richardson; and on the N. W. Coast, on the Columbia, and at Puget's Sound. Dr Scouler. Douglas. New Brunswick. Mr Kendal.

4. *L. hybrida*. Mich.—Ph. Am. 1. p. 135. Torr. Fl. 1. p. 75.

HAB. Canada. Dr Holmes. Except in the much narrower leaves, this does not differ from the preceding.

5. *L. thyrsoflora*. L.—E. Bot. t. 176. Mich.—*L. capitata*. Ph. Am. 1. p. 135.

HAB. From Lake Huron to the Mackenzie River. Dr Richardson. Plentiful near Spokane and Flat-head Rivers of the Columbia. Douglas.

7. GLAUX. L.

1. *G. maritima*. L.—E. Bot. t. 13. Ph. Am. 1. p. 176.

HAB. Marshes near the sea, Canada. Pursh. Murray Bay. Mrs Sheppard. Newfoundland. Dr Morison. West Coast, north of the Columbia. Dr Scouler. Tolmie. Salt marshes in the plains of the Saskatchewan. Drummond.

8. SAMOLUS. L.

1. *S. Valerandi*. L.—Ph. Am. 1. p. 158.

HAB. Canada. Pursh. In all moist grounds, near springs and streams, from the Atlantic to the Pacific oceans. Douglas. Mount Edgecomb, N. W. Coast. Dr Scouler.

ORD. LXXII. PLUMBAGINEÆ. *Juss.*1. STATICE. *L.*1. *S. Armeria*. *L.*—*E. Bot. t.* 226. *Ph. Am. 1. p.* 212.

HAB. Sea-shores, probably in every latitude; on the extreme Arctic Coasts and Islands; and in Labrador, Newfoundland, and N. W. America; and the barren country of the Interior.

2. *S. Caroliniana*. *Walt.*—*Ph. Am. 1. p.* 212.

HAB. Newfoundland. *Miss Brenton*; and probably elsewhere on the South-eastern Sea-shores.—Scarcely different from the European *S. Limonium*, to which Sprengel refers it.

ORD. LXXIII. PLANTAGINEÆ. *Juss.*1. PLANTAGO. *L.*1. *P. major*. *L.*—*E. Bot. t.* 1558. *Ph. Am. 1. p.* 98. *Rich. App. p.* 4.— β . foliis ovalibus longe petiolatis subintegerrimis.

HAB. From Lake Huron (*Dr Todd*) to lat. 68°. *Dr Richardson*. Newfoundland. *Miss Brenton*. Labrador. *Dr Morison*. Sitcha. *Bongard*.— β . Fort Vancouver and Observatory Inlet. *Dr Scouler*.—It is perhaps a var. of this that Parsh mistook for the *P. cucullata*, Lam. (*P. maxima*, Jacq. Ic. 1. t. 26.)

2. *P. cordata* (Lam.); foliis cordatis longe petiolatis sinuato-dentatis glabris, spica elongata laxiflora, capsula subrotundo-ovata biloculari loculis dispersis. *Ph. Am. 1. p.* 182.—*P. Kentuckensis*. *Mich.*

HAB. Canada. *Ph.*

3. *P. lanceolata*. *L.*—*E. Bot. t.* 507. *Ph. Am. p.* 98. *Rich. App. p.* 4.— β . spica cylindrica 1-2-pollicari.— γ . *latifolia*; foliis latioribus siccitate magis viridibus, spica elongata 3-5-pollicari.

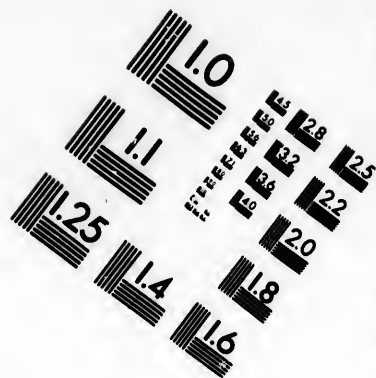
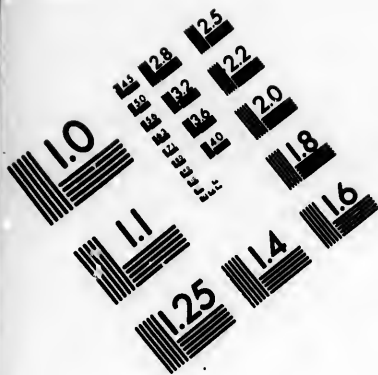
HAB. β . Fort Norman to Arctic Sea-shore. *Dr Richardson*. N. W. Coast. *Menzies*.— γ . Plains of the Saskatchewan, Athabasca, and Red Rivers. *Dr Richardson*. *Douglas*. *Drummond*.—Besides the var. discovered by *Dr Richardson*, in the first journey, with the spike more cylindrical, and the bractees perhaps generally obtuser, another and more remarkable variety, as I consider it, was found in the second journey, in the vicinity of the Saskatchewan, with broader leaves, of a pale green colour when dry, and with the spike generally 4-5 inches long. In other particulars the plants agree with the European *P. lanceolata*.

4. *P. macrocarpa* (Cham. et Schlecht. in *Linnaea*, 1. p. 106); foliis longe lanceolatis erectis basi in petiolum latissimum attenuatis, spica elongata cylindrica laxiflora, capsula maxima biloculari disperma integra decedente. *Bong. Veg. Sitcha. p.* 42.

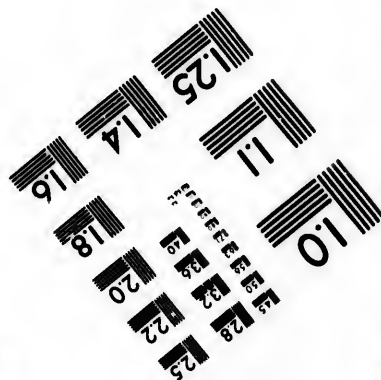
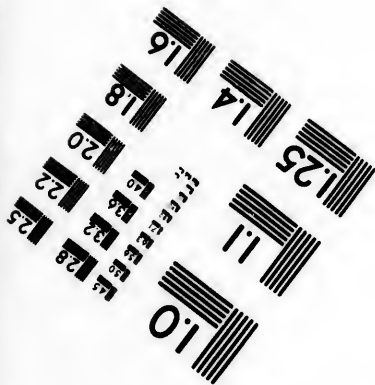
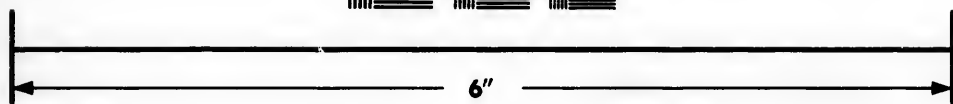
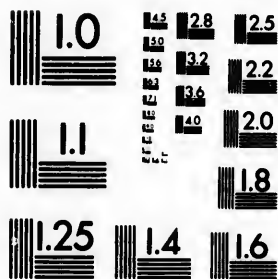
HAB. Unalaska. *Chamisso*. Sitcha. *Bongard*. Sitkine, N. W. Coast, lat. 56° 30'. *Tobnie*.—A very remarkable plant, with singularly large capsules, in their ripest state, showing no disposition to dehiscence. Leaves a foot or more long, a little shorter than the scape.

5. *P. maritima*. *L.*—*E. Bot. t.* 175. *Ph. Am. 1. p.* 99.—var. foliis pauci-dentatis.





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HAB. Point Levy, Canada. *Mrs Sheppard*. Newfoundland and Labrador. *Dr Morison*. N. W. Coast, and from the Columbia to Unalaska. *Dr Scouler*. *Tolmie*. *Chamisso*. *Bongard*.— β . Newfoundland. *Miss Brenton*.—The remote but large and strong teeth in our var. bring the state of the plant near *P. Coronopus*, of which it may be a var.

6. *P. pauciflora* (Ph. Am. 1. p. 99); foliis lineari-lanceolatis integerrimis glabriusculis, scapo tereti foliis brevioribus, spica pauciflora interrupta, bracteis ovatis acutis glabris.—*P. elongata*. Ph. Suppl. 11. p. 729 (according to Nutt.).

HAB. Labrador (Ph.);—but I have great doubts about this plant. The original *P. elongata*, gathered by Bradbury in Upper Louisiana, which Nuttall pronounces to be the same with *P. pauciflora*, is identical with *pusilla*, which I have never seen from British N. America, and I should think is a very unlikely inhabitant of Labrador.

7. *P. gnaphalioides* (Nutt. Gen. Am. 1. p. 100); tota longe sericeo-villosa, foliis lineari-lanceolatis acutissimis, spica elongata cylindrica densiflora, staminibus inclusis, capsula biloculari disperma.—*P. Lagopus*. Ph. (non Linn.)— β . bracteis longissimis spinulosis.—*P. aristata*. Mx.

HAB. N. W. America. *Menzies* (in *Herb. nostr.*). Common on the barren plains of the Columbia. *Douglas*.—The Columbia is probably the northern limit of this fine species. "It is an inhabitant of the Southern United States. Mr Nuttall gathered it in Arkansas; Mr Drummond at San Felipe in Texas (Coll. III. n. 354); and the var. *aristata* in the same place (Coll. III. n. 353). Mr Nuttall has proved that the *P. aristata* is only an accidental var. of his *P. gnaphalioides*.

SUBCL. IV. MONOCHLAMYDEÆ.

Div. 1. Flores plerumque hermaphroditi.

ORD. LXXIV. NYCTAGINEÆ. Juss.

1. OXYBAPHUS. L'Hérit.

Cal. 5-fidus, campanulatus. *Cor.* infundibuliformis. *Nux* pentagona, monosperma, calyce explanato persistente circumdata.

1. *O. hirsutus*; caule erecto subsimplici inferne præcipue pilis longis densissimis articulatis hispido, foliis sessilibus ovatis angulato-dentatis parce hirsutis, calycibus pubescenti-tomentosis.—*Allionia hirsuta*. Ph. Am. 2. p. 728.

HAB. About Carlton House Fort on the Saskatchewan. *Drummond*.—Bradbury (from whom there is an authentic specimen in my herbarium) discovered this plant in Upper Louisiana. The present inhabits a much more northern station, the most northerly perhaps of any of the genus; of which the species are more frequent in the south.

2. ABRONIA. Juss. (TAICRATUS. L'Hérit.)

Involucr. multiflorum, polyphyllum. *Cor.* infundibuliformis basi ventricosa persistens. *Stam.* 5, filamenta basi in urceolum parvum coalita. *Nucula* pentagona.

1. *A. mellifera*; magis minusve viscida, foliis ovatis petiolatis subsinuatis, floribus glabris, perianthii limbo undulato (luteo-albo). *Dougl. in Bot. Mag. t. 2879.*—A. Menziesii et vespertina. *Dougl. ms.*

HAB. Sandy barrens of the interior about the Great Falls of the Columbia, Mount Hood, and the junction of Lewis and Clarke's Rivers, and interior of N. California. *Douglas.* Moist banks of the Walla-wallah River, very frequent. *Toimis.*—A particularly variable plant, perhaps too nearly allied to the following, with which it agrees in the colour of the flowers, but differs in the foliage; this latter again exactly resembles that of *A. umbellata* (Ex. Fl. t. 194), differing little but in the yellowish-white and downy, not red and glabrous, flowers.

2. *A. arenaria* (Menz.); viscidissima, subhirsuta, foliis cordatis seu rhombeo-cordatis integerrimis, floribus pubescentibus, perianthii limbo undulato. *Hook. Ex. Fl. t. 193.*

HAB. Sandy sea-shore, N. W. America (last journey). *Douglas.* Mr Menzies was the first to discover this plant in California.

ORD. LXXV. AMARANTHACEÆ. *Juss.*

1. AMARANTHUS. *L.*

1. *A. paniculatus.* *L.—Willd. Amaranth. p. 32. t. 32. f. 2. Ph. Am. 1. p. 207.*

HAB. Lake Huron to the Saskatchewan. *Dr Todd. Dr Richardson.* Columbia. *Dr Scouler.*

2. *A. albus.* *L.—Willd. Amaranth. p. 9. t. 1. f. 2. Ph. Am. 1. p. 206.*

HAB. A weed in the garden at Carlton House Fort. *Dr Richardson. Drummond.* Menzies' Island in the Columbia. *Douglas.*

ORD. LXXVI. CHENOPODEÆ. *Juss.*

1. SALICORNIA. *L.*

1. *S. herbacea.* *L.—a. caule erecto, S. annua. E. Bot. t. 415. Ph. Am. 1. p. 2.*

HAB. Salt marshes in the plains of the Saskatchewan.

2. *S. radicans.* *Sm. E. Bot. t. 1691. et t. 2467. (S. fruticosa,—not of Linn.)*

HAB. Straits of De Fuca, N. W. America. *Dr Scouler.*

2. CORISPERMUM. *L.*

Flores hermaphroditi ebracteati. *Cal.* 0. *Cor.* 0. *Squamula* hypogyna inter caulem et germen, v. 0. *Stam.* 1-5. *Stigmata* 2. *Caryopsis* compressa, verticalis. *Albumen* centrale. *Embryo* periphericus, dicotyledoneus. *Radicula* basilaris, descendens.—*Herbæ* annuæ, ramosæ, lanuginosæ; foliis angustis planis integerrimis sessilibus alternis; floribus axillaribus sessilibus, solitariis; caryopse elliptica compressa, uno latere plana, altero convexa marginata. *Ledeb.*

1. *C. hyssopifolium* (Stev.); foliis caulinis floralibusque submucronulatis uninerviis,

floribus squamula hypogyna auctis, caryopse glabra alato-marginata rostellata. *Ledeb. Fl. Alt.* 1. p. 10. *Pall. Fl. Ross.* 2. p. 112. t. 98. f. A. *Ph. Am.* 1. p. 4.—*α. gracile. β. robustius. δ. rubricaulæ.*

HAB. *α.* Sandy banks of the Saskatchewan and Athabasca and Red Rivers. *Drummond. Douglas.*—*β.* Same situations on the Athabasca (*Drummond*), and on the Columbia (*Douglas*).—*γ.* Great Slave Lake. *Dr Richardson.*—A very variable species, as is the European plant of the same name. Our var. *α.*, which is considerably hairy, would include the *C. canescens* of Kitaibel, and the *C. pilosum*, *Pall.*, is probably scarcely different from it; whilst var. *β.* is the same as *C. Redowskii* *Fisch.* (in *Herb. Hook.*), and *C. hyssopifolium*, var., *Requien* (in *Herb. Hook.*); and var. *γ.* is the *C. nitidum*, *Kit.* (in *Herb. Hook.*).

3. EUROTIA. *Adans.*

Flores monoici ebracteati. *MASC. Cal.* 4-sepalus, inappendiculatus. *Cor. et squamula hypogynæ* nullæ. *Stam.* 4. receptaculo inserta. *FÆM. Cal.* tubulosus semibifidus, villo densissimo involutus, demum bicornis. *Cor. et squamula hypogynæ* 0. *Stigmata* 2, basi connata. *Utriculus* compressus, herbaceus. *Semen* verticale, integumentis tenuibus. *Radicula* descendens.—*Fruticulus erectus, pube stellata vestitus. Folia sparsa petiolata, membranacea, oblonga. Flores glomerato-spicati, terminales et laterales. Ledeb.*

1. *E. ceratoides. Ledeb. Fl. Alt.* 4. p. 239.—*Diotis. Willd.*—*Ceratospermum papposum. Pers.*—*Axyris ceratoides. L.*—*Axyris fruticosa, &c. Gmel. Sib.* 3. t. 11. f. 1.—*Krascheninnikovia ceratoides. Guildenst. in. Nov. Com. Petrop.* 16. t. 17. f. 1-6 et f. 13.—*Diotis lanata. Ph. Am.* 2. p. 602.

HAB. Plains of the Saskatchewan. *Drummond.*—Pursh distinguished this from the European *E. ceratoides*, by its long woolly tomentum: but in this particular there is really no difference. The leaves are generally narrower in the American plant, but both these characters are variable.

4. BLITUM. *L.*

1. *B. capitatum. L.—Ph. Am.* 1. p. 4.

HAB. Lake Huron and various parts of Canada, to Hudson's Bay and Great Slave Lake. *Dr Richardson.*

2. *B. chenopodioides* (*Nutt.*); foliis hastatis subdentatis basi attenuatis, glomerulis axillaribus bracteatis, seminibus punctatis non baccatis. *Nutt. Gen. Am.* 1. p. 4.

HAB. Carlton House upon the Saskatchewan. *Drummond.*—A curious and very distinct annual, with small leaves and flowers, first detected by *Nuttall* on dry soils near the banks of the Missouri. Flowers in small axillary glomeruli, each flower consisting of one stamen and one pistil, with a punctato-reticulated ovary; its deeply bipartite style is subtended by a membranaceous reticulated oblong bractea. Perianth 0.

5. CHENOPODIUM. *L.*

1. *C. maritimum?* *L.—E. Bot.* t. 633. *Ph. Am.* 1. p. 198.

HAB. Arctic sea-coast. *Dr Richardson.*—I am uncertain about this species. It is scarcely an inch long, proreclinate, very slender, with 4 to 6 or 8 leaves. Flowers axillary and clustered.

2. *C. calcicoliforme*; annuum erectum alternatim ramosum glaberrimum, foliis linearisubulatis carnosis supra planis, floribus glomeratis in spicam foliosam seu bracteatum

dispositis, bracteis ovato-lanceolatis acuminatis, sepalis 4-5 carnosis calceoliformibus acutis.

HAB. About Carlton House Fort. *Drummond*.—Eight to ten inches high, with copious spiniform branches. Flowers small; each sepal is slipper-shaped, thick and fleshy.

3. *C. album*. L.—*E. Bot. t. 1723. Ph. Am. 1. p. 198.*— β . *viride*. *C. viride*. *Curt.*
—*C. ficifolium*. *E. Bot. t. 1724.*

HAB. From Lake Huron to the Saskatchewan and the Rocky Mountains, and to Bear Lake. *Dr Richardson*. Columbia, near old camps. *Douglas. Dr Scouler*.—Extremely variable in size and ramification, and in the shape of its leaves.

4. *C. rubrum*. L.—*E. Bot. t. 1721.*

HAB. About the Saskatchewan. *Drummond*. Newfoundland. *Dr Morison*. Straits of De Fuca, N. W. C. *Dr Scouler*.—These specimens quite agree with the figure in *E. Bot.* Seeds very small.

5. *C. glaucum*. L.—*E. Bot. t. 1454.*

HAB. Cumberland House Fort and garden at Edmonton House, and to Hudson's Bay. *Drummond. Dr Richardson.*

6. *C. urbicum*. L. ?—*E. Bot. t. 717.*—*C. intermedium. Mert. et Koch.*

HAB. Lake Huron, Lake Winnipeg, and plains of Red River and Saskatchewan, to the Bear Lake. *Dr Richardson. Drummond*.—This I have received from the American botanists as *C. hybridum*; but that species has a more paniced inflorescence, with divaricating branches. The present exactly accords with the *E. Bot. C. hybridum*.

7. *C. humile*; parvum ramosum decumbens, foliis inferioribus ovato-spathulatis superioribus oblongis vel linearibus omnibus integerrimis petiolatis, floribus axillaribus glomeratis, glomerulis globosis.

HAB. Marshes of the Saskatchewan.—This is a small spreading plant, scarcely more than three inches in diameter, glabrous, turning almost black in drying. Glomeruli of flowers about as large as a small pea, very compact, and arising from the axil of most every leaf.

8. *C. ? zosterifolium*; ramis copiosis plerumque oppositis divaricatis, foliis sæpe oppositis linearibus integerrimis, floribus glomerato-spicatis axillaribus terminalibusque, spicis subfoliosis.— β . foliis lineari-oblongis.

HAB. N. W. C. of America. *Menzies*. Columbia and Straits of De Fuca, (in salt marshes?) *Dr Scouler*.—A very singular-looking plant, with flowers so much injured by pressure that they cannot be satisfactorily examined. Branches generally opposite, and decussate, reddish, the midrib of the same colour. Leaves mostly opposite also, 3-4 inches long, and scarcely a line wide in α , broader and shorter in β ; all quite entire. It may possibly be an *Atriplex*; and perhaps a luxuriant state of *A. Gmelini*.

9. *C. ? spinosum*; fruticosum, ramis spinoscentibus glabris, foliis fasciculatis obovatis carnosis subsessilibus, floribus polygamis?

HAB. Interior of North California. *Douglas*. 1826.—The specimens are very imperfect. The plant is evidently shrubby and spiny, clothed with pale-coloured, glabrous bark. Leaves scarcely half an inch long. There are a few terminal flowers, exactly like the male flowers of an *Atriplex*, or *Chenopodium* with an abortive pistil.

Saxia polygaloides. Hook. & Arnott. Bot. of Beechey's Voyage
Hook. & Jones, t. 271.

ATRIPLEX. L.

1. *A. canescens* (Nutt.); dioica diffusa argenteo-furfuracea, foliis oblongis obtusis integerrimis basi attenuatis, masc. florum glomerulis spicatis axillaribus terminalibusque, fem. glomerulis paucifloris axillaribus sessilibus quorum sepalis dorso spinoso-cristatis.—*Nutt. Gen. Am.* 1. p. 197.—*Calligonum canescens. Ph. Am.* 2. p. 370.

HAB. Salt marshes of the Saskatchewan and of Slave River. *Dr Richardson. Drummond.*—First detected by Lewis on saline hills of the Missouri. Goats are said to be very fond of it. It has been cultivated in the Belfast Botanical Garden from seeds brought home by Mr Drummond.

2. *A. patula. L.—E. Bot. t.* 936.—var. foliis magis argenteo-furfuraceis.

HAB. Banks of the Walla-wallah, and in the valleys of the Blue Mountains, N. W. America. *Douglas.*

3. *A. littoralis. L.—E. Bot. t.* 708. *Hook. et Arn. in Bot. of Beech. Voy. p.* 129.

HAB. Kotzebue's Sound. *Beechey.*

4. *A. angustifolia. Sm. E. Bot. t.* 1774. *Cham. in Linnæa, v.* 6. p. 569.

HAB. Bay of Escholtz. *Chamisso.* Saline marshes of the Saskatchewan. *Drummond.* Newfoundland. *Miss Brenton.*—Perhaps merely a var. of the preceding, having the leaves exceedingly variable.

5. *A. Gmelini* (Meyer); annuum erectum viride, foliis oblongo-linearibus subintegerrimis, calycibus femineis herbaceis bipartitis ovato-rhombis acutis integerrimis disco lævibus. *Bong. Veg. de Sitcha. p.* 42. *Gmel. Sib. 3. p.* 72. *t.* 14. *f.* 2.

HAB. Sitcha and Kotzebue's Sound, *Bongard.*—A very dubious species, and the specimens which have been kindly sent me by M. Bongard seem to be identical with those of Chamisso, which the latter author describes as var. *obtusa nana* of *A. angustifolia*, from the Bay of Escholtz.

BATIS. L.

1. *B. ? vermiculata*; fruticosa ramosissima, foliis alternis elongatis linearibus teretibus carnosius, amentis masculinis terminalibus, squamis cuspidatis.

HAB. Common on the barren grounds of the Columbia, and particularly near salt marshes. *Douglas.*—Four to six feet high. A very remarkable shrub, of which the male catkins alone appear to have been found. These are rather more than half an inch long, clothed with peltate, pedicelled angular scales, of which the upper angle is elongated into a mucro, and beneath which are 3? or 4? sessile 2-celled anthers. The leaves are an inch to an inch and a half long, slender, fleshy and vermicular.

ORD. LXXXVII. PHYTOLACCEÆ. Br.

1. PHYTOLACCA. L.

1. *P. decandra. L.—Bot. Mag. t.* 931. *Ph. Am.* 1. p. 324.

HAB. Lake Huron. *Dr Todd.*—Of this, the *Poke-weed*, the young sprouts are, in the United States, eaten like Asparagus.

ORD. LXXVIII. POLYGONEÆ. *Juss.*1. KONIGIA. *L.*1. *K. Islandica. L.*—*Fl. Dan. t. 418.*HAB. Moist mountains N. of the Smoking River. *Drummond.* Bay of Escholtz. *Chamisso.*2. OXYRIA. *Br.*1. *O. reniformis. Hook.*—*Rumex digynus. E. Bot. t. 910. Ph. Am. 1. p. 248.*HAB. Common in the Rocky Mountains and on the Arctic Sea-shores. *Dr Richardson. Drummond. Capt. Sir E. Parry.* Labrador. *Dr Morison.* Sitcha. *Bongard.* Unalashka. *Chamisso.*3. RUMEX. *L.*1. *R. Acetosa. L.*—*E. Bot. t. 127.*HAB. Prairies of the Rocky Mountains. *Drummond.* "Assuredly wild in Canada," *Mrs Percival*; and Newfoundland. *Miss Brenton.* (Naturalized?)2. *R. Acetosella. L.*—*E. Bot. t. 1674.*HAB. Canada. *Dr Todd, Mrs Sheppard*; to the Saskatchewan. *Drummond.* Gravelly soils, N. W. America. *Douglas. Dr Scouler.* Newfoundland. *Dr Morison. Mr Cormack.* (Probably introduced from Europe.)3. *R. crispus. L.*—*E. Bot. t. 1998.*HAB. Canada. *Mrs Sheppard, Mrs Percival.*5. *R. domesticus* (Hartm.); foliis inferioribus e basi subcordata v. ovata oblongis, caulinis lanceolatis undulato-crispis subtus scabridis, verticillis subaphyllis congestis, sepalis int. demum cordatis v. suborbiculari-cordatis obtusiusculis integerrimis crenulatisve omnibus nudis. *Cham. et Schlecht. in Linnæa, v. 3. p. 60. Reichenb. Iconogr. Bot. t. 345* (excellent). *Bong. Veget. de Sitcha, p. 43. Hook. et Arn. in Bot. of Beech. Voy. p. 129.*—*R. aquaticus, β. Wahl.*—*β. nanus, purpurascens.*HAB. Marshes of the Saskatchewan, to the Rocky Mountains. *Drummond.*—*β.* Arctic Sea-coast. *Dr Richardson.* Unalashka. *Chamisso.* Sitcha. *Bongard.* Kotzebue's Sound. *Beechey.*—This quite agrees with my European specimens of the species from *Podolia*, with others from Greenland, and with the figure of *Reichenbach.* *Dr Richardson's* specimens are very dwarf, about a span high, and much tinged with purple.6. *R. salicifolius* (Weinm.); foliis caulinis lanceolatis acuminatis planiusculis, verticillis infimis foliolosis reliquis aphyllis approximatis, floribus diclinis monoicis, sepalis int. demum oblongo-ovatis obtusiusculis integerrimis, 1 (vel 2) granulifero.—*β.* sepalis int. demum omnibus granuliferis. *Bot. Zeit. 1821. p. 28. Cham. et Schlecht. in Linnæa, 3. p. 60. Bong. Veget. de Sitcha, p. 43. Hook. et Arn. in Bot. Beech. Voy. p. 157.*—*S.* verticillatus. *Rich. App. p. 11. (vix L.)*—*R. pallidus. Bigel. (in Herb. nostr.)*HAB. Lake Winnipeg, to Great Bear Lake and Mackenzie River. Columbia River. *Dr Scouler.* Sitcha. *Bongard.* Newfoundland. *Miss Brenton.*—I believe the true *R. verticillatus* to be an inhabitant only of the

more southern parts of N. America. The present seems to vary considerably in the presence or absence of the large grain on one or more of the valves. But the species is certainly very widely dispersed in British N. America.

7. *R. acutus*. L.—*E. Bot. t. 724. Rich. App. p. 11.*

HAB. Woody country. *Dr Richardson.*

8. *R. sanguineus*. L.—*E. Bot. t. 1533. Ph. Am. 1. p. 247.*— β . foliis omnino viridibus. *R. viridis. Sibth.—R. Nemolapathum. Ehrh.*

HAB. Barren country beyond lat. 64°. *Dr Richardson.*— β . Canada. *Mrs Sheppard. Newfoundland. Miss Brenton.*

9. *R. persicarioides*. L.—*Ph. Am. 1. p. 248. Hook. et Arn. in Bot. Beech. Voy. p. 158.*—an *R. maritimus*. L. ? *E. Bot. t. 725.*

HAB. Plains of Saskatchewan to the mountains. *Drummond. N. W. Coast, frequent. Douglas. Hudson's Bay. Drummond. Douglas.*—*Dr Arnott and myself have expressed our fears, in the place above quoted, when speaking of this as a Californian plant, that it was not really distinct from our R. maritimus. It has a most extensive range. We possess it from China, and from Port George in Patagonia. Sometimes the teeth of the enlarged sepals are shorter, and then the species appears to pass into R. palustris, Sm.*

10. *R. venosus* (Ph.); caule dichotomo, foliis subcoriaceis ovato-lanceolatis valde acutis petiolatis parallelo-venosis, floribus hermaphroditis, sepalis int. demum reniformi-cordatis reticulatis maximis integerrimis nudis. (TAB. CLXXIV.)—*Ph. Am. 2. p. 733. Nutt. Gen. Am. 1. p. 240.*

HAB. Carlton House Fort on the Saskatchewan. *Dr Richardson.* Common throughout the barren grounds of the Columbia to the source of Lewis and Clarke's River. *Douglas.*—A very fine and most distinct species, first discovered by Mr Bradbury in Upper Louisiana. The enlarged inner sepals are often the size of a shilling.

TAB. CLXXIV. RUMEX VENOSUS. Fig. 1, Flower; f. 2, Fruits: nat. size;—f. 3, Single fruit:—magnified.

3. POLYGONUM. L.

§ 1. BISTORTA.

1. *P. Bistorta*. L.—*E. Bot. t. 509. Cham. et Schlecht. in Linnæa, 3. p. 37.*—*P. ellipticum. Willd. Herb. Spreng.—P. bistortoides. Ph. Am. 1. p. 271.*

HAB. Arctic Sea-coast. *Dr Richardson.* N. W. Interior. *Douglas* (last journey).—Our specimens seem almost intermediate between the present and following species. They have no bulbs on the spike or raceme; in the Arctic individuals (4-5 inches high) the flowers are purple, the leaves ovato-lanceolate, glaucous beneath. In the specimen from Douglas, the flowers appear to be white, the lowest leaves even are broadly lanceolate, tapering at the base, and of nearly the same colour on both sides. In both, the raceme is elliptical.

2. *P. viviparum*. L.—*E. Bot. t. 669. Ph. Am. 1. p. 271. Cham. et Schlecht. 3. p. 38. Rich. App. p. 43.*

HAB. Lower Canada (Ph.), to the Arctic sea-coast and islands. *Dr Richardson. Sir E. Parry, &c. Swampy ground in the Rocky Mountains. Drummond. Labrador. Dr Morison. Miss Brenton. N. W. America, Observatory Inlet (Dr Scouler), to Behring's Straits. Chamisso.*

§ 2. ACHINOŒONON.

3. *P. alpinum* (All. *Ped. t. 68. f. 1.*) floribus majusculis albis demum roseis purpureisve, achenio calyce tecto faciebus ovato-rhomboides lævibus, paniculis ramosis, foliis lanceolatis acuminatis breviter petiolatis minute pubescentibus margine ciliatis, ochreis pilosis, caule erecto glabriusculo ramoso, ramis adscendentibus. *Meisn. Polyg. p. 56. t. 3. G. Cham. et Schlecht. in Linnæa, 3. p. 38.*— β . foliis ovato-acuminatis subtus pubescentifuscis. *Hook. et Arn. in Bot. of Beech. Voy. p. 129.*— γ . foliis ovato-acuminatis glaberrimis.

HAB. α . Kotzebue's Sound. *Chamisso. Beechey.*— γ . Arctic Sea-coast. *Dr Richardson.*

§ 3. FAGOPYRUM.

4. *P. Fagopyrum*. L.—*E. Bot. t. 1044. Meisn. Polyg. p. 61. Ph. Am. 1. p. 273.*

HAB. New Brunswick. *Lieut. Kendal.* (Probably introduced.)

§ 4. TENIARIA.

5. *P. Convolvulus*. L.—*E. Bot. t. 941. Ph. Am. 1. p. 273.*

HAB. Canada (*Mrs Sheppard*), to the Saskatchewan and Hudson's Bay. *Dr Richardson. Drummond. Newfoundland. Miss Brenton.*

6. *P. cilinode* (*Mich. Am. 1. p. 241*); perenne, calyce non alato, floribus parvulis patulis, achenio calyce abscondito faciebus ellipticis utriusque attenuatis lævibus nitidis angulis acutis, racemulis parvis subpaniculatis, ochreis basi serie ciliorum paullo deflexorum coronatis, foliis margine ciliatis petiolisque retroflexis, caule ascendente scandente. *Meisn. Polyg. p. 63. t. 5. f. 18—20.*

HAB. From Lako Huron (*Dr Todd*), throughout Canada, to the Saskatchewan and Hudson's Bay. *Dr Richardson. Drummond.*

7. *P. sagittatum* (L.); floribus 6-8-andris, achenio acuminato faciebus tenerrime punctato-striatis, pedunculis communibus plerumque geminatis, foliis sagittato-oblongis, nervo dorsali petiolis ochrearum basi angulisque caulis retrorsum aculeatis, ochreis cylindraceis truncatis, caule prostrato aut ascendente. *Meisn. Polyg. p. 65.*— β . boreale; foliis petiolatis debilibus margine non cartilagineo-ciliatis, ciliis apicem spectantibus, ochreis laceris margine truncato nudis, capitulis parvis sphaericis. *Meisn. l. c. Ph. Am. 1. p. 241. Gmel. Sib. 3. p. 65. t. 13. f. 2.*

HAB. β . Canada, to the Saskatchewan. *Dr Richardson. Drummond. Newfoundland. Miss Brenton.*

§ 5. PERICARIA.

8. *P. amphibium*. L.—*E. Bot. t. 436.*—*P. coccineum. Ph. Am. 1. p. 271.*— α . natans; glabrum, caule natante demerso radicante, foliis ovato-ellipticis spicisque brevibus obtusis. *Meisn. l. c. p. 67.*—*P. coccineum, aquaticum. Ph. Am. 1. p. 271.*— β . terrestre; majus, caule ascendente, foliis pilis brevibus scabris ovato-lanceolatis spicisque elongatis acuminatis. *Meisn. l. c. p. 67.*—*P. coccineum, terrestre. Ph. Am. 1. p. 271.*

HAB. α . Canada. *Pursh*; *Mrs Percival*; to the Saskatchewan and Great Slave Lake. *Dr Richardson. Drummond.*— β . Marshy places of the Saskatchewan. *Dr Richardson. Drummond.* N. W. America, about Fort Vancouver and Walla-wallab, *Tolmie*; and Straits of De Fuca. *Dr Scouler.*

9. *P. Persicaria* (L.); annuum, floribus 6-aut 8-andris, di-aut-trigynis, achenio lenticulari aut triquetro calyce abscondito angulis obtusis faciebus lævibus, calyce 4-aut 5-partito, spicis ovato-oblongis s. sublinearibus, bracteis turbinato-infundibuliformibus parvis, ochreis truncatis, foliis lanceolatis petiolatis sæpe macula atra semilunari v. triangulari medio notatis. *Meisn. Polyg. p. 68.*—*P. Pennsylvanicum. L. ?*— β . *lapathifolium. L.—E. Bot. t. 1882.*— γ . *minus*; spicis angustioribus.

HAB. α . Lake Huron, to the Saskatchewan and Hudson's Bay. *Dr Richardson. Drummond.*— α . and β . N. W. C. of America. *Douglas. Tolmie.*— γ . Saskatchewan to Great Bear Lake. *Dr Richardson.*

10. *P. Hydropiper. L.—E. Bot. t. 989. Ph. Am. 1. p. 238.*—*P. Mite. Ell.*—*P. hydro-piperoides. Mx.*

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*

11. *P. Virginianum* (L.); perenne, floribus 5-andris digynis, calyce 4-partito, achenio pyriformi compresso majusculo lævi, spicis virgatis subsimplicibus longis, ochreis bracteis truncatis ciliatis angustis, foliis ovatis acuminatis cauleque erecto hirsutis. *Meisn. Polyg. p. 81. Ph. Am. 1. p. 270.*

HAB. Canada. (*Ph.*) *Dr Holmes.*

§ 6. AVICULARIA.

12. *P. aviculare. L.—E. Bot. t. 1252. Ph. Am. 1. p. 269.*

HAB. Throughout Canada, to lat. 65°, frequently with larger foliage and more erect stems. (*P. erectum, Willd.*) Newfoundland and Labrador. *Dr Morison. Miss Brenton. Sitcha. Bongard* (sub nom. *P. buxifolii, Nutt.*). N. W. America. *Douglas. Tolmie.*—A most variable plant, from two inches to a foot or more in height or length, for the stems are sometimes erect, sometimes procumbent. Leaves from 2 or 3 lines to 2 inches long. Nuttall says his *P. buxifolium* (*P. avic. latifol. Mx.*) has 5 stamens, not 8, as is usual.

13. *P. Paronychia* (Cham.); suffruticosum, inflorescentia dense capitata, floribus axillaribus in apicibus confertis magnis 8-andris, stylo germinis longitudine, stigmatibus 3 filiformibus brevibus, achenio lanceolato triquetro lævi, foliis lineari-lanceolatis margine revolutis, nervo subtus prominente canaliculato utrinsecus hirto, ochreis basi vaginantibus longitudine foliorum. *Cham. et Schlecht. in Linnaea, 3. p. 52. Hook. et Arn. in Bot. of Beech. Voy. p. 158.*—*P. confertiflorum. Dougl. mst.*

HAB. N. W. America, in the sand of the sea-shore from California (*Chamisso, Beechey*), to the Straits of De Fuca. *Mr Menzies. Douglas.*—A remarkably fine and very distinct species, discovered by Menzies during the voyage of Captain Vancouver. Flowers forming a large dense capitate spike.—The same, or a very nearly allied species, was found by Mr Drummond at Apalachicola in West Florida.

14. *P. tenue* (Mich.); floribus axillaribus sessilibus solitariis majusculis, achenio acutangulo faciebus ovatis medio sublævibus nitidis versus angulos punctato-rugulosis, ochreis capillaribus deciduis, foliis lineari-filiformibus acutissimis (superioribus floriferis

sensim minoribus bracteiformibus), caule herbaceo erecto dichotomo, ramis elongatis spiciformibus. *Mein. Polyg. p. 91. Ph. Am. 1. p. 270.*—*P. filiforme. Bart.*—*P. lini-folium. Muhl.—Spreng.*

HAB. Canada. (*Ph.*) Sandy banks of the Saskatchewan. *Drummond.* North W. America. *Douglas.* Walla-wallah River, where the small annual root is eaten by the natives.—6 inches to a foot high, stiff and wiry.

15. *P. coarctatum* (Dougl. mst.); annuum dichotomum erectum v. diffusum, foliis linearibus vel lineari-lanceolatis acutis marginibus revolutis, ochreis basi vaginantibus folio brevioribus, floribus trigynis axillaribus in foliis superioribus coarctatis, achenio ovato-trigono minutissime punctato.—*P. lineare. Menz. mst.—a. floribus folio brevioribus.—β. floribus folio longioribus.*

HAB. N. W. America. *Menzies. Dr Scouler.* On the sandy barrens of the Columbia and its branches, and on the higher branches of the Multnomak. *Douglas.—β. Prairies at Nuaqually Bay, N. W. America. Tolmie.*—This seems a very distinct species of the "*Avicularia*" section, and to be wholly confined to the Pacific side of America. Stems from 3 inches to a foot long, slender and wiry.

§ 7. POLYGONELLA. *Nutt.*

16. *P. articulatum* (Willd.); erectum ramosum rigidum 8-andrum trigynum, foliis parvis linearibus, ochreis truncatis, pedunculis terminalibus racemosis articulatis, bracteis ochreiformibus, floribus nutantibus 5-sepalis. *Ph. Am. 1. p. 272.*

HAB. Canada. (*Ph.*) About the Saskatchewan. *Dr Richardson. Drummond.*—A very remarkable species, which Meisner, as well as Michaux, seem to think should form a distinct genus.

5. ERIOGONUM. *Mich.*

Involucrum tubulosum, campanulatum vel cyathiforme, vix angulatum, subæqualiter 6-dentatum, multiflorum. *Receptaculum* bracteolis intra pedicellos instructum. *Perianthia* exserta, profunde 6-fida. *Benth. in Linn. Trans. v. 17. p. 407.*

§ 1. UMBELLATA. *Benth.*

1. *E. sphaerocephalum* (Dougl. mst.); caule ramoso folioso, foliis fasciculatis verticillatisve oblongis basi angulatis subtus albo-lanatis, pedunculis subsimplicibus, involucreo sub-solitario late campanulato tomentoso multifloro, perianthiis extus sericeo-pilosis. (TAB. CLXXV.)—*Benth. l. c. p. 407.*

HAB. Common on the Columbia River, on rocks of the "Stony Islands," and Priest's Rapid. *Douglas.*—A small shrub, with leafy branches, and capitate umbels of yellow flowers.

TAB. CLXXV. ERIOGONUM SPHEROCEPHALUM. Fig. 1, Involucre with flowers; f. 2, Single flower; f. 3, Pistil:—magnified.

2. *E. flavum* (Nutt. in *Fras. Cat.*); foliis ad basin caulis approximatis spathulato-obovatis oblongisve subtus vel utrinque albo-lanatis, pedunculo apice breviter umbellato, involucreis ad apices radiorum solitariis late campanulatis lanatis multifloris, perianthiis sericeo-villosis. *Benth. l. c. p. 408.*—*E. sericeum. Ph. Am. 1. p. 277.*

HAB. Summits of the Blue Mountains. *Douglas*.—Leaves all radical, as they mostly are in the eight following species, densely woolly beneath. Scapes a span or more high. Heads of flowers in dense yellow umbels, with short rays.

3. *E. crassifolium* (Benth.); caule brevissimo incrassato vaginis foliorum villosissimis obtecto, foliis radicalibus petiolatis oblongis basi longe angustatis crassis supra tomentosopubescentibus subtus albo-lanatis, scapo apice breviter umbellato, involucris sessilibus vel ad apices radiorum solitariis campanulatis lanatis multifloris, perianthiis sericeo-villosis. (TAB. CLXXVI.)—*Benth. l. c. p. 408.*

HAB. Carlton House Fort on the Saskatchewan. *Dr Richardson*.—A beautiful and very distinct species, with a long thick tap root, very woolly at the neck among the leaves. Umbels more or less lax or compact. Flowers yellow.

TAB. CLXXVI. *ERIOGONUM CRASSIFOLIUM*. Fig. 1, Involucre with flowers; f. 2, Single flower; f. 3, Pistil;—*magnified.*

4. *E. caespitosum* (Nutt. *Journ. Ac. Nat. Sc. Phil.* 7. p. 50. t. 8. f. 2.); caule brevissimo vaginis foliorum glabriusculis obtecto, foliis radicalibus oblongo-linearibus basi longe angustatis supra læviter subtus dense albo-tomentosis, scapo apice breviter umbellato, involucris sessilibus vel ad apices radiorum solitariis campanulatis lanatis. *Benth. l. c. p. 408.*

HAB. Alpine spots among the Rocky Mountains, at an elevation of 10,000 feet. *Drummond*.—A small tufted species, with the habit of a *Primula* or *Androsace*. Flowers full yellow.

5. *E. ovalifolium* (Nutt. *l. c. p. 50. t. 8. f. 1.*); foliis ad basin caulis approximatis subrotundo-ovalibus basi in petiolum angustatis utrinque dense albo-lanatis, involucro ad apicem pedunculi solitario globoso multifloro vel paucis sessilibus, perianthiis glabris vel basi vix pubescentibus. *Benth. l. c. p. 409.*

HAB. Summits of the Blue Mountains, N. W. America. *Douglas*.—Stems short, much branched, tufted; the lower leaves black and decayed, the upper ones broadly spatulate and white on both sides, with dense wool. Scapo 3-5 inches, with a circle of leaves above the middle: in other words, the upper portion of the scape is a single ray of an involucre abortive umbel.

6. *E. Tolmieanum*; suffruticosum basi ramosum, ramis brevibus tortuosis foliosis, foliis ovatis in petiolum attenuatis supra viridibus glabriusculis subtus albo-tomentosis, scapo nudo gracili, involucris multifloris perpaucis in umbellam parvam capitatam 1-2 foliosam congestis campanulatis subtrifidis pedicellis multo brevioribus.

HAB. Banks of the Walla-wallah River, among *Artemisia*. *Tolmie*.—Habit of the preceding, but smaller and of slenderer growth. Scape quite naked. Flowers small, yellow, appearing at first sight to be densely capitato. Each involucre is almost sessile, and crowded with flowers, which are much protruded: and one or two leaves arise from the base of the umbel.

7. *E. stellatum* (Benth.); foliis ad basin caulis approximatis ovalibus basi in petiolum longe angustatis supra glabriusculis subtus canescentibus, pedunculo apice simpliciter vel bis umbellato, involucris in umbellula paucis villosulis sexfidis, laciniis lanceolatis tubo longioribus reflexo-patentibus, perianthiis glabris. (TAB. CLXXVII.)—*Benth. l. c. p. 409.*

HAB. Blue Mountains of the N. W. Interior. *Douglas*.—My specimens of this have the leaves (of which two or three arise from the scape) exactly like those of *Statis oleifolia*, slightly downy, and only so beneath. Umbels frequently compound and lax.

TAB. CLXXVII. Fig. 1, Involucre with flowers; f. 2, Single flower; f. 3, Pistil:—*magnified*.

8. *E. umbellatum* (Torr. in *Ann. Lyc. N. Hist.* 2. p. 241); foliis ad basin caulis approximatis oblongo-linearibus subtus vel utrinque albo-lanatis, pedunculo apice umbellato, involucris ad apices radiorum solitariis late campanulatis lanatis multifloris dentibus tubo brevioribus, perianthis glabris. *Benth. l. c. p. 410. t. 18. f. 2.*

HAB. On the high grounds of Salmon River, and valleys near the Kettle Falls on the Columbia. *Douglas*.—Scape about a span high.

9. *E. heracleoides* (Nutt. *l. c. p. 49*); foliis ad basin caulis approximatis spathulato-oblongis subtus albo-lanatis, pedunculis elongatis apice biumbellatis, involucris in umbellula plurimis pedicellatis late campanulatis lanatis multifloris, perianthis glabris. *Benth. l. c. p. 410.*

HAB. North-west Interior, above the Kettle Falls of the Columbia. *Douglas*.—My specimens of this fine plant are 1½ foot high, and the leaves, including the petioles, 3-4 inches long. Umbels large, yellow?

10. *E. compositum* (Dougl. *mst.*); foliis ad basin caulis approximatis longe petiolatis ovatis basi rotundatis cordatisve supra demum glabris subtus dense albo-lanatis, pedunculo longissimo nudo apice breviter biumbellato, involucris breviter pedicellatis campanulatis multifloris. *Benth. l. c. p. 410. t. 17. f. 10. et in Bot. Reg. t. 1774.*

HAB. Common on the gravelly banks of the Columbia, and of the N. W. Interior generally, especially on the Blue Mountains. *Douglas*.—A fine and stout species, with large compound umbels of yellow flowers.

§ 2. LATIFOLIA. *Benth.*

11. *E. nudum* (Dougl. *mst.*); foliis ovatis margine undulatis basi rotundatis v. subcordatis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, pedunculo 2-3-chotome paniculato, capitulis lateralibus terminalibusque, involucris in capitulo 1-3 sessilibus tubuloso-campanulatis glabris, bracteolis vix plumosis. *Benth. l. c. p. 413.*—*E. arachnoideum. Hook. et Arn. in Bot. of Beech. Voy. p. 158. (non Eschsch.)*

HAB. Plains of the Multnomak River, and between the "Grand Rapids" and "Great Falls" of the Columbia. *Douglas*.—A stout-growing plant, 1-3 feet high. Differs from *E. latifolium* (of California) in being more glabrous, and in the inflorescence. Bractees beneath the involucre and ramifications, ovate. Teeth of the involucre short, obtuse. Bracteoles setaceous, scarcely exerted. Segments of the perianth nearly equal.

12. *E. elatum* (Dougl. *mst.*); foliis amplis oblongis undulatis supra villosulis subtus velutinis, involucris glomeratis pedicellatis tubuloso-campanulatis glabris. *Benth. l. c. p. 413.*

HAB. Plains of Multnomak and Cape Mendocino, New California; common. *Douglas*.—Leaves very large, 5-6 inches long without the petiole.

§ 3. MICRANTHA.

13. *E. strictum* (Benth.); suffruticosum, foliis parvis oblongo-ovatis basi in petiolium

longe angustatis subtus vel utrinque albo-lanatis, pedunculis strictis gracilibus subdichotomis, involucris parvis sessilibus terminalibusque paucifloris glabriusculis, dentibus brevissimis subæqualibus. *Benth. l. c. p. 414.*

HAB. Columbia River and Blue Mountains. *Douglas.*—"Suffrutex basi cæspitosus, dense foliosus. *Pedunculi* scapiformes, juncei, pedales et ultra, basi simpliciter nudi, a medio 2-3-dichotomi, ramis omnibus strictis rigidis erectis tenuibus. *Bractea* parva, lineares. *Involucra* pauca, secus ramos sessiles, pleraque ad apicem ramorum terminalia, vix lineam longa. *Perianthia* exserta, laciniis exterioribus domum valde auctis."

14. *E. niveum* (Dougl. mst.); suffruticosum, foliis oblongis basi angustatis pedunculoque albo-lanatis, bracteis patentibus, involucris tenuibus niveis paucifloris, dentibus alternis minutis. *Benth. l. c. p. 414.*

HAB. Rocky and sandy soils near the "Great Falls" of the Columbia and valleys of the Blue Mountains. *Douglas.*—"Suffrutex basi cæspitosus, foliosus. *Folia* fere *E. flavi*. *Pedunculi* scapiformes, pedales et ultra."

15. *E. dichotomum* (Dougl. mst.); suffruticosum, foliis oblongis basi angustatis pedunculoque albo-lanatis, bracteis brevibus appressis, involucris crassiusculis dense lanatis plurifloris sessilibus, dentibus brevibus subæqualibus. *Benth. l. c. p. 415.*

HAB. Common on the banks of the "Great Falls" of the Columbia, and of the river Utaha, N. W. America. *Douglas.*—"Affine *E. niveo*, sed rigidum strictum. *Bractea* involucri dimidio breviores, appressæ. *Involucra* tubulosa, duplo majora quam in *E. niveo*. *Flores* exserti, magnitudine fere *E. compositi*. *Filamenta* basi pilis paucis donata. *Ovarium* glaberrimum."

16. *E. decumbens* (Benth.); suffruticosum, foliis ovatis petiolatis utrinque cano-tomentosis, pedunculi ramis flexuosis floccoso-lanatis, bracteis involucri æquantibus patentibus, involucris crassiusculis dense lanatis plurifloris sessilibus, dentibus recurvo-patentibus alternis minutis. *Benth. l. c. p. 415.*

HAB. Columbia River. *Douglas.* Walla-wallah. *Tolmie.*—"Rami foliiferi elongati, duri, dense tomentosi. *Folia* pollicaria, petiolo 1-2-pollicari. *Bractea* inferiores oblongæ, foliaceæ, ultra pollicares, superiores lineares. *Involucra* forma fere *E. nivei*, magnitudine *E. dichotomi*. Species habitu distinctissima."

17. *E. vimineum* (Dougl. mst.); annuum, foliis subradicalibus petiolatis ovatis subtus tomentosis, pedunculis scapiformibus divaricato-ramosis apice involucrisque glaberrimis. *Benth. l. c. p. 416.*

HAB. Barren grounds of the Columbia, near the base of the Blue Mountains. *Douglas.*—"Pedunculi scapiformes, complures, basi sublanati, 6-8-pollicares. *Rami* tenues, virgati. *Involucra* tenuia, cylindrica, sessilia, dentibus brevibus obtusis subæqualibus. *Perianthia* breviter exserta, laciniis exteriores per anthesin patule obovate, interiores erectæ dimidio angustiores."

ORD. LXXIX. LAURINEÆ. Juss.

1. BENZOIN. *N. ab E.*

1. *B. odoriferum*. *N. ab E. Syst. Laur. p. 497.*—*Laurus Benzoin. L.—Ph. Am. 1. p. 276.*—*L. pseudo-Benzoin. Mx.—Evosmus Benzoin. Nutt.*

HAB. Canada. (*Ph.*)

2. SASSAFRAS. *N. ab E.*

1. *S. officinale*. *N. ab E. Syst. Laur. p. 488.*—*Laurus Sassafras. L.—Ph. Am. 1. p. 277.*

HAB. Canada. (*Ph.*)

3. TETRANTHERA. *Jacq.*

Flores dioici, rarius hermaphroditi, involucrati. *Perianthium* plerumque 6-partitum. *Stam. fert.* 9, triplici serie. *Anth.* 4-locellatæ, introrsum dehiscentes. *Staminodia* (glan-
dulæ filamentorum) 6, per paria staminibus 3 interioribus adjuncta. *Stigma* peltatum. *Bacca* tubo floris explanato imposita.—Inflorescentia *umbellata*. *N. ab E.*

1. *T. Californica* (Hook. et Arn. in *Bot. of Beech. Voy. p. 159*); hermaphrodita, foliis perennantibus oblongo-lanceolatis vix acutis penninerviis reticulato-venosis glabris, pedunculis axillaribus simplicibus, floribus pluribus, umbella subcapitata, pedunculis folio brevioribus.—*Laurus regia. Douglas, mst.*

HAB. N. W. America. First found by *Mr Menzies* in New California, south of the Columbia. *Douglas.*—*Mr Douglas* observes, that "this elegant evergreen tree, which attains the height of 40 to 120 feet, and from 2 to 4 feet in the diameter of its stem, forms the connecting link between the gloomy Pine-forests of N. W. America and the tropical-like verdure of California. The foliage, when bruised, gives out a most powerful camphor-like scent; and even during severe hurricanes, I have been obliged to remove from under its shade, the odour being so strong as to occasion violent sneezing. The hunters often make use of a decoction of the leaves, which they take without any bad effect; indeed it stimulates the system, and produces a glow of warmth."—Flowering specimens are in *Mr Douglas'* collection from California, which prove this plant to be a true *Tetranthera*.

ORD. LXXX. ELÆAGNEÆ. Juss.

1. ELÆAGNUS. *L.*

1. *E. argentea* (*Ph. Am. 1. p. 114*); inermis, foliis ovato-oblongis utrinque acutis argenteo-lepidotis, floribus fasciculatis nutantibus, fructibus globosis. *Rich. App. p. 5.*

HAB. Canada. *Mrs Sheppard*; and from the Grand Rapids of the Saskatchewan to the Rocky Mountains, and to lat. 69° near the coast. *Dr Richardson. Drummond. Hudson's Bay. Nuttall.*—This is indeed very nearly allied to some *Elæagni* of the Old World, particularly to *E. parvifolia*, Wall., *E. orientalis*, L., and to some specimens in my herbarium of *E. angustifolia*. The leaves seem to be variable in shape; but I think in our plant the flowers are more drooping than in those just mentioned, and the fruit more globose and as mealy as the leaves. "It is the *Waw-pish-keemena* of the Cree Indians. The bark peels off in the winter, the moment it is thawed, which is not the case with other plants." *Rich. mst.* *Drummond* observes that the flowers are very fragrant. The branches and leaves are alternate.

2. SHEPHERDIA. Nutt.

Diocia. MASC. *Perianthium* 4-fidum. *Stam.* 8 inclusa, glandulis 8 alternantibus.—FÆM. *Perianthii* tubus ovarium arcte investiens, (non adhærens) limbo 4-lobo. *Stylus* 1. *Stigma* obliquum. *Bacca* calyce carnosio tecta globosa, monosperma.—Frutices *Boreali-Americana*, ramis spinoscentibus foliisque deciduis oppositis, argenteo-nunc etiam ferrugineo-lepidotis. Flores aggregati.

1. *S. Canadensis* (Nutt.); foliis elliptico-ovatis supra nudiusculis subtus stellato-pilosis ferrugineo-squamulosisque.—Hippophae Canadensis. Willd.—*Ph. Am.* 1. p. 115. *Rich. App.* p. 38.

HAB. Throughout Canada to Fort Franklin on the Mackenzie River, and from Newfoundland and Hudson's Bay to the Rocky Mountains. *Dr Richardson. Drummond.* N. W. Coast. *Mr Menzies.*

2. *S. argentea* (Nutt.); foliis oblongo-lanceolatis utrinque dense subargenteo-lepidotis. (TAB. CLXXVIII.)—Hippophae argentea. *Ph. Am.* 1. p. 113.

HAB. Saskatchewan; between Carlton and Edmonton House Forts. *Dr Richardson. Drummond.*—This is a species very distinct from the preceding, at once known by its more spreading branches, narrower leaves covered on both sides with copious somewhat silvery scales, and pellucid fruit, of so bright a red that the Indians call the plant *Metheo-meeva*, or *Bloody Berry*. Pursh mentions its great similarity with *Elaagnus argentea*; but here the leaves are much narrower, less silvery, and they, as well as the branches, are opposite; and the flowers and fruit are extremely dissimilar.

TAB. CLXXVIII. SHEPHERDIA ARGENTEA. A. Male Plant. *Fig. 1*, Flower; *f. 2*, Flower laid open.—B. Female Plant. *Fig. 3*, Female flower; *f. 4*, Ditto, laid open, showing the pistil; *f. 5*, Stigma; *f. 6*, Fruit (nat. size); *f. 7*, Fruit; *f. 8*, Fruit laid open; *f. 9*, Seed:—*magnified.*

ORD. LXXXI. THYMELEÆ. Juss.

1. DIRCA. L.

Perianthium coloratum, tubuloso-campanulatum, limbo obsolete. *Stam.* 8, exserta, inæqualia. *Stylus* filiformis. *Drupa* monosperma.—Frutex *Bor.-Americana*, ramis articulatis. Flores sub frondescentia, terni e singula gemma. Liber tenacissimus.

1. *D. palustris*. L.—*Ph. Am.* 1. p. 268. *Gawl. in Bot. Reg.* t. 292.

HAB. Canada. *Cleghorn. Drummond.*

ORD. LXXXII. SANTALACEÆ. Br.

1. COMANDRA. Nutt.

Perianthium suburceolatum, tubus ovario adhærens, limbo 5-4-partito. *Stam.* 5 vel 4 petalis opposita summo tubi inserta. *Discus* perigynus tubum investiens, 5-lobum, lobis cum staminibus alternantibus. *Fructus* subdrupaceus, 1-spermus, perianthii limbo coronatus.—Suffrutices *glaberrime*, basi subsarmentose, erectæ, *Boreali-Americane*: foliis alternis integerrimis. Pedunculi axillares terminalesque. Flores umbellulati parvi.

1. *C. umbellata* (Nutt. *Gen. Am.* 1. p. 157); caule ramoso, foliis lanceolatis subrigidis, umbellulis in paniculas foliosas terminales dispositis, perianthii laciniis oblongis erectis. (TAB. CLXXXIX. A.)—*Rich. App.* p. 8.—*Thesium umbellatum*. L.—*Ph. Am.* 1. p. 177.—*T. corymbulosum*. Mx.

HAB. From Lake Huron to the Saskatchewan, and to the Rocky Mountains. *Dr Richardson. Drummond. Douglas. Dr Todd.* Dry banks of the Columbia River. *Tolmie. Gairdner.*—This species is correctly described by Mr Nuttall, except that he considers the five laciniæ of the perianth as the five petals of a corolla inserted upon the edge of a tubular calyx, which most assuredly is not the case. He well observes the curious tuft of hairs by which each anther is attached at the back to the segment of the perianth. The fruit seems to be chartaceous, enveloped by the thickened tube of the perianth, and thus somewhat drupaceous. In this species it is only the lower part of the tube that is united with the ovary: and the persistent upper free portion of this tube forms a sort of neck at the top of the fruit.

TAB. CLXXXIX. A.—*COMANDBA UMBELLATA*. Fig. 1, Umbel of flowers; f. 2, Flower laid open; f. 3, Segment of the perianth, with the stamen, exhibiting the tuft of filaments at the back of the anther; f. 4, Fruit (nat. size); f. 5, Fruit;—*magnified*.

2. *C. livida* (Rich. *App.* p. 9); caule simplici, foliis ellipticis flaccidis, umbella solitaria axillari pedunculata triflora, perianthii laciniis brevibus patentibus. (TAB. CLXXXIX. B.)

HAB. From Lake Winipeg to the Rocky Mountains, and to lat. 69° on the Mackenzie River. *Dr Richardson. Drummond.* Newfoundland and Labrador. *Miss Brenton. Dr Morison.*—This is a very distinct species, and has been well described by Dr Richardson. Here the whole tube of the calyx is incorporated with the germen; the limb short and spreading. Filaments, also, and style very short. There is ripe fruit upon the specimens, but pressed and injured. The single seed, however, appears to be attached near the middle to a funiculus, which rises from the base of the cell.

TAB. CLXXXIX. B.—*COMANDBA LIVIDA*. Fig. 1, Umbel of flowers; f. 2, Single flower; f. 3, Segment of the perianth, with the stamen; f. 4, Fruit (nat. size); f. 5, Fruit; and f. 6, Fruit cut through transversely, containing the seed:—*magnified*.

ORD. LXXXIII. ARISTOLOCHIÆ. *Juss.*

1. ASARUM. L.

1. *A. Canadense*. L.—*Ph. Am.* 2. p. 596. *Hook. Bot. Mag. t.* 2769.—3. perianthii lobis longissimis subulato-acuminatissimis.

HAB. Throughout Canada to the Saskatchewan. *Dr Richardson. Drummond.*—β. Abundant in shady pine woods, among moss, on the N. W. Coast. *Douglas.*—This species varies exceedingly in the length of the acumination of the lobes of the perianth; but none of the specimens from the east side of the Rocky Mountains have them much more than half the length of those from the Pacific side of America: these lobes appear also to be much more erect, the flowers larger, and the leaves more truly cordate and less downy. Future observation may prove it to be a distinct species, as Mr Douglas considered it.

DIV. 2. Flores plerumque Monoici vel dioici.

ORD. LXXXIV. EMPETREÆ.

1. EMPETRUM. L.

1. *E. nigrum*. L.—*E. Bot. t. 375. Ph. Am. 1. p. 93.*

HAB. Near the Sea-coast in Canada. *Michaux*; at Murray Bay. *Mrs Sheppard*. Newfoundland. *Miss Brenton*. Throughout the woody and barren country, abundant, to the Arctic Sea-shore and Islands. *Dr Richardson*. *Sir E. Parry*.

ORD. LXXXV. EUPHORBIACEÆ. *Juss.*

1. EUPHORBIA. L.

1. *E. hypericifolia* (L.); glabra v. parce pilosa ramosissima erecto-patula dichotoma, ramis divaricatis, foliis oppositis serratis ovali-oblongis subfalcatis, corymbis foliosis subterminalibus. *Ph. Am. 2. p. 605. Hook. Ex. Fl. t. 36* (caule subsimplici).

HAB. Canada (*Ph.*), to the Saskatchewan. *Dr Richardson*. *Drummond*.—These specimens are often hairy.

2. *E. polygonifolia* (L.); glaberrima diffusa ramosissima gracilis dichotoma, foliis oppositis oblongis subfalcatis obtusis integerrimis, floribus subsolitariis axillaribus. *Jacq. Coll. Suppl. t. 13. f. 3. Ph. Am. 2. p. 606.*

HAB. Canada (*Ph.*), to Carlton House Fort on the Saskatchewan. *Drummond*. On Menzies' Island, and at the Grand Rapids of the Columbia, N. W. America. *Douglas*.

3. *E. platyphylla*. L.—*E. stricta*. *E. Bot. t. 333.*

HAB. Lake Huron. *Dr Todd*. Norway House Fort on the Saskatchewan. *Dr Richardson*. Plains of the Columbia River. *Douglas*. Probably introduced from Europe.

4. *E. obtusata* (*Ph. Am. 2. p. 606*); umbella 3-fida bis dichotoma, involucellis ovatis obtusiusculis subcordatis, foliis alternis sessilibus spathulatis involucellisque serrulatis glabris, capsulis muricatis. *Ph.*

HAB. Near Quebec. *Mrs Sheppard*. Canada. *Drummond*.—Apparently rare in the British possessions. Only three specimens were gathered by Mr Drummond. The leaves are truly obovato-cuneate.

5. *E. pilosa* (L.); umbella 5-radiata tri-deinde biradicellata, foliis serrulatis pilosis, imis oblongis obtusiusculis, superioribus lanceolatis, involucellis ovatis, capsulis asperis pilosis. *Reich. Iconogr. Bot. t. 149. Ph. Am. 2. p. 605.*

HAB. Canada. *Goldie*. (Probably introduced.)—Pursh, however, gives it as an inhabitant of the mountains of Maryland and Virginia.

6. *E. corollata*. L.—*Ph. Am. 2. p. 607. Hook. Bot. Mag. t. 2992.*

HAB. Canada. *Ph.*

2. CROTON. L.

1. *C.?* *setigerum*; annuum parvum dichotome ramosum pilis stellatis ubique incanotomentosum, caule petiolisque setis patentibus hispidissimis, foliis late ovatis obtusis petiolo brevioribus.

HAB. Plentiful on Menzies' Island, and on sandy banks of the Columbia upwards. *Douglas*.—Only one specimen of this, I regret to say, is in my possession, and it has no more than a few male flowers developed amongst the small terminal leaves, which seem to form a kind of involucre beneath them. Whole plant scarcely the height of one's finger; clothed every where with stellated tomentum; the petioles and stem and branches, besides, bearing patent bristles or rigid hairs, somewhat bulbous at their base. Leaves in general nearly an inch long, most crowded at the top of the branches, where the innermost or uppermost are very small about the flowers.

3. ACALYPHA. L.

1. *A. Virginica*. L.—*Ph. Am.* 1. p. 604.

HAB. Canada (*Ph.*), to the Saskatchewan. *Drummond*.

ORD. LXXXVI. URTICÆ. *Juss.*

1. URTICA. L.

1. *U. pumila* (L.); monoica, foliis oppositis ovatis acuminatis trinerviis serratis, petiolis inferioribus longitudine folii, floribus triandris capitato-corymbosis petiolo brevioribus. *Ph. Am.* 1. p. 112.

HAB. Canada. *Ph.*

2. *U. urens*. L.—*E. Bot. t.* 1236. *Ph. Am.* 1. p. 113.

HAB. Canada. *Ph.* Newfoundland. *Miss Brenton*. (Imported.)

3. *U. dioica*. L.—*E. Bot. t.* 1750. *Ph. Am.* 1. p. 113.

HAB. Canada. *Ph.* (Imported.)

4. *U. gracilis* (Ait.); dioica erecta stricta parce hispida, foliis ovato-lanceolatis subacuminatis grosse subduplicato-serratis trinerviis supra nudiusculis, subtus ad nervos hispidis, spicis elongatis pinnatim ramosis folio subbrevioribus, floribus glomeratis. *Rich. App. p.* 36.—*U. procera?* *Willd.*

HAB. From Lake Huron (*Dr Todd*), to the Saskatchewan, and throughout the woody country, generally, on the east of the Rocky Mountains, as far as Fort Franklin, on the Mackenzie River. *Dr Richardson. Drummond.*

5. *U. Canadensis* (L.); foliis alternis cordato-ovatis acuminatis penninerviis membranaceis utrinque cauleque hispidis longe petiolatis, paniculis plerumque geminatis divaricato-ramosissimis petiolo longioribus. *Ph. Am.* 1. p. 114.— β . *minor*. *U. divaricata*. L. *Ph.*

HAB. Canada. (*Ph.*) Lake Huron. *Dr Todd*.—I cannot distinguish *U. divaricata* from *U. Cana-*

densis, unless it be that the latter is the taller plant of the two. Pursh describes it as monoicous, but all my specimens, both from British America and from the United States, are truly diœcious, as observed by Linnæus. The fibre of the stem is copious and strong, and Mr Whitlaw endeavoured to recommend it to this country as an article of commerce.

2. BËHMERIA. L.

1. *B. cylindrica* (Willd.); foliis oppositis ovato-oblongis acuminatis dentatis glabris, floribus dioicis, spicis masculis glomeratis interruptis, fœmineis cylindricis, caule herbaceo. *Ph. Am.* 1. p. 112.—*Urtica cylindrica*. L.— β . spicis brevioribus subcapitatis.—*Urtica capitata*. L. ?—*Ph. Am.* 1. p. 113.

HAB. α , and β . Canada. *Ph. Cleghorn. Dr Holmes*.—I have already, in my account of Mr Drummond's plants from the Southern United States, observed that I consider the *Urtica capitata* as a mere var. of *Bœhmeria cylindrica*.

3. HUMULUS. L.

1. *H. Lupulus*. L.—*E. Bot.* t. 427. *Ph. Am.* 1. p. 199.

HAB. Plentiful on the higher parts of Red River, and on the Assinaboine in the 49th lat., which is its northern range, and where only in favourable seasons it perfects its fruit. *Douglas*. New Brunswick. *Mr Kendal*.

4. CANNABIS. L.

1. *C. sativa*. L.—*Ph. Am.* 1. p. 199.

HAB. Canada. *Mrs Percival*. Lake Huron. *Dr Todd*.

ORD. LXXXVII. ULMACEÆ.

1. ULMUS. L.

1. *U. Americana*. L.—*Mich. N. Am. Sylv.** 3. p. 83. t. 126. *Ph. Am.* 1. p. 199.

HAB. Canada. *Ph.*—Saskatchewan to York Factory, Hudson's Bay.

2. *U. fulva*. *Ph. Am.* 1. p. 199.

HAB. Canada. *Ph. Drummond*.—Leaves of what I take to be this, and flowering specimens of two species of *Ulm*, are in the collection, but they cannot be determined satisfactorily.

2. CELTIS. L.

1. *C. occidentalis*. L.—*Mich. N. Am. Sylv.* 3. p. 45. t. 114. *Ph. Am.* 1. p. 200.

HAB. Canada. *Ph.* On the rocky banks of the Columbia River, N. W. America, in the driest places, where no other tree can live. *Douglas*.

* The edition from which I quote is that of "Philadelphia, 1819."

ORD. LXXXVIII. GARRYACEÆ. *Lindl.*1. GARRYA. *Lindl.*

Dioica.—MASC. *Perianth.* tetraphyllum. *Stam.* 4. FÆM. *Perianth.* superum bidentatum. *Ovarium* 1-loculare; stylis duobus setaceis; ovulis duobus ab apice funiculorum totidem pendulis. *Pericarpium* baccatum, indehiscens, dispermum. *Embryo* minimus in basi albuminis carnosus.—Frutex (*Boreali-Americana, ora occidentali*). Flores *intra bracteas connatas, in spicis amentaceis pendulis dispositi.* *Lindl. Bot. Reg. p. 1686.*

1. *Garrya elliptica.* *Dougl. Herb. Lindl. l. c. t. 1686.*

HAB. Plentiful on the shore, in rocky situations, on the south side of the Columbia, near its confluence with the sea. *Douglas.*—This fine plant was first detected by Mr Menzies in California, whence also Mr Douglas sent it, in his second and last expedition. It forms a handsome hardy evergreen shrub in the garden of the Horticultural Society at Chiswick. Its wood exhibits no concentric circles or dotted vessels. The flowers are in long catkins, subtended by large connate bracteas.—See Dr Lindley's description above quoted for further particulars relative to its structure.

ORD. LXXXIX. SAURUREÆ. *Rich.*1. SAURURUS. *L.*1. *S. cernuus.* *L.—Ph. Am. 1. p. 252.*

HAB. Canada. *Ph.*

ORD. XC. JUGLANDINEÆ. *DC.*1. JUGLANS. *L. Nutt.*1. *J. cinerea.* *L.—Ph. Am. 2. p. 636. Mich. N. Am. Sylv. 1. p. 160. t. 31. (J. cathartica). Bigel. Med. Bot. t. 32.*

HAB. Canada. *Ph. Mrs Sheppard.*—This is the *Butter-nut* and *Oil-nut* of the Americans, and is said to be nearly allied to *J. nigra*, (the *Black Walnut*): "but the fruit is oblong, with a protuberant summit, and the nut much more deeply and irregularly sculptured."

2. CARYA. *Nutt.*

1. *C. alba* (Nutt.); foliis 5-7 longe petiolatis oblongo-lanceolatis acuminatis acute serratis subtus villosis terminali sessili, amentis filiformibus glabris, fructu depresso-globoso, nuce compressa obliqua.—*Juglans alba.* *Mich. Am.—Ph. Am. 2. p. 637.—J. squamosa.* *Mich. N. Am. Sylv. 1. p. 181. t. 36.*

HAB. Canada. *Dr Beck.—Shell or Shag-bark Hickory.* "A very large and valuable tree, with the bark separating in large flat scales or plates. *Nut* with a thinner shell than that of most other species, and of fine flavour. *Pericarp* thin, globose, depressed at the summit. Timber much prized in consequence of the fineness of its grain and elasticity of the fibre." *Beck.*

2. *C. amara* (Nutt.); foliis plerumque 9 ovato-oblongis acuminatis acute serratis utrinque glabris, fructu subgloboso, nucæ lævi mucronata testa fragili.—*Juglans amara*. *Mich. N. Am. Sylv.* 1. p. 170. t. 33. *Ph. Am.* 2. p. 637.

HAB. Canada. *Dr Beck. Dr Holmes.*—The *Bitter-nut, White or Swamp Hickory.*—A large tree. *Nut* small, almost orbiculate, with bitter and astringent kernels. *Beck.*—Probably other species of *Carya*, found in the northern U. States, may also exist in Canada; but I have received no specimens of them, nor any information concerning them.

ORD. XCI. AMENTACEÆ. *Juss.*

TRIB. I. SALICINÆ. *Rich.*

I SALIX. *L.*

§ 1. CINERÆ. *Amenta ovata et ovato-cylindracea, præcocia. Stam. 2. Ovarium pedicellatum. Folia ovata obovata lanceolatave incana, v. rugosa, v. lana alba pilivæ griseis vestita, plerumque integerrima: sæpe marginibus revolutis. Fruticuli (S. rostrata excepta). Barrett. mst.*

1. *S. candida* (Willd.); foliis lanceolatis v. lineari-lanceolatis rigidiusculis acutis apice obsolete serrulatis supra ramulisque arachnoideis subtus niveo-tomentosis margine tenui revolutis, stipulis ovato-lanceolatis deciduis petiolum æquantibus, amentis oblongo-cylindraceis erectis, floribus densis, squamis obovatis obtusis fuscis pistillo duplo brevioribus longissime villosis, ovariis lanceolatis albo-lanatis stylo longioribus, stigmatis lobis bifidis. *Ph. Am.* 2. p. 608. *Rich. App.* p. 37. *Salict. Wob.* p. 181. t. 91.—β. foliis magis rugosis. *Rich.*

HAB. Throughout the woody country. *Dr Richardson. Drummond. Douglas.*—A beautiful species; the catkins very compact, white, with dense wool, tipped with the deep coloured style and stigmas, and subtended by the dark scale, with long delicate hair. In the ripe catkins, the pistils are nearly half an inch long, and three or four times as long as the style. A shrub 4-6 feet high.

2. *S. Drummondiana* (Barratt, mst.); ramis elongatis strictis glabris subrobustis, foliis obovato-oblongis rigidiusculis integerrimis vel apice obsolete serrulatis margine tenui revolutis, stipulis ovatis longitudine fere petioli longe persistentibus, amentis cylindraceis erectis compactis, squamis ovato-lanceolatis fuscis longe sericeis pistillo plusquam dimidio longioribus, ovariis ovatis acuminatis dense pilis brevibus sericeis nitidis, stylo breviusculo, stigmatis lobis brevibus bifidis vel integris.—β. ovariis glabris.

HAB. Marshes and prairies of the Rocky Mountains. *Drummond.*—Branches long and rather stout, clothed with a glabrous, rich brown, glossy, wrinkled bark. Leaves two inches long, an inch broad above the middle, quite free from pubescence, and very slightly wrinkled; below white, with dense tomentum; the costa yellowish-brown, nearly glabrous. Stipules white beneath, like the leaves. Catkins about an inch or rather more long in the flowering state, twice as much in fruit. Pistils spreading, very crowded:—in β. quite glabrous, and in this var. the silky hairs of the scales are longer than in the usual state of the plant.

3. *S. villosa* (Don? in *Ph. Herb. Canad.*); ramis foliisque junioribus lana arachnoidea villosis, foliis lato-lanceolatis acutis subrigidis integerrimis margine parum revolutis,

adultis superne glabris subtus glaucis albo-lanatis demum glabriusculis, stipulis semicordatis petiolo sublongioribus, amentis fœmineis (fructiferis) bi-triuncialibus ellipticis erectis, squamis oblongo-ovatis fuscis capsula lanceolato-acuminata pubescenti-tomentosa quadruplo brevioribus, stylo brevi, stigmatis lobis bifidis.—*β. acutifolia*; foliis magis acutis vel subacuminatis.

HAB. Canada. *Ph. ?* Rocky Mountains. *Drummond*; thence to the Arctic Sea-coast.—*β.* Fort Franklin on the Mackenzie River. *Dr Richardson*.—Leaves from two to four or nearly five inches long. Mature female catkins very large. I regret not to have perfect specimens of this plant. Indeed I should not have ventured to introduce it, were it not that *Dr Barratt* considers it to be the same as *S. villosa* of *D. Don*, in "*Pursh, Herb. Canad.*"

4. *S. Scouleriana* (*Barratt, mst.*); ramis strictiusculis fuscis subrobustis demum glabris, foliis obovato-lanceolatis integerrimis submembranaceis margine planis supra nudiusculis subtus argenteo-sericeis, amentis oblongo-cylindraceis demum recurvatis densifloris, squamis obovatis nigro-fuscescentibus sericeo-villosis pistilli dimidio longioribus, ovariis ovato-lanceolatis acuminatis sericeis, stylo obsolete, stigmatis lobis integris.

HAB. North West America, on the Columbia. *Dr Scouler*. Fort Vancouver. *Tolmie*.—Bark dark-brown, almost black in the older specimens. Young leaves silky on both sides: adult ones (rarely exceeding an inch in length) nearly glabrous above, beautifully silky beneath. Cutkins an inch and a half long, drooping: the silky germens are much concealed by the large dark-coloured scales.

5. *S. Hookeriana* (*Barratt, mst.*); ramis valde robustis pubescentibus, junioribus dense tomentoso-lanatis, foliis late obovatis fere subrotundatis rigidiusculis serratis margine planis supra (adultis) nudiusculis subtus tomentoso-lanatis, stipulis —? amentis cylindraceis crassis, squamis longe densissime lanatis, ovariis longe stipitatis lanceolatis glaberrimis, stylo breviusculo, stigmatis lobis integris. (TAB. CLXXX.)

HAB. Near the Grand Rapids of the Saskatchewan, rare. *Douglas*. N. W. Coast of America. *Scouler*.—A stout but low growing shrub, with very thick straight branches. The male catkins look like a dense cylindrical mass of wool, which entirely conceals the scales, the stamens only being protruded beyond the wool. The leaves are 2-3 inches long, one inch to an inch and a half wide, clothed with greyish woolly down beneath. Pistils perfectly glabrous, even its stipes; and the lobes of the stigma are always entire.

TAB. CLXXX. A. Branch of a male plant; *f. 1.* Scale and stamens. B. Branch of a female plant; *f. 2.* Scale with its pistil:—*Figs. 1 and 2 magnified.*

6. *S. speciosa* (*Hook. et Arn. in Bot. of Beech. p. 130*); ramis densissime (sæpe flavo-) sericeis, foliis oblongo-lanceolatis subovatis acutis vel acuminatis integerrimis supra nudiusculis subtus petiolisque niveo-tomentosis, stipulis persistentibus lineari-lanceolatis subulatisve membranaceis fuscis petiolo longioribus, amentis elongatis crassis densissime sericeis, squamis nigrescentibus longitudine fere ovarii pilis longis mollissimis sericeis, ovariis ovato-acuminatis sessilibus sericeis; stylo longissimo, stigmatis lobis linearibus bipartitis.

HAB. Kotzebue's Sound. *Beechey*. Fort Norman and Fort Franklin on the Mackenzie River. *Dr Richardson*. On the very elevated of the Rocky Mountains. *Drummond*.—The foliage of this remarkably handsome *Salix*, which were all *Dr Arnott* and myself were acquainted with from Kotzebue's Sound, we have fully described in the Flora above quoted. In the present collection are fine flowering and fruiting

specimens. The amenta are 3-4 inches long, and nearly $\frac{1}{2}$ of an inch in diameter, most beautifully clothed with long, yellowish-white, silky hairs, beyond which the very long slender brown styles, equal in length with the ovary, are protruded.—There is another Willow, also gathered at Fort Franklin by Dr Richardson, with the habit of the present; but the stems are less silky, the *young* leaves (there are no adult ones) almost glabrous, and not in the least woolly even beneath, the catkins equally silky and beautiful with the present, though shorter, and the styles equally long; but the ovary is quite glabrous.—This and the two following, which Dr Barratt is inclined to refer to his ♂ *Præternatæ*, I bring, on account of their affinity with *S. candida* and *S. Hookeriana*, to this section.

7. *S. Barrattiana*; ramis subrobustis flexuosis cicatricatis, foliis obovato-oblongis acutis basi coriatis mollibus glanduloso-serrulatis utrinque (subtus præcipue) pubescenti-sericeis junioribus argenteo-sericeis, stipulis semiovatis glabriusculis glanduloso-serratis petiolo longioribus, amentis cylindraceis masc. ovali-oblongis, fœm. elongatis densifloris pulcherrime sericeis, squamis nigrescentibus ovarium subæquantibus longo sericeis, ovaris lanceolatis brevi-stipitatis sericeis stylo longioribus, stigmatibus lobis fissis. (TAB. CLXXXI.) *S. Helvetica*? *Barratt, mst.*

HAB. Alpine swamps in the Rocky Mountains. *Drummond*.—A species equal in beauty to, but not excelled by, the *S. speciosa* and *S. lanata*, which latter it resembles in many respects. It forms a dwarf shrub, with rather tortuous, stout, and nearly glabrous branches, clothed with dark-brown bark, and marked with the scars of former years' leaves. Leaves 2-3 inches long, blunt and cordate at the base, and, amongst the silky clothing, the margin will be found to be minutely serrated, and the serratures glandular (especially near the base) as are those of the stipules more distinctly; from these glands proceed a powerful balsamic smell. Male catkins 2 inches long, splendidly silky. Stamens 2. Female catkins 4 inches long, flexuose, very silky.—I name this species in compliment to Dr Barratt, of Middletown, Pennsylvania, who has devoted the same attention to the Willows of N. America, that Mr Borrer, and the late Mr Crowe, and Mr Anderson, have done to those of Britain, and who kindly undertook the task of looking over the whole of the collection here described, and referred them to his own *mst.* section of the "*Salices Americanae*." I only regret that I could not induce him to undertake the descriptions of them likewise. But I have profited by many of his observations that have been liberally communicated to me.

TAB. CLXXXI. A. Branch of a male plant; *f.* 1, Scale and stamens from the omentum. B. Branch of a female plant; *f.* 2, Scale and pistil from the amentum; *f.* 3, Base of a leaf and stipules:—*figs.* 1—3 magnified.

8. *S. adenophylla*; ramis brevibus subrobustis lanatis, foliis ovatis basi cordatis acutis subcoriaceis fere omnino sessilibus reticulatim venosis argute serratis serraturis elongatis glanduliferis lana sericea dense obsitis demum ætate nudiusculis, stipulis ovato-cordatis grosse glanduloso-serratis, amentis fœmineis elongatis pedunculatis, capsulis ovatis acuminatis glaberrimis, stylo elongato, stigmatibus lobis fissis.

HAB. Labrador. *Dr Morrison*.—I know no species like this, well marked as it is by the copious long narrow serratures to the leaves tipped with a gland, so that the leaf looks as if it were fringed with pedicelated glands. These leaves are an inch or more long, clothed, even when fully grown, with long silky tomentum on both sides, but which is deciduous on the oldest leaves. Mr Borrer hints at its probable affinity with *S. fetida*, De Candolle Fl. Fr., but that is now referred by its author "and Duby, in the *Fl. Gallica*," to *S. vacciniifolia* of Sm., with which this has little in common. The catkins are old, but the capsules retain the form of the ovary, and are perfectly glabrous.

9. *S. rostrata* (Rich.); ramis erectis strictiusculis pubescentibus (demum glabris), foliis lato-seu obovato-lanceolatis acutis integerrimis serratis submembranaceis demum subcoriaceis supra nulliusculis subtus glaucis cano-pubescentibus, stipulis semicordatis dentatis, amentis *masc.* breviusculis cylindricis densifloris, *fem.* demum valde elongatis laxis, squamis oblongis membranaceis apice pilosis stiptis vix longitudine, ovariis anguste lanceolatis sericeis longe acuminatis longissime stipitatis, stylo perbrevis, stigmatibus lobis bifidis vel integris. *Rich. App. p. 37 (excl. syn. S. phlyctifolix, Sm.).*

HAB. From Hudson's Bay to the Prairies of the Rocky Mountains, and to Fort Franklin on the Saskatchewan. *Dr Richardson. Drummond. Douglas.* Head waters of the Columbia. *Douglas.*—Copious specimens of this plant show that it is, like other Willows, subject to much variation, and the appearance of the young and old foliage, and young and old female catkins, are very different. The colour of the bark is sometimes pale-yellow or deep-brown, sometimes almost black. The lax female catkins, the long, narrow, silky germens, and above all the great length of the stipes, are its best distinguishing features. *Dr Barratt* finds the same species about Middletown, Pennsylvania, and it is probably not uncommon in the United States. It is the largest of the "CINEREÆ" group, being sometimes ten feet high.

§ 2. DISCOLORÆ. *Amenta ovalia vel cylindrica præcocia, glabra, sericea vel piloso-lanata. Squamæ nigricantes. Stam. 2. Germina stipitata subpubescentia. Folia subcoriacea decidua serrata v. denticulata subtus glauca pubescentia, supra glabra, nitida. Barratt, nst.*

(The species of this group constitute large spreading shrubs and small trees, and are the first to put forth their catkins in the spring.)

10. *S. discolor* (Willd.); "foliis oblongis obtusiusculis glabris remote serratis apice integerrimis subtus glaucis, stipulis deciduis lanceolatis serratis, amentis subcoæctaneis diandris oblongis tomentosis, squamis oblongis acutis atris pilosis, germinibus subsessilibus lanceolatis tomentosis, stylo mediocri, stigmatibus bipartitis." *Ph. Am. 2. p. 613. Muhl. in Ann. of Bot. 2. t. 5. f. 1. Salict. Wob. p. 279.*— β . foliis subtus magis glaucis, stylis longioribus.

HAB. Lake Winipeg and Saskatchewan. *Dr Richardson. Douglas.* Newfoundland. *Miss Brenton.*— β . Norway House Fort. *Dr Richardson.*—Branches with female catkins and young foliage, from the Saskatchewan, are marked as truly *S. discolor* of Willdenow, by *Dr Barratt*; and one or two specimens with older foliage, gathered at another period, and in another part of the country, are supposed to be the old foliage. The Newfoundland specimens exactly accord with United States specimens sent me by *Dr Barratt*. Our var. β . has, besides the characters above alluded to, a less silky germen, and it may perhaps constitute a new species.

11. *S. Richardsoni*; ramis brevibus glabriusculis, foliis obovato-lanceolatis integerrimis glabris subtus glaucis junioribus ciliatis, stipulis parvis deciduis lanceolatis dentatis, dentibus glandulosis, amentis fœmineis solitariis terminalibus oblongo-cylindraceis densifloris, squamis oblongis fuscis longe pilosis, ovariis ovato-lanceolatis acuminatis glabris, stylo longissimo, stigmatibus lobis linearibus recurvis bipartitis. (TAB. CLXXXII.)

HAB. Fort Franklin on the Mackenzie River. *Dr Richardson.*—This appears to be a very distinct species, remarkable for the great length of the style. It is to be regretted that very few specimens were procured of it.

TAB. CLXXXII. SALIX RICHARDSONI. Fig. 1, Scale and pistil:—magnified.

§ 3. GRISCEÆ. *Amenta cylindracea subbrevis præcocia. Stam. 2. Germina sessilia v. stipitata griseo-sericea. Folia lanceolata serrata, subtus griseo-sericea siccatate nigricantia. Fructices ramis fragilibus cortice intenso amara. Barratt, mat.*

12. *S. petiolaris* (Sm.); foliis lanceolatis serratis junioribus griseis subtus pilis brevibus sericeis, ovariis stipitatis ovato-lanceolatis valde sericeis, stigmatis subsessilibus lobis bipartitis, squamis villosis stipite vix longioribus. *E. Bot. t. 1147. Salict. Wob. p. 45. t. 23. Ph. Am. 2. p. 616.*

HAB. Lake Winnipeg. *Dr Richardson.*

13. *S. rosmarinifolia* (L.); foliis lineari-lanceolatis sericeis (junioribus præcipue integerrimis v. paucidentatis dentibus minutis glandulosis, amentis brevibus oblongis curvatis laxis, germinibus stipitatis sericeis lanceolato-acuminatis, stylo longitudine stigmatis bipartiti linearis, squamis brevibus villosis. *E. Bot. t. 1365. Salict. Wob. p. 173. t. 87. Ph. Am. 2. p. 612.*

HAB. Saskatchewan. *Dr Richardson.*

§ 4. VIMINALES. *Amenta cylindrica, præcocia. Germina subsessilia sericea. Folia linearia v. lanceolata glabra v. pubescentia. Fructices v. Arbuscula, ramis longis flexilibus.*

14. *S. viminalis*. L.—*E. Bot. t. 1898. Salict. Wob. p. 265. t. 133. Ph. Am. 2. p. 608.*

HAB. Canada. *Dr Holmes. Mrs Sheppard.*

15. *S. purpurea*. L.—*E. Bot. t. 1388. Salict. Wob. p. 1. t. 1. Rich. App. p. 37?*

HAB. Cumberland House Fort. *Dr Richardson.*

§ 5. FRAGILES. *Amenta cylindrica, laxa, acuminata, coætanea. Squamæ viridi-flavæ, pubescentes v. glabræ. Stam. 2-5. Germina glabra. Folia lanceolato-falcata serrata, denticulata v. integerrima. Barratt, mat.*

16. *S. fragilis*. L.—*E. Bot. t. 1807. Salict. Wob. p. 53. t. 27. Rich. App. p. 37.*

HAB. Woody country. *Dr Richardson. Labrador. Dr Morrison.*

17. *S. lucida* (Willd.); foliis adultis ovato-oblongis tenui-acuminatis basi rotundatis subcoriaceis nitidis glabris stipulisque semiovatis glanduloso-serratis, amentis cylindraceis erectis pedunculatis, stam. 3-5, bracteis oblongis membranaceis, germinibus ovatis acuminatis stipitatis glabris, stylo breviusculo, stigmatis lobis bifidis. *Ph. Am. 2. p. 615. Muhl. in Ann. of Bot. 2. t. 5. f. 7. Salict. Wob. p. 63. t. 32.—β. foliis lanceolatis.*

HAB. Throughout Canada (*Mrs Sheppard, Cleghorn*), from Lake Huron (*Dr Todd*) to the Saskatchewan and Jasper's Lake in the Rocky Mountains (*Drummond*), and to the Columbia River (*Douglas, Scouler, Dr Gardner*), and as far north as Fort Franklin on the Mackenzie River. *Dr Richardson.*—This is perhaps one of the most generally diffused of all the Willows in British N. America, and is nearly allied to our European *S. pentandra*.

18. *S. nigra* (Willd.); foliis lanceolatis utrinque acutis serrulatis concoloribus glabris junioribus parce ad nervos præcipue puberulis, stipulis exiguis deciduis, amentis elongatis

laxis flexuosis, stam. 5, filamentis basi barbatis, squamis oblongis villosis patentibus, germinibus ovatis stipitatis fuscis glabris vel basin versus subsericeis, stigmatibus sessilibus lobis bifidis. *Ph. Am.* 2. p. 614. *Muhl. in Ann. of Bot.* 2. t. 5. f. 5. *Salict. Wob.* p. 260.

HAB. Canada. *Cleghorn*.—This very distinct species is extremely common in the Southern United States; rare in the North.

19. *S. falcata* (Ph.); foliis longissimis anguste falcato-lanceolatis acuminatis serratis unicoloribus glabris junioribus præcipue ad nervos subsericeis, stipulis magnis latolunatis serratis deflexis, amentis fœmineis elongatis multifloris laxiusculis, squamis deciduis, ovariis ovato-acuminatis stipitatis glabris, stylo brevissimo, stigmatibus lobis subintegris. *Ph. Am.* 2. p. 614. *Salict. Wob.* p. 270.

HAB. Canada. About Quebec. *Mrs Sheppard*.—The long, falcate leaves, and large, broadly lunate, reflexed stipules, readily distinguish this species. I am not acquainted with the male catkins.

20. *S. longifolia* (Willd.); foliis lineari-lanceolatis acutissimis (quandoque spinulosis) serratis concoloribus glabris junioribus sericeis, amentis pedunculatis erectis, masculis compactis, fœm. laxiusculis, squamis oblongis obtusis pallidis extus glabris intus basique lanatis fœmineis valde deciduis, ovariis ovatis longe acuminatis brevi-stipitatis glabris, stigmatibus perbrevis sessilibus lobis bifidis. *Ph. Am.* 2. p. 613. *Muhl. in Ann. of Bot.* 2. t. 5. f. 6.—*S. rubra*. *Rich. App.* p. 37 (non *Huds.*).— β . foliis plerisque sericeis.

HAB. Canada (*Cleghorn*), to the Mackenzie River, *Dr Richardson*; and at Jasper Lake in the Rocky Mountains, growing in drifting sands. *Drummond*.— β . N. W. America, on the Columbia (Fort Vancouver, *Tolmie*) and its tributary streams near the mountains. *Douglas*.

§ 6. CORDATÆ. Amenta ovata, cylindracea, coætanea. Squamæ rubræ v. fuscæ. Stam. 2-3. Germina stipitata glabra. Folia cordata (†) glabra. Stipulæ cordatæ serratæ. Frutices majusculæ, ramis dichotomis, flexilibus. *Barratt, mst.*

21. *S. cordata* (Willd.); "foliis oblongo-lanceolatis acuminatis basi cordatis (v. acutis) argute serratis glabris subtus pallidioribus, stipulis amplis ovato-subrotundatis cartilagineo-serratis, amentis coætaneis subtriandris, squamis lanceolatis lanatis atris, germinibus pedicellatis lanceolatis glabris, stylo brevissimo, stigmatibus bifidis." *Ph. Am.* 2. p. 615. *Muhl. in Ann. of Bot.* 2. t. 5. f. 8. *Salict. Wob.* p. 277.— β . balsamifera; foliis rigidioribus subtus magis glaucis.—*S. balsamifera*. *Barratt, mst.*—*S. cordata*. *Rich. App.* p. 37.— γ . *Mackenzieana*; foliis obovato-lanceolatis.—*S. Mackenzieana*. *Barratt, mst.*

HAB. Moist woods and prairies of the Saskatchewan. *Drummond*.— β . Lake Winipeg and the Saskatchewan. *Dr Richardson*.— γ . Great Slave Lake and the Mackenzie River. *Dr Richardson*.—So variable are the leaves of this plant in point of size, shape, and texture, that all kinds may be seen between lanceolate and almost exactly cordate. It is only fair to observe, that *Dr Barratt* is disposed to consider the β . and γ . good species; but I really do not possess sufficient materials to give satisfactory characters. The branches vary from bright yellow to deep brown.—Another state probably of this plant is found by *Mr Douglas* on the Columbia River with quite entire leaves.

22. *S. rigida* (Willd.); "foliis oblongo-lanceolatis acuminatis basi subcordatis rigidis glabris argute serratis, serratura infima elongata, petiolis villosis, stipulis amplis cordatis

obtusis glanduloso-serratis, amentis coactaneis subtriandris, squamis lanceolatis atris lanatis, germinibus longe pedicellatis lanceolatis glabris, stylo brevissimo, stigmatibus bipartitis." *Ph. Am.* 2. p. 615. *Muhl. in Ann. of Bot.* 2. t. 5. f. 4. *Salict. Wob.* p. 277.—*S. cordata*. *Mx. Am.* 2. p. 225.— β . *incana*. *Barratt, mst.*— γ . *longifolia*. *Barratt, mst.*

HAB. Between Fort Franklin and Cumberland House. *Dr Richardson*.—This again comes very near the *S. cordata*; but Dr Barratt refers the specimens without hesitation to *S. rigida*, W. and Ph.

23. *S. prinoides* (Ph.); "foliis ovali-oblongis acutis remote undulato-serratis glabris subtus glaucis, stipulis semicordatis inciso-dentatis, amentis præcocibus (?) villosis, germinibus pedicellatis ovatis acuminatis sericeis, stylo longo, stigmatibus bifidis." *Ph. Am.* 2. p. 613. *Salict. Wob.* p. 79. t. 40.

HAB. Silery, near Quebec. *Mrs Sheppard*. New Brunswick. *Mr Kendal*.—These specimens, which are barren, exactly correspond with what is named *S. prinoides*, from the United States; but they are also equally the same with what is named, in my Herbarium, *S. cordata*, by Mr Borrer, from Mr Anderson's garden.

§ 7. ARBUSEULÆ. *Fructices parvæ regiones arcticas v. alpinas habitantes. Amenta catanea. Barratt, mst.*

24. *S. planifolia* (Ph.); "erectiuscula divaricata, ramulis lævigatis, foliis oblongo-lanceolatis utrinque acutis medio serrulatis glaberrimis patentibus planis discoloribus, stipulis nullis." *Ph. Am.* 2. p. 611.— β . foliis unicoloribus.

HAB. Labrador. *Ph. Miss Brenton*. Mackenzie River and Bear Lake. *Dr Richardson*. Swamps at Lac la Pierre. *Drummond*.—If this be the true *S. planifolia*, as Dr Barratt suspects, it is a low growing shrub, with obovato-lanceolate, entire leaves, very glaucous beneath, especially the younger ones, downy, as well as the young branches. The ovary is ovato-acuminate, sessile, and very shortly stipitate. Style short; lobes of the stigma bifid. Pursh was unacquainted with the flowers, and there must still be great doubt about the species.— β , though not marked as a var. by Dr Barratt, has the leaves of the same colour on both sides, and decidedly serrated.

25. *S. acutifolia* (Willd. *Sp. Pl.* 4. p. 669); foliis lanceolatis utrinque acutis subcoriaceis glaberrimis subtus glaucis serratis, amentis coactaneis erectis cylindricis densifloris, squamis oblongis pilosis, ovariis sessilibus ovato-acuminatis sericeis, stylo brevi, stigmatibus lobis bipartitis.

HAB. Saskatchewan to Fort Franklin on the Mackenzie River. *Drummond*. *Dr Richardson*.—Mr Borrer considers this to be the same as true *S. acutifolia* of Willdenow, from the Caspian Sea. Bark sometimes pale, sometimes deep brown, not "pruinose" in the dried specimens.

26. *S. pedicellaris* (Ph.); "ramis lævigatis, foliis obovato-lanceolatis acutis integerrimis utrinque glabris concoloribus, stipulis nullis, amentis coactaneis pedunculatis glaberrimis, squamis oblongis pedicello duplo brevioribus vix pilosis, germinibus ovato-oblongis longissime pedicellatis glabris, stigmatibus sessilibus bifidis." *Ph. Am.* 2. p. 611.

HAB. Saskatchewan to Fort Franklin on the Mackenzie River. *Dr Richardson*. *Drummond*.—This plant is referred by Mr Borrer to *S. pedicellaris* of Pursh, with whose description it seems to agree, except that the leaves are more obtuse.

27. *S. depressa*. Hoffm.

HAB. Labrador. *Dr Morrison*. Fort Vancouver on the Columbia. *Dr Scouler*.—Specimens from these localities are so named by Dr Barratt; but they are, it must be confessed, in a very imperfect state, of which a description would probably tend to mislead.

28. *S. fusca*. L.—*Sm. Engl. Bot. t. 1960. Salict. Wob. p. 165. t. 83.*—*S. repens*. *E. Bot. 133. Salict. Wob. p. 167. t. 84. Ph. Am. 2. p. 610.*

HAB. Fort Franklin on the Mackenzie River. *Dr Richardson*.—Specimens with male catkins only.

29. *S. Myrsinites* (L.); humilis, foliis ellipticis undulatis serratis nitidis glabris v. hirsutiusculis venis prominentibus, amentis brevibus laxis, ovariis sessilibus lanceolatis laxe sericeis stylo duplo longioribus, stigmatibus bifidis. *Sm. E. Bot. t. 1360. Salict. Wob. p. 119. t. 60. Rich. App. p. 37. Ph. Am. 2. p. 617.*

HAB. Swamps and woods among the Rocky Mountains; and in the barren country north of lat. 64°, to Fort Franklin. *Dr Richardson*.

30. *S. desertorum* (Rich); foliis ellipticis obovato-lanceolatisve deciduo-villosis venosis subtus glaucis, amentis oblongis erectis densifloris, floribus erectis, squamis ovalibus fuscis longe lanato-villosis ovarii ovati dense lanati fere longitudine, stylo brevi, stigmatibus lobis bifidis. *Rich. App. p. 37.*

HAB. From the Saskatchewan (*Drummond*) to Fort Franklin. *Dr Richardson*.—A very elegant species, with copious catkins. Yet there are some varieties, as it appears, which have a very different aspect, with much larger, more woolly leaves, and longer and looser catkins.

31. *S. Stuartiana* (Sm.); ramis strictis brevibus, foliis lanceolatis utrinque acutis integerrimis subtus præcipue sericeo-villosis demum adultis nudiusculis, amentis coactaneis subelongatis pedunculatis, squamis brevibus fuscis sericeo-villosis, ovariis lanceolatis subsessilibus sericeo-lanatis, stylo brevi, stigmatibus lobis fissis. *E. Bot. t. 2586. Salict. Wob. p. 143. t. 72.*—*S. arenaria*. *Hook. et Arn. in Bot. of Beech. p. 125.*— β . amentis laxioribus, floribus femineis magis remotis.

HAB. Kotzebue's Sound. *Beechey*.— β . Mackenzie River. *Dr Richardson*.—If the *S. Stuartiana* be really distinct from *S. arenaria*, this must be referred to the former species, from which it seems to differ only in the more lax nature of the catkins.

32. *S. Lapponum?* L.—*Hook. et Arn. in Bot. of Beech. p. 129.*

HAB. Kotzebue's Sound. *Beechey*.—Specimens very imperfect.

§ 8. PROSTRATÆ. Frutices humiles, regiones arcticas vel alpinas habitantes, subrepentes vel prostratæ. Amenta coactanea pedunculata. *Barratt, mst.*

33. *S. reticulata* (L.); foliis sublonge petiolatis orbiculari-ellipticis obovatisve serratis adultis glabris reticulatis supra rugosis subtus glaucis, amentis pedunculatis cylindraceis multifloris, squamis latis retusis purpureo-fuscis glabris amentis ovario sericeo-tomentoso sessili duplo brevioribus, stigmatibus lobis sessilibus bifidis. *E. Bot. t. 1908. Ph. Am. 2. p. 610. Salict. Wob. p. 133. t. 67. Cham. in Linnæa, 6. p. 542.*

HAB. Fort Franklin to the Arctic Shores and Islands. *Dr Richardson*. *Sir E. Parry*, &c. York Factory, Hudson's Bay. *Drummond*. Labrador. *Dr Morrison*. Unalashka. *Chamisso*.

34. *S. nivalis*; nana repens, foliis parvis brevi-petiolatis lato-ellipticis-obovatisve integerrimis glabris reticulatis supra lævibus subtus glaucis, amentis pedunculatis subquinquefloris, squamis obovatis retusis pallide viridi-fuscis venosis ovarii sessilis sericeo-tomentosi fere longitudine, stylo brevi, stigmatis lobis bipartitis.

HAB. Near the summits of the peaks in the Rocky Mountains.—A small plant, intermediate, as it were, between *S. reticulata* and *S. herbacea*, yet very distinct from both, especially in the very few-flowered amenta, the larger, paler coloured, and veined scale, and the evident, though short, style. Leaves small, quite entire.

35. *S. vestita* (Ph.); foliis brevi-petiolatis obovatis obtusis vel lato-ellipticis serratis reticulatis supra adultis glabris rugosis subtus pilis longis deciduis pulcherrime sericeis, amentis pedunculatis elongato-cylindraceis compactis multifloris, squamis brevibus pallidis late ovatis retusis ovarisque lato-lanceolatis sericeo-tomentosis, stylo nullo, stigmatis lobis bifidis. *Ph. Am.* 2. p. 610.— β . *nana*; glabra, foliis multo minoribus amentis paucis (6-8)-floris.

HAB. Labrador. *Kohlmeister*. *Dr Morrison*.— α , and β . on the more elevated of the Rocky Mountains (*Drummond*), where it varies from a few inches to 3-4 feet in height, and in the length of the leaves from $\frac{1}{2}$ to 2 inches. These leaves are generally beautifully silky beneath.

36. *S. cordifolia* (Ph.); foliis lato-ovalibus obovatisve basi acutis v. cordatis obtusis integerrimis junioribus subsericeis adultis petiolatis glabris leniter reticulatis subtus glaucis, amentis pedunculatis cylindricis densifloris, stipulis ovali-oblongis fuscis brevibus ovarisque ovatis acuminatis dense sericeo-villosis, stylo elongato, stigmatis lobis elongatis bifidis. *Ph. Am.* 1. p. 611. *Salict. Wob.* p. 277.—*S. obovata*? *Ph. Am.* 2. p. 611.

HAB. Labrador. *Kohlmeister*. *Dr Morrison*. High parts of the Rocky Mountains. *Drummond*.—The plant thus named for me by Mr Borrer, who is probably acquainted with the original plant cultivated by Mr Anderson, little deserves the appellation of *cordifolia*, its leaves being more frequently acuto than retuse at the base. Many of the specimens approach very near to the following.

37. *S. arctica* (Br.); foliis obovatis obovato-lanceolatisve obtusiusculis basi acutis v. obtusis leniter reticulatis petiolatis integerrimis junioribus subsericeis adultis glabris, amentis fœmineis pedunculatis cylindraceis multifloris, squamis nigrescentibus late ovato-subrotundatis luxu sericeo-hirsutis ovarium ovatum sericeo-lanatum æquantibus, stylo elongato, stigmatis lobis elongatis bipartitis. *Br. in Bot. of Ross's Voy. ed. 2. v. 2. p. 194 (not Pall.)*, and in *Melv. Ist. Pl. p. cclxxii. Rich. App. p. 37. Hook. et Arn. in Bot. of Beech. p. 129.*

HAB. Throughout the barren country of N. America, from lat. 64° to the shores and extreme islands of the Arctic Sea. *Captain Ross*. *Dr Richardson*. *Sir E. Parry*, &c. Kotzebue's Sound. *Beechey*. Labrador. *Miss Brenton*.—This plant has a disposition to turn almost black in drying, and the catkins have a peculiarly dingy or sooty hue, from the dark colour of the large scales and of the elongated styles and stigmas.

38. *S. Uva Ursi* (Ph.); “depressa, foliis spathulato-obovatis obtusis integerrimis,

inferne margine sparse glandulosis glabris supra nitidis, stipulis nullis, amentis serotinis laxis, squamis oblongis ciliatis, germinibus ovatis pedicellatis glabris, stylo bipartito, stigmatibus bilobis." *Ph. Am.* 2, p. 610.—*S. Ammanniana?* *Rich. App.* p. 37.

HAB. Labrador. *Kohlmeister. Dr Morrison.* Hudson's Bay. *Dr Wright.* Woody country between lat. 54° and 64°. *Dr Richardson.*—My Labrador specimens thus referred to this plant, are too imperfect for me to venture to offer a character from them. *Dr Richardson's "S. Ammanniana?"* appears to me to be the same with this.

39. *S. retusa* (L.); humilis, foliis brevissime petiolatis obovatis v. oblongo-cuneatis obtusis retusive integerrimis parallelo-venosis glaberrimis nitidis, amentis pedunculatis, squamis brevibus atris sericeis, ovariis ovato-conicis brevi-pedicellatis, stylo mediocri, stigmatibus bifidis. *Hook. et Arn. in Bot. of Beech.* p. 130.—*S. serpyllifolia. Scop.—Jacq. Austr.* p. 298.—*S. anglorum. Cham. in Linnæa,* 6, p. 540, et in *Herb. nostr.*; (excl. syn. *S. arcticæ. Br.*)

HAB. Kotzebue's Sound. *Beechey.* Arctic Sea-shore. *Dr Richardson* (whence, however, only one specimen was brought home).—A very distinct and beautiful species, with glossy, strongly nerved, perennial leaves, the skeleton nerves remaining in the lower parts of the stem. Ovaries and fruit very large in proportion to the size of the plant.

40. *S. herbacea* (L.); nana, foliis orbicularibus serratis glabris venosis, amentis paucifloris sessilibus, squamis parvis glabris, ovariis sessilibus lanceolatis glabris, stylo brevi, stigmatibus lobis bifidis.—*E. Bot. t.* 1907. *Salic. Wob.* p. 123. t. 62.

HAB. N. W. Coast. *D. Nelson. (Ph.)* Labrador. *Dr Morrison.* Arctic Islands. *Sir E. Parry.*

41. *S. polaris* (Wahl.); nana, foliis orbicularibus subintegerrimis glabris venosis, amentis sessilibus paucifloris, squamis magnis nigricantibus villosis, ovariis sessilibus ovatis brevibus dense lanatis, stylo perbrevis, stigmatibus lobis fissis. *Wahl. Lapp.* p. 261. t. 13. f. 6.— β .?—var. *leiocarpa. Cham. in Linnæa,* 6, p. 542.

HAB. Unalaska. *Chamisso in Herb. nostr.*—*Chamisso* doubts if this be the true *S. polaris* of *Wahlenberg*, on account of the glabrous ovary. It does not seem to have been elsewhere found in Arctic America; but I have specimens gathered by *Sir Edward Parry's* officers in *Spitzbergen*.

(Many specimens of *Salix* yet remain in the British N. American Herbarium, in too imperfect a state to be determined. *Chamisso* quotes the *S. arctica* of *Pallas* (not *Br.*), a very dubious species it must be confessed, as a native of *Unalaska*, and *S. glauca*, *L.* and *Koch.* (*S. sericea*, *Vill.* and *Ser.*), of *Chamisso's* Island and *Cape Espenberg*, in *Behring's Straits*. *Bongard*, in his "*Veget. de Sitcha*," gives the following brief character of "*S. Sitchensis*," *Sanson, mst.*:—"amentis fructiferis breviter pedunculatis, pedunculo subfoliato; capsulis ovato-lanceolatis tomentosis pedicellatis, pedicello neetarium 2-3-superante, stylo elongato, stigmatibus bifidis (?); foliis oblongo-obovatis obsolete crenulatis, supra pubescentibus, subtus cano-tomentosis."—A single specimen, with foliage only, which *M. Bongard* has kindly communicated to me, does not enable me to refer it to any previously described species).

2. POPULUS. L.

1. *P. balsamifera* (L.); ramis teretibus, foliis ovatis cordatisve acuminatis subæqualiter serratis glabris subtus pallidis reticulatis, amenti masc. squamis fimbriatis parce pilosis,
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scm. ovariis ovato-globosis stigmatibus lobis maximis. Ph. Am. 2. p. 619. Rich. App. p. 38. Pall. Ross. 1. t. 41. Trew, Elvet. t. 46.—α. pedunculo scem. pubescente, florum pedicellis vix perianthii glabri longitudine, foliis?—β. pedunculo scem. glabro, pedicellis pistillo longioribus, foliis cordatis acuminatis basi truncatis.—γ. amentis ubique (etiam ovariis) pubescenti-tomentosis, floribus sessilibus, foliis exacte cordatis acuminatis.—an species distincta?

HAB. Canada. *Mrs Sheppard*. Throughout the woody country to the Great Slave Lake, and the south branch of the Mackenzie River, called *Rivière aux Liards*, from the great quantity of this tree which grows there. It constituted the greater part of the drift timber observed on the shores of the Arctic Sea. *Dr Richardson*.—β. Newfoundland. *Miss Breton*.—δ. Banks of streams, N.W. America, attaining to a very large size, 60-140 feet high, and 9-20 feet in diameter. *Douglas*.—The tree in general, I fear, and the Poplars in particular, have not received that degree of attention that they deserve from the writers on American Botany. The leaves are very liable to vary, and it is remarkably the case with this species, as may be seen by the figures of Trew and Pallas; but they are never white on the underside, as described by Willdenow, &c. The flowers, too, are liable to vary, if I am correct in referring my two varieties to the present species. The γ., from the Pacific side of America, will probably prove a distinct species; but I possess only one specimen, and that with nearly perfect fruit: the amentum is a span long, and the capsules as large as pease, all over downy, and they are quite sessile. The leaves and flowers, both of β. and γ., are very similar in form to those of *P. monilifera*, but the tothing and under surface are considerably different. My specimens of *P. balsamifera*, from Kamtschatka, have the foliage orbicular, with scarcely any acumen.—*Dr Richardson* observes that the trunk of this attains a greater circumference than that of any other tree in the northern parts of America.

2. *P. candicans* (Ait.); foliis cordatis acuminatis subtus albidis subtripplinerviis, stipulis resinosis ramis teretibus. *Ait. Hort. Kew. ed. 1. v. 3. p. 406. Ph. Am. 2. p. 618.*

HAB. Canada. *Dr Hope*. (Ait.)—Of this species I am ignorant, and Willdenow, Pursh, and Michaux, have added nothing to the brief character given by Aiton. Indeed Michaux's figure and description, in the *N. American Sylva*, are alike unsatisfactory on the subject of the Poplars. From *Dr Schweinitz* I have received the following species, under the name of *P. candicans*. May they not in reality be one and the same?

3. *P. grandidentata* (Mich.); ramis teretibus, petiolis superne compressis, foliis rotundato-ovatis vix acuminatis grosse irregulariter seu angulato-dentatis basi sæpe biglandulosis glabris junioribus densissime cano-tomentosis, amentis fœmineis longis laxis, ovariis lanceolatis, stigmatibus lobis linearibus. *Mx. Am. 2. p. 243. N. Am. Sylv. p. 243. t. 99. f. 2.* (good as to the fully formed leaf).

HAB. Canada. *Ph. Mrs Sheppard*. Lake Huron. *Dr Todd*. New Brunswick. *Mr Kendal*.—The foliage puts on very different appearances at different periods of its growth, the young leaves being clothed with very dense white tomentum, and margined with rather small and nearly regular teeth; as they advance in age, the down disappears, and the teeth become very large, and irregular.

4. *P. tremuloides* (Mx.); ramis teretibus, foliis parvulis suborbiculatis breviter acuminatis serrulatis ciliatis basi sæpe biglandulosis, squamis masculinis pulcherrime sericeis, ovariis lanceolatis, stigmatibus lobis linearibus. *Mx. Am. 2. p. 243* (1803). *N. Am. Sylv. p. 242. t. 99. f. 1.*—*P. trepida*. *Willd.* (1805).—*Ph. Am. 2. p. 618. Rich. App. p. 38.*

HAB. Canada (*Mx. Mrs Sheppard*), as far as lat. 64°. *Dr Richardson. Douglas*. New Brunswick.

Mr Kendal. Newfoundland. *Miss Brenton*.—The wood is remarked by the Crees to burn better in a green state than that of any other tree. In other respects it is worthless.

(The *P. levigata*, Willd., received the name of *Canadensis*, from an idea that it was introduced into France from Canada; but that is mere conjecture, and as I have never received specimens except from the United States, I do not venture to introduce it. The *P. monilifera*, Wats. Dendrol. t. 102, is a good representation of this plant, and I strongly suspect that Michaux's plant of that name is no other. The female flowers very much resemble those of *P. balsamifera*, but the leaves are very different.)

SUBORD. II. BETULINÆ. Rich.

3. BETULA. L.

1. *B. populifolia* (Ait.); "foliis deltoidibus longe acuminatis inæqualiter serratis glaberrimis, amentis fœm. cylindraceis, squamis lobis lateralibus oblongis, decurvo-falcatis, intermedio breviori, petiolis glabris." *Hort. Kew. ed. 1. v. 3. p. 336. Mich. N. Am. Sylt. p. 91. t. 71. Ph. Am. 2. p. 620.*

HAB. Canada. *Ph.*—My own specimens of this are all from the United States; and I confess that, except in the narrower and rather more compact female catkins, and the smaller scales (for the shape is the same in the two), I cannot see how it differs from the European *B. alba*. The leaves are the same in both.

2. *B. papyracea* (Ait. *Hort. Kew. ed. 1. p. 337.*); foliis subcordato-ovatis brevi-acuminatis subæqualiter serratis subtus punctatis glabris nunc ad axillas venarum hirsutis, amentis fœmineis lato-cylindraceis, squamarum lobis lateralibus oblongis decurvo-falcatis intermedio subbreviori. *Ph. Am. 2. p. 621.*

HAB. Canada. (*Ph.*) Lake Huron (*Dr Todd*) to lat. 65°. *Dr Richardson. Drummond. Douglas* (who observes it is rare to the west of the Rocky Mountains).—Mr Drummond's specimens have only the male catkins perfect, and no leaves. In my specimens from Dr Torrey (Massachusetts) the female catkins are pendent, and the leaves are slightly downy beneath on the nerves, and have there, in the axils of the nerves, generally a dense woolly tuft. My specimen from Atabasca, gathered by Douglas, has the female catkins erect, the leaves quite glabrous, and the young branches rough with resinous warts. In all, the leaves are dotted beneath, in consequence of copious resinous exudations.

3. *B. occidentalis*; ramis rufo-fuscis copiose resinoso-verrucosis, foliis late rhombeo-ovatis sublobatis grosse inciso-serratis sub lente appresso-hirsutulis v. nudis subtus pallidioribus epunctatis, nervis paucis remotis, amentis fœm. lato-cylindraceis, squamis lobis ovato-oblongis lateralibus decurvo-falcatis intermedio longiore.

HAB. Straits of De Fuca. *Dr Scouler*. Near springs on the west side of the Rocky Mountains. *Douglas*; and on the east side, from the mountains to Edmonton House. *Drummond*. One specimen is in the collection from the Arctic coast.* (?) *Dr Richardson*.—This Birch does not agree with any described species, and it is probably confined to the west coast, and to the immediate vicinity of the Rocky Mountains, forming a low, small brush-wood, 6-10 feet high, and never exceeding a few inches in the diameter of its trunk. Mr Drummond considered it to be the *B. nigra*, but its bark and leaves are quite different; the latter remarkable for the few and remote nerves, which spring from the mid-ribs: besides, *B. nigra* is a southern tree of great size. The main branches are erect, and somewhat virgate, clothed with a red-brown bark, a little inclining to purple, copiously sprinkled with resinous warts in all the specimens. Petioles $\frac{1}{2}$ to $\frac{3}{4}$ of

* There has probably been some mistake in the station of this.

an inch long, adult leaves 2-2½ inches, broadly ovato-rhomboid, rather acute than acuminate, of a harsh and dry but not thick texture, slightly lobed at the margin, and inciso-serrate, the serratures coarse and sharp, paler beneath, but never, either in the old or younger state, dotted. Male catkins resembling those of the preceding, 1-2 inches long.

4. *B. excelsa* (Ait.); "foliis ovatis acutis serratis, strobilorum squamis lobis lateralibus rotundatis, petiolis pubescentibus pedunculo brevioribus." *Hort. Kew. ed. 1. v. 3. p. 337. Ph. Am. 2. p. 621.*—*B. lutea. Mx. N. Am. Sylv. 2. p. 103. t. 73.*

HAB. Abundant in the forests of New Brunswick and Nova Scotia. *Michaux.*—I have never been so fortunate as to receive satisfactory specimens of this plant, either from British N. America, or from the United States: from its qualities and properties, however, as related by Michaux, it would seem to be a distinct species; but the figure of this latter author, and specimens of foliage which Mr Kendal sent from New Brunswick, marked "Yellow Birch," seem to differ in no respect from the following: and Bigelow (*Fl. Bost. p. 856*) observes of *B. excelsa*, "it has considerable resemblance to *B. lenta*, but the cuticle has a yellowish colour."—It will be seen by Michaux's figure that the lateral lobes of the scales of the catkin are as in the following species.

5. *B. lenta* (L.); foliis ovatis seu oblongo-ovatis brevi-acuminatis basi oblique cordatis obtusive argute subduplicato-serratis nervis approximatis parallelis, subtus petiolis villosulis, junioribus sericeis, amentis brevi-pedunculatis fœmineis fructiferis ellipticis, squamis glabriusculis nervosis lobis lateralibus ovato-rotundatis patentibus intermedio elongato. *Ph. Am. 2. p. 621. Mx. N. Am. Sylv. 2. p. 106. t. 74.*—*B. carpinifolia. Ehrh.*

HAB. Abundant in Nova Scotia, New Brunswick, and in Canada, where it is known by the name of the "Cherry Birch." *Michaux. Mr Kendal.*—It is a pity that Ehrhart's appropriate name of *carpinifolia* cannot be preserved to this species. It is reckoned among the most beautiful and valuable of the genus. The leaves are often, but by no means universally, furnished with a tuft of wool in the axils of the veins.

6. *B. pumila* (L.); "humilis, foliis orbiculari-obovatis serratis subtus (junioribus præcipue) ramulisque pubescentibus, amentis fœmineis cylindraceis." *Willd. Sp. Pl. t. 4. p. 467. Jacq. Hort. Vind. t. 122. (non Dict. des Sc. Nat. cum Ic.) Ph. Am. 2. p. 622.*

HAB. Canada. (*Lin.*) Newfoundland. *Miss Brenton.* Labrador. *Dr Morrison.*—I have seen no plant corresponding exactly with the *B. pumila*, except one specimen from Newfoundland, and another, less distinctly marked, from Labrador; but these I can only consider a downy state of *B. glandulosa*. The *B. pumila* of *Dict. des Sc. Nat.* seems to be undoubtedly the European *B. fruticosa*.

7. *B. glandulosa* (Mx. *Am. 2. p. 18*); humilis, ramis resinoso-punctatis v. lævibus glabris, foliis obovatis seu subrotundo-obovatis obtuse serratis glabris, amentis fœmineis lato-cylindraceis breviusculis, squamis trifidis lobis oblongo-subovatis intermedio parum longiore. *Ph. Am. 2. p. 621.*

HAB. Canada and Hudson's Bay. *Michaux. Goldie.* Grand Saline and Mountains of Providence, and from Lake Winnipeg to Fort Franklin. *Dr Richardson. Drummond.* Labrador and Newfoundland. *Miss Brenton. Dr Morrison.*—Leaves from ½ to ¾, or rarely an inch long, varying in width, and somewhat in the length of the petiole: so that some of the specimens, it must be confessed, come very near to the following. I have selected the best characters I have been able for distinguishing them.

8. *B. nana* (L.); humilis, ramis resinoso-punctatis v. lævibus glabris, foliis suborbicularibus grosse dentatis glabris, amentis fœmineis brevibus cylindraceis, squamis profunde

trifidis lobis oblongo-subobovatis subæqualibus. *E. Bot. t. 349. Ph. Am. 2. p. 622.*—
β. flabellifolia; foliis cuneato-flabelliformibus dentibus profundis acutis.

HAB. Sphagnous swamps, Hudson's Bay and Canada. *Michaux.* Labrador. *Dr Morrison. Miss Brenton.* Fort Franklin on the Mackenzie River. *Dr Richardson.* Kotzebue's Sound. *Chamisso (in Herb. nost.) Beechey.*—*β.* Newfoundland. *Mr Cormack.*—Smaller in all its parts than the preceding, and the leaves constantly more orbicular, and nearly sessile. The scales, too, of the female amentum appear to be more deeply cleft, and the segments more equal.—*β.* is a very beautiful variety, with broadly cuneate leaves, semicircular at the extremity, and, there only, deeply, regularly, and sharply toothed. From Sweden, Mr R. B. Bowman has sent me *B. nana*, with the young branches decidedly pubescent, thus bearing the same relation to the usual state of the plant, that *B. pumila* does to *B. glandulosa*.

4. ALNUS. L.

1. *A. glutinosa.* Gært. — *E. Bot. t. 1508. Ph. Am. 2. p. 622.*

HAB. Interior of Canada and the N. W. Coast. *Ph.*—Willdenow gives this as a native of N. America, and Pursh speaks of this as "a large tree, known every where under the name of *Alder*;" but I have seen nothing like our common *Alder* from any part of N. America, and I presume the *A. viridis* has generally been mistaken for it.

2. *A. crispa* (Ait. *H. Kew. ed. 1. v. 3. p. 339*); pedunculis ramosis, foliis ovatis acutis subundulatis, venis subtus pilosis, axillis nudis, stipulis subtundo-ovatis.—*B. crispa. Mæ. Am. 2. p. 181. Ph. Am. 2. p. 623.*—*A. undulata. Willd.*

HAB. Newfoundland and Hudson's Bay. *Aiton.*—Of this I know nothing, unless it be, as Nuttall has suggested (*in Herb. nostr.*), a state of *A. incana*.

3. *A. viridis* (DC.); foliis ovatis acutis ad margines inciso-sublobatis argute inæqualiter serratis utrinque glabris v. ad venas subtus pilosiusculis et nunc in axillis venarum lanatis, amentis junioribus cylindraceis, fructiferis ovalibus. *Cham. in Linnaea, 6. p. 538.*—*Betula ovata. Schrank.*—*Willd.*—*Alnus incana, glabrifolia. Hook. et Arn. in Bot. of Beech. p. 117 and 129.*—*A. glutinosa. Rich. App. p. 36. an Ph. ?*—*β.* foliis majoribus marginibus magis inciso-lobatis.

HAB. Canada, throughout the woody and barren country, and to the Rocky Mountains. *Dr Richardson. Drummond. Siteha. Bongard.* Kotzebue's Sound. *Chamisso. Beechey.*—*β.* N. W. America, from the mountains to the sea. *Douglas. Scouler. Tolmie.*—The specimens of *α.* correspond entirely with the European plant of the same name, and the exactly ovate acute leaves, finely and deeply serrated, and the longer, cylindrical, and (apparently) green, young female catkins, will readily distinguish it from *A. glutinosa*. *Dr Richardson's* specimens, from his first journey, have the leaves quite young; but I think I cannot be mistaken in referring them here. The Columbia specimens have the leaves usually large, but retaining their true character.

4. *A. incana* (Willd.); foliis ellipticis subovatisve integris vel margine obscure lobatis obtusis vel acutiusculis argute serratis subtus pubescentibus, amentis junioribus cylindraceis, fructiferis ovalibus.—*Betula incana. L.*—*Pall. Ross. 1. p. 64.*—*β.* foliis subtus ad nervos pilosis v. etiam glaberrimis.—*Betula serrulata. Ait. Hort. Kew. ed. 1. p. 338.*—*Alnus. Ph.*

HAB. *α.* and *β.* throughout Canada (*Mrs Sheppard*), to the Saskatchewan and Fort Franklin. *Dr Richardson. Douglas. Drummond.* New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton.*—The

leaves are generally larger than, and of a different shape from, the preceding. In the degree of pubescence on the under surface of the leaves, the greatest variation appears, and the most downy kind in every particular corresponds with the European *incana*, so that I have no hesitation in considering the *A. serrulata* (which indeed is sometimes quite glabrous) a var. of it.

5. *A. rubra* (Bong. *Veg. de Sitcha*, p. 44); foliis ellipticis marginibus undique obtuse lobatis lobis obtuse serrulatis subtus ad nervos precipue puberulis siccitate subferrugineis, amentis foem. junioribus cylindraceis, fructiferis ovatis.—*A. castaneefolia*. *Dougl. Mst.*

HAB. Sitcha. *Bongard*. Dry rocky banks of the Columbia, near the Grand Rapids, common (*Douglas*), and below Fort Vancouver. *Dr Scouler*.—This is a perfectly distinct species, and well characterized by *Dr Bongard*, who observes that it is called "Red Alder" by the Russians inhabiting the colony at Sitcha. The margins of the leaves are so deeply and regularly lobed that they might almost be called pinnatifid, and these lobes and the serratures are singularly blunt. There is nothing peculiar in the catkins. Indeed the fructification of the different species of Alder exhibit very little variation.

SUBORD. III. PLATANÆ. *Juss.*5. PLATANUS. *L.*

1. *P. occidentalis*. *L.*—*Ph. Am.* 2. p. 635. *Mich. N. Am. Sylv.* p. 55. t. 63.

HAB. Canada.

SUBORD. IV. CUPULIFERÆ. *Rich.*6. QUERCUS. *L.*

1. *Q. tinctoria*. *Bartr.*—*Ph. Am.* 2. p. 629. *Mich. N. Am. Sylv.* 1. p. 110. t. 24.

HAB. Canada. *Dr Beck.*

2. *Q. rubra* (*L.*); foliis longe petiolatis circumscriptione latissime ovalibus profunde sinuatis lobis integris vel subincisis setaceo-acuminatis glabris, fructibus sessilibus, cupula brevissima scutelliformi squamis parvis ovatis pubescentibus, glande late ovata acute umbonata. *Ph. Am.* 2. p. 630. *Mich. N. Am. Sylv.* 1. p. 125. t. 28.

HAB. Canada, from Lake Huron (*Dr Todd*), to the Saskatchewan and rocks at Lake Namakeen. *Dr Richardson.*

3. *Q. Bannisteri*. *Mx.*—*Ph. Am.* 2. p. 631. *Mich. N. Am. Sylv.* 1. p. 99. t. 21.

HAB. Canada. *Dr Beck.*

4. *Q. obtusiloba*. *Mich.*—*Ph. Am.* 2. p. 632. *Mich. N. Am. Sylv.* p. 37. t. 5.

HAB. Canada. *Dr Beck.*

5. *Q. alba* (*L.*); foliis obovato-oblongis basi attenuatis pinnatifidis junioribus utrinque cano-pubescentibus adultioribus subtus pubescentibus v. glabris lobis lato-oblongis obtusissimis v. retusis nonnumquam subcuneatis petiolis brevibus, fructibus pedunculatis, cupula hemisphærica dense squamosa squamis ovatis pubescentibus, glande ovatæ obtusa cum umbone. *Ph. Am.* 2. p. 633. *Mich. N. Am. Sylv.* 1. p. 11. t. 1.

HAB. Canada, to Lake Winipeg (which Mr Douglas considers its northern limit, and where it attains only a height of 10-20 feet). *Dr Richardson. Douglas.*

6. *Q. Garryana* (Dougl. mst.); foliis latissime obovatis utrinque obtusis sinuato-pinnatifidis siccitate nigricantibus supra glabris subtus petiolis ramisque dense fusco-pubescentibus lobis latis obtusissimis, fructibus sessilibus, cupula perbrevis-hemisphærica dense squamosa squamis ovato-acuminatis pubescentibus, glande ovata obtuse cum umbone conico.

HAB. N. W. America. *Menzies* (in *Herb. nostr.*) Plentiful on the plains near Fort Vancouver, on the Multnomak, and at Puget Sound. *Douglas*, *Dr Gairdner*. *Tolmie*.—Forty to eighty feet high, 3-5 in diameter: the wood good, and well adapted for ship-building. This Oak, which I believe to be a very distinct species, has not only the underside of the adult leaves, but the petioles and branches, clothed with a dense dingy-coloured down. The leaves, too, are much broader than in *Q. alba*, the acorns are sessile, and the cups much shallower. There is an Oak in Mr Drummond's third collection of Texas plants (No. 342), named "Yellow Post Oak," distinguished by the downy leaves and the size of the acorns, in which the leaves and sessile acorns agree with those of the present species very closely; but the branches are glabrous, and the cups are much deeper, and clothed with larger and more hoary scales.—Mr *Menzies* also detected *Q. Garryana* in California, where Mr *Douglas*, besides the *Q. agrifolia*, *Ned*, gathered also a third species, with leaves somewhat like the present, but narrower, and with narrower lobes, nearly glabrous beneath, and much smaller acorns. These three are, as far as I know, the only Oaks yet discovered in N. W. America.

7. CASTANEA. L.

1. *C. chrysophylla* (Dougl. mst.); foliis sempervirentibus lato-lanceolatis acuminatis coriaceis integerrimis glabris subtus aureo-farinosis.

HAB. Common on the Grand Rapids of the Columbia, to Cape Orford, and near Mount Hood; constantly inhabiting the hills.—This is a most splendid evergreen tree, varying in height from 20 to 70 feet, with leaves 4-5 inches long, full green above, below of a rich golden yellow. These leaves are quite entire. The spikes or catkins of flowers scarcely exceed an inch in length, including the peduncle, and they are solitary in the axils of the upper leaves; sometimes all the flowers on a catkin are male; sometimes the two or three lower flowers are female. Fruits 2-3, crowded, densely clothed with acicular prickles.

8. FAGUS. L.

1. *F. ferruginea* (Ait.); monœcia, foliis oblongo-ovatis acuminatis remote dentato-serratis basi acutis v. obtusis, fructus aculeis ferrugineo-tomentosis reflexis. *Ph. Am.* 2. p. 624. *Mich. N. Am. Sylv.* 3. p. 21. t. 106.

HAB. Canada, New Brunswick, and Newfoundland.—This is the "Red Beech," of the inhabitants, and I, like *Dr Torrey*, have only seen this one species from any part of N. America; but *Michaux*, and American authors, describe another species as also inhabiting Canada, namely—

2. *F. sylvestris* (Mich.); "foliis acuminatis obsolete dentatis margine ciliatis." *Mich. N. Am. Sylv.* p. 18. t. 107.—*F. sylvatica*. *Ph. Am.* 2. p. 625 (not *Linn.*).—*F. sylvatica*. *β*. *Nutt. Gen. Am.* 2. p. 216.

HAB. Canada. *Michaux*, who calls this the "White Beech," from the difference of the colour of the wood in the two kinds; but neither in *Michaux's* figure, nor in the description of authors, does their appear any marks by which this can be separated botanically from the preceding. In both, the leaves vary somewhat in shape, but are at all times much larger and longer and more toothed than in the European Beech, which has, moreover, the prickles of the fruit straight, and not clothed with ferruginous down.

9. CARPINUS. L.

1. *C. Americana*. Willd.—*Ph. Am.* 2, p. 623.—*Mich. N. Am. Sylv.* 3, p. 28, t. 108.
HAB. Canada.

10. OSTRYA. Michx.

1. *O. Virginica*. Willd.—*Ph. Am.* 2, p. 623.—*Carpinus Ostrya*. *Mich. N. Am. Sylv.* p. 31, t. 109.

HAB. Canada, to Lake Winipeg. *Dr Richardson*. New Brunswick and Nova Scotia. *Michaux*.

11. CORYLUS. L.

1. *C. Americana* (Wahl.); foliis subrotundo-cordatis acuminatis, involucris nuce globosa multo majoribus limbo maximo dilatato foliaceo grosse dentato. *Ph. Am.* 2, p. 634.— β . amentorum (utriusque sexus) squamis densissime sericeo-villosis.

HAB. Canada.— β . N. W. Coast. *Menzies*. *Douglas*. *Scouler*.—Readily distinguished by the remarkably large leafy limb to the involucre of the fruit. Of the var. β . I have seen no fruit. It may probably constitute a new species.

2. *C. rostrata* (Ait.); foliis cordato-ovalibus acuminatis, involucris inferne sericeo-hispidis nuce globosa multo majoribus in tubum longissimum angustum apice incisum desinentibus. *Ph. Am.* 2, p. 635.

HAB. Canada, to the Saskatchewan. *Dr Richardson*.

ORD. XCII. MYRICEÆ. Rich.

1. MYRICA. L.

1. *M. Gale*. L.—*E. Bot.* t. 562. *Ph. Am.* 2, p. 620.

HAB. Throughout Canada, and to Fort Norman on the Mackenzie River. *Dr Richardson*. New Brunswick. *Mr Kendal*. Labrador and Newfoundland. *Miss Brenton*. *Dr Morrison*.—The young buds, *Dr Richardson* says, are used by the Indians to dye their porcupine's quills.

2. *M. Californica* (*Chan. in Linnæa*, 6, p. 535, et in *Herb. nostr.*); ramis angulatis, foliis anguste lanceolatis acutis basi in petiolum brevem attenuatis adultis præsertim serratis glabrescentibus coriaceis punctis minutis resinosis adpersis margine reflexo obsolete nervosis, amentis axillaribus solitariis, fructibus tuberculatis nudis.—*M. Xalappensis*. *H. and K.*?

HAB. N. W. Coast. *Menzies*. Swamps of Puget Sound. *Douglas*.—I do not think this differs as a species from *M. Xalappensis*. Our specimens of what we consider that plant, gathered in Mexico, are quite the same as *Chamisso's*, so that this species has a very extensive range.

2. COMPTONIA. Gertn.

1. *C. asplenifolia*. Ait.—*Ph. Am.* 2, p. 635.—*Liquidambar* aspl. L.

HAB. New Brunswick and Canada, to the Saskatchewan. *Dr Richardson*. *Drummond*.

ORD. XCIII. CONIFERÆ. *Juss.*I. PINUS. *L.*

1. *P. Banksiana* (Lamb.* *Pin. t. 3*); foliis geminis uncialibus rigidis curvatis linearibus acutis dorso tereti supra canaliculatis marginibus (sub lente) scabris, strobilis subbiuncialibus ovato-acuminatis recurvis ramo adpressis plerumque binis, squamis obtusis lævibus dorso superne gibboso. *Ph. Am. 2. p. 642.*—*P. rupestris. Mich. N. Am. Sylv. 3. p. 117. t. 136.*

HAB. Dry sandy soils, Canada, to lat. 64°, and even beyond that, on the sandy banks of the Mackenzie River. *Dr Richardson.*

2. *P. inops* (Sol. in *Ait. Hort. Kew. ed. 1. v. 3. p. 367*); foliis geminis breviusculis (biuncialibus) obtusiusculis rigidis supra canaliculatis subtus teretibus marginibus serrulatis, strobilis recurvis ovato-oblongis longitudine foliorum, vaginis brevibus, squamis compactis obtusis infra apicem aculeo sulcato patente instructis. *Lamb. Pin. t. 12. Mich. N. Am. Sylv. 3. p. 120. t. 139. Ph. Am. 2. p. 641. Bong. Veget. de Sitcha, p. 45.*—*P. distorta. Dougl. mst.*— β . foliis minus rigidis.

HAB. Sitcha. *Bongard (in Herb. nostr.)*. Shores of the Pacific, from the confluence of the Columbia northwards. Observatory Inlet. *Dr Scouler.*— β . growing close to the snow on Mount Rainier. *Tolmie.*—This forms a "low scrubby" Pine in N. W. America; on Mount Rainier, near the snow, not exceeding 10 feet in height. The specimens exactly agree with the same species from the United States.

3. *P. resinosa* (Sol. in *Hort. Kew. ed. 1. p. 367*); foliis geminis elongatis (4-5 uncialibus) acutis supra leniter canaliculatis dorso teretibus marginibus asperis, vaginis elongatis, strobilis ovato-conicis basi rotundatis subsolitariis subbiuncialibus, squamis superne conico-convexis. *Lamb. Pin. t. 13. Ph. Am. 2. p. 642.*—*P. rubra. Mich. N. Am. Sylv. 3. p. 112. t. 134.*

HAB. Canada.—N. W. America, along with *P. Lambertiana. Douglas.*

4. *P. Strobus* (L.); foliis quinis gracilibus subtriuncialibus acute triquetris margine superne scabriusculis supra glaucis, vaginis nullis, strobilis folio longioribus subcylindraceis lævigatis curvato-pendulis, squamis laxis magnis latissimis planis. *Lamb. Pin. t. 32. Ph. Am. 2. p. 644. Mich. N. Am. Sylv. 3. p. 159. t. 145.*—*P. monticola. Dougl. mst.*—*Lamb. Pin. descr. sine Ic.*

HAB. Nova Scotia and Canada, to the Saskatchewan and east side of the Rocky Mountains. *Drummond*; and on the west side, from the source of the Columbia to the alpine range of Mount Hood. *Douglas.*—This is the well-known "*Weymouth Pine*" of our plantations. I cannot perceive the slightest difference in the *P. monticola* of Mr Douglas and the present. The cones and foliage are exactly similar.

5. *P. Lambertiana* (Dougl. mst.); foliis quinis subelongatis 4-5 uncialibus rigidiusculis acutis acute triquetris unicoloribus margine subasperis, vaginis nullis, strobilis maximis (pedalibus et ultra) oblongis, squamis laxis latissimis planis.—*Lamb. Pin. t. 34.*— β .? foliis brevioribus.

* I quote from the imperial 8vo edition, published by Messrs Weddel in 1832; the only edition, save the first, that I have the opportunity of consulting.

HAB. From N. lat. 43°, in N. W. America, to California. First seen at the head-waters of the Multnomak in 1825. *Douglas*.—*s.* "Height of Land" in the Rocky Mountains. *Drummond*.—The giant of the N. W. American forests, being sometimes 215 feet in height, 57 feet 9 inches, in circumference, at 3 feet from the ground, and 17 feet 5 inches, in circumference, at 34 feet from the ground; whilst the cones are from 12 to 16 inches in length, and 11 inches in circumference in the thickest part!—A Pine in many respects similar to this was found by Mr Drummond in very elevated situations of the Rocky Mountains, near the "Height of Land," yet there growing 50 and 60 feet high. The leaves are, however, shorter (2 or 3 inches) and more rigid, and the specimens have the closest affinity with those of the European *P. Cembra*. No cones of it exist in the collection.

6. *P. Sabiniana* (Dougl. mst.); ramulis squarrosis, foliis ternis prælongis pedibus acutis unicoloribus dorso tereti supra linea acuta elevata margine scabris, vaginis in adultis brevibus, strobilis subrotundo-ovatis maximis, squamis patentibus laxis latissimis apicibus longe acuminatis incurvis spinulentibus. *Lamb. Pin. t.* 80.

HAB. N. W. America; inhabits moist vegetable deposits of New Albion, at a great elevation above the sea. *Douglas*. Fallatine hills. *Dr Gairdner*.—A tree from 40-120 feet in height, and 2-12 feet in circumference. Cones 9-11 inches long, and 5 to 6 inches in diameter.

7. *P. (Abies?) Menziesii* (Lamb. *Pin. descr. sine Ic.*); foliis acutis planis subtus argenteis undique versis, strobilis cylindraceis, squamis scariosis margine erosis."

HAB. N. W. America. *Menzies* (in *Herb. Lamb.*).

8. *P. (Abies) nobilis* (Dougl. mst.); foliis (uncialibus) linearibus falcatis supra linea media exarata subtus pallidioribus linea media elevata, strobilis erectis ovato-cylindraceis (6-7 uncialibus, 3-unc. lat.), squamis compactis latissimis, bracteolis lato-spathulatis arcte imbricato-deflexis squamis tegentibus apice erosis cum acumine subulato rigido. *Lamb. Pin. descr. cum Ic.*

HAB. N. W. America. *Douglas*. Brought to Fort Vancouver by the Indians, under the name of *Tuck-tuck*, from the Great Falls of the Columbia. *Dr Gairdner*.—A beautiful and handsome Spruce, with singularly fine cones, of which the scales are entirely concealed by the large reflexed and imbricated bracteoles each tipped with a spine about three lines long. These cones resemble in many respects those of *P. Picca*, but are much broader, and have much larger and more reflected bracteoles.

9. *P. (Abies) Douglasii* (Sabine, mst.); foliis anguste linearibus (uncialibus) obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis ovatis (triuncialibus), squamis paucis laxis latissimis, bracteolis obovato-lanceolatis squamam superantibus 3-fidis, lacinia media spiniformi lateralibus membranaceis erosis longiori. (TAB. CLXXXIII.)

HAB. N. W. America, a common timber. *Douglas. Dr Gairdner*.—The cones of this are very unlike those of any other species, scarcely three inches long, composed of few (about 30) large broad lax scales, and each subtended by a bracteole longer than the scale, deeply trifid at the apex, the two lateral laciniae acuminate and toothed or crose on their outer edge, the middle longer than these, and constituting a straight rigid spine, about a quarter of an inch long. Mr Douglas observes, that the principal part of the gloomy forests of N. W. America, in the valleys of the Rocky Mountains, and throughout the interior skirting those

mountains, is composed of this species. It attains a height of from 150 to 200 feet, and a circumference of from 20 to 50 feet.

TAB. CLXXXIII. Fig. 1, Male catkins; f. 2, Cone:—nat. size; f. 3, Leaves:—magnified.

10. *P. (Abies) Balsamea* (L.); foliis linearibus (uncialibus) obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis cylindraceis (4-5-uncialibus) resinifluis, squamis latissimis compactis, bracteolis obovatis dentatis obtusis squamam fere æquantibus. *Lamb. Pin. t. 41. Ph. Am. 2. p. 639.*—*Abies balsamifera. Mich. N. Am. Sylv. p. 101. t. 150.*

HAB. Canada and Nova Scotia, to the Saskatchewan. *Dr Richardson.*

11. *P. (Abies) grandis* (Dougl. mat.); foliis (uncialibus) linearibus obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis ovali-cylindraceis (6-uncialibus, 2-3-uncias lat.) resinifluis, squamis compactis latissimis, bracteolis ovatis brevi-acuminatis cuspidatis marginibus erosis squama multo brevioribus. *Lamb. Pin. App. descr. sine Ic.*

HAB. N. W. America. *Douglas.*—The cone of this, Mr Lambert remarks, resembles that of *P. Cedrus*, but I think much more that of the preceding, *P. Balsamea*, and *P. Webbiana*, and it is in like manner densely coated with a resinous substance.

12. *P. (Abies) lasiocarpa*; foliis linearibus obtusis (uncialibus et fere sesquiuncialibus) unicoloribus supra linea media exarata subtus linea media elevata marginibus paululum incrassatis, strobilis ?, squamis latis subrotundatis extus dense fusco-pubescentibus, bracteolis late obovatis vix denticulatis squama subduplo brevioribus apice mucronato-acuminatis.

HAB. Interior of N. W. America (last journey). *Douglas.*—There are no entire cones accompanying the solitary specimen of this plant; but the scales and bracteoles, lying with the leaves, are considerably different from any other species with which I am acquainted. The former are clothed with a dense almost ferruginous down. The leaves, too, are longer than in any other American species.

13. *P. (Abies) alba* (Soland. in *Hort. Kew. ed. 1. v. 3. p. 371*); foliis curvatis brevibus tetragonis (vix uncialibus) strobilis (3-uncialibus) pendulis oblongis subattenuatis obtusis, squamis late obovatis tenuibus integerrimis. *Lamb. Pin. t. 36. Ph. Am. 2. p. 641. Rich. App. p. 36.*—*Abies alba. Mich. N. Am. Sylv. 3. p. 128. t. 148.*

HAB. Throughout Nova Scotia and Canada, to within twenty miles of the Arctic Sea, and on the Copermine River; in lat. 67½° it attains a height of twenty feet and more. *Dr Richardson.*—This is the most northern tree met with by Dr Richardson in his Arctic journeys. See an interesting notice of the use of this tree among the Crees and Esquimaux, in Richardson App. above quoted. Young cones pale green; old ones pale brown.

14. *P. (Abies) nigra* (Ait. *Hort. Kew. ed. 1. v. 3. p. 370*); foliis rectis brevibus tetragonis (semiuncialibus), strobilis pendulis ovatis obtusis (uncialibus v. paulo ultra), squamis crassis lignosis obovato-ellipticis laxiusculis apice eroso-denticulatis. *Lamb. Pin. t. 37. Ph. Am. 2. p. 640. Rich. App. p. 36.*—*Abies nigra. Mich. N. Am. Sylv. p. 176. t. 147.*

HAB. Newfoundland, Nova Scotia, and throughout Canada, to lat. 65°, where it terminates with the *Betula papyracea*. *Dr Richardson*.—It grows in swampy situations. Cones deep purple, at length in ago brown.

15. *P. (Abies) rubra* (Lamb. *Pin. t.* 38); "foliis solitariis subulatis acuminatis, strobilis (pendulis) oblongis obtusis, squamis rotundatis subbilobis margine integris."—*P. Americana rubra*, &c. *Wangenh. Beyt.* 75. t. 16. f. 54.

HAB. Nova Scotia and Newfoundland. *Wangenh. (in Lamb.)*.—This is a very dubious tree, according to Mr Lambert. Pursh says it is nearly related to the preceding.

16. *P. (Abies) Canadensis* (L.); ramulis pubescentibus, foliis brevibus (6 lineas longis) linearibus tenuibus obscure denticulatis subtus glaucis, strobilis parvis (vix folio longioribus), squamis paucis rotundatis integerrimis. *Lamb. Pin. t.* 45. *Ph. Am. 2. p.* 640.—*Abies Canadensis*. *Mich. N. Am. Sylv.* 3. p. 185. t. 140.—β.? foliis angustioribus.—*P. taxifolia*. *Lamb. Pin. t.* 47.

HAB. Canada, extending to the most northern regions, according to *Pursh*. N. W. America, *Dr Scouler*, as far as Millbank Sound and Stikine. *Tolmie*.—β.? N. W. America. *Menzies*.—This well-known Hemlock Spruce is readily distinguished by its small terminal cones. My specimens from N. W. America, which are in fruit, do not seem to differ from those of Eastern America, and I am led to consider the *P. taxifolius* of Mr Lambert probably a variety of the present species.

17. *P. (Larix) pendula* (Soland. in *Ait. Hort. Kew. ed. 1. v. 3. p.* 369); foliis fasciculatis deciduis, strobilis oblongis squamarum marginibus inflexis, bracteolis panduriformibus acumine attenuato. *Lamb. Pin. t.* 49. *Ph. Am. 2. p.* 645.

HAB. Canada. *Ph.* Newfoundland. *Miss Brenton*. N. W. America. *Douglas*.—Mr Douglas' specimen, gathered in his last journey, has neither cones nor flowers, and the leaves are longer and slenderer than any other *Larix* I have ever seen.

18. *P. (Larix) microcarpa* (Du Roi); "foliis fasciculatis deciduis, strobilis subrotundis paucifloris, squamis inflexis, bracteolis ellipticis obtuse acuminatis." *Lamb. Pin. t.* 50. *Ph. Am. 2. p.* 645.—*Larix Americana*. *Mich. N. Am. Sylv.* 3. p. 213. t. 153.

HAB. Hudson's Bay. *Ph.* From York Factory to Point Lake, in lat. 65°, where it only attains a height of from 6-8 feet. *Dr Richardson*. Lake Huron. *Dr Todd*.—I should fear this can only be distinguished from the preceding by its shorter leaves and smaller cones.

I am unacquainted with the affinities of the two following species—

19. *P. Mertensiana* (Bong. *Veg. Sitcha*, p. 45); "foliis (solitariis) linearibus obtusiusculis basi in petiolum attenuatis integerrimis, squamis coniformibus integris."

HAB. Sitcha. *Bongard*.—Leaves 5 lines, and oblong cones 1½ inch, long.

20. *P. Sitchensis* (Bong. *Veg. Sitcha*, p. 45); "foliis (solitariis) linearibus subtetragonis acuminatis mucronatis, squamis coniformibus oblongis obtusis tenuissime denticulatis."

HAB. Sitcha. *Bongard*.—Leaves 7-8 lines, ovate cones 1-1½ inch, long.

TAXODIUM. *Richard*.

1. *T. ? sempervirens* (Lamb. *Pin. t.* 64); "foliis distichis linearibus acutis perennantibus corinceis glabris opacis." *Lamb.*

HAB. N. W. Coast of America. *Menzies*.—This seems a very doubtful *Taxodium*, of which I have seen no specimen.

CUPRESSUS. L.

1. *C. thyoides* (L.); ramis patentibus tetragonis, foliis lato ovatis-acuminatis quadrifariam imbricatis dorso convexis medio tuberculatis, galbulis magnitudine pisi minoris globosis subsessilibus, squamis subumbonatis lævibus. *Mich. N. Am. Sylv.* 3. p. 207. t. 152. *Ph. Am.* 2. p. 646.—*Thuja sphaeroidalis*. *Rich.*

HAB. Canada. *Mrs Sheppard*. Cumberland House Fort. *Drummond*.—There is but one specimen in Mr Drummond's collection, and that is mixed with *Juniperus Sabina*, with which the leaves have the greatest affinity, but from which the fruit at once distinguishes it.

2. *C. Nutkatensis* (Lamb. *Pin.* n. 60. *sine Ic.*); ramis suberectis tetragonis, foliis late ovatis acuminatis quadrifariam imbricatis dorso carinatis etuberculatis, galbulis magnitudine pisi majoris globosis ramos breves terminantibus, squamis umbonatis lævibus.—*Thuja excelsa*. *Bong. Veget. de Sitcha*, p. 46.

HAB. N. W. Coast of America. Nutka. *Menzies*. Observatory Inlet. *Dr Scouler*. Sitcha. *Bongard* (*in Herb. nostr.*).—The branches are sometimes a little compressed. Mr Bongard's plant has the fruit of a *Cupressus*, and it is altogether the same species as that here characterized. It has a near affinity with the preceding, but that has shorter and more spreading and flatter branches, and leaves with a tubercle at the back, and smaller fruit.

THUJA. L.

1. *T. occidentalis* (L.); ramis ramulisque ancipitibus patentibus, foliis late ovatis obtusis arcte 4-fariam imbricatis intermediis planis medio tuberculo notatis, strobilibus nutantibus. *Mich. N. Am. Sylv.* 3. p. 226. t. 156. *Ph. Am.* 2. p. 646.

HAB. From Lake Huron, to the Saskatchewan. *Dr Richardson*.—This is the American *Arbor Vita*.

2. *T. gigantea* (Nutt. *Pl. of Rocky M.* p. 52); ramis ramulisque compressis erectis, foliis ovatis acutis arcte 4-fariam imbricatis intermediis convexis puncto impresso etuberculatis, strobilibus arcte reflexis.—*T. Menziesii*. *Douglas, mst.*—*T. plicata*. *Lamb. Pin.* n. 61 (*in partem*).

HAB. North West America. *Menzies*. (*Herb. nostr.*) Common from the source of the Columbia to its confluence with the sea, and thence north to Nutka Sound. *Douglas, Scouler, Wyeth, Wallamet, Tolmie*.—A truly distinct species from the preceding, in the characters above given. Mr Lambert seems to have confounded it with a different species said to have been found by Don Luis Neè in New Spain: for his characters, probably taken from that species, do not agree with Mr Menzies' original specimens from Nutka, which he has nevertheless considered as the same. The branches are longer, slenderer, and more upright than in *T. occidentalis*, yet less flattened or ancipitate, of a deeper green colour. The leaves are always destitute of a tubercle, and the cones are much more drooping; in short, bearing the same relation with it, that *Cupressus Nutkatensis* does with *C. thyoides*. It attains a height of 60 to 170 feet, and 20 to 40 feet in the circumference of the trunk. *Douglas*.

JUNIPERUS. L.

1. *J. communis*. L.—*E. Bot.* t. 1100. *Ph. Am.* 2. p. 647. *Rich. App.* p. 38.— β . *nana*. L.—*E. Bot. Suppl.* t. 2743. (*J. nana*.)

HAB. Newfoundland. Lake Huron, to the barren country of the Hudson Bay Co.'s territories, and on the West Coast, as far as Sitcha. *Bongard*. Summit of Mount Rainier. *Tolmie*.— β . in the most exposed and sterile situations.

2. *J. Sabina* (L.); ramulorum tetragonorum foliis quadrifariam dense imbricatis ovatis acutis v. acuminatis concavis seu subcarinatis dorso basin versus glandula oblonga quandoque obsoleta instructis; ramorum teretium foliis plerumque acerosis squamiformibus remotis appressis v. patulis, baccis nigro-pruinosis. *Mich. Am.* 2. p. 246. *Nutt.—Ph. Am.* 2. p. 647.—*J. Virginiana*. L.—*Mich. N. Am. Sylv.* p. 221. t. 155. *Ph. Am.* 2. p. 647. *Nutt.*— β . *humilis*; procumbens.—*J. Sabina*. β . *Willd.—Ph.—J. prostrata*. *Pers. Rich. App.* p. 38.—*J. repens*. *Nutt.*?

HAB. Throughout Canada, to the Saskatchewan.— β . in poor rocky soils, especially in the north. *Dr Richardson*. In the Rocky Mountains. *Lewis*. Lake Huron. *Nuttall*.—In Eastern America Botanists have enumerated five species of Savin-leaved Juniper; *J. Sabina* (which also abounds in Europe, and in Northern Asia), *J. Virginiana*, *J. Bermudiana*, *J. Barbadosensis*, and *J. prostrata*; but I must confess that among all the specimens I have received from various countries included between the 53d and 32d degrees of latitude, I can recognise only one species by any botanical characters, and that one differs in no respect from the European *J. Sabina*, to which I unhesitatingly refer it. If there are other species, I have not seen them, and the descriptions of authors are so vague and unsatisfactory, that I have in vain sought for distinguishing marks in their characters and observations. The leaves certainly differ considerably in different specimens; but not more so than they frequently do on one and the same individual. Thus, *Bigelow* observes that (in *J. Virginiana*) "a singular variety appears in the young shoots, especially those which issue from the base of the trees: this consists in an elongation of the leaves to five or six times their usual length, while they become spreading, acrosc, considerably remote from each other, and irregular in their insertion, being either opposite or ternate, so that they have been repeatedly mistaken for individuals of a different species." He adds too, that the leaves of *J. Virginiana* resemble *Savin* in their medicinal properties.—I may here observe that the *Savin-leaved Junipers* of the Old World are as unsatisfactorily characterized in books as those of the New; and equally demand a careful investigation of the Botanist. In all, upon the older branches, the leaves are elongated, acrosc, and distant where the shoots have been vigorous and lengthened, short and blunt and compact, and giving a tessellated appearance, when the shoots are short and stunted.—Again, with regard to the more usual form of the American species, *J. Virginiana*, as it is generally called, (though the Linnæan character does not accord with it), we can understand, from its mode of growth, why this plant, which in some situations is a tree 40 or 45 feet high, should in others become a small prostrate shrub. *Michaux* remarks that "the most striking peculiarity in the vegetation of it is that the branches which are numerous and close, spring near the earth, and spread horizontally, and that the lower limbs are, during many years, as long as the body of the tree. The trunk decreases so rapidly that the largest stocks rarely afford timber for ship-building of more than 11 feet in length."—Very far north, *Dr Richardson* tells us that "it grows close to the ground, and sends out flabelliform branches 2 yards long, which are very ornamental in thin rocky soils."

3. *J. occidentalis*; ramis ramulisque patentibus teretibus, foliis arcte 4-fariam imbricatis subtrotundo-ovatis obtusis valde convexis paulo infra medium glandula oblonga conspicua resiniflua notata.—*J. excelsa*. *Dougl. mst.—Ph. Am.* 2. p. 647. (*vix Bieb.*)

HAB. N. W. America. Banks of the waters in the Rocky Mountains. *Lewis* (in *Ph.*) Common on the higher parts of the Columbia, at the base of the Rocky Mountains, where it attains a height of 60-80 feet, and a diameter of from 2-3 feet. *Douglas*.—Mr Douglas' collection, in my possession, contains only two specimens of this plant, without flowers or fruit. From the locality, there can scarcely be a doubt of its being the *J.*

excelsa of Pursh; but that it is the *J. excelsa* of Bieberstein, from Tauria, is a question; and indeed the latter author himself says of his plant, "diagnosis a *J. Sabina* difficillima, quamvis specie omnino differat." From *J. Sabina* our present species may be readily known by the more spreading branches and branchlets, and by both being perfectly *terete*, by the rounder and more convex leaves, and, above all, by the large gland on every leaf, constantly exuding a transparent resin, which concretes in drops upon the foliage. There are no acerose leaves on the older branches whatever, but the old leaves form lozenge-shaped scales or tubercles, with the resinous gland still very conspicuous.

TAXUS. L.

1. *T. baccata*. L.—*E. Bot. t. 746. Nutt. Gen. Am. p. 246.*— β . minor. *Mich. Am. 2. p. 245.*—*T. Canadensis. Willd.—Ph. Am. 2. p. 647. Nutt.*

HAB. Lake Huron. *Nuttall.* Mountainous parts of N. W. America. *Douglas. Dr Scouler.*— β . Canada, to the Saskatchewan. *Dr Richardson. Drummond.* Newfoundland. *Mr Cormack. Miss Brenton.*—In the eastern parts, the Yew seems to form a low shrub; but on the Columbia, Mr Douglas assures us, it attains a size fully equal to that of Europe. As was the case with our ancestors, the Indians make their bows of its wood.

CL. II. MONOCOTYLEDONEÆ.

ORD. I. COMMELINEÆ. Br.

1. TRADESCANTIA. L.

1. *T. Virginica*. L.—*Curt. Bot. Mag. t. 105. Ph. Am. 1. p. 218.*

HAB. Upper Canada? *Mrs Sheppard.*

ORD. II. ALISMACEÆ. Br.

1. SAGITTARIA. L.

1. *S. sagittifolia*. L.—*Ph. Am. 2. p. 396.*—var. 1. *vulgaris*; foliis mediocribus sagittæformibus.—var. 2. *macrophylla*; foliis fere pedibus lobis lanceolatis decurvis. *S. latifolia. Ph. S. sagittifolia. E. Bot. t. 84.*—var. 3. *angustifolia*; foliis elongatis angustis lobis linearibus patentibus longissimis, foliis exterioribus sæpe indivisis. *S. sagittifolia, minor*; *S. hastata*; *S. gracilis*; and *S. heterophylla. Ph.*—var. 4. *simplex*; foliis omnibus lineari-lanceolatis simplicibus. *S. simplex*; *S. graminea*; and *S. acutifolia. Ph.*

HAB. Ditches and pools, and throughout Canada to the Saskatchewan; Columbia, and Walla-wallah Rivers. *Dr Gairdner. Mr Tolmie.*—var. 2. N. W. coast, where it is called by the Chenooks *Wapatoo*, and where the roots are eaten: *Dr Scouler.*—var. 3. Canada. *Mrs Sheppard. Drummond.*—var. 4. Newfoundland. *Miss Brenton.*—Nothing can be more variable than the leaves of this plant in N. America, and they are of all sizes.

2. ALISMA. *L.*

1. *A. Plantago*. *L.*—*Mich. Am.*—*E. Bot. t.* 837.—*A. trivialis*. *Ph. Am.* 1. p. 252.—*P. parviflora*. *Ph.*, and probably *A. subulata*. *Willd. and Ph.*

HAB. Ditches and pools, Canada, to the Saskatchewan. Columbia. *Dr Scouler*.

2. *A. natans*. *L.*—*Ph. Am.* 1. p. 253. *E. Bot. t.* 775.

HAB. Stagnant waters of the St Lawrence. *Pursh*.

ORD. III. JUNCAGINEÆ. *Rich.*1. SCHEUCHZERIA. *L.*

1. *S. palustris*. *L.*—*Ph. Am.* 1. p. 247. *E. Bot. t.* 1801.

HAB. Between Cumberland House Fort and Hudson's Bay, and upon the "Height of Land," Rocky Mountains. *Dr Richardson. Drummond.*

2. TRIGLOCHIN. *L.*

1. *T. maritimum*. *L.*—*Ph. Am.* 1. p. 247. *E. Bot. t.* 255. *Rich. App. p.* 11.

HAB. Cumberland House Fort on the Saskatchewan to the Rocky Mountains (probably in Salt Licks). *Drummond*; and thence to the Mackenzie River. *Dr Richardson*; and N. W. Coast. *Dr Scouler. Douglas. Tolmie. Sitcha. Bongard. Labrador. Dr Morrison.*—The specimens vary exceedingly in size, from 4-6 inches to 2 feet.

2. *T. palustre*. *L.*—*Ph. Am.* 1. p. 247. *E. Bot. t.* 366.

HAB. Marshes between Carlton House and Edmonton House Fort, on the Saskatchewan. *Dr Richardson. Drummond. Labrador. Dr Morrison. Sitcha. Bongard (in Herb. nostr.).*

ORD. IV. AROIDEÆ. *Br. (including TYPHEÆ.)*1. ACORUS. *L.*

1. *A. Calamus*. *L.*—*Ph. Am.* 1. p. 235. *E. Bot. t.* 356.

HAB. Canada (*Ph.*), to the Saskatchewan. *Drummond.*

2. ORONTIUM. *L.*

1. *O. aquaticum*. *L.*—*Ph. Am.* 1. p. 235. *Hook. Ex. Fl.* 1. t. 19.

HAB. Canada. *Pursh.*

3. ARUM. *L.*

1. *A. triphyllum*. *L.*—*Ph. Am.* 2. p. 399. *Curt. Bot. Mag. t.* 950.

HAB. Canada, frequent.—This varies in the colour and markings of the spathe.

4. CALLA. L.

1. *C. palustris*. L.—*Ph. Am.* 2. p. 399. *Curt. Bot. Mag.* t. 1831. *Rich. App.* p. 36.

HAB. Canada, to the Saskatchewan and Hudson's Bay. *Dr Richardson. Drummond.*

5. SYMPLOCARPUS. *Salisb.*

1. *S. fœtidus* (Nutt.); spatha profunde cucullata subsessili, spadice subgloboso incluso, foliis serotinis lato-cordatis petiolatis. *Hook. Bot. Mag.* t. 3224.—*Ictodes. Bigel.*—*Pothos fœt.* *Mich.*—*Sims, Bot. Mag.* t. 836.—*Dracontium fœtidum.* L.—*Ph. Am.* 2. p. 398.

HAB. Canada. *Pursh.*

2. *S. Kamtschaticus* (Bong. *Veget. Sitch.* p. 50); spatha elliptica concava basi longissime tubulosa, spadice cylindracea exserta longe pedunculata, foliis amplis ovatis membranaceis in petiolum attenuatis.—*Dracontium.* *Linn. Amœn. Acad.* 2. p. 362.

HAB. N. W. America. *Sitcha. Bongard.* Columbia. *Dr Scouler.* N. E. of Fort Vancouver, in overflowed woods. *Dr Gairdner.*—My specimens from Dr Scouler and Dr Gairdner are considerably injured: but they are sufficiently perfect to satisfy me that the plant is a *Symplocarpus*, and the *S. Kamtschaticus* of Bongard. The root is perennial, bearing large coarse fibres. Leaves, which are clothed at their base with large membranous sheaths, a foot to a foot and a half long, thin, membranaceous, ovate, but tapering gradually into a broad and short foot-stalk; the midrib very broad, especially at the base of the ^{fruit}; Spatha, including the long tube, nearly equal in length with the leaves: the tubular part sheathing the peduncle of the spadix.

6. LEMNA. L.

1. *L. trisulca.* L.—*Ph. Am.* 1. p. 22. *E. Bot.* t. 926. *Rich. App.* p. 2.

HAB. Canada, to lat. 58°. *Dr Richardson.*

2. *L. polyrrhiza.* L.—*Ph. Am.* 2. p. 22. *E. Bot.* t. 2458.

HAB. Cumberland House Fort. *Drummond.*

3. *L. minor.* L.—*Ph. Am.* 1. p. 22. *Rich. App.* p. 2.

HAB. Canada, to lat. 58°. *Dr Richardson.*

(*Lemna gibba*, which is found in the Northern United States, is probably also a native of British North America; but I have seen no specimen, nor is it recorded as such.)

7. SPARGANIUM. L.

1. *S. ramosum.* Sm. *E. Bot.* t. 744. *Ph. Am.* 1. p. 33.—*S. erectum.* L.

HAB. Canada. *Ph.* Cumberland House Fort. *Drummond.* (Only one specimen.)

2. *S. simplex.* Sm. *E. Bot.* t. 745. *Ph. Am.* 1. p. 34.—*S. erectum.* β. L.

HAB. Throughout Canada to Fort Franklin, abundant. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.*

3. *S. natans.* L.—*Ph. Am.* 1. p. 34. *E. Bot.* t. 273.

HAB. Canada. *Ph.* Alpine Lakes of the Rocky Mountains, rare. *Drummond.*

8. TYPHA. L.

1. *T. latifolia*. L.—*Ph. Am.* 1. p. 34. *E. Bot. t.* 1455. *Rich. App.* p. 34.

HAB. Throughout Canada to Fort Franklin. *Dr Richardson*. N. W. Coast, Straits of de Fuca. *Dr Scouler*.—I have not seen the *T. angustifolia*, L., from British N. America, but it seems not uncommon in the United States.

ORD. V. SAURUREÆ. *Richard.*

1. SAURURUS. L.

1. *S. cernuus*. L.—*Ph. Am.* 1. p. 252.

HAB. Canada. *Ph.*; but I have seen no specimen.

ORD. VI. NAIADES. *Juss.*

1. NAIAS. L.

1. *N. Canadensis* (Mich. *Am.* 2. p. 220); parva repetitum dichotome ramosa cæspitosa, foliis fasciculatis oppositis membranaceis linearibus uninerviis subintegerrimis, stylo apice bi-trifido. (TAB. CLXXXIV.)—*Ph. Am.* 2. p. 602.

HAB. Canada (in Lake St John's. *Michaux*). *Mr Cleghorn*.—A densely tufted plant, readily distinguished from the European species of the same genus, by the nearly entire leaves and the often bifid style. My specimens are female only. It is singular that this plant does not appear to be found by any of the United States botanists. I do not know what the *Caulinia fragilis* and *flexilis* of the American Floras are, unless the latter be, as I suspect, the n. 436 of Drummond, 3d Coll. of Texas plants; but our plant does not correspond with that.

TAB. CLXXXIV. *Fig.* 1, Portion of a female plant; *f.* 2, Leaf; *f.* 3, Female flower; *f.* 4, Fruit; *f.* 5, The same laid open, showing the seed:—*magnified.*

(*Zostera* is a native of the United States, but I am not aware that it has been gathered in the British possessions, though there is every reason to suspect its existence there; and probably that of the *Caulinia* too, especially in Upper Canada.)

2. ZANNICHELLIA. L.

1. *Z. palustris*. L.—*Ph. Am.* 1. p. 4. *E. Bot. t.* 1844.

HAB. N. W. America. Columbia River. *Dr Scouler*.

3. RUPPIA. L.

1. *R. maritima*. L.—*Ph. Am.* 1. p. 121. *E. Bot. t.* 136.

HAB. N. W. America. In still bays of the Columbia. *Douglas*. *Dr Scouler*.

4. HETEROSTYLUS. *Nov. Gen.*

Dioicus? MASC. —?—FÆM. *Spadix* e spatha (foliorum basi) erumpens, exserta, floribus nudis undique insertis sessilibus; *superioribus* arctis, subimbricatis stylo brevi; *inferioribus* sensim magis remotis stylo longiori; *infimo* radicali stylo filiformi longissimo! *Stigma* simplex capitatum. *Germen* lanceolatum compressum bialatum, dorso carinatum. FRUCTUS: *Achenium* oblongum compressum, utrinque subalatum; infimum superne bidentatum.—Herba *annua?* *aquatica*, *maritima?* *vel* *salsuginosa*, *oræ occidentalis Americæ borealis*. Radix *fibrosa* *fibris simplicibus*. Folia *radicalia* *graminea membranacea*, *tenera*, *striata*, *linearia*, 6-8-uncias longa, basi *vaginantia*, *spathacea*.

1. *H. gramineus*. (TAB. CLXXXV.)

HAB. Wet plains of the Columbia. *Dr Scouler*.—This is an extremely curious plant, and certainly the type of a new genus, to which I have assigned the present name, from the remarkable circumstance of the female flowers or pistils (for they are perfectly destitute of any kind of floral covering), of the extremity of the spadix, having a short style, those about the middle a longer one, and those at the base, especially among the roots, where the spatha and the spadix have their origin, with a style two inches and more long, slender and filiform! It is to be regretted that very few specimens were preserved, and those having, as far as can be seen, only female flowers.

TAB. CLXXXV. Fig. 1, Spadix and spatha; f. 2, 3, 4, Female flowers; f. 5, Fruit; f. 6, The same laid open; f. 7, Seed:—*magnified*.

5. PHYLLOSPADIX. *Nov. Gen.*

Dioicus? MASC.?—FÆM. *Spadix* e spatha *curvata* (foliorum basi) *inclusa*, *canaliculata*, hinc supra *florifera*, marginibus *foliiferis*, foliis seu squamis *oblongis* *subimbricatis*; floribus nudis, serie *singula* *subimbricatis*, *sessilibus*. *Ovarium* *sessile*, *lato-ovatum*, *subglobosum*. *Stylus* *breviusculus*, *crassus*. *Stigma* *capitatum*. *Fructus* —?—Herba *oræ occidentalis Americæ borealis*, *aquatica*, *radice nodosa* *fibris albidis*, *veterum foliorum reliquiis*, *vestita*. *Caules breves vaginati*. Folia *linearia*, *elongata*, *graminea*, *subcoriacea*, *siccitate nigrescentia*, *nervosa*, *obscure costata*, *integerrima*. Spatha *lata*, *convoluta*, *curvata*, *spadicem includens*.

1. *P. Scouleri*. (TAB. CLXXXVI.)

HAB. Dundas Island in the Columbia River, N. W. America. *Dr Scouler*.—This is a second new genus of *Naiades* which has rewarded *Dr Scouler's* researches in the north-west shores of America. Its nearest affinity is doubtless with *Zostera*, from which the separated male flowers, the single style and stigma, and the curious leafy border to the spadix, will at once distinguish it.

TAB. CLXXXVI. Fig. 1, Spatha, including the spadix; f. 2, Side view of the spadix removed from the spatha; f. 3, The same, front view, the margins spread open; f. 4, Spatha, from which the spadix has been removed; f. 5, Single pistil:—more or less *magnified*.

6. POTAMOGETON. *L.*

1. *P. natans*. *L.*—*Ph. Am.* 1. p. 120. *E. Bot.* t. 1832.—β. foliis minoribus angustis acutis.

HAB. Stagnant waters, Canada, to Hudson's Bay.—β. N. W. America. *Mr Menzies*.

2. *P. rufescens*. Schrad.—*P. fluitans*. Roth.—*Sm. E. Bot. t. 1286. Ph. Am. 1. p. 120.*

HAB. The same country with the preceding; and intermediate, as it appears, between it and the following.

3. *P. heterophyllus*. Schreb.—*Ph. Am. 1. p. 120. E. Bot. t. 1285.*— β . foliis natantibus nullis.

HAB. With the preceding.— β . Cumberland House Fort. *Drummond*.

4. *P. diversifolius*. Bart.—*Torrey Fl. Un. St. p. 197.*—*P. setaceus. Ph. (not Willd.)*

HAB. Norway House Fort to Canada. *Dr Richardson. Drummond.*—A beautiful little species, *P. diversifolius* in miniature, but readily known by its small size and few-flowered spikes.

5. *P. perfoliatus*. L.—*Ph. Am. 1. p. 120. E. Bot. t. 168.*

HAB. Canada, to the Slave River. *Dr Richardson.*

6. *P. praelongus* (Wulff.); foliis oblongis obtusis plurinerviis nervis 3 validioribus omnibus reticulatim connexis, pedunculis longissimis, spicis cylindraceis multifloris. *Hook. Br. Fl. ed. 4. p. 70.*—*P. lucens. Torr. Fl. p. 197.*

HAB. English River. *Dr Richardson.*—I think it probable that *Dr Torrey's P. lucens* may be this species, for he particularly mentions the great length of the peduncle; and because I have *P. praelongus* also from Texas and Boston, showing that it is a widely distributed plant in N. America. The real *P. lucens* I do not possess from that country.

7. *P. zosteræfolius* (Schum.); caule ancipiti stipulis liberis, foliis alternis lato-linearibus acutis plurinerviis venis tribus validioribus omnibus reticulatim connexis, spicis cylindricis pedunculisque elongatis. *Hook. Br. Fl. ed. 4. p. 69. et in E. Bot. Suppl. t. 2685.*— β . minor, floribus laxioribus.

HAB. Cumberland House Fort, on the Saskatchewan, to Hudson's Bay. *Dr Richardson. Drummond.*— β . Portage la Loch. *Dr Richardson*; and York Factory, Hudson's Bay. *Drummond.*—A very distinct and very handsome species. May not this be the *P. compressus* of Torrey?

8. *P. pusillus*. L.—*E. Bot. t. 215.*—*P. pauciflorus. Ph.*

HAB. Canada. *Cleghorn. Cumberland House, and York Factory, Hudson's Bay. Dr Richardson. Drummond.*

9. *P. pectinatus*. L.—*Ph. Am. 2. p. 121. E. Bot. t. 323.*—*P. marinus. L.*— α . pedunculo foliis longiori, foliis gracilioribus.— β . pedunculo foliis breviori, foliis latioribus.

HAB. Canada (*Ph.*), to English River; *Dr Richardson*; and from Hudson's Bay to alpine lakes in the Rocky Mountains. *Drummond. N. W. Coast, Columbia. Dr Scouter.*

ORD. VII. SMILACEÆ. Br.

1. SMILAX. L.

1. *S. rotundifolia* (L.); caule tereti striato flexuoso aculeato fruticoso scandente, foliis brevi-petiolatis subrotundo-ovatis acutis subtus concoloribus, umbellis paucifloris brevis-

sime petiolatis. *Ph. Am.* 1. p. 250.—*S. caduca?* and *S. quadrangularis?* Willd.—*Wats. Dendrol.* t. 109.

HAB. Canada. *Pursh. Drummond.*—This was only gathered with ripe fruit by Mr Drummond. What I have received from the United States' botanists as *S. caduca*, does not seem to differ from this species, and Dr Torrey (*in Herb. nostr.*) quotes the *S. quadrangularis* of Willd. as the same plant.

2. *S. peduncularis* (Muhl.); herbacea subsimplex, caule inermi erecto subs candente (siccitate) angulato, foliis sublanceolato petiolatis ovato-subcordatis teneris glaberrimis sensim acuminatissimis 7-9-nerviis subtus pallidioribus subglaucescentibus, pedunculis longissimis folium longe superantibus, umbellis multifloris, ovarii loculis biovulatis. (TAB. CLXXXVII. B.)— β . foliis basi acutioribus.—*S. herbacea*. L.—*Bot. Mag.* t. 1920.

HAB. Canada, to Lake Winnipeg and Red River. *Douglas.*—I think it will be found that *S. herbacea* is only a var. of the present species.

TAB. CLXXXVII. B. Fig. 1, Female flower; f. 2, Ovary cut through vertically, showing two of the cells, each with two ovules.

3. *S. lasioneuron*; herbacea subsimplex, caule inermi erecto subs candente siccitate angulato, foliis cordato-rotundatis obtusis cum acuminulo 9-nerviis supra glaberrimis subtus subglaucescentibus nervulis pilosis, pedunculis petiolum parum superantibus folio multo brevioribus, umbella multiflora. (TAB. CLXXXVII. A.)

HAB. Carlton House Fort on the Saskatchewan. *Dr Richardson.*—This is an herbaceous species, and allied to the last, though truly distinct, not only in the form of the leaves, and the downiness of the under-surface, but in the comparatively very short peduncles.

TAB. CLXXXVII. A. *S. LASIONEURON.* Fig. 1, Flower.

2. STREPTOPUS. Mich.

1. *S. distortus* (Mx.); foliis oblongo-ovatis amplexicaulibus marginibus nudis subtus glaucis, pedicellis elongatis distortis geniculatis, sepalis longe acuminatis reflexis, antheris acutissimis integris, stigmatibus truncato. (TAB. CLXXXVIII. A.)—*Ph. Am.* 1. p. 232. *Torrey.* 1. p. 353.—*S. amplexifolius.* *De Cand.*—*Uvularia*. L.

HAB. Canada, to the Saskatchewan, and from Newfoundland and Hudson's Bay to the Rocky Mountains, and thence to the Columbia, and north to Fort McLaughlin and Sitka, on the N. W. coast. *Dr Richardson. Drummond. Bongard. Tolmie, &c.*—The most careful comparison of this and the European *S. amplexifolius* have satisfied me that the two plants offer no specific distinction whatever. I prefer, however, Michaux's name as much more characteristic.

TAB. CLXXXVIII. A. *S. DISTORTUS.* Fig. 1, Flower; f. 2, Outer and inner sepal, with the stamen. f. 3, Pistil.

2. *S. roseus* (Mx.); foliis oblongo-ovatis amplexicaulibus marginibus ciliatis subtus concoloribus, pedicellis breviusculis reflexis, sepalis angustis acuminatis apicibus patentibus, antheris apice bifidis, stigmatibus trifidis. (TAB. CLXXXVIII. B.)—*Mx. Am.* 1. p. 201. t. 18. *Ph. Am.* 1. p. 232. *Torrey.* 1. p. 352.—*Uvularia rosea.* *Pers.*—*Bot. Mag.* t. 1489.

HAB. From Lake Huron to the Saskatchewan. *Dr Todd. Dr Richardson. Drummond.* N. W. Coast, from the Columbia to lat 58°. *Douglas. Tolmie. Dr Scouler. Bongard.*—Readily distinguished from the preceding by the ciliation, and by the colour of the under surface, by the shorter and not peculiarly distorted pedicels, and by the smaller flowers, with narrower, more erect, and more distinctly placed sepals; and especially by the bifid anthers and trifid stigma, in which latter particular it seems to connect this genus with the following.

Tab. CLXXXVIII. B. Fig. 1, Flower; f. 2, Sepal and stamen; f. 3, pistil:—*magnified.*

3. UVULARIA. L.

1. *U. lanuginosa* (Pers.); foliis ovatis acuminatis sessilibus impunctatis ciliatis inferioribus amplexantibus junioribus subtus pedunculisque binis terminalibus pubescentibus, perianthii basi acuta foliolis lineari-lanceolatis, stylo glaberrimo. *Ker. Bot. Mag. t. 1409.*—*Streptopus lanugin.* *Mx.—Ph. Am. 1. p. 232. Torrey. 1. p. 353.*—*Uvularia puberula.* *Rich. App. p. 10, cum descr. (certe.) an Mich. Am. 1. p. 199?*—*β. major*; foliis majoribus basi cordatis amplexantibus sepalisque obtusissimis distincte reticulatim venosis.

HAB. Woody country, Lake Winipeg, to the Rocky Mountains. *Dr Richardson. Drummond.*—Columbia River, N. W. Coast. *Tolmie. Gairdner.*—*β.* Between Norway House and Cumberland House Fort. *Dr Richardson.*—This plant is certainly rather an *Uvularia* than a *Streptopus*; and, besides the following, there are several nearly allied species in Northern India, such as *Uvularia Hamiltoniana* and *U. calcarata*, &c. of Wallich. The stem in all is rather tall, dichotomously branched, the leaves broad, distichous, the flowers more or less drooping, more or less clustered, and terminal; the sepals nectariferous, the anthers oblong obtuse, the stigma trifid. What Michaux's *Uvularia puberula* is, I am unable to say, probably, as *Dr Richardson* conceives, the present plant; but Michaux says, "affinis *U. sessilifolia*," which is certainly not the case with our plant. Sir James Smith confounded it with the following species, from the shores of the Pacific.

2. *U. Smithii*; foliis ovatis acuminatis sessilibus nitidis punctatis ciliatis glabris junioribus subtus ad nervos puberulis, pedunculis terminalibus binis styloque pubescentibus, perianthii basi lata truncata foliolis lanceolatis. (Tab. CLXXXIX.)—*U. puberula.* *Sm. in Rees. Cycl. (not Mich.)*

HAB. Nutka Sound. *Mr Menries. Dr Scouler.*—This appears to be a very distinct species in the flowers, of which we find a remarkable approach to the *U. calcarata*, where the base of each sepal forms a nectariferous spur, while in ours it forms an angle, thus giving the peculiar truncated appearance to the base of the flower. The leaves are shining, very pellucid, beautifully reticulated with transverse veins, and marked all over, and on both sides, with small brown dots. It is probably rare. I possess but one specimen from each of the above travellers; but I must observe, that the species of this genus appear liable to much variation; and some of the western specimens of *U. lanuginosa* are a little more obtuse than usual at the base, and a little downy at the lower part of the style.

Tab. CLXXXIX. Fig. 1, Portion of a leaf; f. 2, Sepal and stamen; f. 3, Pistil:—*magnified.*

3. *U. perfoliata* (L.); foliis perfoliatis ellipticis cum acuminulo, flore terminali solitario pendulo, perianthio campanulato intus papilloso, antheris acutis. *Sm. Ex. Fl. 1. p. 95. t. 49. Ph. Am. 1. p. 231. Bot. Mag. t. 955.*—*U. perfoliata, minor.* *Mx. Am. 1. p. 190.*

HAB. Canada. *Pursh.*—I possess garden specimens of this species, which appear distinct, and others from Boston, United States; but I have received none from Canada, or any part of British N. America.

4. *U. grandiflora* (Sm.); foliis perfoliatis elliptico-oblongis acutis, flore terminali solitario pendulo, perianthio longe campanulato intus nudo, laciniis acuminatis, antheris longe linearibus obtusis. *Sm. Ex. Fl. p. 99. t. 51. Bot. Mag. t. 1212. Ph. Am. 1. p. 391.*—*U. perfoliata, major. Mx. Am. 1. p. 199.*—*U. lanceolata. Willd.*

HAB. Lake Huron, to the Saskatchewan. *Dr Todd. Dr Richardson. Drummond.*—The much longer and more acuminate and yellower sepals, free from papillæ, and the very long and obtuse anthers, will readily distinguish this from the preceding. The *U. flava*, Sm. (*Ex. Fl. t. 50*), from Carolina, however, seems almost intermediate, having larger and longer and yellower flowers, like the present, and papillose sepals and pointed short anthers, like the former.

5. *U. sessilifolia* (L.); foliis sessilibus oblongo-subovatis acutis, flore terminali solitario pendulo, perianthio oblongo-campanulato intus lævi laciniis obtusis, antheris linearibus obtusis. *Sm. Ex. Fl. 1. p. 101. t. 52. Mx. Am. 1. p. 199. Ph. Am. 1. p. 233.*

HAB. Now Brunswick (*Mr Kendal*), and throughout Canada to the Saskatchewan. *Dr Richardson. Mr Drummond.*

4. SMILACINA. Desf.

1. *S. borealis* (Gawl. *Bot. Mag. t. 1403*); foliis subradicalibus obovato-oblongis acutis plerumque ciliatis, scapo glabro folia longe superante umbella pauci-(3-6)-flora ebracteata, perianthii campanulati nutantis laciniis lanceolatis. *Ph. Am. 1. p. 232.*—*Dracæna borealis. Ait. Kew. ed. 1. t. 5.*

HAB. New Brunswick. *Dr Todd.* Newfoundland. *Dr Morrison.* Canada. *Pursh. Mrs Percival;* to the Saskatchewan. *Dr Richardson. Drummond.*—Flowers yellowish-green.—This is very different from the *S. umbellulata* (Mx.), which has much smaller and more copious white flowers, with spreading obovate sepals, and was gathered by Mr Drummond in the Alleghanies, where Michaux first discovered it; but its northern boundary is within the States.

2. *S. uniflora* (Menz. mst.); foliis subradicalibus 2-3 obovato-lanceolatis acutis subtus margine pilosis, scapo pubescente unifloro longitudine foliorum, perianthii hirsuti lato-campanulati erecti laciniis obovato-lanceolatis. (TAB. CXC.)—*S. borealis. β. uniflora. Roem. Syst. Veget. v. 7. p. 307.*

HAB. N. W. America, from Fort Vancouver to Observatory Inlet, and on mountains of the Interior. *Mr Menzies. Douglas. Dr Scouler. Tolmie.*—An extremely different species from the last, much smaller, with narrower foliage, and a solitary flower almost twice the size of that of *S. borealis*, and much more hairy. The berries are, when recent, of a fine rich blue colour (*Douglas*). Root very long, and stoloniferous.

TAB. CXC. Fig. 1, Sepal and stamen; f. 2, Pistil:—*magnified.*

3. *S. trifolia* (Desf.); caule alterne trifoliato, foliis oblongo-lanceolatis acutis basi angustata amplexantibus, racemo simplici terminali laxo. *Ph. Am. 1. p. 233.*—*Convallaria. L.—Torrey. 1. p. 354. Gmel. Sib. 1. t. 6.*

HAB. Swamps throughout Canada, to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond.* Newfoundland. *Mr Cormack.* Labrador. *Miss Brenton.*—This is certainly the same as the Siberian plant of the same name.

4. *S. stellata* (Desf.); caule alterne plurifoliato, foliis ovali-lanceolatis acutis basi subrotundatis, racemo simplici terminali. *Ph. Am.* 1. p. 232.—*Convallaria*. *L.*—*Torrey*. 1. p. 354. *Bot. Mag.* t. 1043.

HAB. From Lake Huron to the Saskatchewan, and from Hudson's Bay (*Dr Wright*) to the Rocky Mountains. *Dr Richardson*. *Drummond*. N. W. Coast and interior. *Douglas*. *Tolmie*. *Dr Scouler*.—The berries are esteemed poisonous; the root is employed as an emetic. (*Richardson*.)

5. *S. racemosa* (Desf.); caule alterne plurifoliato, foliis sessilibus oblongo-ovalibus acuminatis, racemo terminali composito. *Ph. Am.* 1. p. 234.—*Convallaria*. *L.*—*Torrey*. 1. p. 354. *Bot. Mag.* t. 899.

HAB. Throughout Canada to the Saskatchewan and the Rocky Mountains. *Dr Richardson*. *Drummond*. N. W. America. *Dr Scouler*.—More or less pubescent. The largest of the N. American species (the leaves a span and more long), with the smallest and most copious flowers.

5. *S. bifolia* (Roem.); caule alterne bi-trifoliato, foliis ovato-cordatis sessilibus vel petiolatis, racemo simplici terminali, floribus tetrandris tetrasepalis.—*Convallaria*. *L.*—*Mich.*—*Bot. Mag.* t. 510. *Torrey*. 1. p. 253.—*Maianthemum Canadense*. *Desf.*—*Convall.* *Canad.* *Ph. Am.* 1. p. 233.

HAB. Throughout Canada to Bear Lake; and from Hudson's Bay and Newfoundland to the Rocky Mountains. N. W. America, frequent. *Douglas*. *Dr Scouler*. *Tolmie*.—A very common and a variable plant. More or less downy or glabrous. Leaves sessile or petiolate, (in some of the specimens from Fort Simpson and from Sitcha, on the N. W. coast, the petiole is 3-4 inches long,*) broadly cordate or narrow ovato-cordate. There is no reason whatever for considering the American plant different from the European one.

5. POLYGONATUM. *Desf.*

1. *P. multiflorum*. *Desf.*—*Convallaria*. *L.*—*E. Bot.* t. 279.—*β. Americanum*; floribus brevioribus foliis subtus plerumque pubescentibus.—*Convallaria multiflora*. *Ph. Elliott*. *Torrey*.—*P. pubescens*, *P. canaliculatum*, *P. hirtum*, *P. latifolium*, and *P. angustifolium*, of *Ph.* (*Convallaria alior.*), may perhaps all be safely referred to this.

HAB. Canada, *Pursh*, to the Saskatchewan. *Dr Richardson*. *Lady Dalhousie*.—All the specimens of *Polygonatum* that I have received, under very different names, from the United States botanists, it appears to me, are referable to the European *P. multiflorum*: but the leaves are generally downy beneath, and the flowers are certainly shorter and greener, not so slender in proportion to their length, nor so much contracted near the middle (more cylindrical), as in the European specimen. In the dried specimens, the rounded succulent stem, from shrinking, becomes more or less angular or channelled, whence seems to have arisen the *P. canaliculatum* of Mohlenberg. The *P. angustifolium* (*C. biflora*, Walt. and *Torrey*) is only a narrow leaved var.—The single specimen found at the Saskatchewan is in fruit, and is quite glabrous on both sides of the foliage.

* This is *S. bifolia*, var. *Kamtschatica* of Bongard in *Herb. nostr.*, and appears to be pretty constant to its character in the very northern regions, both on the Asiatic and American side. I have the same from Kamtschatka, from Pallas' Herbarium.

ORD. VIII. MELANTHACEÆ. Br. Lindl.

1. LEIMANTHIUM. Willd.

1. *L. hybridum* (Roem.); panicula racemosa elongata, sepalis orbicularibus undulatis longe unguiculatis, glandulis connatis. Gray. *Melanth. Am. Sept. Rev.* p. 116.—*Melanthium hybridum*. Walt.—*Ph. Am.* 1. p. 242. Torrey. 1. p. 367. Nuttall.—*M. racemosum*. Mich.

HAB. Upper Canada. Mr Goldie (in *Herb. nostr.*).—Nuttall describes the leaves as elliptic-oblong; Torrey, as they are in our specimens, long and linear.

2. *L. Nuttallii*; racemo compacto demum elongato, bracteis subulato-lanceolatis basi membranaceis pedicellos floriferos superantibus, sepalis ovatis undulatis unguiculatis, foliis linearibus conduplicatis marginibus scaberrimis, bulbo tunicato.—*Amitanthium Nuttallii*. Gray. *l. c.* p. 123.—*Helonias angustifolia*. Nutt. (*non Mx.*) and *H. paniculata*. Nutt. (*vide Gray.*)

HAB. N. W. Coast. *Menzies*. Common both to the north and south of the Columbia, on dry gravelly soils. Douglas. Dr Scouler. *Tolmie*. Dr Gairdner.—"Poison or Death Camass" of the Chenooks, from the violent effects of the roots, which create vomiting. Bulb about the size of a chestnut. Stem 1-2 feet high, sparingly leafy. Pedicels much elongated, erect after flowering. Capules (of three slightly combined follicles) half an inch and more long, oblong-triangular, surrounded at the base with the withered perianth, and terminated by the three nearly erect persistent styles, opening at the top between the styles. Seeds, about two perfect ones in each cell, oblong somewhat 3-angular, the angles almost forming wings. The sepals are distinctly clawed, and at the top of the claw is a depression, where the sides, lapping over a little, give the appearance of two small scales: but the nectary is rather a depression than an appendage. The habit of the plant is extremely like that of *Helonias angustifolia*, but the sepals are of a very different structure.

2. ZIGADENUS. Mich.

1. *Z. chloranthus* (Rich. *App.* p. 12); scapo pauci-folioso, racemo subsimplici, sepalis obovatis obtusis, glandula obcordata profunde emarginata.—*Z. commutatus*. Schult. *Syst. Veget.* 7. p. 1560. Hook. et Arn. in *Bot. of Beech.* p. 161.—*Z. glaberrimus*. Ker, *Bot. Mag.* t. 1680. (*not Mich.*)—*Z. glaucus*? Nutt. *Pl. of Rocky M.* p. 56. Gray. *l. c.* p. 113.—*Melanthium glaucum*? Nutt. *Gen.* 1. p. 232.—*β. major*; foliis longioribus, scapo paniculato.—*Z. speciosus*. Dougl. *ms.*—*Z. glaberrimus*. Hook. et Arn. in *Bot. of Beech.* p. 160. (*not Mich.*)

HAB. Upper Canada. Nuttall? *Goldie*; to Great Bear Lake, and to the Rocky Mountains. Dr Richardson. Drummond.—*β.* Rocky Mountains (with *), and to the vallies on the west side. Drummond. Douglas. Murray Bay, Canada. Mrs Sheppard.—(To this var. I would refer the Californian *Z. glaberrimus* of the Bot. of Beechey's Voy.)—I am quite satisfied that the *Z. glaberrimus* of Bot. Mag. is this plant, and that it is a very distinct species from the real *glaberrimus* of Mx., of which I have Georgian specimens from Dr Torrey, in which the sepals are ovato-lanceolate, and the two glands are apart from each other and very conspicuous: here they are combined into one obcordate gland. The species is, however, liable to considerable variation in the size, in the more or less leafy stem, in the length of the leaves, and in the more or less paniculated raceme. I do not know whether to infer from the following remark of Nuttall that he

considers the *Z. chloranthus* to be identical with his *Z. glaucus* or not. "Why," he says, "this species (*Z. glaucus*) should have been changed to the name of *chloranthus*, by Richardson, I am at a loss to conceive, since the flower is more white than any other colour." He does not, however, adduce it as a synonym: and further remarks—"the northern plant is probably something different."

2. *Z. elegans* (Ph.); scapo subnudo, bracteis linearibus, petalis acutis. *Ph. Am.* 1. p. 241.

HAB. Waters of Cokablaishkit River, near the Rocky Mountains. *M. Lewis* (in *Ph.*). In the valleys of the Rocky Mountains, near the sources of the Columbia, and on the banks of the Saskatchewan and Red Rivers. (?) *Douglas, mst.*—I have no specimen in Mr Douglas' collection, but there can scarcely be a question that his plant is *Z. chloranthus*, whatever Pursh's may be.

3. *Z. glaucus* (Nutt. in *Pl. of Rocky M.* p. 56); "bulbo tunicato, foliis glaucis gramineis marginatis, racemo plerumque simplici paucifloro, floribus hermaphroditis, petalis rotundatis unguiculatis bimaculatis, seminibus subulato-alatis."—*Melanthium glaucum*. *Nutt. Gen. Am.* 1. p. 232.

HAB. Banks of the St Lawrence, around the Cataract of Niagara, and on the borders of Lakes Erie and Huron. *Nuttall.*—This seems to be only known to Mr Nuttall, if it be really distinct from *Z. chloranthus*.

3. XEROPHYLLUM. *Mich.*

1. *X. tenax* (Ph.); foliis longissimis tenacissimis lineari-acuminatissimis marginibus scabris subtus glaucis, racemis longissimis densifloris, pedicellis erectis, filamentis filiformibus perianthium superantibus, bracteis membranaceis. *Ph. Am.* 1. p. 243. *t.* 9. *Gray. l. c. p.* 129.—*X. setifolium*. *Lindl. Bot. Reg. t.* 1613. (*via Mx.*)

HAB. High lands of the Rocky Mountains (*M. Lewis*), and summits of the hills around Mount Hood, Mount St Helens, and the Cascade Mountains. *Douglas.* Near the summit of Mount Rainier. *Tolmie.*—Stem 2-4 feet high. Leaves 2-3 feet long, drooping, chiefly from the root: having, as Mr Douglas remarks, the habit of *Donapartea juncea*. It is one of the greatest ornaments of the western mountains, and the natives make baskets, hats, pouches, bags, bottles, mats for sleeping on, &c., of its strong foliage. Racemes a foot and more long. Capsules triangulari-orbicular, 3-celled, 3-6-seeded, seeds oblong, triangular, and somewhat winged at the angles.

4. HELONIAS. *Linn.*

1. *H. dioica*. *Ph. Am.* 1. p. 243. *Gray. l. c. p.* 132.—*H. lutea*. *Ait.—Bot. Mag. t.* 1062.—*H. pumila*. *Jacq.—Veratrum luteum. L.*

HAB. Canada. *Gray.*

5. VERATRUM. *L.*

1. *V. viride*. *Ait. Hort. Kew. ed. 1. v. 3. p.* 422. *Ph. Am.* 1. p. 242. *Gray. l. c. p.* 118.—*V. album*. *Mich. Am. 2. p.* 249. (*an Linn.?*)—*Helonias viridis*. *Bot. Mag. t.* 1096.—*V. parviflorum*. *Bong. Veg. de Sitcha, p.* 48. *via Mx.*—*V. Lobelianum*. β . *Eschscholzanum*. *Schult. Syst. Veg. v. 7. p.* 1555.—*V. Eschscholzii*. *Gray. l. c. p.* 119.

HAB. Canada, to the Saskatchewan and the Rocky Mountains. *Drummond*; and from the Columbia on the west side to Stikine. *Douglas. Dr Scouler. Tolmie. Dr Gairdner.*—The north-western plant is the same as the eastern one; and probably the *V. Lobelianum*, β . Schultz (*V. parviflorum*, Bong.), from Nor-

folk Sound, and from Sitcha, is merely a small flowered variety. The original *V. parviflorum* is a Carolina plant. Again, the *V. angustifolium* of Pursh (foliis longissimis linearibus carinatis), of which the original specimens are from the high mountains of Virginia and Carolina, that author has, in his Suppl., considered to be also a native of Canada, because he found a specimen in Sherard's herbarium, marked "*Phalangium Canadense*," &c.; but this, I fear, is not alone sufficient authority for introducing it into a Flora of British America. I have a Mexican *Veratrum* (*V. officinale*, Klotzsch, mat.) which, in the foliage, well agrees with Pursh's *V. angustifolia*. Perhaps the *V. viride* is not really distinct from the European *V. album*. Gawler says the sepals are broader; but they vary in the American plant considerably.

6. TOFIELDIA. Huds.

1. *T. palustris* (Huds.); racemo ovato denso, floribus fructibusque erectis, pedicellis ad basin tribracteolatis, scapo nudo vel raro inferne subunifoliato. *E. Bot. t. 536. Gray. l. c. p. 134.*—T. borealis. *Wahl.*—T. pusilla? *Ph. Am. 1. p. 246.*

HAB. Labrador (*Dr Morrison*), and Hudson's Bay to Bear Lake Rivers; in the north, and to the Rocky Mountains. *Dr Richardson. Drummond.* Lake Mistassins? *Ph.*—Flowers pale yellowish-white.

2. *T. coccinea* (Rich. *App. p. 11*); racemo spicato ovato-globoso, floribus subsessilibus, fructibus arcte reflexis involucreatis, involucreo triphylo, scapo bi-trifoliato folio unico supra medium. *Hook. et Arn. in Bot. of Beech. p. 130. t. 30* (29 in text, by mistake). *Gray. l. c. p. 135.*—T. borealis. *Cham. in Linnæa. 6. p. 584* (non *Wahl.*).— β . *major*; pedicellis longioribus involucri foliolis alternis.

HAB. α . Barren grounds from lat. 64° to the shores of the Arctic Sea; about Jasper's Lake on the Rocky Mountains, and on the west coast, north of lat. 58°, to Unalaska. *Mr Menzies. Nelson. Dr Richardson. Drummond. Chamisso.*— β . Mackenzie River. *Dr Richardson.*—This plant is readily known from the preceding by its more flaccid leaves and leafy scape; by the sessile flowers, deeply tinged with red, and the larger bractæas, which form a complete involucre beneath the flower; and, above all, by the singularly de-flexed dark-purple fruit. I possess it from Siberia, from Pallas' herbarium, where it is mixed with *T. palustris*, though most assuredly a totally distinct species. The var. with more elongated pedicels, of which only two specimens were gathered by Dr Richardson on the Mackenzie River, must not be confounded with *T. cernua*, Sm., a plant of Gmelin, which has the flowers drooping but the fruit erect; but it is the same with "*S. cernua* ? Sm." of Turczaninow, in *Herb. nostr.*, gathered "in alpe Kawokta," in Siberia.

3. *T. glutinosa* (Ph.); racemo coarctato, pedicellis 1-3-nis basi tribracteatis superne calyculo seu involucreo monophyllo obscure trifido sub flore, scapo parce folioso apice pedicellisque glanduloso-scabris. (TAB. CXCI.)—*Ph. Am. 1. p. 246. Sm. l. c. p. 246. Gray. l. c. p. 138.*—*Narthecium glutinosum. Mx. Am. 1. p. 210. t. 8. f. 2.*

HAB. Throughout Canada, to Hudson's Bay and Bear Lake, *Dr Richardson*, and to the Rocky Mountains. *Drummond.* N. W. Coast. *Menzies.* Stikine and Sitcha. *Bongard. Tolmie.*—I doubt if the *T. pubens* of the United States be really different from this, except in the less viscid or not viscid glands.

TAB. CXCI. Fig. 1, Flowers:—*magnified*; f. 2, Racemo of capsules:—*nat. size*; f. 3, Young capsule; f. 4, Single ripe capsule—*magnified*.

7. MEDEOLA. L.

1. *M. Virginica. L.*—*Ph. Am. 1. p. 244. Bot. Mag. t. 1316.*—*Gyromia. Nutt. Torr.*

HAB. Canada. New Brunswick. *Mr Kendal.*

8. TRILLIUM, L.

1. *T. petiolatum* (Ph. Am. 1. p. 244); foliis cordatis obtusis longe petiolatis, flore sessili, petiolis sepalisque lanceolatis erecto-patentibus, caule perbrevis vaginato. (TAB. CXCII.)

HAB. N. W. America. Waters of the Koois-koois. *M. Lewis*. Common on the springy banks of the Spokane River, near its confluence with the Columbia. *Douglas*.—This is the most distinct of all the species, remarkable for its cordate, not rhomboidal leaves, and the great length of the petioles. In the structure of the flowers it comes nearest to *T. sessile*; but the sepals are nearly as long as the petals, and more erect. Petals dark purple.

TAB. CXCII. Fig. 1, Petal; f. 2, Stamens and pistil:—*magnified*.

2. *T. erythrocarpum*. Mich. Am. 1. p. 216. *Hook. Bot. Mag. t. 3002* (not *Gawl. t. 855*).—*T. pictum*. Ph.

HAB. Canada.—Readily distinguished by the short but distinct petiole to the leaves.

3. *T. ovatum* (Ph. Am. 1. p. 249); pedunculo erecto, petalis (pallide purpureis) oblongis calyce lineari paullo longioribus, foliis ovatis sensim acutis arcte sessilibus.

HAB. Columbia River. *M. Lewis*. Woods about Fort Vancouver. *Dr Gairdner. Douglas*, whose specimens have pale purple flowers, and quite answer to Pursh's character.

4. *T. cernuum*. L.—Ph. Am. 1. p. 249. *Bot. Mag. t. 945*.

HAB. Canada. *Kalm*. Nova Scotia. *Menzies*. Newfoundland. *Mr Cormack*; and from the Saskatchewan to Mackenzie River. *Dr Richardson. Drummond*.

5. *T. erectum*. L.—*a.* flore atro-purpureo. Ph. Am. 1. p. 245. *Bot. Mag. t. 470*. *T. rhomboideum*. Mx.—*β.* petalis albis. Mx. Am. l. c. *Bot. Mag. t. 1027*.—*γ.* petalis ochroleucis. *Hook. Bot. Mag. t. 3250*.—*T. pendulum*. Willd.

HAB. *a.* Lake Huron, and throughout Canada, frequent.—*β.* Canada. *Mrs Sheppard. Mrs Percival*.—*γ.* Canada. *Mr Cleghorn*.

6. *T. obovatum* (Ph. Am. 1. p. 245); pedunculo erecto, petalis obovatis obtusiusculis planis patentibus calyce vix longioribus et latioribus, foliis ovato-rhombicis acuminatis arcte sessilibus. Ph. l. c.—*Hook. et Arn. in Bot. of Beech. p. 117. Reichenb. Hort. Bot. 1. p. 21. t. 29*.—*T. Kamtschaticum*. *Pall. Herb.*

HAB. Canada. (?) Ph. Columbia; about Fort Vancouver, abundant. *Tobnie*.—The original plant is from Kamtschatka, and our Columbia specimens quite agree with them: but I have not seen any Canadian specimens that can exactly be referred to it. At the same time, I am not sure if this be permanently distinct from *T. grandiflorum*.

7. *T. grandiflorum*. *Salisb. Parad. Lond. t. 1. (excl. Syn.) Ph. Am. 1. p. 246*.—*T. erythrocarpum*. *Bot. Mag. t. 855. (non Mx.)*—*T. rhomboideum. var. grandiflorum*. Mx.

HAB. Lake Huron and throughout Canada. New Brunswick. *Mr Kendall*. Columbia River, N. W. Coast. *Douglas. Dr Scouler*.

ORD. IX. LILIACEÆ. *Juss.*1. LILIUM. *L.*

1. *L. Philadelphicum*. *L.*—*Ph. Am.* 1. p. 229. *Bot. Mag.* t. 519.— β . floribus 2-4 subumbellatis.

HAB. Lake Huron (*Dr Todd*), throughout Canada to the Saskatchewan and Prairies of the Rocky Mountains. *Dr Richardson*. *Drummond*.— β . Observatory Inlet, on the N. W. Coast. *Dr Scouler*.

2. *L. Canadense*. *L.*—*Ph. Am.* 1. p. 229.— α . uniflorum. *Bot. Mag.* t. 229.— β . pluriflorum. *Bot. Mag.* t. 858.— γ . parviflorum.

HAB. α , β . Canada.— γ . N. W. Coast. Columbia and Walamet Rivers. *Douglas*. *Tolmie*.—My N. W. American specimens have much smaller flowers, of a redder hue, and are more disposed to be revolute; yet I dare not venture upon making them distinct. One specimen of this var. has the leaves very broad and obtuse.

3. *L. superbun.* *L.*—*Ph. Am.* p. 230. *Bot. Mag.* t. 936.— β . uniflorum. *L. Carolinianum*. *Ph.* ?—*Bot. Reg.* t. 580.

HAB. Canada. *Ph.*— β . Saskatchewan. *Dr Richardson*.—Of the β . a single flowering specimen only was found. Its leaves are an inch broad; the flowers exactly agreeing with the figure of *L. Carolinianum* in *Bot. Reg.* above quoted, except in being rather more spotted. Are the two really distinct?

2. FRITILLARIA. *L.*

1. *F. Kamtschaticensis* (*Fisch. in Herb. nostr.*); radice omnino granulata, foliis verticillatis subquaternis lato-lanceolatis tenui-membranaceis supremis oppositis solitariisve, floribus terminalibus 1-2 cernuis unicoloribus, sepalis lato-lanceolatis arcte nervosis nervis lamellatis glandulosisque, capsulis obtuse 5-angulatis. (TAB. CXCI. A.)—*Lilium Kamtschaticense*. *L.*—*Lamb. in Linn. Trans.* v. x. t. 12. *Hook. et Arn. in Bot. of Beech.* p. 118.—*L. quadrifoliatum*. *Meyer in Reliq. Hænk. Fasc.* 2. p. 126.

HAB. N. W. Coast, on the beach. Observatory Inlet, to Stikine Sound, Sitcha, and Unalaska. *Chumiso*. *Dr Scouler*. *Tolmie*. *Bongard*.—Both in this and the following species there is an evident elongated depression or nectary near the base of each sepal, the stigma is trifid, and the habit is altogether that of a *Fritillary*, rather than of any *Lilium*. Voyagers to Kamtschatka (where this species seems more abundant than on the American coast) bring home small white granulated esculent roots, dried on strings; these are the bitter tubers of this *Fritillary*, which are also copiously eaten by the Indians of Stikine, and known by the names of *Koch* or *N. W. Rice*; but Mr Tolmie says they are bitter and nauseous.

TAB. CXCI. A. Fig. 1, Sepal and stamen of FRITILLARIA KAMTSCHATCENSIS; f. 2, A lamella from the sepal:—magnified; f. 3, capsule:—nat. size.

2. *F. lanceolata* (*Ph. Am.* 1. p. 230. *excl. syn.*); radice bulbo parvo bulbifero, foliis verticillatis subquaternis anguste lanceolatis crassiusculis supremis oppositis solitariisve, floribus terminalibus 1-2 cernuis luteo purpureoque tessellatis, sepalis obovato-oblongis laxe nervosis elamellatis, capsulis profunde 5-alatis. (TAB. CXCI. B.)—*Lilium affine*. *Schult. Syst. Veget.* 7. p. 400.

HAB. Head waters of the Missouri and Columbia. *M. Lewis* (in *Ph.*). Nutka Sound. *Menzies*. Fort Vancouver on the Columbia. *Douglas*. *Tolmie*.—Habit of the preceding, but smaller and of a more rigid texture throughout. Leaves much narrower. Flowers tessellated. Sepals with much laxer nervation, the nerves quite destitute of lamellæ and glands. Capsule and roots also exceedingly different.

TAB. CXIII. B. FERTILLARIA LANCEOLATA. Fig. 1, Sepal and stamen; f. 2, Pistil:—*magnified*; f. 3, Capsule:—*nat. size*.

3. *F.?* *pudica*; foliis alternis lineari-lanceolatis, flore terminali solitario pendulo campanulato, sepalis obovato-spathulatis sessilibus, stigmate integro.—*Lilium pudicum*. *Ph. Am.* 1. p. 228. t. 8.

HAB. Head waters of the Missouri. *M. Lewis*. Common on the banks of streams from the Great Falls of the Columbia, to the valleys of the mountains near the source of the Missouri. *Douglas*.—Habit of *Fritillaria*, and the sepals have an obscure nectary; but the stigma is simple. Perhaps it should form a distinct genus, which might include *F. Fleischeri*, Stend. et Hochst. from Smyrna, and *F. tulipiflora*, Bieb., which have altogether the habit of the present plant.—A small and very graceful species, with a solitary terminal very drooping flower, according to Pursh of a pale yellow colour.

3. ERYTHRONIUM. L.

1. *E. Americanum* (Gawl. *Bot. Mag.* t. 1113); foliis oblongo-seu elliptico-lanceolatis punctatis, pedunculo unifloro, sepalis oblongo-lanceolatis obtusis ad medium reflexis, stylo clavato trigono, stigmate triangulari integro.—*E. Dens Canis*, var. *Mx.*—*Willd.*—*E. lanceolatum*. *Ph. Am.* 1. p. 230.—*E. flavum*. *Sm. in Rees. Cycl.*

HAB. Canada, frequent.—Leaves distinctly dotted with minute papillæ, which are indistinct or wholly wanting in the following species. What I have for *E. albidum*, *Ph.*, from Drs Beck and Torrey, seems merely a white-flowered var. of this, with less conspicuous papillæ on the leaves.*

2. *E. grandiflorum* (*Ph.*); foliis oblongo-seu elliptico-lanceolatis vix punctatis, pedunculo 1-paucifloro, sepalis lanceolatis valde acuminatis fere ab ima basi reflexis, stigmate tripartito.—*α. minor*; caule unifloro, flore flavo.—*E. grandiflorum*. *Ph. Am.* 1. p. 231. *Lindl. Bot. Reg.* t. 1786.—*β. giganteum*; caule 2-5-floro, floribus flavis.—*E. giganteum*. *Lindl. l. c. ad calcem.*—*γ. albiflorum*; caule elatiori unifloro, flore albo.—*δ. Smithii*; caule elato unifloro, flore purpureo-roseo.—*E. revolutum*. *Sm. in Rees. Cycl.*

HAB. *α.* N. W. America. Banks of Kootenai River. *M. Lewis*.—*α.* and *β.* Summit of the low hills near the junction of Spokan River with the Columbia, and in the valleys west of the Rocky mountains, often in blossom before the snow has disappeared. *Douglas*.—*γ.* Fort Vancouver. *Menzies*.—It will be seen that the indefatigable and venerable *Menzies* was the first to discover this fine and very distinct species, though he only appears to have found a pale purple-flowered variety. Specimens in my collection bear from 1 to 4 flowers, and they are so described in *Douglas mst.* The colour of the blossom seems very variable.

* I possess from Dr Boott a very remarkable state of this plant, or a distinct species, from Vermont, U. S., *E. bracteatum*, Boott, mst. The leaves are lanceolate, and taper gradually into the foot-stalk. The flower is small ($\frac{1}{2}$ of an inch long), greenish, and there is a bractea on the peduncle, indicating a disposition to bear more than one flower. Only one specimen was found.

4. CALOCHORTUS. Ph.

Flores erecti, explanati, patentes. Sepala glabra, convoluta-acuminata. Pet. majora, rotundata, plana, medio barbata, basi maculata glabra. Stylus 0. Stigmata 3. Caps. triangularis, coriacea. Semina serie simplici affixa, plana, testa suberosa.—Bulbi tunicati, foliis convoluta-acuminatis rigidis. Lindl.

1. *C. macrocarpus* (Dougl. *Hort. Trans.* 7. p. 276. t. 8); caule 3-5-phyllo bifloro, petalis præter fasciculum pilorum glabris, capsulis erectis lineari-oblongis. *Lindl. Bot. Reg. t. 1152.*

HAB. N. W. Interior. Great Falls and southern branches of the Columbia. *Douglas.*—One of the most lovely of plants; flowers large purple.

2. *C. nitidus* (Dougl. *Hort. Trans.* 7. p. 277. t. 9. A); caule 2-3-phyllo quadrifloro, petalis interioribus præter pilorum fasciculum sparse lanatis, capsulis erectis ovalibus.

HAB. N. W. Interior. Vallies of the Blue Mountains, and mountainous district of the Columbia, and about Spokan River. *Douglas.*

3. *C. elegans* (Ph. *Am.* 1. p. 240); caule 1-folio 1-5-floro, petalis interioribus obovatis intus toto pilosis, floribus subcernuis.—*Cyclobothria elegans. Benth. Lindl.—α. minor*; caule unifloro. *Dougl. in Hort. Trans. v. 7. t. 9. B. (left-hand figure.)—β. major*; caule 3-5-floro. *Dougl. l. c. t. 9. B. (right-hand figure.)*

HAB. α. Recesses of the Rocky Mountains, near the regions of perpetual snow. *Douglas.—ε.* In the vallies of the Columbia. *Douglas.* Banks of the Wallamet. *Tobnie.*—My specimens from the Wallamet agree with the larger variety of Mr Douglas, but are still larger, a foot high, and with flowers full twice the size of α. In other respects the two plants accord. The blossoms appear white, with a bluish tinge. Mr Bentham refers this to *Cyclobothria* of Sweet: but it appears to me, if the two genera are to be kept separate, that this is more naturally allied to *Calochortus*. The flowers can scarcely be called drooping, and the seeds, which are said to differ in the two genera, are not known in this plant. But be that as it may, the name *Calochortus* must be retained to the present species, being the very one on which the genus was founded.

ORD. X. ASPHODELEÆ. L.

1. ANTHERICUM. L.

1. *A. serotinum. L.—E. Bot. t. 793.—Lloydia. Salisb. Lindl.—Nectarobothrium. Ledeb.—Rhabdoctrinum. Reich.*

HAB. Unalashka. *Chamisso (in Herb. nostr.).* Northern Arctic Coast, rare. *Dr Richardson.*—Only four specimens were gathered by Dr Richardson, and the flowers varied from 1-3 on a stem.

2. ALLIUM. L.

1. *A. striatum. Jacq. Ic. Rec. 2. t. 366. Bot. Mag. t. 1035. and 1524. Ph. Am. 1. p. 222.—Ornithogalum bivalve. L.*

HAB. Cultivated in the Bot. Garden of Glasgow, from seeds received from the N. W. Coast.

2. *A. cernuum*, Roth.—*Bot. Mag. t. 1324. Ph. Am. 1. p. 222.*

HAB. Lake Erie. *Mr Goldie.*

3. *A. stellatum* (Fraser, Cat.); bulbo oblongo-ovato, foliis radicalibus linearibus, scapo elongato tereti, umbella erecta multiflora laxè fastigiata, sepalis (roseis) oblongo-ovatis acutis longitudine staminum, ovario trilobo, lobis superne bicristatis. (TAB. CXCIV.)—*Gawl. Bot. Mag. t. 1576.*

HAB. Plains of the Saskatchewan. *Drummond.* Nutka, where the bulbs are used as an esculent.—A foot to a foot and a half high. Bulb ovate, gradually narrowing upwards, and, as well as the lower part of the leaves, sheathed with a lacerated membrane. Leaves shorter than the scape, linear, flat, all arising from the root. Umbel of from 10 to 16 rather small, bright rose-coloured flowers. Sepals ovate, acute. Germen of 3 lobes, each with a double wing-like crest at the top, which remains and forms part of the fruit, and which is the most striking mark of the species. Seeds pitted.

TAB. CXCIV. Fig. 1, Flower; f. 2, Perianth laid open; f. 3, Pistil; f. 4, Fruit:—*magnified.*

4. *A. reticulatum* (Fraser, Cat.); bulbo oblongo extus dense reticulatim fibroso, foliis radicalibus, umbella erecta multiflora dense fastigiata, sepalis ovato-acuminatis (albis) stamina superantibus, ovario apice breviter sexfido. (TAB. CXCIV.)—*A. stellatum*. β . *Gawl. Bot. Mag. t. 1840.*—*A. angulosum*. *Ph. Am. 1. p. 223. Rich. App. p. 10. (non Linn.)*

HAB. Woody country, especially about Carlton House Fort. *Dr Richardson. Douglas.* Interior of Columbia, and along the N. W. Coast, to Nutka. *Menzies. Douglas.*—The species of *Allium* in the present collection, though few in number, are extremely puzzling. The Carlton House specimens of the present plant seem to correspond exactly with the *Allium stellatum*, β . *Gawl.* (which is considered the *A. reticulatum* of Fraser), especially in the densely matted fibrous coat to the roots, which occasioned the specific name: but *Dr Richardson's* specimen of *A. angulosum*, which I refer to this, and some of the north-west specimens, have not this fibrous covering to the root; but as it is but loosely attached, it may have been accidentally removed. This plant is remarkable for the white, glossy flowers; in shape, and in that of the leaves, very much resembling *A. stellatum*, of which *Mr Gawler* seemed inclined to consider it a variety; but the sepals are narrower, the stamens shorter, and the double crest upon the lobes of the germen and capsule are very much more indistinct. These plants can be but ill understood without figures and analysis of the flowers.

TAB. CXCIV. Fig. 1, Flower; f. 2, Perianth laid open; f. 3, Pistil; f. 4, Capsule:—*magnified.*

5. *A. acuminatum*; foliis linearibus brevibus paucis radicalibus, scapo humili tereti, umbella pluriflora patente, sepalis roseis subovalibus acuminatissimis basi gibbosis interioribus minute serrulatis apicibus recurvis, staminibus perianthio duplo fere brevioribus, ovario 3-lobato, stigmatibus brevi trifido. (TAB. CXCVI.)

HAB. Nutka Sound, plentiful (*Menzies*); thence south to the Columbia and Cape Mendocina. *Douglas. Tobie.*—A very distinct, small growing species: flowers of a full rose-colour, remarkable for the much acuminate and recurved apices of the sepals, giving the flowers somewhat the appearance of an *Uropetalon*.

TAB. CXCVI. Fig. 1, Flower; f. 2, Two sepals and stamens; f. 3, Pistil:—*magnified.*

6. *A. Douglasii*; bulbo late ovato foliis binis lanceolato-falcatis striatis basi longe angustè attenuatis, umbella multiflora patente, sepalis (roseis) ovatis longe anguste

acuminatis carinatis rectis stamina subæquantibus, ovario trilobo, stylo integro.—*α*. foliis scapo brevioribus. (TAB. CXCVII.)—*β*. foliis scapo longioribus.

HAB. *α*. N. W. Coast, on the low hills. *Douglas*.—*β*. In the Snake country. *Tolmie*.—The flowers of this a good deal resemble the preceding in shape and colour, but the apex of the sepals is not recurved, the stamens are longer, and the leaves are totally different, being more than half an inch broad, in the dry state thick and somewhat coriaceous, indicating that in the recent plant they are thick and fleshy. Mr Douglas had marked it *A. fragrans*; but with the *fragrans*, Spreng. (*A. inodorum*, Gawl.), it has no sort of affinity whatever.

TAB. CXCVII. Fig. 1, Flower; f. 2, Sepals and stamens; f. 3, Pistil:—*magnified*.

7. *A. Schœnoprasum*. L.—*E. Bot. t. 224*. *Rich. App. p. 10*.—*A. Sibiricum*. L. *Mant. ?*

HAB. Canada. *Mrs Sheppard*. *Lady Dalhousie*. Throughout the woody country to Bear Lake (*Dr Richardson*), and to the Prairies of the Rocky Mountains. *Drummond*. Newfoundland. *Dr Morrison*. Walla-wallah and Wallamet Rivers, on the N. W. Coast. *Douglas*. *Tolmie*.—This seems to be a most abundant species in N. America, yet not noticed by Pursh or Nuttall. I do not see how *A. Sibiricum* is to be distinguished from the present.

8. *A. Canadense*. L.—*Ph. Am. 1. p. 225*.

HAB. Canada. *Pursh*; but I have never seen a specimen from British North America.

2. HESPEROSCORDON. Lindl.

Perianthium subcampanulato-rotatum, bifidum, cum pedicello articulatum. *Stamina* 6, fertilia, filamentis dilatatis membranaceis æqualibus, e fauce exortis, basi subconnatis. *Squamæ* hypogynæ 0. *Ovarium* sessile (?), 3-loculare, polyspermum, apice 3-glandulosum. *Stylus* teres, cum ovario articulatus. *Stigma* simplex. *Capsula* tri-locularis, 3-valvis, polysperma, valvis medio septiferis. *Semina* nigra, angulata, subcrustacea.—Herba (*Boreali-Americana*) *cornis induviatis*. Flores *umbellati*. Lindl.

1. *H. Lewisii*; umbella multiflora, floribus densis campanulatis laciniis apice patentibus.—*H. hyacinthinum*. Lindl. *Bot. Reg. sub fol. 1293*.—*Brodiaea grandiflora*. Nutt. *Gen. 1. p. 215*. (*non Sm.*) (TAB. CXCVIII. A.)

HAB. Plains of the Missouri. *M. Lewis*. N. W. America. *Menzies* (*in Herb. nostr.*). Plains of the Columbia, and to California. *Douglas*. Wallamet River. *Tolmie*.—I have changed the name of Dr Lindley, though unwillingly; because I think the colour is not "sky-blue;" at least the well-dried specimens have exactly the same colour as those of *H. lacteum*, Lindl. *Bot. Reg. t. 1699*; and I doubt very much if this latter plant, from California, be really anything more than a small and lax-flowered variety of the present. In both, the germen tapers very much at the base, and the fruit is really stipitate.

TAB. CXCVIII. A. Fig. 1, Flower; f. 2, The same laid open:—*magnified*.

3. CAMASSIA. Lindl.

Bulbus tunicatus. Flores cœrulei, v. purpurei. *Perianthium* explanatum, hexaphyllum, foliolis 5 superioribus ascendentibus, sexto decurvo. *Stam.* 6, hypogyna, æqualia; *filamenta* glabra ascendentia. *Ovarium* 3-loculare polyspermum. *Stylus* declinatus. *Stigma* obsolete 3-dentatum. *Capsula* chartacea, 3-locularis, 3-valvis, loculicido-dehis-

cens. *Semina* cuique loculo 6, subrotunda, nigra, nitida, raphe et chalaze corrugatis. *Lindl.*

1. *C. esculenta*.—*α*. floribus purpureo-cæruleis. *Lindl. Bot. Mag. t. 1486*.—*Phalangium* Quamash. *Ph. Am. 1. p. 226*.—*P. esculentum*. *Nutt. (in part; not Fraser.)*—*β*. floribus albis.—*Scilla esculenta*. *β*. fl. albo. *Hook. Bot. Mag. t. 2774*. (not *Scilla escul. Gawl. Bot. Mag. t. 1574*.)

HAB. N. W. America. Vallies of the Rocky Mountains. *M. Lewis*. Between the Mountains and the Pacific, from the parallel of 38° to 50° N.—This is assuredly a very distinct plant, both as to genus as well as species, from the *Silla esculenta*, Fraser, with which Pursh (in *Bot. Mag. t. 1574*) and Mr Nuttall confounded it, and led others to do so too. Both are eaten in their respective countries by the Indians, the present one by the Chonooks, who toast the roots on heated stones, and, when dried or compressed into cakes, they form a great article of consumption during the winter months.

4. TRITELEIA. *Hook.*

Perianthium tubulosum, subinfundibuliforme, marcescens. *Stam.* 6, duplici serie inserta: superioribus petalis oppositis. *Squamæ hypogynæ* nullæ. *Ovarium* sæpius stipitatum, raro sessile, polyspermum; *stigmata* trilobo.—Herbæ (*Austro- et boreali-Americanae*) *cornis induviatis*. Flores *umbellati*. *Lindl.*

1. *T. grandiflora* (*Lindl. Bot. Reg. sub fol. 1293*); foliis linearibus glaucis scapo erecto bipedali brevioribus, involucrio pedicellis æquali, pedicellis strictis perianthio infundibulari vix æqualibus, ovario breviter stipitato, filamentis 3 decurrentibus basi callosis, umbella pauciflora. (TAB. CXCVIII. B.)

HAB. Plains of the Columbia and Wallamet Rivers. *Douglas. Tolmie*.—I do not see how the *T. laxa* of Mr Bentham, in *Hort. Trans. v. 1. N. S. t. 15. f. 2*, and *Lindl. Bot. Reg. t. 1685*, (both of which figures accurately represent ours, the original species of the genus,) can be distinguished from the present. It is a beautiful plant, with the habit of the following genus.

5. BRODIÆA. *Sm.*

Perianthium tubuloso-campanulatum, sexfidum, persistens. *Stam.* 3, ad faucem et laciniis 3 int. opposita, cum squamis 3 (stam. abortivis) alternantia. *Ovarium* 3-gonum, basi attenuatum. *Stylus* filiformis. *Stigma* trifidum. *Capsula* obovata, stipitata, 3-locularis, loculicido-trivalvis. *Semina* cuique loculo 4-5, peltata.—Flores *umbellati*.

1. *B. grandiflora*; pedicellis umbellatis bracteis longe superantibus, squamis perianthii oblongis obtusissimis integris. *Sm. Linn. Trans. v. 10. p. 2. Bot. Reg. t. 1183. Bot. Mag. t. 2877. (non Ph., nec Nutt.)*—*Brodiaea coronaria*. *Salisb. Par. Lond. t. 98*.

HAB. N. W. America, New Georgia. *Menzies*. Puget Sound, and dry plains of the Wallamet and of the Columbia, west of the Rocky Mountains, to the Pacific Ocean. *Douglas. Dr Scouler. Tolmie. Dr Gairdner*.

2. *B. congesta* (*Sm. Linn. Trans. v. 10. p. 3. t. 1*); floribus subcapitatis, bracteis pedicellos superantibus, squamis perianthii lanceolatis acutis bifidis.

HAB. N. W. America; the same stations as the preceding. *Menzies. Douglas. Tolmie*.—The smaller

flowers, shorter limb, larger bracteas, and bifid scales at the mouth of the flower, readily distinguish this species from *B. grandiflora*, the only ones found in N. W. America.

ORD. XI. PONTEDERIAÆ. Kunth.

1. PONTEDERIA. L.

1. *P. cordata*. L.—*Bot. Mag. t.* 1156. *Ph. Am.* 1. p. 223.

HAB. Canada. *Ph.* From Lake Huron (*Dr Todd*), to the Saskatchewan. *Dr Richardson. Drummond.*

2. LEPTANTHUS. Mx.

Spatha uniflora. *Perianthium*. coloratum inferum, tubo longissimo gracili, limbo 6-partito æquali. *Stylus* apice incrassatus. *Capsula* unilocularis, trivalvis, polysperma. *Semina* receptaculis tribus filiformibus valvarum medio affixis inserta.—Herba *aquatica*, foliis alternis gramineis stipulatis, floribus solitariis axillaribus.

1. *L. gramineus*. Mx. *Am.* 1. p. 25. t. 5. f. 2. *Hook. Ex. Fl. v.* 1. p. 94. t. 94.—*Heteranthera*. Vahl.—*Ph. Am.* 1. p. 32.—*Schollera* graminifolia. Willd.—*Commelina* dubia. *Jacq. Obs. Bot. v.* 3. p. 9. t. 39.

HAB. Canada, growing with *Valisneria* and *Najas*, sent thence by *Mr Kippin* to the Glasgow Botanic Garden.

ORD. XII. RESTIACEÆ. Br.

1. ERIOCAULON. L.

1. *E. septangulare*. With. (anno 1801). *E. Bot. t.* 733. *Hook. Fl. Lond. N. S. t.* 52.—*E. pellucidum*. Mich. *Am.* 2. p. 166 (anno 1803).

HAB. Canada. *Michaux. Mrs Sheppard*; and to the Saskatchewan. *Dr Richardson. Drummond. Newfoundland. Dr Morrison*.—It is quite certain that this northern *Eriocaulon* of the New World, is the same as that found in the lakes of Scotland and Ireland in the Old World; the oldest name, therefore, must have the preference.

ORD. XIII. JUNCEÆ. Juss.

1. LUZULA. DC.

1. *L. melanocarpa* (Desv. *Journ. t.* 5. f. 2); caule elongato, foliis latis glabris, corymbo decomposito, pedunculis elongatis ramis 3-5 floris pedicellis unifloris, sepalis ovatis acutissimis capsula ovali-trigona obtuse mucronata longioribus. *Torr. Am.* 1. p. 366.—

Juncus melanocarpus. *Mz. Am.* 1. p. 190. *Ph. Am.* 1. p. 238. *Rich. App.* p. 11.—*L. parviflora*. *Desv.* (*Juncus*, *Retz.*) *Bong. Veget. Sitch.* p. 49.—*α. floribus fuscis, capsulis intense badiis.*—*β. floribus capsulisque pallidis.*

HAB. Canada (*Mz.*), and throughout the woody country to the prairies of the Rocky Mountains. *Dr Richardson*. Labrador. *Dr Morrison*. N. W. America, from the Columbia to Kotzebue's Sound. *Beechey*. *Bongard*. *Douglas*. *Dr Scouler*.—The pale flowered and pale fruited var. is found abundantly at the Columbia River, but is not confined to the west coast. I have received the same state from the White Hills of New Hampshire. Indeed very many of the *Luzula* and *Juncus* vary in the same manner.

2. *L. pilosa*. *Willd.*—*Torr. Am.* 1. p. 365.—*Juncus*. *L.*—*Muhl. Gram.* p. 200. *E. Bot. t.* 736.—*Luzula vernalis*. *De Cand.*—*β. floribus pallidis.*

HAB. Canada (*Mrs Sheppard*), to the Saskatchewan. *Dr Richardson*. *Douglas*.

3. *L. campestris*. *Desv.*—*Torr. Am.* 1. p. 365.—*Juncus*. *L.*—*E. Bot. t.* 672. *Mich. Am.* 1. p. 190. *Ph. Am.* 1. p. 238.—*α. vulgaris*; florum glomerulis rotundatis densis cymoso-paniculatis intense fuscis.—*β. pallescens*; florum glomerulis rotundatis densis cymoso-paniculatis pallidis. *L. pallescens*. *Wahl.*—*γ. congesta*; floribus dense capitatis fuscis, capitulo solitario.—*L. congesta*. *Lej.*—*E. Bot. Suppl. t.* 2718.

HAB. Woody and barren country. *Dr Richardson*.—*α.* Newfoundland. *Mr Cormack*. New Brunswick. *Mr Kendal*. Kotzebue's Sound, Behring's Straits. *Beechey*.—*β.* Lake Winipeg, to the Saskatchewan, and prairies and Lake of the Woods, Rocky Mountains. *Drummond*.—*γ.* Bear Lake. *Dr Richardson*.

4. *L. comosa* (*Meyer, in Reliq. Hænk. Fasc. 2. p.* 145); foliis planis pilosis, floribus spicatis distichis, spicis elongatis pedunculatis corymboso-paniculatis rarius subsessilibus, perianthii laciniis lanceolatis acuminato-subulatis interioribus brevioribus capsulam triquetro-ellipticam acutiusculam vix æquantibus.—*L. campestris?* *Bong. Veget. Sitcha,* p. 49.

HAB. N. W. America. Nutka Sound and Port Mulgrave. *Hænke*. From the Rocky Mountains to the Pacific Ocean. *Douglas*. *Dr Scouler*. *Bongard?*—This seems to take the place of *L. campestris* on the west side of the Rocky Mountains. The elongated spikes of flowers, sometimes compact, sometimes remote, give the appearance of a *Carex* to this *Luzula*. I have from the White Mountains, New Hampshire, a var. of the pale-flowered *L. campestris*, very nearly approaching this, which nevertheless seems to be a good species.

5. *L. spicata*. *Desv.*—*Torr. Am.* 1. p. 366.—*Juncus*. *L.*—*E. Bot. t.* 1176.

HAB. Kotzebue's Sound, Behring's Straits. *Beechey*. Rocky Mountains. *Drummond*. Labrador. *Dr Morrison*.

6. *L. hyperborea* (*Br. Melv. Isl. Pl. p.* clxxxiii); spicis multifloris subumbellatis pedunculatis sessilibusque (nunc omnibus sessilibus), bractea umbella foliacea; partialibus omnibus fimbriatis, capsulis obtusis perianthium acutum subæquantibus, caruncula basilari seminis obsoleta, foliis planis. *Br.*—*α. major*; foliis angustioribus, bracteis partialibus insigniter albo-fimbriatis (an forma *L. campestr.*?). *Hook. in Parry's 2d Voy. App.* p. 405.—*L. hyperborea*. *Br. l. c.*—*L. campestris*. *Br. Spitzb. App.* p. 75.—*Juncus arcuatus*.

Hook. in Scoresb. Greenl. App. p. 410.—*Juncus campestris*. *Solandr. in Phipps' Voy.*—*β. minor*; foliis latioribus, bracteis partialibus vix fimbriatis. *Hook. l. c.*

HAB. α. and β. Arctic Sea-shore. *Dr Richardson*; and Arctic Islands. *Sir E. Parry, &c.*—β. Most elevated of the Rocky Mountains. *Drummond.*—The first variety, as I have stated in the Appendix to Sir Edward Parry's second voyage, is perhaps too near *L. campestris*; and the second var. almost seems to unite the first with the following; yet I think they are distinct.

7. *L. arcuata* (*Hook. Fl. Lond. N. S. t. 153*); foliis canaliculatis pilosis (pilis sæpe obsoletis), panicula subumbellata, floribus glomeratis, glomerulis 3-5-floris, pedunculis nutantibus, bracteis membranaceis fimbriatis, capsula ovato-globosa sepalis lato-lanceolatis breviori. *Hook. in E. Bot. Suppl. t. 26. Cham. et Schlecht. Linnæa, 3. p. 375. Hook. et Arn. in Bot. of Beech. p. 131.*—β. *major*; spithamæa et ultra.

HAB. N. W. America. Kotzebue's Sound. *Chamisso. Beechey.* Summit of Mount Rainier. (var. β.) *Tolmie.* Summits of the Rocky Mountains. *Drummond.*—The Mount Rainier specimens are much larger than our European *L. arcuata*, and than that from the Rocky Mountains, and the leaves are broader, and the flowers deeper brown; they seem to connect the species with *L. spadicæ*.

2. JUNCUS. *De Cand.*

1. *J. arcticus* (*Willd.*); repens aphyllus, scapo tereti lævi opaco rigidiusculo apice pungente, florum fasciculo laterali sessili, perianthii laciniis ovato-lanceolatis acutis capsula elliptica trigona mucronata brevioribus. *Svensk. Bot. t. 479. f. 5.*—*J. compressus*. β. *Hænkei. Meyer in Herb. Hook. et in Reliq. Hænk. Fasc. 2. p. 141.*—*J. Hænkei. Meyer Syn. Junc. p. 10.*—β. *gracilis*; floribus subterminalibus paucis 1-3. *J. platycaulos. (H. B. K.) β. aphyllus. E. Meyer in Herb. nostr.*

HAB. Arctic Sea-coast. *Dr Richardson.* Point Mulgrave, in Bohring's Straits. *Hænke.*—β. At a great elevation on the Rocky Mountains. *Drummond.*—My specimens have been named *J. compressus* (*H. B. K.*), β. *Hænkei* of Meyer, by the learned Meyer himself; but they correspond so exactly with the true *J. arcticus*, from Lapland, and Iceland, and Greenland, that I cannot entertain a doubt of this being the same. As it is a very arctic or very alpine species, I have omitted one of the two stations given by Hænke, his "*Nutha-Stund vel Portu Mulgrave.*"—β. has very few flowers to each slender culm, and those generally near the apex, which thus seems to form a bractea.

2. *J. Balticus* (*Willd.*); repens aphyllus, scapo tereti lævi opaco rigido apice pungente, floribus paniculatis, panicula brevi laterali, perianthii laciniis subæqualibus ovato-lanceolatis acutis longitudine capsulæ ellipticæ mucronatæ. *Hook. in E. Bot. Suppl. t. 2621.*—*J. arcticus. Hook. Fl. Lond. N. S. t. 151. (non Willd.)*—*J. compressus. (H. B. K.) Cham. in Linnæa, 6. p. 369. et in Herb. nostr. (non Jacq.)*—*J. complanatus. Schult.*—β. *laxa*; panicula bi-triunciali valde ramosa laxa.—*J. glaucus. Rich. App. p. 11.*

HAB. Unalashka. *Chamisso.* N. W. America. *Menzies.* Saskatchewan River, near the mountains. *Douglas.* Slave Lake. *Dr Richardson.*—β. Throughout Canada to the Saskatchewan. Labrador. *Dr Morrison.*—A taller and more harsh and rigid plant than the preceding, with the fascicles of flowers on branched peduncles, so as to constitute a panicle.—This, which is also Chamisso's *J. compressus*, *H. B. K. (Herb. nostr.)*, is unquestionably the same plant as the *J. Balticus* of England and Sweden.—The β. is a very remarkable variety, with a much larger and looser panicle, and remote flowers. It does not seem to

bear fruit, and is perhaps a morbid state of the plant. Its quite smooth stems, and deep-coloured flowers, readily distinguish it from all forms of *J. effusus* and *glauca*.—The very sportive character of this and the preceding species, as shown in the present collection, almost induce me to return to my former opinion, that they are not really distinct.

3. *J. effusus*, L.—*E. Bot. t.* 836. *Ph. Am.* 1. p. 236.— β . *gracilis*; panicula minore.

HAB. Canada. *Mrs Sheppard. Mrs Percival.* Newfoundland.— β . N. W. Coast. Columbia. *Douglas. Dr Scouler.*— β . is a very slender plant, and with a few-flowered panicle; but the flowers and fruit are the same as in α .

4. *J. filiformis* (L.); repens aphyllus, scapo gracili filiformi tenuiter striato flaccido, panicula subsimplici laterali versus medium scapi, sepalis unicoloribus pallidis sæqualibus lanceolatis capsula obovata mucronata nitida pallida parum longioribus. *E. Bot. t.* 1173. *Ph. Am.* 1. p. 236? not *Me.*—J. Pylæi? *De la Harpe in Mem. Soc. II. N. 3.* p. 119.

HAB. Saskatchewan to Bear Lake and English River. *Dr Richardson. Drummond.*—The *J. filiformis* of Pursh is probably the *J. actæus*, Rostkow, a different species, according to specimens from Dr Torrey, gathered in Middle Florida; being a larger and harsher plant, with very rigid glossy sepals, spreading nearly horizontally around the almost depresso-globose mucronated capsule. I have excellent specimens, however, of the true *J. filiformis*, from the United States, gathered by Mr Greene on the White Hills, New Hampshire. It seems, therefore, in America, to be an alpine or very northern species.

5. *J. acutiflorus* (Ehrh.); caule erecto foliisque subcompressis articulatis, panicula terminali decomposita, capitulis 5-6-floris, sepalis inæqualibus lanceolatis acutis capsulam anguste ovatam subacuminatam æquantibus. *E. Bot. t.* 2143.—*J. pelocarpus. Meyer Syn. p.* 30. *et in Herb. nostr.*— β . *minor*; capitulis 1-2-floris.—*J. Canadensis? Gay.—Schult. Syst. Veg. 2.* p. 211.?

HAB. Canada, to the Slave Lake, and to the marshy ground in the Rocky Mountains. *Dr Richardson. Drummond.*— β . Canada. *Dr Richardson. Mrs Sheppard.*—I am quite unable to distinguish this American *Juncus* from our European *J. acutiflorus*. The whole habit of the plant, the flowers, and the fruit, are the same. It is also nearly allied to *J. lamocarpus*, but that has larger flowers and capsules, and the latter especially of a much darker colour. The var. β , is a smaller plant, and has the capitula very few-flowered.

6. *J. polycephalus* (Mich. *Am.* 1. p. 192); caule erecto foliisque subcompressis articulatis, panicula terminali decomposita, capitulis majusculis multifloris densissimis globosis, floribus triandris? sepalis subæqualibus lanceolatis acutissimis rigidis capsulam oblongo-lanceolatam acutam triquetram nitidam æquantibus. *Ph. Am.* 1. p. 237. *Torr. Am.* 1. p. 364.—*J. paradoxus? E. Meyer.—Bong. Veg. Sitcha, p.* 49.—*J. nodosus. L. ?— α . crassifolius*; major, foliis multo crassioribus et conspicue compressis. *Mich. l. c.*—*subvar. 1. macrocephalus*; capitulis paucis magnitudine fere nucis *Avellanæ. J. globosus. Herb. Banks.—subvar. 2. capitulis medioeribus numerosis.— β . tenuifolius*; minor gracilior, foliis subfiliformibus. *Mich. l. c. J. echinatus. Muhl.—Rich. App. p.* 11.—*J. nodosus. Torrey. Am.* 1. p. 361.—*J. Roskowi. E. Meyer Syn. p.* 26. *et in Herb. nostr.*—*J. macrospermon? Gay in Schult. Syst. Veg. v. 7. p.* 216.— γ . *pumilus*; subdigitalis gracillimus, capitulis paucis 1-3.

HAB. a. N. W. Coast, frequent. *Douglas*.— β . Canada, to Bear Lake, *Drummond*. *Dr Richardson*.— γ . Moist woods in the Rocky Mountains. *Drummond*.—Readily known in its various states by the dense and globose capitula, and the narrow, sharp, rigid sepals. The name *echinatus* would have been very appropriate to this species.

7. *J. ensifolius* (Wikstr. *Act. Holm.* 1825. p. 1); caule compresso erecto folioso, foliis linearium-acuminiatis ensiformibus (lateraliter planis) articulatis subflaccidis caulem florum subaequantibus, capitulis terminalibus plerumque solitariis subglobosis multifloris, floribus densissime compactis, bractea exteriori foliacea basi membranacea capitulum plerumque superantibus, sepalis lanceolatis acuminatis nitidis capsulam ellipticam mucronatam æquantibus.— α . *minor*; capitulo solitario. *Cham. et Schlecht. Linnæa*, 3. p. 373. (*et in Herb. nostr.*)—*J. Mertensianus*. *Bong. Veget. Sitcha*, p. 49. (*et in Herb. nostr.*)—*J. falcatus*. *E. Meyer*. (*vide E. Meyer in Herb. nostr.*)— β . *major*; capitulis geminis ternisve etiam subpaniculatis.

HAB. N. W. America. Sitcha (*Bongard*), to Unalaska. *Chamisso*. Alpine swamps of the Rocky Mountains, north of the Smoking River. *Drummond*.— β . Sources of the Columbia River, in the Rocky Mountains.—An extremely interesting plant, with the leaves, in the dried state at least, flattened at one side, and thus ensiform as in *Iris* and *Sisyrinchium*; this, however, may in some measure be owing to pressure, and some of the more luxuriant specimens, in their inflorescence, approach the preceding species; though the usual form of the plant so nearly resembles *J. castaneus*, that *Drummond* marked it as probably a variety.

8. *J. uliginosus* (Sibth.); caule erecto v. decumbente sæpe radicante foliisque setaceis obscure articulatis panicula subsimplici irregulari, capitulis paucis v. plurifloris, sepalis oblongis æqualibus subacutis capsulam ellipticam æquantibus. *E. Bot.* t. 891.— α . *minor*; erectus, floribus intense fuscis.—*J. fusco-ater*. *Schreb.* (*vide E. Mey. in Herb. nostr.*)—*J. bulbosus*. *L.*—*J. alpinus*. *Vill.*— β . *subtilis*; caule radicante, floribus subbinis.—*J. subtilis*. *Meyer Syn.* p. 81.—*J. fluitans*. *Mx.*

HAB. a. Arctic Sea-coast. *Dr Richardson*.— β . Canada. *Bosc.*—These species send out copious radicles, chiefly from the base of the plant. The stems are 3-5 inches high, erect. Panicle very little branched, with very few, 2-4 capitula, and these few-flowered.

9. *J. Richardsonianus* (Schult. *Syst. Veg.* v. 7. p. 201); "foliis subulatis nodoso-articulatis, paniculis paucifloris (3-5-floris), capsulis ovalibus calyce obtuso hexandro longioribus." *Brown in Rich. App.* p. 11. *sub nom. J. affinis.* (*non Gaud.*)

HAB. Woody country to the Mackenzie River. *Dr Richardson*.—I am not acquainted with this plant. Perhaps I may have included it under *J. acutiflorus* (*J. pelocarpus*, Meyer).

10. *J. byfinius*. *L.*—*E. Bot.* t. 802. *Ph. Am.* 1. p. 238.

HAB. Throughout Canada to Bear Lake. *Dr Richardson*. *Drummond*. N. W. Coast, abundant. *Dr Scouler*. *Douglas*.

11. *J. tenuis*. *Willd.*—*Ph. Am.* 1. p. 228.—*J. gracilis*. *E. Bot.* t. 1724.—*J. bicornis*. *Mx.*—*Ph.*

HAB. Lake Huron, to Bear Lake, and from Hudson's Bay to the sources of the Columbia in the Rocky

Mountains. *Dr Richardson. Drummond*.—This is a well marked species, though allied to *J. bufonius*, and it seems most abundant throughout N. America. The leaves are slender, setaceous, several from the root. Stem from 8 inches to 2 feet, slender, but rigid, bare leaves up to the panicle near the top, where is one leaf immediately beneath the foliaceous bractea. In the axils of the forks of the dichotomous panicle are 2 or 3 large nearly sessile flowers, and 2 or 3 unilateral ones, from the upper or inner side of the branches, the under or outer side being bare of flowers. Sepals green, with white, membranous margins.

12. *J. castaneus* (Sm.); caule erecto tereti folioso, foliis supra canaliculatis subtus teretibus (siccitate planis), capitulis plurifloris subbinis sessilibus v. pedunculatis bracteis majoribus foliaceis capitulis longioribus, floribus sessilibus v. pedicellatis, capsulis ovalitrigonis sublonge mucronatis perianthium superantibus. *E. Bot. t. 90. Rich. App. p. 11. Cham. et Schlecht. Linnæa, 3. p. 374.*— α . floribus capsulisque intense fuscis.— β . floribus capsulisque pallidis.—*J. Lehmanni. E. Meyer in Herb. nostr.*

HAB. York Factory, Hudson's Bay; Edmonton House Fort, on the Saskatchewan, to the Rocky Mountains. *Drummond*; and to Bear Lake. *Dr Richardson.* N. W. Coast, from Unalasccha to Kotzebue's Sound. *Chamisso. Beechey.*

13. *J. Menziesii* (Br. in *Herb. Banks*); caule erecto tereti folioso, foliis lineari-acuminatis supra canaliculatis, capitulis terminalibus globosis 1-3, bractea exteriori plerumque foliacea et capitula superantibus, sepalis lato-ovatis obtusis capsulam obovatam nitidam muticam æquantibus.

HAB. N. W. Coast of America. *Menzies, in Herb. Banks.* Common near the confluence of the Columbia, and thence to Puget Sound. *Douglas.*—A span to nearly a foot high, the stem rigid, the leaves slightly so. Heads of flowers generally too large. Sepala unusually broad.—A very distinct species, with the habit of the preceding.

14. *J. biglumis* (L.); foliis radicalibus lineari-subulatis compressis (non canaliculatis) basi in vaginam sensim dilatatis, capitulo terminali bifloro flore altero pedicellato plerumque involucro foliaceo brevioris, capsula turbinata retusa sepalis obtusis longiori. *E. Bot. t. 898. Cham. et Schlecht. Linnæa, 3. p. 374.*

HAB. Arctic Sea-coast and Islands. *Dr Richardson. Sir E. Parry. Mr Edwards.* Rocky Mountains, north of the Smoking River. *Drummond.* Bay of Good Hope, Behring's Straits. *Chamisso.*

15. *J. triglumis* (L.); foliis radicalibus lineari-subulatis canaliculatis bitubulosis vaginis supra auriculatis, capitulo terminali 3-floro bracteam membranaceam æquantibus, capsula elliptica acuta sepalis obtusis longiori. *E. Bot. t. 148.*

HAB. Arctic Sea-coast. *Dr Richardson.* Alpine swamps in the Rocky Mountains. *Drummond.*

ORD. XIV. HYDROCHARIDÆÆ. *Br.*

1. VALISNERIA. *L.*

1. *V. spiralis. L.*—V. Americana. *Mx.—Ph. Am. 1. p. 602.*

HAB. Canada.—Living plants were sent from near Montreal, by *Mr Kippin*, to the Glasgow Botanic Garden, where we had the opportunity of examining flowering specimens, and ascertaining that they were the same as the European species.

2. UDORA. Nutt.

Dioica. *Spatha* bifida. Masc. Cal. 3-partitus. Cor. 3-petala. Stam. 9, 3 interiora.—
Fœm. Cal. 3-partitus, tubo longissimo. Pet. 3. Filamenta sterilia 3. Utriculus subtri-
spermus. Semina cylindrica. Nutt.—*Herba aquatica, foliis verticillatis*.

1. *U. verticillata*. Spreng.—Udora Canadensis. Nutt. *Gen. Am.* 2. p. 242. Elodea. *Mx.*
Serpicula verticillata, L.—Muhl.—S. occidentalis. Ph.

HAB. Canada, (*Michaux. Cleghorn. Goldie.*) to the Saskatchewan. *Dr Richardson. Drummond.*—I have retained the name of *verticillata* to this, originally given to an East Indian *Udora*, from a conviction, as far at least as can be conveyed by the dried specimens, that the plants of the Old and of the New World are the same species. It extends throughout the whole continent of America, from the lat. of York Factory, Hudson's Bay, in the north, to Buenos Ayres and Valparaiso in the south. The leaves vary much in size and direction, so that probably the *U. (Elodea) Granatensis*, and *U. Orinocensis* of Humboldt and Kunth, are mere varieties. Certainly my specimens from British Guiana are the same as those from Canada.

ORD. XV. ORCHIDEÆ.* Juss.

§ I. MALAXIDÆ. Lindl.

1. MICROSTYLIS. Nutt. Lindl.

1. *M. monophyllos* (Lindl. *Gen. Orch.* p. 19.); caule unifolio, racemo gracili elongato, pedicellis flores sequantibus.—Lindl.—*M. brachypoda*. Gray, *Mss. in Herb. nostr.*—*Malaxis monophyllos*. Willd.—*Ophrys*. L.

HAB. Near Montreal. *Goldie in Herb. nostr.* Halifax. *Goldie* (ex Lindl.)—A very distinct species from the following, (a European plant,) and first found in N. America by Goldie, and since by Dr Torrey and Gray, in the United States, at Oneida county, New York.

2. *M. ophioglossoides* (Nutt.); caule unifolio, racemo obtuso capitato multifloro, pedicellis flores longe superantibus, labello tridentato.—Lindl. *Bot. Reg. t.* 1290. (var. β .) *Gen. Orch.* p. 19. *Malaxis ophiog.* Ph. *Am.* p. 592. *Loddig. Bot. Cal. p.* 1116. *M. unifolia*. *Mx.*

HAB. Canada, to the Saskatchewan. *Dr Richardson.* Newfoundland. *Dr Morrison.* Nova Scotia. *Menzies.*

3. *M. diphyllus* (Lindl. *Gen. Orch.* p. 19.); foliis duobus ovatis lanceolatisve acutis lævibus, scapo triquetro, labello subrotundo acuminato acumine laciniis haud superante.—*Malaxis diphyllus*. *Cham. in Linnæa*, 3. p. 34.

HAB. Unalascika. *Chamisso.*—This is equally unknown to me as it is to Dr Lindley.

2. LIPARIS. Rich.

1. *L. liliifolia* (Rich.); foliis binis oblongis acutis plicatis racemo paucifloro multo

* I have followed entirely the arrangement of Dr Lindley, to whose invaluable *Genera and Species of Orchideous Plants* I refer for the characters of the Genera, so far as that work is published.

brevioribus, scapo angulato, labello maximo obovato mucronato recurvo discolore, sepalis linearibus patentissimis. *Lindl. Bot. Reg. p. 882. Gen. Orch. p. 28. Malaxis, Sw.—Ph. Am. 2. p. 592. Bot. Mag. p. 2004.—Ophrys, L.*

HAB. Canada. *Ph.*

2. *L. Loeselii* (Rich.); foliis binis ovato-oblongis obtusis plicatis racemo paucifloro multo brevioribus, scapo angulato, labello ovato integerrimo concolore, sepalis petalisque linearibus inæqualibus. *Lindl. Gen. Orch. p. 28, in Bot. Reg. t. 882. Malaxis, Sw.—M. Correana. Benth.—Nutt. Am. 2. p. 196. Liparis, Spr.—Ophrys Loeselii. L.*

HAB. Canada, (*Goldie*) to Carlton House Fort, on the Saskatchewan. *Dr Richardson.*—The *L. Correana* differs in no respect from our European *L. Loeselii*. The American plant is indeed often much larger, (I have specimens more than a span high,) but *Dr Richardson's* specimens do not exceed ours.

3. CORALLORHIZA. *Br.*

1. *C. innata* (Br.); scapo pauci (6-9-) floro, floribus parvis, labello oblongo subintegro, calcare ovario adnato obsoleto.—*Hook. in Fl. Lond. N. S. t. 142. Rich. App. p. 33.—C. odontorhiza. Nutt. Gen. 2. p. 197.—C. Wisteriana. Conrad in Journ. Acad. Phil. 6. p. 145. Cymidium. Ph.—β. labello immaculato. Corallorhiza verna. Nutt.—Journ. Ac. Nat. Phil. 3. p. 136. t. 7.—C. innata. Eat.*

HAB. Lake Huron, (*Dr Todd*) throughout Canada, (*Cleghorn, Mrs Sheppard*), to the Saskatchewan. *Dr Richardson. Drummond. Douglas.* Newfoundland. *Miss Brenton.*—Copious specimens which I possess of this plant, from the above localities, precisely accord with our European *C. innata*. A small slender species, about a span high.

2. *C. multiflora* (Nutt. *Journ. Ac. Nat. Phil. 3. p. 138. t. 7.*); scapo multi-(15-30)-floro, labello cuneato-ovali tripartito recurvo maculato, calcare tuberculiformi ovario adnato. *Hook. Exot. Fl. t. 174. C. innata. Nutt. Gen. 2. p. 197. (fide Nuttall).*

HAB. Canada. *Cleghorn. Dr Todd. Mrs Sheppard. Lady Dalhousie.* New Brunswick. *Mr Kendall.* Columbia and Observatory Inlet. N. W. America. *Douglas and Dr Scouler.*—Much larger and stouter than the preceding, with which it had been confounded by Nuttall; a foot and more high, with more numerous flowers, and an evident spur, but adnate with the ovary.

3. *C. Mertensiana* (Bong. *Veg. Sitcha, p. 47.*); scapo multi-(10-20)-floro, labello ovato-oblongo submarginato, prope basin dente incurvo utrinque instructo, calcare subelongato omnino libero.

HAB. N. W. America. *Sitcha, Bongard.* Fort Vancouver and Nusqually. *Dr Scouler and Tobnie.*—Habit and size of the preceding, yet very different. It is generally more slender, the sepals and petals much narrower; but the most distinguishing feature is the very evident spur to the base of the lip, not at all adnate with the ovary.

4. AMPLECTRUM. *Nutt. Lindl.*

1. *A. hyemale* (Nutt. *Journ. Acad. Phil. p. 139.*) Corallorhiza hyemalis. *Nutt. Gen. 2. p. 198. Cymbidium, Willd.—Ph. Am. 2. p. 593.*

HAB. Between Norway House and Cumberland House Fort, on the Saskatchewan, *Drummond*; rare, and with fruit and good foliage; but no flower.—Flowers similar to those of *Corallorhiza*. Root tuberous, with a single elliptical leaf from the summit of the tuber, the scape springing from beneath. This is doubtless the northern limit of this fine Orchidaceous plant; but it does not appear to have been found in Canada.

§ II. VANDEÆ. *Lindl.*

5. CALYPSO. *Salisb.*

1. *C. borealis*. *Salisb. Par. Lond. t. 89. Hook. Ex. Fl. t. 12. ejusd. Bot. Mag. p. 2763. Ph. Am. 2. p. 593.* *C. Americana*. *Br.—Nutt.—Limodorum. Willd.—Cypripedium bulbosum. L.*

HAB. Canada to Bear Lake River. *Cleghorn. Goldie. Dr Richardson*; and from Hudson's Bay (*Douglas*), to the Rocky Mountains. *Drummond. Nova Scotia. Menzies. N. W. America. Mr Lewis. Menzies. Douglas. Tolmie.*

§ III. OPHRYDÆ. *Lindl.*

6. ORCHIS. *L. Br. Lindl.*

1. *O. spectabilis* (L.); foliis binis oblongis obtusis scapi longitudine, bracteis foliaceis floribus longioribus, labello lanceolato calcari clavato pendulo æquali. *Lindl. Gen. Orch. p. 267. Ph. Am. 2. p. 587. Hook. Ex. Fl. p. 69.* *O. humilis. Mx.—Habenaria. Spr.*

HAB. Throughout Canada. *Fr Todd. Lady Dalhousie. Goldie.*—This is the only true Orchis found in Eastern N. America.

2. *O. aristata* (*Fisch. mst. in Herb. nostr.*); foliis ovato-lanceolatis acutis caule subdiphylo longioribus, spica ovata densiflora, sepalis acuminatissimis, labello ovato acuto lævissime versus apicem trilobo lateribus deflexo, calcare crasso pendulo labello longiore, bracteis herbaceis acuminatis floribus longioribus, tuberibus palmatis. *Lindl. Gen. Orch. p. 262.* *O. acuminata. Hort. Gor. (Herb. nostr. ex Acad. Imp. Petersb.) non Desf.—O. latifolia. L.? var. Beeringiana. Cham. in Linnæa, v. 3. p. 26.*

HAB. Unalascbaka. *Chamisso.*—This is rightly separated by Dr Fischer from *O. latifolia*.

7. GYMNADENIA. *Br. Lindl.*

1. *G. (?) tridentata* (*Lindl.*); folio solitario radicali oblongo obtuso, caulinis 2-3 multo angustioribus et minoribus, spica brevi laxiuscula, sepalis campanulatis, labello plano truncato obsolete tridentato (nunc integro obtusiusculo) sepalorum longitudine, calcare filiformi arcuato ovario paulo longiore. *Lindl. Gen. Orch. p. 227.* *Habenaria trid. Hook. Ex. Fl. p. 81.* *Orchis trid. Willd.—Ph. Am. 2. p. 587.—β. labello integro.—Orchis clavellata. Mx. Am. 2. p. 155. Ph. Am. 2. p. 586.—γ. folio lineari-oblongo, caule elatiori (labello integro). Platanthera tipuloides. Lindl. Gen. Orch. p. 285. Orchis tipuloides. L.—O. gracilis. Fisch.*

HAB. Canada. *Goldie. Mrs Sheppard. Mrs Perceval.—β. Newfoundland. Miss Brenton.—γ. Lake Huron. Dr Todd.*—The base of the cells of the anthers are by no means so approximate as in the original

Gymnadenia of Mr Brown, *G. conopsea*. It is not unfrequent to find the lip quite entire, and more or less acute, and the narrow-leaved var. of this, is, as it appears to me, the *Platanthera tipularioides* of Lindl. *Orchis gracilis*, Fisch. in *Herb. Hook.*

8. PLATANTHERA. Rich. Lind.

1. *Labelum indivisum, subintegerrimum.*

1. *P. obtusata* (Lindl.); folio solitario oblongo-obovato, caule monophyllo, spica laxiuscula, sepalo supremo latissimo, petalis subtriangularibus acuminatis obtusis, labello lineari-subacuminato basi bituberculato calcaris conici arcuati acuti longitudine. (TAB. CXCIX.) Lindl. *Gen. Orchid.* p. 284. *Habenaria*, Rich. *App.* p. 33. *Orchis*, Ph. Am. 2. p. 284.

HAB. Nova Scotia. *Menzies*. Canada. *Mrs Perceval*. *Mrs Sheppard* (at Cape Torment), to Carlton House Fort, on the Saskatchewan and alpine swamps of the Rocky Mountains, and thence to Bear Lake and Fort Franklin. *Dr Richardson*. *Drummond*. Labrador. *Dr Morrison*. N. W. Coast. *Menzies*. *Douglas*. Kotzebue's Sound. *Beechey*.

TAB. CXCIX. Fig. 1. Side view of a flower; f. 2. Front view of do.; f. 3. Upper sepal; f. 4. Petal; f. 5. Anther.

2. *P. elegans* (Lindl. *Gen. Orch.* p. 285); foliis binis oblongo-lanceolatis, caule squamis parvis ramentaceis, spica longa densa cylindracea, bracteis lineari-subulatis florum longitudine, sepalis campanulatis acuminatis obtusis, petalis labelloque carnosis ovato-linearibus obtusis subæqualibus, calcare filiformi arcuato ovario longiore. Lindl.

HAB. N. W. America. Vallies of the Blue Mountains. *Douglas*. Fort Vancouver. *Tolmie*.—Flowers white and fragrant. Root an undivided tuber. Stem a foot and a half high. Flowers small. Pollen-glands very large.

3. *P. Hookeri* (Lindl. *Gen. Orchid.* p. 286); foliis radicalibus binis suborbiculatis carnosis, scapo nudo, spica stricta multiflora, sepalo superiori ovato lateralibus lanceolatis reflexis, labello lanceolato acuminato glabro sepalis parum longiore, calcare subulato arcuato compresso ovario duplo longiore, anthera triangulari angulis basi obtusis.—*Habenaria orbiculata*. *Hook. Ex. Fl.* t. 145. (non *Pursh*). *Habenaria Hookeri*. *Torrey, Herb.*—*Gray, New or rare plants, St. of New York*, p. 229.

HAB. Upper and Lower Canada. *Dr Todd*. *Goldie*. *Lady Dalhousie*. *Drummond*.

4. *P. orbiculata* (Lindl. *Gen. Orchid.* p. 286); foliis radicalibus binis suborbiculatis (ovalibusve) tenui-membranaceis, scapo bracteato, racemo laxo multifloro, sepalo superiori orbiculari lateralibus ovatis, labello lineari-subspathalato basi pubescente sepalis fere duplo longiore, calcare arcuato compresso clavato ovario duplo longiore, antheræ lobis basi utrinque productis liberis. (TAB. CC.)—*Orchis orbiculata*. Ph. *Habenaria*, *Torr. Comp. pend.* p. 318.—*H. macrophylla*. *Hook. in Ed. Phil. Journ.* v. 6. p. 331. *Gray, New or rare Pl. St. of New York*, p. 228.

HAB. Canada. In moist shady woods. Island of Montreal. *Mr Goldie. Lady Dalhousie. Mrs Perceval*; to the Saskatchewan. *Drummond*.—This fine species, having been but ill defined by its first describer (*Pursh*), has been much misunderstood, and the preceding plant was by myself, as well as by other botanists, both in America and in Europe, mistaken for it. From collateral evidence, however, Drs Torrey and Gray were led to consider the present as the true *orbiculata*; and the correctness of their ideas has been confirmed by the latter botanist, on his recent examination of the original *Purshian Herbarium*, in Mr Lambert's possession, whereupon he writes:—" *Orchis orbiculata*, Pursh, is, as I suspected, the *macrophylla* of Hook. and Goldie. The other species, *orbiculata* of Hook. (*Hookeri nobis*) is not in Pursh's original *Herbarium*; but it exists in the Canadian Collection of Pursh, without a name." The latter plant has been correctly figured already in the *Exotic Flora*; which, together with our accompanying plate of the present species, will, I trust, clear up all future difficulty on the subject of these two species.

Tab. CC. Fig. 1. Flower; f. 2. Side view of an anther:—*magnified*.

5. *P. Menziesii* (Lindl. *Gen. Orch. p. 286*); foliis radicalibus binis subrotundo-oblongis erectis, caule sub-bisquamato, racemo laxo paucifloro, sepalis obtusissimis, petalis truncatis labello lineari obtuso brevioribus, calcare pendulo obtuso apice inflexo ovario subæquali. *Lindl.*

HAB. N. W. Coast of America. *Menzies. (Herb. nostr.)*.—Scape about a span high.

6. *P. Schischmareffiana* (Lindl. *Gen. Orch. p. 286*); foliis radicalibus binis obovato-lanceolatis canaliculatis, spica subsecunda multiflora, bracteis oblongis obtusis ovarii longitudine, sepalis oblongis obtusis, petalis labelloque carnosis ovatis obtusis, calcare arcuato greccili labelli longitudine. *Lindl. Habenaria, Cham. in Linnæa, 3. p. 29. Spir-anthes? Unalaschkensis. Spr.*

HAB. Unalaschka. *Chamisso (in Herb. nostr.)*

7. *P. Königii* (Lindl. *Gen. Orch. p. 286*); caule folioso, foliis inferioribus oblongo-lanceolatis obtusis emarginatisque superioribus linearibus spicam fere æquantibus, spica densa cylindracea, bracteis herbaceis floribus æqualibus, labello subrhombico-lineari obtuso calcare inflexo obtuso longiore. *Lindl.*—*α. petalis ovatis acutis. O. Königii. Retz. —Fl. Dan. t. 333. —β. petalis cordatis acuminatis. O. dolichorhiza. Fisch. ms.*

HAB. β. Unalaschka. *Langsdorff.*

8. *P. herbiola* (Lindl. *Gen. Orch. p. 287*); caule folioso, foliis inferioribus oblongis acutis superioribus lanceolatis acuminatis, spica densa cylindracea, bracteis herbaceis acuminatis floribus longioribus, labello lineari-lanceolato basi bidentato medio unituberculato calcare clavato duplo brevior. *Lindl.*—*Habenaria. Br.—Orchis. Ph. Am. 2. p. 574. —O. fuscescens. Ph.—O. scutellata? Nutt. (fide Lindl.)*.

HAB. Between Norway House and Canada. *Pr Richardson. Drummond.* The tubercle upon the lip is very prominent, and affords a remarkable character.

9. *P. hyperborea* (Lindl. *Gen. Orch. p. 287*); caule folioso, foliis lanceolatis strictissimis acutis, spica laxiuscula subsecunda, bracteis lineari-lanceolatis acutis flore longiori-

bus, sepalis deflexis, petalis labelloque linearibus obtusis subæqualibus calcaris obtusi penduli longitudine, radicibus longissimis carnosiss. *Lindl.* *Habenaria hyperborea*. *Br.*—*Rich. App. 2. p. 33.* *Orchis. L.—Ph.*

HAB. Rare in Canada. *Dr Todd.* From the Saskatchewan to Fort Franklin. *Dr Richardson. Drummond.*

10. *P. dilatata* (*Lindl. Gen. Orchid. p. 287*); caule folioso, foliis lanceolatis gramineisve, spica elongata cylindracea densa laxaque, bracteis lineari-lanceolatis acuminatis floribus æqualibus longioribusque, sepalis ovatis obtusis, petalis minoribus conformibus membranaceis, labello rhomboideo lineari-lanceolato obtuso calcaris obtusi longitudine. *Lindl.* *Habenaria. Hook. Ex. Fl. t. 95.*—*Gray, New or rare Pl. St. of N. York, p. 231.*—*Orchis. Ph. Am. 2. p. 588.*—*Habenaria borealis. Cham. in Linnæa. 3. p. 28.*—*Orchis agastachys. Fisch. mt.*— β . *angustifolia*; caule gracili.

HAB. Newfoundland. *Miss Brenton.* Throughout Canada, from Lake Huron to the Saskatchewan, and Hudson's Bay, abundant. N. W. America, about Fort Vancouver. *Douglas. Tolmie. Dr Scouler.*— β . Canada. *Cleghorn.*—I fear that this, which is a very common and highly variable plant, especially as regards its lax or dense growth, and size of the flowers and bractes, and the breadth of the leaves, is only a luxuriant state of *P. hyperborea*, to which *Dr Richardson* has rightly referred his more northern plant. It seems probable also that *P. Königi* and *P. Huronensis* are too nearly allied to it.

11. *P. Huronensis* (*Lindl. Gen. Orch. p. 288*); caule folioso, foliis inferioribus oblongis superioribus gramineis, spica laxa tenui, bracteis acuminatis florum longitudine vel longioribus, labello ovato-lanceolato calcaris incurvi compressi longitudine. *Lindl.*—*Habenaria, Spr.*—*Orchis, Nutt.*

HAB. Lake Huron and Michigan. *Nuttall.* Quebec. *Mrs Sheppard.* Newfoundland. *Miss Brenton.*—*Dr Lindley* well observes of this, "*P. dilatata* et *P. boreali* proxima, sed flores fere minores quam in *P. herbiola*."

12. *P. leucostachys* (*Lindl. Gen. Orch. p. 288*); caule folioso, foliis oblongo-lanceolatis obtusis, spica longissima densa, bracteis florum longitudine, sepalis ovatis obtusis, petalis membranaceis linearibus emarginatis, labello rhomboideo lineari-lanceolato calcare filiformi arcuato duplo brevioribus, antheræ lobis parallelis rostello inaximo plicato. *Lindl.*

HAB. N. W. America. Plentiful in the valleys of the Blue Mountains. *Douglas.*—Habit of *P. dilatata*, 1½ to 2 feet high. Flowers white.

13. *P. gracilis* (*Lindl. Gen. Orch. p. 288*); caule folioso, foliis linearibus acuminatis obtusis debilibus patentibus, spica laxa elongata, bracteis angustis acuminatis floribus inferioribus remotis longioribus, petalis obliquis acuminatis obtusis, labello lineari obtuso calcaris apice inflati obtusissimi longitudine. *Lindl.*

HAB. N. W. America. *Menzies.*—"Caules debiles, 1½-2-pedales. Folia 3-poll. longa, parum acuminata, nullo modo aucta."

14. *P. stricta* (Lindl. *Gen. Orch. p. 288*); caule folioso stricto, foliis ovato-lanceolatis internodiis duplo longioribus, spica laxa elongata, bracteis lineari-lanceolatis floribus longioribus, sepalo dorsali latiore, petalis ovatis acuminatis obtusis, labello lineari-obtusocalcare apice inflato obtusissimo duplo longiore. *Lindl.*

HAB. N. W. Coast of America. *Douglas*. Observatory Inlet. *Scouler*.—"Priore differt habitu stricto, foliis brevioribus (2½ poll.) latioribus et magis acuminatis, domum calcare duplo brevior." "

15. *P. graminea* (Lindl. *Gen. Orch. p. 289*); caule folioso, foliis strictis inferioribus lineari-lanceolatis obtusiusculis superioribus acuminatis, spica laxiuscula, bracteis acuminatis floribus brevioribus, petalis obliquis apice truncatis tridentatis labello rhombeo-lanceolato undulato venoso æqualibus calcare clavato arcuato duplo brevioribus. *Lindl.*

HAB. N. W. America. *Menzies*. Upland swamps, at Millbank Sound. *Tobnie*. "Glandulæ maxime pollinis æquales."—I possess the present and the two preceding species, which, but for the opinion of Professor Lindley, I should have been disposed to unite with my narrow-leaved var. of *P. dilatata*, from Canada.

2. *Labellum incisum.*

16. *P. holopetala* (Lindl. *Gen. Orch. p. 291*); caule folioso, foliis ovato-lanceolatis acutis, spica laxa multiflora, bracteis lineari-lanceolatis ovarii longitudine, sepalis suborbiculatis obtusis supremo galeato, petalis linearibus acuminatis obtusis integerrimis, labello lanceolato margine lacero calcare filiformi duplo brevior, ovario rostrato. *Lindl.*—*Habenaria blephariglottis*. *Hook. Ex. Fl. p. 87.* (nec aliorum, *fide Lindl.*).

HAB. Canada. *Goldie*.—Notwithstanding the high authority of Dr Lindley, I am still disposed to consider this as a very trifling variety of the following, only marked by having entire petals and small flowers. The tooling of the petals is, in the true *blephariglottis*, often nearly obsolete.

17. *P. blephariglottis* (Lindl. *Gen. Orch. p. 291*); caule folioso, foliis inferioribus lanceolatis canaliculatis sensim decrecentibus, spica oblonga multiflora densa, bracteis foliaceis linearibus acuminatis floribus brevioribus, sepalis rotundato-oblongis lateralibus reflexis, petalis spatulatis dentatis, labello oblongo plano fimbriato medio papilloso calcare recto pendulo triplo brevior, ovario longissimo rostrato. *Lindl.*—*Orchis blephariglottis*. *Willd.* (*fide Lindl.*) an alior.?

HAB. Canada. *Schweinitz*. *Lady Dalhousie*. *Mrs Perceval*. *Mrs Sheppard*. Newfoundland. *Miss Brenton*.—Intermediate in the character of labellum and petals, between the preceding and following species.

18. *P. ciliaris* (Lindl. *Gen. Orch. p. 292*); caule folioso, foliis inferioribus ovato-lanceolatis supremis minimis, spica oblonga densa multiflora, bracteis acuminatis ovario brevioribus, sepalis reflexis ovato-subrotundis obtusis, petalis linearibus reflexis apice incisus, labello oblongo margine capillaceo multifido calcare arcuato duplo brevior, ovario colorato longissime rostrato. *Lindl.*—*α. floribus aureis*. *Lindl.*—*Habenaria ciliaris*. *Br.*—*Orchis*, *L.*—*Ph. Am. 2. p. 585*. *Sims*, *Bot. Mag. p. 1668*.—*β. floribus niveis*. *Lindl.*—*Orchis blephariglottis*. *Ell. et alior.* (*Lindl.*).

HAB. *α.* Canada. *Goldie* (*in Herb. nostr.*).

3. *Labellum tripartitum, laciniis indivisis.*

19. *P. rotundifolia* (Lindl. *Gen. Orch.* p. 292); folio solitario radicali subrotundo-ovato plano, scapo nudo, spica pauciflora laxiuscula, bracteis obtusis ovario brevioribus, sepalis petalisque obtusis, labello trilobo lobis lateralibus subfalcatis intermedio obcordato, calcare acuto labelli longitudine. Lindl.—(TAB. CCL.)—*Habenaria*, *Rich. App.* p. 33. *Orchis*, *Ph. Am.* 2. p. 588.

HAB. Hudson's Bay (*Herb. Banks.*) Island of Anticosti. *Goldie*. Newfoundland. *Mr Cormack*. Canada. *Lady Dalhousie*; to Carlton House Fort on the Saskatchewan; and to Jasper's Lako in the Rocky Mountains. *Dr Richardson*. *Drummond*.—Leaves spotted, Mr Drummond observes, like those of *Orchis maculata*. Flowers pale dirty white.

TAB. CCL. Fig. 1, Flower:—magnified.

4. *Labellum tripartitum, laciniis incis.*

20. *P. incisa* (Lindl. *Gen. Orch.* p. 293); caule folioso, foliis obovato-oblongis sursum decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis floribus longioribus, sepalis oblongis lateralibus deflexis, petalis erectis oblongis denticulatis, labelli unguiculati subrotundi laciniis cuneatis inciso-denticulatis intermedia majore calcare duplo brevior. Lindl.—*Habenaria*, *Spr.*—*Orchis*, *Willd.*—*Ph. Am.* 2. p. 589.

HAB. Sillery, Canada. *Mrs Sheppard*.—Perhaps only a stunted var. of the following.

21. *P. fimbriata* (Lindl. *Gen. Orch.* p. 293); caule folioso, foliis oblongis sursum decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis supremis floribus subæqualibus, sepalis oblongis obtusis lateralibus deflexis, petalis erectis oblongis obtusis incis, labelli unguiculati subrotundi laciniis cuneatis inciso-dentatis intermedia majore calcare duplo brevior. Lindl.—*a. grandiflora*.—*Habenaria*, *Br.*—*Hook. Ex. Fl. t.* 224.—*Orchis grandiflora*. *Bigel.* (*Habenaria*, *Torr.*—*Platanthera*, *Lindl.*)—*β. floribus minoribus*. *P. crispa*. *Lindl.*

HAB. *a.* and *β.* Abundant throughout Canada. *Mrs Perceval*. *Mrs Sheppard*. *Cleghorn*. Newfoundland (chiefly *β.*). *Miss Brenton*.

22. *P. psychodes* (Lindl. *Gen. Orch.* p. 294); caule folioso, foliis inferioribus oblongis obtusis supremis angustissimis acuminatis, racemo laxo multifloro, bracteis foliaceis floribus longioribus, sepalis retusis lateralibus deflexis, petalis emarginatis, labello unguiculato tripartito laciniis cuneatis capillaceo-multifidis subæqualibus, calcare ovario duplo brevior. Lindl.—*a. laciniis labelli omnibus multifidis*. *Lindl.*—*Orchis psychodes*. *L.*—*Ph. Am.* 2. p. 585.—*Habenaria*, *Spr.*—*Habenaria lacera*. *Br.*—*Orchis*, *Ph. Am.* 2. p. 586.—*β. lacinia intermedia labelli indivisa*. *Lindl.*

HAB. *a.* Canada. (*Pursh*), Sillery. *Mrs Sheppard*.—Probably not distinct from the preceding. On the subject of this species, my valued friend Dr Gray thus writes to me, after an examination of the *Banksian* and *Gronovian* Herbaria: "As to *Orchis psychodes*, there is still a great confusion of synonymy, or would

be if you were to go back to the original, which would now be scarcely proper. You will see by the *Sp. Plant. ed. 1.*, that the species is founded on a plant of Kalm, from Canada; and that a plant of Gronovius from Virginia, is referred to it. The *O. psychodes* of Willdenow, and as far as I know, of almost all later botanists, is the *O. lacera* of Mx.—Now, I find that the Gronovian plant is *O. cristata*, Willd. (the small-flowered, yellow, New Jersey species.)—the specimen from Kalm, in *Herb. Linn.*, from which the detailed description is drawn, is *O. fimbriata*!—a specimen with more crowded flowers, and rather smaller than usual."

9. PERISTYLUS. *Lindl.*

(*Omnia Platantheræ*, sed calyx semper campanulatus et calcar brevissimum sepius scrotiforme.)

1. *P. Chorisianus* (*Lindl. Gen. Orch. p. 297*); foliis binis lato-ovatis acutis, spica pauciflora laxiuscula, bracteis ovatis acuminatis floribus longioribus, sepalis ovatis obtusis membranaceis patentibus, petalis carnosis subrotundo-ovatis conniventibus, labello ovato canaliculato obtuso apice cucullato, calcare brevissime subtereti. *Lindl.*—*Habenaria. Cham. in Linnæa, 3. p. 31.*

HAB. Unalashka. *Chamisso (in Herb. nostr.)*.

2. *P. bracteatus* (*Lindl. Gen. Orch. p. 298*); caule folioso, foliis oblongis obtusis vel retusis sursum angustatis et acutioribus, spica laxa, bracteis foliaceis acuminatis floribus duplo triploque longioribus, petalis linearibus erectis, labello lineari truncato subcuneato angulis apice nunc productionibus, calcare inflato brevi. *Lindl.*—*Habenaria. Br.—Pursh, Am. 2. p. 587. Hook. Ex. Fl. t. 175.*

HAB. From Lake Huron (*Dr Todd*) to the Saskatchewan, and to swamps in the Rocky Mountains. *Dr Richardson. Drummond.*—Notwithstanding the greater size of this plant, (sometimes a foot high,) and its large foliaceous bractees, I am much disposed to concur with Dr Lindley in the opinion that it is not really distinct from *P. viridis* of Europe, of which I have specimens from the Altai, and from the Highlands of Scotland, which can scarcely be distinguished from it. I may add too, that Mr Drummond, who must have been familiar with *P. viridis*, marked his Rocky Mountain specimens by that name.

§ IV. ARETHUSEÆ. *Lindl.*10. ARETHUSA. *Sw.*

1. *A. bulbosa. L.—Ph. Am. 2. p. 591. Hook. Ex. Fl. t. 170. Bot. Mag. t. 2204.*

HAB. Canada. *Pursh. Lady Dalhousie. Mrs Perceval. Goldie. Newfoundland. Mr Cormack.*

11. POGONIA. *Juss.*

1. *P. ophioglossoides* (*Ker, Bot. Reg. t. 148*); radice fibrosa, scapo unifloro, folio bracteaque elliptico-lanceolatis, petalis exterioribus oblongo-ovatis, labello disco papilloso margine dentato. *Hook. Ex. Fl. t. 70.—Arethusa. L.—Ph. Am. 2. p. 592.*

HAB. Canada. *Pursh*. *Lady Dalhousie*. *Mr Cleghorn*. Newfoundland. *Dr Morrison*.—Flower rose-colour.

2. *P. pendula* (Lindl. *Bot. Reg. t.* 908); foliis ovatis squamiformibus amplexicaulibus, floribus subsolitariis cernuis, labelli lobo medio oblongo crispo, caule angulato. *Lindl.*—*Triphora pendula*. *Nutt.*—*Arethusa*. *Willd.*—*Ph. Am. 2. p.* 590.—*A. trianthophora*. *Sw.*—*A. parviflora*. *Mx.*

HAB. Canada. *Goldie*. *Douglas*. *Nuttall*.—Flowers white. Plant 2-4 inches high. Lindley has certainly correctly referred this curious little plant to *Pogonia*.

12. CALOPOGON. *Br.*

1. *C. pulchellus*. *Br. Hort. Kew. ed. 2. v. 5. p.* 204.—*Cymbidium*. *Willd.*—*Ph. Am. 2. p.* 592.—*Limodorum*. *Curt. Bot. Mag. t.* 116.—*L. tuberosum*. *Mx.*

HAB. Canada, frequent. Newfoundland. *Miss Brenton*. *Dr Morrison*.

13. EPIPACTIS. *Hall.*

1. *E. gigantea*; elata, foliis ovato-lanceolatis marginibus scabris, floribus solitariis axillaribus nutantibus, labello sepalis petalisque acuminatis.—(TAB. CCII.) *Douglas mst.*

HAB. N. W. America. On the subalpine regions of the Blue and Rocky Mountains. *Douglas*. Columbia River, about Fort Vancouver. *Dr Scouler*.—Two to 3 feet high; stem leafy to the top; leaves 5-6 inches long, the lower ones sheathing and very obtuse, the rest much acuminate. The colour of the flowers appears to be greenish-brown, like those of *E. palustris*; but in the large axillary flowers, it most resembles *E. pallens*, from which it may be at once known by its drooping flowers, acuminate sepals, petals and labellum, as well as by the leaves, which are moreover, very rough, with minute harsh serratures at the margin.

TAB. CCII. *Fig. 1*, Flower, side view; *f. 2*, Front view of do.; *f. 3*, Column and lip:—*magnified*.

§ V. NEOTTIÆÆ. *Lindl.*14. SPIRANTHES. *Rich.*

1. *S. cernua* (Rich.); foliis lineari-lanceolatis radicalibus basi attenuatis superioribus sensim minoribus vaginantibus, spica densa, floribus demum cernuis bracteis brevioribus, sepalis petalisque coherentibus labello oblongo integerrimo apice dilatato crenulato inferne pulcherrime venoso brevioribus. *Lindl. Bot. Reg. t.* 283.—*Neottia*. *Willd.*—*Bot. Mag. t.* 1568. *Ph. Am. 2. p.* 589.

HAB. Canada; to the Saskatchewan and the Lake of the Woods in the Rocky Mountains. *Dr Richardson*. *Drummond*. Newfoundland. *Dr Morrison*. *Miss Brenton*. N. W. America. *Menzies*. Fort Vancouver. *Douglas*. *Drummond*.—At first sight resembling stout plants of the European *S. festalis*; but the spikes are much more dense, the bracteas and flowers larger, and the lateral sepals cohere with the upper one and the petals, for nearly their whole length.

2. *S. gracilis*; foliis radicalibus ovatis petiolatis, scapo elongato vaginis subfoliosis

squamatis, spica gracili laxa, floribus bracteis superantibus, sepalis lateralibus liberis labello oblongo-subspathulato crenulato paulo longioribus.—(TAB. CCIII.)—*Bigel. Bost. ed. 2. p. 322.*—*Neottia tortilis. Ph. Am. 2. p. 589 (non Sw.).*—*Ophrys aestivalis. Mx. Am. 2. p. 157.*

HAB. Canada; and from Lake Huron, (*Dr Todd*) to Fort Franklin, on the Mackenzie River. *Dr Richardson. Drummond.*—*Dr Bigelow* has well described this plant, and remarked that the radical leaves frequently falling off, cause it to appear leafless at the time of flowering; and it is this imperfect state evidently, that *Michaux* has described, and when he says, "*scapo folioso, foliis lanceolatis acutissimis,*" he alludes to its leaf-like scales. *Pursh* completely misunderstood *Michaux*, or he would never have referred the plant to *Neottia tortilis* of *Swartz*, which has linear radical leaves a foot long, and a scape 2 feet high; and he has copied the character of *N. tortilis* from *Swartz* and *Willdenow*. The present species is frequent in the United States. I possess specimens from *Drs Schwelnitz* and *Boott*, and from *Mr Greene*.

TAB. CCIII. Fig. 1, Flower; f. 2, Labellum:—*magnified.*

3. *S. decipiens*; foliis radicalibus ovatis, scapo pubescente squamoso squamis subfoliaceis, spica multiflora laxiuscula, bracteis flore brevioribus, labello ovato acuminato obtuso basi concavo apice conduplicato, anthera gynozoe acuminatis. (TAB. CCIV.)

HAB. Lake Huron. *Dr Todd*. Lake Simcoe, and near the sources of the Columbia River. *Drummond. Fort Vancouver* and *Straits of De Fuca. Dr Scouler.*—This plant has so completely the habit of the *Goodyera pubescens* of American Botanists, that if I had not observed that its sepals were more acuminated, I should have been satisfied that it was that plant. But on looking into the flower, I find the column and anther and pollen to be completely those of a *Spiranthes*. Root or caudex creeping, jointed, with lateral fibres, resembling a *Scolopendra*. The leaves are in like manner frequently tessellated, or mottled with dark green on a pale green. Scape 8 inches to a foot high. Spike downy. Sepals ovato-lanceolate, acuminated, but rather obtuse, petals lanceolate, cohering with the upper sepal. Lip parallel with the column, ovate and concave at the base, then tapering gradually into a long, narrow, canalculated, obtuse, nearly straight point. Column short. Stigma squaro near the base, tapering upwards into a long sharp acumen, the gynizus; anther, from the back of this, fixed and parallel with it, ovate, very convex above, terminating in a very sharp apex, opening with two cells and casting the pollen-mass on the back of the gynizus. This pollen-mass consists of a long subulate connectivum, to which are fixed, one on each side, a double row of compact cohering grains, the whole being pyriform, full yellow.

TAB. CCIV. Fig. 1, Flower; f. 2, Column and lip; f. 3, 4. Different views of the column; f. 5, Upper side of a pollen mass; f. 6, Underside of do.:—*magnified.*

15. GOODYERA. Br.

1. *G. repens* (Br.); foliis ovatis subunicoloribus, labello ovato sublonge acuminato acumine modice recurvo, columna brevissima. *Hook. Fl. Lond. N. S. t. 144.*—*Neottia Sw.—Ph. Am. 2. p. 589.*—*Satyrium. L.*

HAB. Mountain woods of the Rocky Mountains (*Drummond*) and from the Saskatchewan to Fort Franklin. *Dr Richardson.*—Smaller than the following, with the leaves thinner, rarely reticulated with white veins. I have in vain sought for a distinctive character in the sepals; they appear to me to be of the same shape in both species, and even the lip presents but little character. The acumen is, however, longer and less recurved in the present individual, and the column is always very short.

2. *G. pubescens* (Br.); foliis ovatis plerumque albo-reticulatis, labello ovato brevi-acuminato acumine arcte reflexo.—*Lindl. Coll. Bot. t. 25. Bot. Mag. t. 2540* (mala).—*Neottia. Willd.—Ph. Am. 2. p. 590.*

HAB. Canads. *Pursh. Dr Todd. Mrs Sheppard. Mrs Perceval. Newfoundland. Miss Brenton.*

16. *LISTERA. Br.*

1. *L. cordata* (Br.); caule bifolio, foliis oppositis cordatis, sepalis ovato-oblongis, racemo glabro, labello lineari basi utrinque unidentata apice bifido laciniis lineari-acuminatis, columna perbrevis. *Hook. in Fl. Lond. N. S. t. 143.—Epipactis. Sw.—Ophrys. L.—E. Bot. t. 358.—Mx.—β. sepalis labelloque angustioribus.*

HAB. Newfoundland and Labrador. *Dr Morrison. Lake Winnipeg to the Saskatchewan. Dr Richardson.*—*β. N. W. Coast; from De Fuca to Unalaska. Chamisso. Bongard. Dr Scouler. Tobnie.*—This, according to Nuttall, is found so far south as New Jersey in the United States. The N. W. specimens have certainly narrower sepals and lip than the others.

2. *L. convallarioides* (Nutt.); caule bifolio, foliis oppositis orbiculari-ovatis, racemo pubescente, sepalis anguste lanceolatis demum reflexis, labello oblongo-obcordato bifido cum mucrone intermedio obtuso laciniis brevibus obtusissimis, columna elongata cylindrica. (TAB. CCV.)—*Epipactis. Sw.—Ph. Am. 2. p. 591.—Listera Eschscholzianna. Cham. in Linnaea, v. 3. p. 33.*

HAB. Near Quebec. *Torrey (in Herb. nostr.). Mrs Perceval. Lake Huron. Dr Todd.* Shady woods in mountain swamps at the base of the Rocky Mountains. *Drummond. N. W. America. Menzies, in Herb. Banks. (fide Boott.). Clarence Stralta. Tobnie. Unalaska. Chamisso (in Herb. nostr.).*

TAB. CCV. Fig. 1, Flower:—*magnified.*

§ VI. CYPRIPEDIÆ. *Lindl.*17. CYPRIPEDIUM. *L.** *Scapigera.*

1. *C. humile. Sw.—Ph. Am. 2. p. 596.—C. acaule. Ait. Bot. Mag. t. 192.—α. petalis flavescenti-viridibus vel fuscescentibus, labello purpurascente, intus venis saturatis purpureis. Rich. l. c.—β. labello flavescenti-albo. Rich. l. c.*

HAB. New Brunswick. *Mr Kentall. Newfoundland. Miss Brenton. Dr Morrison; and (α. and β.) from Canada to Fort Franklin on the Mackenzie River. Dr Richardson.*

** *Caule foliato.*

2. *C. spectabile* (Sw.); sepalis subæqualibus lato-ovatis obtusis, petalis lanceolatis planis longioribus, labello petalis longiore ventricoso subsulcato, stamine sterili cordato-ovato

obtusum.—*Lindl. Bot. Reg. t. 1666. Ph. Am. 2. p. 594.*—*C. album. Ait.—Bot. Mag. t. 216.*—*C. Canadense. Mx.—C. Calceolus. γ. L.*

HAB. Canada. *Pursh. Dr Todd. Mrs Percival. Mrs Sheppard.*—Flower the largest of any of the N. American species. Sepals and petals white, lip tinged with purple.

3. *C. pubescens* (Willd.); sepalis lanceolatis, stamine sterili triangulari acuto, labello petalis brevioribus subtus superneque convexo-gibboso lateraliter compresso. *Hook. Bot. Mag. folio 3024* (ad calcem); *t. 3024. A. Ph. Am. 2. p. 594. Rich. App. p. 34.*—*C. parviflorum. Bot. Mag. t. 911* (non Willd.).

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*—Sepals narrow, greenish-brown, streaked with purple. Lip yellow.

4. *C. parviflorum* (Salisb. in *Linn. Trans. 1. p. 77. t. 2. f. 2*); sepalis lato-ovatis, stamine sterili triangulari acuto, labello petalis brevioribus supra subtusque planiusculo. *Hook. Bot. Mag. t. 3024. Ph. Am. 2. p. 594.*

HAB. Newfoundland. *Miss Brenton*; and throughout Canada to Lake Winipeg and the Rocky Mountains. *Dr Richardson. Drummond.* N. W. America, in the Blue Mountains.—Very nearly allied to the preceding, and often confounded with it. Sepals broader, and, as well as the petals, chocolate-coloured. Lip deeper yellow, flattened as it were above and below, the sides swelling out. It is, I believe, the more generally diffused of the two species in British N. America.

5. *C. passerinum* (Rich. *App. p. 34*); sepalo superiori ovali-subrotundo petala oblonga obtusissima labellumque obovatum ore rotundatum contractum subæquante, stamine sterili elliptico-cordato obtusum.—*C. parviflorum. Rich. App. ed. 1. p. 340* (excl. syn.).

HAB. Pine woods, from the Saskatchewan to lat. 58°, and in the Rocky Mountains. *Dr Richardson. Drummond.*—A very remarkable and most distinct species, found, as far as I know, by no naturalist except those now mentioned. It is admirably described by Dr Richardson.

6. *C. arietinum* (Br. *Hort. Kew. ed. 2. v. 5. p. 222*); calyce trisepalo, stamine sterili orbiculari-spathulato, labello saccato-calcarato. *Br. in Bot. Mag. t. 1560.*

HAB. Canada; Montreal (*Messrs Chantlers and Buckingham*). *Goldie.* Portage of the Grand Rapid of the Saskatchewan. *Drummond.*—Only two or three specimens were gathered, and those in fruit; but roots were brought home which flowered in the Belfast Botanic Garden.—A small species, readily distinguished by the distinct sepals and lip coming to a deflexed point at the apex below, so as, in some directions, to resemble the head of a sheep or ram.

7. *C. guttatum* (Sw.); caule diphylo, stamine sterili ovato emarginato deflexo, sepalo superiori ovato petalisque lanceolatis labellum ovali supra depressum ore patulo subæquantibus. *Reichenb. Ic. Bot. t. 210.*

HAB. Two specimens only, with withered flowers, were gathered by *Dr Richardson* at Fort Franklin, on the Mackenzie River. Unalaska, most abundant. *Chamisso.*—Flower rather small, beautifully mottled with purple and white. The leaves always turn black in drying.

ORD. XVI. IRIDEÆ. *Juss.*1. IRIS. *L.*

1. *I. versicolor*. *L.*—*Bot. Mag. t. 21.*

HAB. Canada. *Pursh.*

2. *I. Virginica*. *L.*—*Bot. Mag. t. 703.*—*I. hexagona*. *Walt.*—*I. lacustris?* *Nutt.*

HAB. Canada. *Pursh. Cleghorn*; to the Saskatchewan. *Dr Richardson. Drummond.* New Brunswick. *Mr Kendall.*

3. *I. tridentata*. *Ph.*—*I. tripetala*. *Walt. (not Thunb.) Bot. Mag. t. 2886.*

HAB. Canada. *Mrs Sheppard.*—Mr Herbert observes, "there are intermediate forms between *tridentata*, of which the petals are nearly obsolete, and *Virginica*, for the most part with a naked unbranched stalk, furnished below with a great foliaceous bract, sometimes with a short secondary branch proceeding from it."

4. *I. Caurina*. *Herb. mst.*

HAB. Canada. *Cleghorn. Goldie. Dr Todd.*—Under this name, Mr Herbert has marked in my Herbarium specimens of an *Iris*, of which I will not venture to draw up a character from the dried specimens; but which will doubtless be a subject of remark in the *Monograph of Iridæ*, preparing for the press by that zealous botanist. The note made by Mr Herbert, is to the following effect: "*Iris Caurina*, W. H., caule simpliciter vel ramulo inferiore minore brevior;" and further, "this plant has certainly the aspect of *I. tridentata*, but its petals are perfect, and the main distinction between its flower and that of *Virginica* is thereby removed, the tridentate petal being only an imperfection. The sub-equal fork characterizes *I. Virginica*."

5. *I. hæmatophylla*. *Fisch.*—*Sweet, Fl. Gard. t. 118.*—*I. Sibirica*, γ . *sanguinea*. *Ker.* in *Bot. Mag. t. 1604.*—*I. sanguinea*. *R. and S.*— β . *Valametica*; *flore pallidior?* *Herb. mst.*

HAB. River Walamet, N. W. America. *Tolmie.*—"Folia acuta erecta, circiter pedalia $\frac{1}{4}$ unc. lata basi rubra scapo non fistuloso breviora, bractea inferiore foliacea amplexicauli, superiore minore vel nulle, spatia subtriunciali biflora acuta pedunculum superante, germine trigono, perianthio carulescente, petalis angustis cristas angustas superantibus." *W. H. in Herb. nostr.*

3. *I. tenax*. *Dougl. in Bot. Reg. t. 1218. Bot. Mag. t. 3343.*

HAB. Common on dry undulating open grounds, from Cape Mendocino to Puget Sound, N. W. America. *Douglas. Tolmie. Dr Gairdner.* Newfoundland. *Dr Morrison.* New Brunswick. *Mr Kendall.*—My specimens from Newfoundland and New Brunswick exactly resemble those of the N. W. Coast, and are without hesitation referred to it by Mr Herbert.

2. SISYRINCHIUM. *L.*

1. *S. macronatum*. *Mx.*

HAB. Lake Huron to the Saskatchewan. *Dr Todd. Dr Richardson. Drummond.* N. W. America. Fort Vancouver. *Douglas. Dr Scouler.* Walamet River. *Tolmie.*

2. *S. anceps*. L.—*S. gramineum*. Lam.? *Bot. Mag. t. 464?*

HAB. Newfoundland (*Miss Brenton*) to the Saskatchewan. *Dr Richardson. Drummond. California (Douglas)* to Sitcha, N. W. America. *Bongard*.—Mr Herbert remarks in my *Herbarium*, that *S. mucronatum* has usually the stalks much longer than the leaves; but that the varieties of *anceps* and *mucronatum* are in reality scarcely distinguishable.

3. *S. grandiflorum*. Dougl. in *Bot. Reg. t. 1364. Bot. Mag. t. 3509.*

HAB. Low lands of the Columbia, from the great falls to the Oakanagau, in dry soils. *Douglas*. Between Burnt and Malheur Rivers, Snake country. *Tolmie*.

ORD. XVII. HYPOXIDEÆ. Br.

1. *H. erecta*. L.—*Bot. Mag. t. 710.*

HAB. Canada. *Pursh*.

ORD. XVIII. DIOSCOREÆ. Br.

1. *D. villosa*. L.—*D. paniculata. Jacq. Ic. t. 626.*

HAB. Canada. *Pursh*.

ORD. XIX. CYPERACEÆ. Juss.

1. CAREX.* L.

The following valuable list, with characters and descriptions of new species of the British North American *Carex*, is entirely the work of my inestimable friend Dr Boott. The paper was accompanied with a letter, from which I make the following extract:—

"After months and months," says Dr Boott, "of intermittent study of *Carex*, I have completed the list of British and North American species, for publication in your British North American Flora, and if the deepest interest in the subject avails much, I can offer that as a recommendation of my humble labours. I have made the sketch as concise as possible, and, therefore, I hope you will publish it as I send it, letting me bear the responsibility of its defects. In a genus comprising so many species, I have thought it advisable at once to annex a full description of the new species. It will give an additional value to your admirable work; and, to afford space, I have inacted nothing on the known species, but what is essential to their being recognised, leaving synonyms to be gleaned generally from works that are easy of access to all. I have re-

* Vide Mémoires Acad. Imp. des. Sc. de St Petersb. tom. 1. 1831. p. 185. "*Cyperaceæ novæ. C. A. Meyer*."—Mém. de l'Acad. Imp. des Sc. de St Petersb. 6 series, tom. 2. p. 168. "*Bongard Obs. sur la Veg. de l'Isle de Sitcha*."—Silliman's Journal. "*Caricography. C. Dewey*," vols. 7, 8, 10, 11, 28, 29, 30.—Monograph of the N. American, Sp. of *Carex*. L. D. de Schweinitz. Edit. by J. Torrey, in Annals of Lyceum of Nat. Hist. N. York, 1825.—Mon. of N. American Cyperaceæ. J. Torrey, 1836.—Michaux, Fl. Bor. Am. 2. p. 169.—Muhlenberg dea ub. Gram. et pl. cal. Phil. 1817.—Willdenow, Sp. pl. 4, 207.—Schkuhr, riedgraf, (opus eximium).—Kunth Cyperographia. Stuttgart, 1837.—Goodenough, in Lin. Trs. 2, 126; 3, 76.—Rudge, Lin. Trs. 7, 96.—Hoppe and Sturm, Caricologia Germanica, 1835.

sorted to measurements in my descriptions, as affording something like precision in character, and I have taken the scale of Vahl in his paper in Act. Holm. as my standard. This has given me trouble, but *labor ipsa voluptas*. I shall go on and prepare a monograph of the genus, describing a few new species in a paper for the Linnæan Society this winter. I find the grouping of the (perhaps) 550 species of the *Carex* in one list, a puzzling thing. I have not affected to arrive at anything like natural grouping in the list of the British North American species, but have availed myself of some simple characters, to throw them into as reasonable a succession as I could. In a note at the beginning, I have made a reference to the principal works to be consulted; but for the sake of brevity, I have not quoted, under each species, all these works. For instance, I have not referred to any author beyond the one who first described the species; and, therefore, you will not find Willdenow nor Kunth quoted, except in those cases where it was essential. Had I done so, it would have swelled the paper to an inconvenient size. I have quoted Schkuhr's admirable figures, giving the numbers of the fig. and not the lettering.

"To do honour to the intrepid men who have so much exalted the character of our race by their arctic voyages, I have called the new species generally after them, including the name of Dr Richardson's gallant though humble friend, Hepburn; you will find it necessary, therefore, to change a few of the names I have affixed to the specimens forwarded to you by Hünnebaum. *C. fuscicolor* is *C. Liddoni*; *C. varia*, var. from North America and the Rocky Mountains, is *C. Mossi*; *C. integra* is *C. Hopperi*. I cannot find any authority for admitting *C. squamosa* and *C. sparganioides* as natives of British America."

A. SPICA SOLITARIA.

* Dioica.

† Stig. 2.

- 1.
- C. dioica*
- . L.—Schk. f. 1.—
- C. Redowskiana*
- . Meyer, t. 4.

HAB. Carlton House to the Arctic Sea. Dr Richardson. Rocky Mountains. Drummond.

- 2.
- C. leiocarpa*
- . Meyer, t. 5.

HAB. Sitcha. Bongard.

†† Stig. 3.

- 3.
- C. scirpoides*
- . Mich.—
- C. Wormskioldiana*
- . Horn. Fl. Dan.

HAB. Fort Norman, Mackenzie River. Dr Richardson. Rocky Mountains. Drummond. Greenland. Hornemann.

** Androgyna.

† Superne mascula.

† Stig. 2.

- 4.
- C. capitata*
- . L.—Schk. f. 80.

HAB. Hudson's Bay. Dr Richardson. Torrey. Rocky Mountains. Dr Richardson. Greenland. Hornemann.

- 5.
- C. filifolia*
- . Nuttall, Gen. N. Am. Pl. 2. 204.—
- Uncinia breviseta*
- . Torr.

HAB. Carlton House, Dr Richardson. Rocky Mountains. Drummond. Missouri River. Bradbury. in herb. Hooker. (Stigmas often 3.) Hook.

6. *C. Hepburnii* (Boott); spica ovali pauciflora, stigmatibus 2, perigyniis ellipticis compressis brevi-rostratis ore membranaceo bifidis enerviis superne margine hispidis, squamam ovatam equilatam ferrugineam margine membranaceam subæquantibus. (TAB. CCVII.)

HAB. Rocky Mountains. *Drummond*. Greenland. *Horn*. in *herb. Hooker*.

Cæspitosa. Culmus 3-5 uncialis, glaber. Folia setacea, apice triangulari, hispida, basi vaginis latis costatis tecta, culmum æquantia. Spica 4 lineas longa. 2 lin. lata, flosculis masculis, femineis 6-8 instructa. Squamascule angustæ, lanceolatæ, pallidæ: femineæ late ovatæ, infima interdum brevi-hispida mucronata. Perigynium 1½ lin. longum, ⅔ lin. latum, aurantiaco-stramineum, apice ferrugineum squama demum paulo longius. Achenium lineam longum, ⅔ lin. latum, olivaceum, obovato-ellipticum, basi styli incrassato terminatum.

TAB. CCVII. Fig. 1, Male Flower; f. 2, Female do. 1 f. 3, Perigynium; f. 4, Achenium and seta:—magnified.

7. *C. micropoda*. Meyer, t. 6.

HAB. Unalashka. *Eschscholtz*.

8. *C. anthoxantha*. Presl.—*Kunth*, *Cyp.* 370.

HAB. Nootka Sound. *Presl*.

†† *Stig.* 3.

9. *C. obtusata*. Lilj.—*Schk.* f. 159.—*C. Backiana*. Dewey, (e descript.)

HAB. Carlton House. *Richardson*. Rocky Mountains. *Drummond*. Greenland. *Horn*.—*Achenium* basi stipite filiformi instructum, ut obs. cel. *Kunth*.

10. *C. rupestris*. Allion.—*Schk.* f. 139.—*C. attenuata*. R. Br.

HAB. Fort Norman. *Richardson*. (s. major; *C. Drummondiana*. Dewey.) Rocky Mountains. *Drummond*.

11. *C. circinnata*. Meyer, t. 6.

HAB. Unalashka. *Eschscholtz*. Sitcha. *Bongard*.

12. *C. polytrichoides*, Muhl.—*Schk.* f. 138.—*C. microstachya*. Mich.

HAB. Hudson's Bay to Norway House. *Dr Richardson*.

13. *C. affinis*. R. Br. in *Frankl. Narr. App.* 1823.

HAB. Wooded country. *Dr Richardson*.—The specimen in *Herb. Banks*, has setaceous leaves, and looks like *C. filifolia*; the spike is linear, and near an inch long. It is too large, though the specimen is very young, for *C. Hepburnii* or *C. Lyoni*.

14. *C. Lyoni* (Boott); spica lineari pauciflora superne mascula, stigmatibus 3, perigyniis (immaturis) lineari-lanceolatis lævibus ore membranaceo obliquo squama ferruginea lanceolata plus minus acuta brevioribus. (TAB. CCVIII.)

HAB. Rocky Mountains. *Drummond*.

Cæspitosa. *Radix* repens, fibris longis albis implexa. *Cubus* biuncialis, obtusangulus, glaberrimus. *Folia* setacea, canaliculata, glauca, glaberrima, stricta, erecta, culmum superantia, 1-4 pollices longa, apice callosa, obtusa, nitente glabra, vagina longis costatis, partem inferiorem culmi vestientibus. *Spica* linearis, 3-5 lineas longa, $\frac{3}{4}$ lin. lata, ferruginea, flosculis masculis 3-4, feminis 7-9 instructa. *Squamæ* imbricate, lanceolatae, acutæ, vel apice membranaceæ, obtusæ, perigyniis latiores et paululum longiores. *Perigynium* (floriferum) $1\frac{1}{2}$ lin. longum, $\frac{3}{4}$ lin. latum, pallidum, nervosum. *Achenium* (valde juvenile) $\frac{3}{4}$ lin. longum, $\frac{1}{4}$ lin. latum. *Stylus* insertus. *Stig.* 3, brevius.

Tab. CCVIII. Fig. 1, Male Flower; f. 2, Perigynium:—*magnified*.

15. *C. microglochis*. *Wahl.*—*Schk. f.* 210.

HAB. Greenland. *Horn. in Herb. Hooker.*

16. *C. pauciflora*. *Lightf.*—*Schk. f.* 4.

HAB. Rocky Mountains. *Drummond. Sitcha. Bongard. Newfoundland. Herb. Banks.*

17. *C. Pyrenaica*. *Wahl.*—*Meyer, t.* 7.

HAB. Rocky Mountains. *Drummond.*

18. *C. nigricans*. *Meyer, t.* 7.

HAB. Rocky Mountains. *Drummond. Unalascika. Eschscholtz.*

19. *C. Backii* (Boott); spica androgyna superne mascula flosculis masculis 3 minimis obscuris feminis 2-4 laxis conspicuis instructa, stigmatibus 3, perigyniis globo-ovatis acuminatis conico-rostatibus glabris ore integro superne subinflatis vacuis squama lata lanceolata foliacea multum brevioribus. (Tab. CCIX.)

HAB. Carlton House, Lake Winnipeg. *Dr. Richardson. Rocky Mountains. Drummond.*

Cæspitosa, radice fibrosa. *Cubus* gracilis, nudus, superne clavatus, angulis acutis subulatis scabris, sæpe abbreviatus, semper foliis brevior. *Folia* 1-2 lineas lata, 5-10 pollices longa, erecta, stricta, firma, glabra, apice triquetra scabra, acuta. *Spica* subsexflora, 4 lin. longa, pars staminifera minima, obscura, triflora, lineam longa, angustissima, pedicellata, vix longitudinem dimidiam flosculi femine superioris attingens. *Squamæ externa* cylindrico-clausa? pallido ferruginea, apice membranacea: reliquæ oblongæ diaphanæ, arete amplectentes. *Stamina* 2? *Stylus* sæpius exsertus. *Stig.* 3, crassiuscula, glabra. *Squamæ femineæ* inferiores foliaceæ, lanceolatae, acuminatae, sursum decedentes: superior perigynium subæquans: reliquæ eo multum longiores, basi nervosæ perigynium amplectentes. *Perigynium* ovato-acuminatum, superne vacuatum, conico-rostratum, demum subpyriforme, ore integro, omnino glabrum binervosum, $2\frac{1}{2}$ lin. longum, lineam latum. *Achenium* $1\frac{1}{2}$ lin. longum $\frac{5}{8}$ latum, abbreviato-pyriforme, apice rotundatum basi abrupte contractum, obscure triquetrum, pallidum.

C. Willdenowii, Schk. *C. Steudleri*, Kunth, affines.—Differt à priori flosculis masculis 3, nunquam (etiam in culmis marcidis anni prioris) conspicuis imbricatis, stig. glabris, perigyniis glabris. *C. Steudleri*, Kunth, flosculis masculis subduodenis gaudet.

Tab. CCIX. Fig. 1, Male Spike and advanced Female Flower or Perigynium; f. 2, Achenium:—*magnified*.

+-+ Inerne mascula.

20. *C. ursina*. Dewey. (TAB. CCX.)

HAB. Arctic Sea Coast. *Dr Richardson*.

TAB. CCX. Fig. 1, Spike; f. 2, Perigynium and scale; f. 3, Perigynium; f. 4, Achenium:—*magnified*.

B. SPICULÆ AGGREGATÆ, ANDROGYNÆ, SESSILES. STIG. 2.

* Apico-masculæ.

21. *C. dispersa*. Dewey.—*C. lolincea*. Dewey. Torrey.

HAB. Rocky Mountains. Torrey. Common in British America. *Dr Richardson*. Drummond.—(vix à *C. lolicea*, L. distinguenda).

22. *C. chordorhiza*. Ehrh.—Schk. f. 31. G. II.

HAB. Hudson's Bay, Cumberland House. Drummond. Lake Winnipeg, Norway House and Carlton House. *Dr Richardson*. Greenland. Horn. in *Herb. Hooker*.

23. *C. stenophylla*. Wahl.—Schk. f. 30.

HAB. Carlton House. *Dr Richardson*. Rocky Mountains. Drummond. N. W. Coast. Douglas. Scouler.

24. *C. incurva*. Light.—Schk. f. 95.

HAB. Cumberland House, Bear Lake. *Dr Richardson*. Rocky Mountains. Drummond. Greenland. Horn. in *Herb. Hooker*.

25. *C. fulvicoma*. Dewey.

HAB. Arctic Sea Coast. *Dr Richardson*.—(species minime cognita!).

26. *C. anthericoides*. Presl.—Kunth, Cyp. 418.

HAB. Port Mulgrave, Nootka Sound. Presl.

27. *C. Hoodii* (Boott); spica composita e spiculis 9-10 in capitulum ovatum arcte congestis apice masculis, stigmatibus 2, perigyniis ovatis acuminato-rostratis ciliato-serratis bifidis ore antice oblique fissis squamam ovatam acutam æquantibus. (TAB. CCXI.)

HAB. Columbia River. Douglas. Scouler.

Culmus bipedalis, debilis, inferne foliatus glaber, superno nudus acutangulus scaber, basi rudimentis foliorum brevibus atro-purpureis tectus. *Folia* 1-1½ lin. lata, partem inferiorem fere dimidiam culmi alternatim vaginantia, deorsum breviora, superius culmi æquans vel eo longius, supra (oculo armato) papilloso-scabra, marginibus hispida apice triquetra scabra; *Spiculis* subdenis parvis ovatis in capitulum ferrugineum 8 lin. longum, 5 lin. latum congestis: ad basin bracteis squamiformibus brevi-hispido-mucronatis suffultis. *Squamæ* ferrugineæ, nervo pallido, ovato-acuminatæ, acutæ vel mucronulatæ, perigynium subæquantæ. *Perigy-*

nium (vix maturum) $1\frac{1}{2}$ lin. longum, $\frac{7}{8}$ lin. latum, ovatum, acuminato-rostratum, bifidum, ciliato-serratum, vel antice alte fissio. *Achenium* $\frac{5}{8}$ lin. longum, $\frac{3}{8}$ lin. latum, ovatum, pallidum.

TAB. CCXI. Fig. 1, Female Flower; f. 2, young Perigynium; f. 3, more advanced do.; f. 4, Achenium:—*magnified*.

28. *C. cephalophora*. Muhl.—Schk. f. 133. Beck, Bot. North and Midl. States.

HAB. Canada, Albany, 1833.

29. *C. Muhlenbergii*. Schk. f. 178.

HAB. Hudson's Bay. Torrey.

30. *C. muricata*. L.—Schk. f. 22.

HAB. N. W. Coast. Douglas.

31. *C. Hookeriana*. Dewey. (TAB. CCXII.)

HAB. Carlton House. Dr Richardson.

TAB. CCXII. Fig. 1, Bractea; f. 2, Female Flower; f. 3, Perigynium:—*magnified*.

32. *C. rosea*. Schk. f. 179.

HAB. Canada. Pursh. Cleghorn. Columbia River. Scouler.

33. *C. retroflexa*. Muhl.—Schk. f. 140.

HAB. British America. Torrey.

34. *C. siccata*. Dewey.—*C. pallida*. Meyer, t. 8.

HAB. Cumberland House, Lake Winnipeg. Dr Richardson. Rocky Mountains. Drummond. Columbia River. Scouler.

35. *C. intermedia*. Good.—Schk. f. 7.

HAB. Carlton House. Dr Richardson.

36. *C. bromoides*. Schk. f. 176.

HAB. British America; Rocky Mountains. Torrey.

37. *C. vulpinoidea*. Mich.—*C. stipitata*. Muhl.—Schk. f. 132.

HAB. Common in British America. Dr Richardson. Drummond. Columbia River. Douglas.

38. *C. multiflora*. Muhl.—Schk. f. 144.

HAB. Canada. Dr Richardson.

39. *C. marcida* (Boott); spica oblonga composita e spiculis pluribus parvis ovatis superne masculis superioribus simplicibus inferioribus compositis omnibus congestis ebracteatis; stigmatibus 2, perigyniis late ovatis acuminatis rostratis plano-convexis superne

marginē serratis nervosis ore membranaceo antice profundius fisso squamam ovatam acutam æquantibus. (TAB. CCXIII.)

HAB. Columbia River. *Scouler*.

Culmus 1½-2½ ped. altus, gracilis, superne nudus scabriusculus. *Folia* plana, plerumque involuta, lineam lata, culmo breviora, marginibus scabra in apicem triquetram scabram attenuatam producta. *Bractea* squamiformis, infima mucronata spiculis brevior. *Spica* 8-15 lineas longa, 4-5 lin. lata, pallide straminea. *Spiculae* numerosæ parvæ ovatæ, superiores simplices congestæ, inferiores compositæ breves aliis arcto contiguæ, omnes inibricatæ quasi florentes, tamen perigynia matura seclusa fœrentes. *Squamæ* ovatæ acutæ imbricatæ, paleatæ quasi marcidæ, margine membranaceæ. *Perigynium* 1½ lin. longum, ¾ lin. latum, fere suborbiculato-acuminatum, plano-convexum rostratum superno margine serratum atro-castaneum facie convexa nervosum, ore membranaceo antice profundius fisso. *Achenium* brevi-ellipticum fuscum, 6-9 lin. longum, 4-6 lin. latum.

TAB. CCXIII. Fig. 1, Female Flower; f. 2, 3, Perigynia; f. 4, Achenium:—*magnified*.

40. *C. Douglasii* (Boott); spica dioica! composita e spiculis subduodenis pluribus ovatis superioribus simplicibus arcte congestis inferioribus remotiusculis interdum compositis, stigmatibus 2, perigyniis elliptico-lanceolatis rostratis bifidis squama lanceolata acuta brevioribus. (TAB. CCXIV.)

HAB. N. W. Coast. *Douglas*. Rocky Mountains. *Drummond*.

Culmus vix pedalis, striatus, erectus, obtusangulus, glaberrimus, superne nudus. *Folia* 1-1½ lin. lata, margine apiceque triangulari longo attenuata scabra, culmo paululum breviora. *Bractea* setacea brevis, vel versus basin spicæ foliaceo-setacea eamque superans: superiores aquamiforme mucronatæ. *Spica* 15 lineas ad duas pollicea longa, 6-9 lin. lata o spiculis simplicibus arcte congestis composita, vel ad basin ramosa laxiorque. *Squamæ* castaneæ lanceolatæ acutæ perigynia longiores. *Perigynium* (floriferum) 2 lin. longum, ¾ lin. latum, elliptico-lanceolatum rostratum bifidum glabrum viride vel rostro subhispidulo ferrugineo, marginibus obtusis. *Achenium* (immaturum) ¾ lin. longum, ¼ lin. latum, olivaceum. *Stylus* exsertus, basi incrassato? Stig. 2, longissima.—Stamina pluribus specimenibus omnino desunt.

TAB. CCXIV. Fig. 1, Perigynium:—*magnified*.

41. *C. teretiuscula*. Good.—*Schh.* f. 19.

HAB. Cumberland House, Rocky Mountains. *Drummond*.

42. *C. paradoxa*. *Schh.* f. 21.

HAB. Carlton and Norway House. *Dr Richardson*.

** Basi masculic.

43. *C. trisperma*. *Dewey*.

HAB. Cumberland House. *Drummond*. Rocky Mountains. *Torrey*.

44. *C. Deweyana*. *Schw.*—*C. remota*. *Rich. in Frank. Narr.*

HAB. Canada, to Norway House. *Dr Richardson*. Rocky Mountains. *Drummond*.

45. *C. elongata*. L.—*Schh.* f. 25.

HAB. Sitcha. *Bouyard*.

46. *C. curta*. Good.—Schk. f. 13.—*C. Richardi*. Mich.—*C. canescens*. Torr. β . *minor*.
HAB. Common in British America. Dr Richardson. Drummond. Sitcha. Bongard.
47. *C. stellulata*. Good.—Schk. f. 14.
HAB. Common in British America; Rocky Mountains. Dr Richardson. Drummond. Sitcha. Bongard.
48. *C. tenuiflora*. Wahl.—Schk. f. 187.
HAB. Canada to Norway House. Dr Richardson. Drummond.
49. *C. heleonastes*. L.—Schk. 97.—*C. Carltonia*. Dewey. Torr.
HAB. Hudson's Bay, Cumberland House. Drummond. Norway House. Dr Richardson.
50. *C. glareosa*. Wahl.
HAB. Greenland. Hornemann. Torrey.
51. *C. marina*. Dewey.
HAB. Arctic Sea Coast. Dr Richardson.
52. *C. leporina*. L.—Schk. f. 79. 129.—*C. lagopina*. Walk.
HAB. Rocky Mountains. Drummond. Greenland. Hornemann in Herb. Hooker.
53. *C. petasata*. Dewey.
HAB. Rocky Mountains. Drummond.
54. *C. ovalis*. Good.—Schk. f. 8.
HAB. Columbia River. Menzies. Scouler.
55. *C. scoparia*. Schk. f. 175.
HAB. Common in British America. Dr Richardson. Columbia River. Scouler.
56. *C. lagopodioides*. Schk. f. 177.
HAB. Cumberland House. Drummond. Columbia River. Douglas. Scouler.
57. *C. arida*. Torr. Mon. t. 25. f. 2.
HAB. Norway and Cumberland House. Drummond.
58. *C. Liddoni* (Boott); spica composita e spiculis 6 ellipticis contiguis ebractentis basi masculis, stigmatibus 2, perigyniis lanceolatis acuminatis oblique bifidis margine inalata serrulatis, squama lanceolata acuta castanea margine albo-hyalina vix longioribus. (TAB. CCXV.)
HAB. Columbia River. Scouler.

Culmus tripedalis sulcatus, apice hispidulus, basi alterno foliatus, folia longissime superans. *Folia* lin. 1½ lata, striata, apice triquetra, scabra, superius vix pedale. *Spica* sesquiuncialis. *Spicula* 7-9 lin. longæ, 3 lin. latæ, areto contiguae albo-castaneæ. *Squamæ* lanceolatæ, margine hyalina latiuscula cinctæ. *Perigynium* 3½ lin. longum, lineam latum, apice lineaque media castaneum, læviter nervosum, ore antice profundius fesso, squamam subæquans. *Achenium* oblongum obtusum, pallido stramineum, 1½ lin. longum, ½ lin. latum, basi in stipte brevi productum, styli terminatum.

TAB. CCXV. Fig. 1, Female Flower; f. 2, 3, Perigynia 1—magnified.

59. *C. festiva*. Dewey.

HAB. Cumberland House, Bear Lake. Dr Richardson. Rocky Mountains. Drummond. Greenland. Hornemann in Herb. Hooker.

60. *C. cristata*. Schw. Mon. t. 25. f. 1.

HAB. Lake Winnipeg. Dr Richardson. Cumberland House. Drummond.

61. *C. festucacea*. Schk. f. 173.

HAB. British America. Torrey.

62. *C. adusta* (Boott); spica composita e spiculis 4-10 pluribusve omnibus simplicibus vel inferioribus compositis basi masculis, stigmatibus 2, perigyniis ovatis acuminato-rostratis bifidis plano-convexis turgidis superne anguste alatis serrulatis, dorso 10-12 leviter nervosis squamam æquilatam acutam æquantibus.

HAB. Common in British America. Dr Richardson. Drummond. Rocky Mountains. Drummond. N. W. Coast. Douglas.—β. minor, angustifolia. Carlton House. Dr Richardson.

Culmus subsequepedalis, obtusangulus glaber, vel apice scabriusculus nudus. *Folia* 1-2 lineas lata, glabra, margine scabriuscula partem inferiorem dimidiam culmi vaginantia, sæpe transversim corrugata maculisque quasi adustis notata. *Bractea* ad basin spiculæ inferioris secundæque interdum foliacea spicam subæquans: vel omnes breves squamæformæ, inferior solum brevi-mucronata. *Spicula* omnes simplices, alternæ approximatae, extremæ majores basi magis attenuatæ huic demum clavatæ: mediæ ovatæ: inferiores remotiusculæ:—vel spiculæ superiores solum simplices, inferior vel spiculæ duæ inferiores compositæ, e spiculis 3-4 in spicam brevem vel elongatam dispositis. *Squamæ* lanceolatæ, acutæ, stramineæ vel pallido-ferrugineæ, nervo viridi, perigynium longitudine et latitudine subæquans. *Perigynium* 2 lin. longum, 1 lin. latum, ovatum acuminato-rostratum, bifidum, viride, plano-convexum, facie convexa leviter 10-12 nervosum, altera nisi basi nerve, marginibus ad basin obtusis, superne anguste alatis serrulatis. *Achenium* 1½ lin. longum, ¾ lin. latum, suborbiculato-oblongum, fusco-castaneum, biconvexum basi styli æquali apiculatum.

63. *C. straminea*. Schk. f. 174.

HAB. British America. Dr Richardson. Drummond. Columbia River. Douglas.—β. minor. C. tenera. Dewey. Lako Winnipeg. Dr Richardson.

+ *Stigmatibus* 3.

64. *C. macrocephala*. Willd. (TAB. CCXVI.)—S. Menziesiana, Sm. Herb.

HAB. N. W. Coast. Douglas. Menzies.

TAB. CCXVI. Fig. 1, Perigonium und scale; f. 2, Perigonium:—magnified.

C. SPICA TERMINALIS ANDROGYNA VEL MASCULA, RELIQUÆ FLERUMQUE FEMINEÆ, PEDUNCULATÆ.

* Stlg. 2.

65. *C. bicolor*. *Allion.*—*Schk. f.* 181.

HAB. Labrador. *Schweinitz*. Greenland. *Hornemann* in *Herb. Hooker*.

•• Stigmatibus 3.

66. *C. Vahlîi*. *Schk. f.* 94. 154.—C. media? *R. Br.*

HAB. Common in British America, to Arctic Coast. *Dr Richardson*. Rocky Mountains. *Drummond*. Greenland. *Hornemann* in *Herb. Hooker*.

67. *C. atrata*. *L.*—*Schk. f.* 77.

HAB. Rocky Mountains. *James. Torrey. Drummond*. Arctic America. *Parry*. N. America. *Herb. Banks*.

68. *C. ovata*. *Rudge, in Lin. Trans.* 7. p. 96. t. 9. f. 1.

HAB. Newfoundland. *Rudge*. Rocky Mountains. *Drummond*.

69. *C. canescens*. *L.*—*Schk. t. x. Gg.* 76.—C. Buxbaumii. *Wahl.*—*Torr.*

HAB. Canada. *Todd*. Cumberland House, Lako Winnipeg. *Dr Richardson*. Observatory Inlet. *Scouler*. Sitcha. *Bongard*.

70. *C. Gmelini*. *Hooker, Bot. of Beechey Voy. t.* 27. *Gmelin, Fl. Sib. 1. t.* 30. f. 1.

HAB. N. W. Coast. *Menzies*. Kotzebue's Sound. *Beechey*.

71. *C. petricosa*. *Dewey*.

HAB. Rocky Mountains. *Drummond*.—Affinis *C. ferruginea Schk.* et *C. tristi, Bieb.*

72. *C. hirsuta*. *Willd.*—*Schk. f.* 172.—C. triceps. *Mich.*

HAB. Canada. *Torrey*.

73. *C. Parryana*. *Dewey*.—C. arctica. *Dewey*.—C. stylosa? *Meyer, t.* 12.

HAB. Carlton House. *Dr Richardson*. Sitcha. *Bongard*.

Nulla modo distinguenda; spica terminalis sæpius androgyna!

74. *C. miliacea*. *Muhl.*—*Schk. f.* 151.

HAB. Canada. *Cleghorn*.

Spica terminalis sæpe androgyna!

75. *C. debilis*. *Mich.*—C. flexuosa. *Schk. f.* 124.—C. tenuis. *Rudge, Lin. Trans.* 7. t. 9. f. 2.

HAB. Canada to Norway House. *Dr Richardson*.

76. *C. gracillima*. Schw.—*C. digitalis*. Schw. *Mon. t.* 26. *f.* 1.

HAB. Canada to Norway House. *Dr Richardson*.

77. *C. Mertensii*. Prescott. (TAB. CCXVII.)—*C. Columbiana*. Dewey.

HAB. N. W. Coast. *Menzies*. Sitcha. *Bongard*.

TAB. CCXVII. *Fig.* 1, Female Flower; *f.* 2, 3, Perigynia; *f.* 4, Achenium;—*magnified*.

78. *C. pedunculata*. Muhl.—Schk. *f.* 131.

HAB. Canada. *Todd*. *Cleghorn*. *Mrs Sheppard*. Cumberland and Norway House. *Dr Richardson*. *Drummond*. Rocky Mountains. *Drummond*.

79. *C. Franklinii* (Boott); spicis 6-9 apice masculis superioribus congestis sessilibus inæqualibus inferioribus alternis pedunculatis nutantibus, stigmatibus 3 (2), perigyniis oblongo-ovatis hispidis ore membranaceo oblique bifido squama hispida mucronulata longioribus. (TAB. CCXVIII.)—*C. ovata*. Dewey.—*Torr*.

HAB. Rocky Mountains. *Drummond*.

Radix cæspitosa, fibris ferrugineis. *Culmus* bi-tripedalis, pars spicas gerens 3-5 pollicaris, strictus, nudus (rarissime folium vaginans infra spicas gerens), inferne obtusangulus glaber, superne angulis acutioribus bispidulus, reliquiis foliorum laceratis basi tectus. *Folia* radicalia culmo breviora, latitudine admodum varia, quædam setacea, alla lineam lata, scabra, margine hispida, superne attenuata. *Spicæ* 6-9 ferruginæ, insigniter inæquales, 5-11 lineas longæ, 1-3 lineas latæ, ovatæ, quædam lineares, alim oblongo-ellipticæ. *Spica* terminalis, ovata, apice conspicue mascula, ad ejus basia 1-3 arcte sessiles lineares tote masculæ vel flosculis femineis paucis basi instructæ, obrectatæ; intermedie subsessiles approximatae; inferiores deorsum longius exserto pedunculatæ vel androgynæ vel tote femineæ; infima basi laxiflora et rarius composita (spicula unica basi aucta) subremota. *Squama* ferruginæ nervo pallido margine albo-membranaceo late ovatæ acuminatæ mucronulatæque dorso versus medium hispida. *Pedunculi* triquetri, bispidi, 2 lin. ad 2 poll. longi. *Bractea* foliaceæ angustæ sursum decrecentes, vaginatæ, inferior culmum paululum superans. *Perigynium* 2½ lin. longum, lineam latum, ellipticum vel oblongo-ovatum, compressum, ore membranaceo oblique bifido, nervosum, superne ferrugineum hispidum, inferne pallidum glabrum, marginibus serrato-scabrum. *Achenium* oblongo-triquetrum, longe stipitatum, 7 lin. longum (cum stipite lineam longum) ½ lin. latum, pallide castaneum.

TAB. CCXVIII. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium;—*magnified*.

D. SPICA TERMINALIS MASCULA I VEL FLUSES, RELIQUÆ FEMINEÆ.

* Stig. 2.

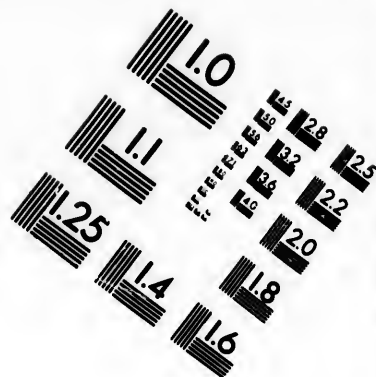
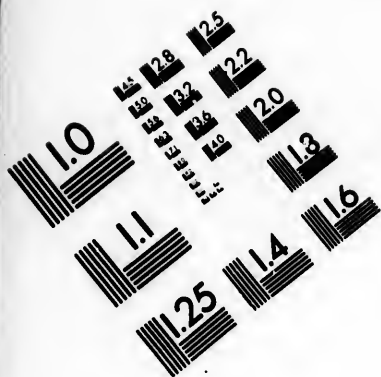
80. *C. rigida*. Good.—*C. saxatilis*. Fl. Dan.—*Torrey*.—Schk. *f.* 40.

HAB. Common in British America, to the Arctic Coast. *Dr Richardson*. *Drummond*. Greenland. *Hornemann*, in *Herb. Hooker*. Labrador. *Torrey*.

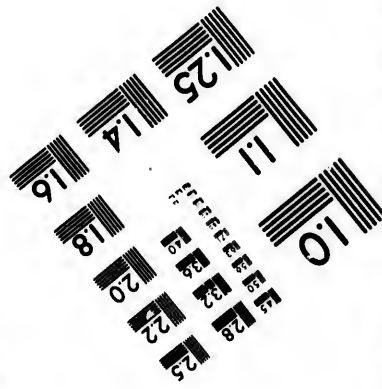
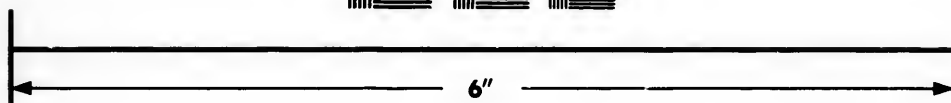
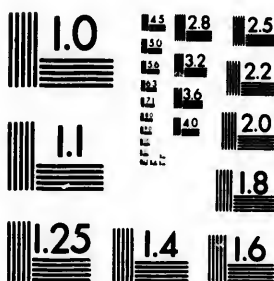
81. *C. cæspitosa*. L.—Schk. *f.* 85.—*C. concolor*. R. Br.

HAB. Canada to the Arctic Coast. *Dr Richardson*. Kotzebue's Sound. *Beechey*. Sitcha. *Bongard*.
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82. *C. aperta* (Boott); spica mascula 1-2 oblongo-cylindrica acuta, fœmineis 2-4 oblongis superioribus approximatis sessilibus apice masculis inferiori remota pedicellata sæpe tota fœminea, stigmatibus 2, perigyniis orbiculatis stipitatis enerviis pellucide punctatis abrupte brevi-rostratis ore bidentato squama ferruginea lanceolata acuta latioribus brevioribusque. (TAB. CCXIX.)

HAB. Columbia River. *Douglas. Scouler.*—*β. angustifolia.* Fort Good Hope. *Dr Richardson.*

Culmus 1½ pedalis, angulis acutis scabris, superne nudus, basi vaginis atro-purpureis tectus. *Folia* 1½ lin. lata erecta, margine apiceque triquetra acuta scabra, culmo breviora. *Bractea* ferrugineo-auriculata, inferior foliacea vix culmum æquans, superiores setaceæ spicis suis breviores. *Spica mascula* 1-2, 1-1½ poll. longa, 2 lin. lata, inferior brevior sessilis, squamis ferrugineis obtusis. *Spica fœminea* 2-4, 7-13 lin. longæ, 2-3 lin. latæ, erectæ, approximatae, scissiles, apice masculie, inferior remota pedicellata; sæpe toto fœmineæ (uno exemplo spicæ fœmineæ 14-21 lin. longæ, inferior basi composita) squamis ferrugineis lanceolatis acutis upertis perigynia superantibus. *Perigynium* orbiculatum stipitatum enerviium abrupte brevi-rostratum, sæpe apice serraturis paucis maculisque ferrugineis notatum, interdum ferrugineum apice glaucum, ore bidentato, 1½ lin. longum (cum stipite 1½ lin. longum,) lineam latum. *Achenium* ¾ lin. longum, ¼ lin. latum, orbiculatum, basi styli apiculatum, stramineo-pallidum, compressum.

Dif. a *C. caspitosa* perigyniis orbiculatis stipitatis enerviis bidentatis squama lanceolata acuta aperta brevioribus.

TAB. CCXIX. *Fig. 1*, Perigynium and scale; *f. 2, 3*, Perigynia; *f. 4*, Achenium:—*magnified.*

83. *C. angustata* (Boott); spicis masculis 1-2 cylindricis, fœmineis 1-½ plerumque 2-3 acutis apice masculis gracilibus cylindricis subsessilibus, stigmatibus 2, perigyniis ovato-uncinatis vel ellipticis ore integro squama ferruginea lineari obtusa plerumque brevioribus latioribusque.—*C. acuta. Dewey.*—*Torrey.*

HAB. Columbia River. *Scouler. Tolmie.*

Culmus bipedalis, gracilis, superne scaber. *Folia* 1-2 lin. lata, carina margineque scabra, culmo breviora, vaginis inferioribus in filis reticulatis rumpentibus. *Bractea* angusto foliacea, serrato-scabra; inferior rotundato-auriculata spica sua longior, rarius culmum subæquans; superior setacea auriculato-dilatata. *Spica mascula* 1-2, terminales, 1-1½ poll. longæ, lineam latæ, pedicellate: inferior brevior sessilis, squamis ferrugineis obtusis. *Spica fœminea* 1-2½ poll. longæ, 2 lin. latæ, superior sessilis semper androgyna, sæpe plusquam dimidiatim apice mascula: secunda subsessilis androgyna; inferior longior brevi-pedicellata basi laxiflora tota fœminea vel apice flosculis masculis paucis instructa. *Squamæ* vivide ferrugineæ, nervo viridi, margine membranaceo, inferiores lanceolatae acutæ, superiores lineares obtusæ, plerumque perigyniis longiores et angustiores. *Stig. 2* brevia. *Perigynium* 1½-1¾ lin. longum, ¼ lin. latum, viride vel glaucum, enerviium, vel nervis 2-4 utrinque notatum, pellucido-punctatum ore integro vel leviter emarginato, rarius serraturis 2-3 hispidis. *Achenium* orbiculatum ¾ lin. longum, ¼ lin. latum, basi brevi productum, vel ¾ lin. longum, ¼ lin. latum, pallide stramineum, pellucidum, basi styli apiculatum.

Affinior *C. stricta* quam *C. acuta*. Canada and in South America.—*β. verticillata.* Spica mascula 1, fœmineis 4 rarius apice masculis, inferiori nutante basi interrupta, perigyniis verticillatis dispositis, squamis nigrescentibus, perigyniis minoribus, culmo glabro.

84. *C. stricta. Good.*—*Schk. f. 73.*

HAB. Columbia River. *Douglas. Scouler.*

85. *C. lenticularis*. Mich.

HAB. Canada to Mackenzie River. Dr Richardson.

Spica terminalis sepe mascula.

86. *C. aquatilis*. Wahl.

HAB. Canada to Mackenzie River. Dr Richardson. Drummond. Rocky Mountains. Drummond.

87. *C. physocarpa*. Presl.—Kunth. Cyp. 420.

HAB. Nootka Sound. Presl.

88. *C. cryptocarpa*. Meyer, t. 14.—*C. Scouleri*? Torrey.

HAB. Cleminicity Harbour. Tolmie. Sitcha. Bongard.

Vix à *C. salina*, ß. Wahl. distincta!89. *C. salina*. Wahl.—Schk. f. 185.HAB. Hood's Canal, Soquamish Country. Tolmie. Hudson's Bay and Cumberland House. Drummond. Kotzebue's Sound. Beechey ("C. stricta"). Greenland. Hornemann in Herb. Hooker.—ß. Wahl.—*C. lanccolata*. Dewey. Hudson's Bay and Cumberland House. Drummond.

90. *C. Hoppleri* (Boott); spica mascula 1 lineari, femineis 2 ovatis paucifloris sessilibus, stigmatibus 2, perigyniis ellipticis plano-convexis erostratis ore indiviso squama ovata obtusa mucronulata nigro-ferruginea longioribus. (TAB. CCXX.)

HAB. Cumberland House and Hudson's Bay. Drummond. Greenland. Hornemann in Herb. Hooker.

Culmus gracilis, 3-5 pollicaris, obtusangulus, sulcatus, glaber. *Folia* angustissima, eximie involuta, apice triquetra scabra culmo breviora. *Sterilia* sexpollicaria, omnia ab involuptionem quasi setacea. *Spica mascula* 6-8 lin. longa, vix lineam lata, squamis oblongis obtusis, rarius mucronulatis, ferrugineis. *Spica feminea* 2 ovata, 3-5 lineis longæ, 2 lin. latæ, sub 12-floræ, superior sessilis, inferior brevi-pedunculata intervallo 2-10 lin. remota. *Bractea* basi planè spicas circumvolventes iisque multum longiores cultum æquantur, nervose, emarginatæ, nigro-auriculatæ. *Perigynium* 1½ lin. longum, ¾ lin. latum, plano-convexum ellipticum interdum apiculatum, ore indiviso vel subemarginato, enervium, superno ferrugineum, inferne stramineo-pallidum. *Squama* subrotundo-ovata obtusissima, interdum mucronulata, nigro-ferruginea, nervo pallido, ¾-½ longius. *Achenium* lineam longum, ¾ lin. latum, plano-convexum ellipticum, basi attenuatum basi styli æquali terminatum, ferrugineum.

TAB. CCXX. Fig. 1, Perigynium and scale; f. 2, Perigynia; f. 3, Achenium:—magnified.

91. *C. maritima*. Muller.—Schk. f. 74.

HAB. Hudson's Bay and Cumberland House. Drummond.

92. *C. crinita*. Lam. Enc.—Schk. f. 125. 164.

HAB. Canada to Norway House. Dr Richardson. Drummond.

93. *C. macrochata*. Meyer, t. 13.—*C. spectabilis*. Dewey.

HAB. Fort Vancouver. Garry. Sitcha. Bongard. Rocky Mountains. Drummond.

94. *C. Sitchensis*. Prescott. (TAB. CCXXI.)

HAB. Sitcha. Bongard. Columbia River. Douglas. Scouler. Puget's Sound, Soquamish Country. Tolmie.

TAB. CCXXI. Fig. 1, Female Flower; f. 2, Perigynium; f. 3, Achenium:—magnified.

95. *C. recta* (Boott); spicis masculis 2 oblongis inferiori pedunculata, foemineis 3-4 cylindricis pedunculatis strictis erectis, stigmatibus perigyniis subrotundo-obovatis glaucis lævibus cylindrico-rostratis ore integro squama lanceolata aristata nigro-purpurascens duplo brevioribus. (TAB. CCXXII.)

HAB. Labrador. Herb. Hooker.

Culmus 1½ pedalis, strictus, superne scaber. Folia 2 lineas lata stricta acuminata superne marginibus apiceque triquetra scabra culmo breviora, sub 8 pollices longa. Bractea foliacea evaginata, apice attenuata culmum superantes, superne serrato-scabra, auricula amplectente obtusa ferruginea. Spica mascula 6-12 lineas longa, foemineis approximatae, squamæ ferrugineæ, inferiores obtusæ albo-marginatæ, superiores acutiores, nervo saepe in aristam brevissimam producto. Spica foeminea 1-2 poll. longa, 2 lin. latæ, strictæ, erectæ, duæ superiores flosculis masculis 2-3 apice instructæ, intervallis 1-1½ poll. remotæ; inferior interdum remotior, basi laxiflora. Squama nigro-purpurascens, nervo pallido, inferiores aristatæ. Pedunculi 4-13 lin. longi. Perigynium subrotundo-obovatum, glaucum, lævissimum, rostro brevi cylindrico ore integro vel minime emarginato, 1½ lin. longum, ¾ lin. latum. Achenium immaturum.

TAB. CCXXII. Fig. 1, Female Flower; f. 2, Perigynium; f. 3, Achenium:—magnified.

96. *C. compacta*. R. Br.—Dewey.—C. Jamesii? Torrey.

HAB. Rocky Mountains. Drummond. James.

97. *C. saxatilis*. L.—C. pulla. Good. Lin. Trs. t. 14.

HAB. Rocky Mountains. Drummond.

** Stig. 3.

† *Perigynia inflata, plus minus longe rostrata.*

98. *C. membranacea*. Hooker, in Parry 2d Voy.

HAB. Southampton Island. Capt. Parry. North Somerset, Duckett Cove. Ross. Ketzehn's Sonnd. Beechey. Cumberland House to Arctic Coast. Dr Richardson. Greenland. Hornemann, in Herb. Hook. —“*C. rotundata*.”

99. *C. rotundata*. Wahl.

HAB. Slave Lake. Fort Enterprize. Dr Richardson. (Herb. Banks).—The leaves of this species are involute, and on comparing the specimens with one from Wahlberg, I can see no difference. The preceding (*C. membranacea*) is closely allied to this, but the leaves are flat, and the spikes are longer.

100. *C. oligosperma*. Mich.—C. Oakesiana. Dewey.

HAB. Cumberland House to Bear Lake. Dr Richardson.

101. *C. bullata*. Schk. f. 166.

HAB. Canada. Torrey.—*β. cylindracea*. Dewey. Canada to Norway House. Dr Richardson. Drummond.

102. *C. ampullacea*. Good.—Schk. f. 107.

HAB. Cumberland House, Bear Lake. English River. Dr Richardson.

103. *C. utriculata* (Boott); spicis masculis 3-4 cylindricis elongatis intermediis sessilibus, foemineis 3-4 crassis, inferioribus pedunculatis basi laxifloris, stigmatibus 3, perigyniis oblongo-ellipticis acuminatis cylindrico-rostratis bicuspidatis nervosis stramineo-pallidis squama lanceolata acuminata hispido-aristata plus minus longioribus.—*C. vesicaria*. Dewey. Torrey.—*C. ampullacea*. Dewey.

HAB. British America. Dr Richardson. Drummond.—*β. minor*. Perigyniis spicisque brevioribus densifloris.—British America. Dr Richardson. Rocky Mountains. Drummond.

Culmus bi-tripedalis, inferne crassus spongiosus, apice triqueter scaber. *Folia* 4½ lin. lata, longissima, nodosa, striato-nervosa; carina margineque scabra, basi culmum amplectente. *Bractea* foliaceæ, culmum longe superantes, auricula obtusa amplectente. *Spica mascula* graciles 1-2½ pollices longæ, lineam lata, inferiores bracteate: squamæ lanceolatæ, acutæ, pallide ferruginæ, apice membranaceo-albidæ. *Spicae* ferruginæ 2½ ad 4 pollices longæ, 7-8 lin. latæ, superiores sessiles, interdum apice masculæ; inferiores brevipedunculatæ, apice densi-(basi laxi)-floræ, intervallis 1½ ad 3½ poll. remotæ, squamæ ovato-lanceolatæ, acutissimæ, inferiores præcipue in aristam longam scabram productæ, perigynio sæpe vix breviores. *Perigynium* 4½ lin. longum, 1½ lin. latum, oblongo-ellipticum, brevissime pedicellatum, acuminatum, cylindrico-rostratum, bicuspidatum, nervosum, divergens. *Achenium* minimum, ½ lin. longum, ¼ lin. latum, triquetrum. *Stylus* longus. *Stig.* 3, brevis.

104. *C. vesicaria*. L.—Schk. f. 106.

HAB. Sitcha. Bongard.—*β.* Columbia River. Douglas. Scouler.

β. najor; Perigyniis (vix maturis) 4 lin. longis ovato-lanceolatis, longe acuminatis fuscis, squama mutica triplo longioribus, foliis 3 lin. latis, vaginis inferioribus in filis reticulatis rumpentibus; spicis foemineis bipollicaribus.

105. *C. subulata*. Mich.—Schw. Mon. t. 26. f. 1.

HAB. Canada. Michaux.

106. *C. folliculata*. L.—Rudge, in *Lin. Trs. t. 9. f. 4.*—*C. xanthophysa*. Wahl.—*C. rostrata*. Mich.

HAB. Canada. Lake Mistassine. Michaux.

107. *C. intumescens*. Rudge, in *Lin. Trs. t. 9. f. 3.*—*C. folliculata*. Schk. f. 52. Mich.

HAB. Canada to Norway House. Dr Richardson.

108. *C. lupulina*. Muhl.—Schk. f. 194.

HAB. Hudson's Bay. Torrey.

109. *C. retrorsa*. Schw. Mon. t. 28. f. 2.

HAB. Cumberland House. Drummond. Rocky Mountains. Torrey.

110. *C. scabrata*. Schw. t. 26. f. 2.

HAB. Canada. Cleghorn, in Herb. Hooker.

111. *C. Schweinitzii*. Dewey.

HAB. Canada. Torrey.

112. *C. hystericina*. Muhl.—Schk. f. 127.

HAB. Canada. Torrey.

113. *C. tentaculata*. Muhl.—Schk. f. 130.—*C. rostrata*. Schk. f. 134.

HAB. Canada. Torrey.

114. *C. pseudo-cyperus*. L.—Schk. f. 102.

HAB. Cumberland House. Dr Richardson.

115. *C. trichocarpa*. Muhl.—Schk. f. 148.

HAB. British America. Torrey.

116. *C. aristata*. R. Br.—*C. atherodes*. Spreng.

HAB. Carlton House. Dr Richardson. Cumberland House. Drummond.

117. *C. longirostris*. Torrey.

HAB. Carlton House. Dr Richardson. Rocky Mountains. Drummond.

†† *Perigynia villosa*.

118. *C. umbellata*. Schk. f. 171.

HAB. British America. Dr Richardson. Rocky Mountains. Drummond.

119. *C. Rossii* (Boott); spica mascula 1, fœmineis 4 bracteatis, superioribus approximatis evaginatibus, inferioribus subradicalibus longissime exserte pedunculatis, suprema sessili, omnibus laxè paucifloris, stigmatibus 3, perigyniis ovalibus utrinque attenuatis basi in stipitem productis longiuscule rostratis bifidis binervis pubescentibus squamam ovato-lanceolatam acutam subæquantibus.

HAB. N. W. Coast. Douglas. Rocky Mountains. Drummond.

Culmi plures ex eadem radice, gracillimi, acutanguli, scabri, basi rudimentis foliorum purpureo-sanguineis tecti, 6-8 pollicares, superno nudi. *Folia* setacea vel lineam lata, culmo breviora vel longiora, supra papilloso-scabra, margine apiceque triquetra, hispida, infra carinata nervoso-sulcata, vaginis sæpe in filis reticulatis rumpentibus. *Bracteæ* foliaceæ, angustæ, superiores evaginatæ culmum superantes; inferiores vaginatæ

pedunculo suo multum breviores. *Spica mascula* 4 lineas longa, 6-8 flora, brevi-pedunculata, squamis oblongis nervo viridi, plus minus ferruginis margine membranaceis, infima sæpe mucronata. *Spica femineæ* 4, sub 5-flora, flosculis alternis laxis; duæ superiores in apicem culmi spicæ masculæ approximatæ, evaginatæ, suprema sessilis, altera brevi-pedunculata; duæ inferiores remotæ, una longissime exserte pedunculata (pedunculo 4 poll. longo, bractea eo multum breviori instructa) altera (infima) radicalis pedunculo pollicari bracteaque eo paululum longiori suffulta, vel spicæ superiores 3, approximatæ, suprema sessilis, alteræ evaginatæ brevi-pedunculatæ, infima remota subradicalis longissimo exserte pedunculata. *Squamæ* ovato-lanceolatæ, acuminatæ, perigynia subæquantæ, inferiores, plus minus hispido-mucronatæ lris longiores, nervo viridi, margine membranacea. *Perigynium* 1½ lin. longum, ¾ lin. latum, ovale, inequaliter biconvexum, e marginibus rostri hispidi nervis duobus approximatis notatum; basi in stipite ferruginea productum, longiuscule hispido-rostratum bifidum, viride, pubescens. *Achenium* stipitatum, ¾ lin. longum, (cum stipite lineam longum) ¾ lin. latum, glaucum, triquetro-rotundum, obtusum, basi styli terminatum.

Prox. *C. umbellata*. *Schk.* Differt inflorescentia, spicis laxi-paulifloris.

120. *C. Pennsylvanica*. *Lam. Enc. 3. 388.*—*C. marginata*. *Muhl.*—*Schk. f. 143.*

HAB. British America. *Dr Richardson*. Rocky Mountains. *Drummond*.

121. *C. varia*. *Muhl.*—*Schk. f. 167.*— β . *minor*. *C. Emmonsii*. *Dewey. Torrey.*—*C. Novæ Angliæ*. *Schw.*—*C. collecta*. *Dewey.*

HAB. British America. *Dr Richardson. Drummond.*— β . British America. *Dr Richardson*. Rocky Mountains. *Drummond*. Greenland. *Hornemann, in Herb. Hooker.* "*C. deflexa.*"

122. *C. concinna*. *R. Br.*—*C. ornithopoda*. *Dewey. Torrey.*

HAB. Cumberland House to Mackenzie River. *Dr Richardson*. Rocky Mountains. *Drummond*. N. W. Coast. *Douglas. Scouler.*

123. *C. Richardsoni*. *R. Br.*—(TAB. CCXXIII.)

HAB. Norway and Cumberland House. *Dr Richardson. Drummond*. Rocky Mountains. *Drummond*. N. W. Coast. *Douglas.*

TAB. CCXXIII. *Fig. 1*, Perigynium and scale; *f. 2*, Perigynium; *f. 3*, Achenium :—*magnified.*

124. *C. filiformis*. *L.*—*Schk. f. 45.*—*C. striata*. *Mich.*

HAB. Norway House. *Dr Richardson*. Cumberland House. *Drummond.*

125. *C. lanuginosa*. *Mich.*—*C. pellita*. *Muhl.*—*Schk. f. 149, 150.*

HAB. Lake Mistassins. *Mich.* Canada to Mackenzie River. *Dr Richardson. Drummond*. Columbia River. *Scouler.*

126. *C. Houghtonii*. *Torrey.*

HAB. Lake La Biche. *Houghton. Torrey.* Hudson's Bay and Cumberland House. *Dr Richardson. Drummond.*

127. *C. pubescens*. *Muhl.*—*Schk. f. 126.*

HAB. Canada. *Torrey.*

††† *Perigynia levia*. *Spica purpurea vel nigra*.

128. *C. rariflora*. Smith.—*Eng. Bot. t. 2516*.—*C. limosa*, γ . *Wahl.*

HAB. Lake Mistassins. *Michaux.* Fort Franklin. Mackenzie River. *Dr Richardson.*

129. *C. irrigua*. Smith.—*Hoppe, Car. Ger. t. 92*.—*C. limosa*. β . *Wahl.*—*C. paupercula*. *Mich.*

HAB. Norway House. *Dr Richardson.*

130. *C. limosa*. L.—*Schk. f. 78*.—*C. laxa*. *Dewey.*

HAB. British America. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* Sitcha. *Bongard.* N. W. Coast. *Tolmie.*

131. *C. livida*. Willd.—*Schk. f. 211*.—*C. limosa*, δ . *Wahl.*—*C. Grayana*. *Dewey.*

HAB. Hudson's Bay. Carlton and Cumberland House. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* Sitcha. *Bongard.* N. W. Coast. *Tolmie.*

132. *C. miliaris*. *Mich.*

HAB. Canada. Lake Mistassins. *Michaux.*—an forma *C. livida*?

133. *C. fuliginosa*. *Sternb. and Hoppe, Car. Ger. t. 54*.—*C. misandra*. *R. Br.*

HAB. Spitzbergen. *Parry.* Repulse Bay. *Ross.* Arctic sea-coast. *Dr Richardson.*

134. *C. ustulata*. *Wahl.*—*Schk. f. 82*.

HAB. Labrador. *Schweinitz. Torrey.*

135. *C. podocarpa*. *R. Br.* (TAB. CCXXIV.)

HAB. Arctic America. *Dr Richardson.*

TAB. CCXXIV. Fig. 1, Female Flower; f. 2, Perigynium; f. 3, Achenium :—magnified.

136. *C. nigra*. *Allion.*—*Schk. f. 115*.

HAB. Labrador. *Schweinitz. Torrey.*

137. *C. Tolmiei* (Boott); spica mascula 1, fœmineis 4-8 fusco-nigris ovatis oblongo-cylindricisque approximatis, superiori sessili, reliquis pedunculatis bracteatis evaginatiss inferiori remota nutante, stigmatibus 3, perigyniis triquetro-ellipticis cylindrico-rostratis ore obliquo indiviso obsolete nervosis nigro-fuscis colore pallido intertinctis squama fusca lanceolata brevioribus et longioribus.

HAB. Columbia River. *Tolmie.*

Culmus 1-1½ pedalis, triqueter, glaber, firmus, strictus, basi foliatus, reliquis laceratis pallidis rudimentisque fuscis striatis foliorum tectus, pars spicas gerens 3-4 pollicaris. *Folia* 1-2 lineas lata, firma, carinata, superiora longiora culmo breviora, superne margine scabra, apice triquetra acuta. *Bractea* foliaceæ, fusco-auriculatæ,

evaginantés: inferiores 1-1½ lin. latæ culmum æquantés, sursum decréscéntés. *Spica mascula* 6-8 lin. longa ½ lin. lata, squamis oblongis obtusis fuscis, nervo pallido. *Spica feminea* (rarius flosculis masculis paucissimis apice instructæ) 4-8, tres ad octo lin. longæ, 2 lin. latæ, superiores ovatæ sessiles et brevipedunculatæ, inferiores oblongo-cylindricæ longius pedunculatæ, infima subremota nutans, basi laxiflora; squamis nigro-fuscis concoloribus, vel nervo pallidiori; Inferioribus lanceolatis acutis perigynio longioribus, superioribus ovatis acutiusculis eo brevioribus. *Perigynium* 1½ lin. longum, ½ lin. latum, triquetrum, ellipticum vel ovatum, rostro nigro cylindrico, ore oblique indiviso, nigro-fuscum colore pallido variegatum. *Achenium* ¾ lin. longum, ¼ lin. latum, obovato-triquetrum, castaneum, basi styli terminatum.

138. *C. nigella* (Boott); spicis masculis 2 inferiori bracteata squamis lanceolatis mucronatis ferrugineis, femineis 2-3 spadiceis oblongis approximatis erectis pedunculatis bractentis evaginatis, perigyniis triquetro-ellipticis cylindrico-rostratis ore obliquo bidentato fuliginosis basi pallidis squama nigra concolori lanceolata mucronata brevioribus, stigmatibus 3.

HAB. Columbia River. *Tolmie*.

Radix repens, fibris lignosis lanatis. *Culmus* subpedalis, acute triqueter, superno scabriusculus, basi foliatus, foliis marcidis rudimentisque foliorum striatis fuscis tectus, pars spicas gerens bipollicuris. *Folia* 1-2 lin. lata, margine scabra, culmo breviora (marcida culmum subsequantia) apice triquetra acuta. *Bractea* foliaceæ, nigro-auriculatæ, evaginantés, inferior culmum æquans. *Spica mascula* 2, 4-6 lin. longæ, 2 lin. latæ; squamis ferrugineis lanceolatis mucronatis. *Spica feminea* 2-3, spadiceo-purpureæ concolores, ellipticæ vel oblongæ, basi attenuatæ, 5-7 lin. longæ, 2 lin. latæ, approximatæ, superior sessilis (uno exemplo apice parca mascula), reliquæ pedunculatæ erectæ, squamis lanceolatis acutis mucronatis perigynio (præcipue inferioribus) longioribus. *Perigynium* 1½ lin. longum, ¾ lin. latum, triquetro-ellipticum, cylindrico-rostratum, obliquo bidentatum, enervium, impresso-asperatum, spadiceo-purpureum basi pallidum. *Achenium* ¾ lin. longum, ¼ lin. latum, oblongo-obovatum, stramineo-pallidum, basi styli æquali terminatum.—Aff. *C. Tolmiei*, dif. perigynio bidentato squamis omnibus lanceolatis mucronatis, spicarum numero.

+++ *Spica virides.*

139. *C. microstachya*. Ehrh.—Schk. f. 11.

HAB. Greenland. *Hornemann*. *Sprengel*.

140. *C. supina*. Wahl.—Schk. f. 41.—C. Schkuhrrii. *Dewey*.

HAB. Bear Lake. *Dr Richardson*. Rocky Mountains. *Drummond*. Greenland. *Hornemann*, in *Herb. Hooker*.

141. *C. Oederi*. Ehrh.—C. viridula. Mich. (sp. ter. androgyna.)

HAB. Hudson's Bay. *Michaux*. Niagara. *J. Carey*. Lake Winnipeg. *Drummond*.

142. *C. flava*. L.—Schk. f. 36.

HAB. Canada. *Michaux*. Newfoundland. *Herb. Banks*. Lake Winnipeg. *Drummond*.

143. *C. fulva*. Good. in *Linn. Trans.* 2. p. 178.

HAB. Newfoundland. *Goodenough*.—It seems that Dr Goodenough actually constituted this species on
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American specimens, and was afterwards surprised to receive it as an English plant. I have detected a solitary specimen (in *Herb. Hook.*) from B. D. Greene, Esq., which he gathered at Tewksbury near Boston. It has never otherwise been noticed by American botanists.

144. *C. aurea*. Nuttall.—*Schw. mon. t. 25. f. 2.*—*C. mutica*. R. Br.

HAB. Canada. Todd. Rocky Mountains. Drummond. Carlton House, Lake Winnipeg. Dr Richardson.

145. *C. pallescens*. L.—*Schk. f. 99.*

HAB. Carlton House. Dr Richardson.

146. *C. granularis*. Muhl.—*Schk. f. 169.*

HAB. Quebec. Mrs Sheppard.

147. *C. laxiflora*. Lam.—*Schk. f. 141.*

HAB. Canada. Torrey.

148. *C. conoidea*. Schk. f. 168.

HAB. Canada. Todd. Torrey.

149. *C. oligocarpa*. Schk. f. 170.—*C. digitalis*. Willd.—*C. Vleckii*. Spreng.

HAB. Canada. Torrey.

150. *C. phaeostachya*. Smith.—*C. panicea*, β . Wahl.—*C. vaginata*? Tausch.—*C. subspathacea*. Wormsk.

HAB. Fort Norman. Mackenzie River. Dr Richardson. Rocky Mountains. Drummond. Greenland. Hornemann.—*C. refracta*, Schk. f. 136, forsam forma bujus speciei.

151. *C. anceps*. Muhl.—*C. plantaginea*. Muhl.—*Schk. f. 195.*— β . blanda. *C. blanda*. Dewey.

HAB. Canada. Mrs Sheppard. Carlton House. Dr Richardson. Rocky Mountains. Torrey.

152. *C. plantaginea*. Lam. Enc. 3. 398.—*C. latifolia*. Schk. f. 70.

HAB. Norway and Carlton House. Drummond.

153. *C. eburnea* (Boott); spica mascula 1, fœmineis 3-4 erectis exserte pedunculatis subquinquefloris, superioribus masculam superantibus approximatis inferiori remota, stigmatibus 3, perigyniis triquetro-obovatis fusco-olivaceis obsolete nervosis nitidis brevi crassiuscule rostratis ore hyalino oblique fisso squama latiori hyalina obtusa longioribus. (TAB. CCXXV.)—*C. alba*. var. setifolia, Dewey.—*C. paupercula*. Torrey (non Mich.).

HAB. Mackenzie River. Cedar Lake. Fort Norman. Dr Richardson. Rocky Mountains. Drummond.

Cæspitosa. Radix late repens, fibris tenuibus longia lignosis. Culmi plures ex eadem cæspite, gracillimi,

setacei, obtusanguli, glabri, sulcati, 4-13 pollicares, nudi, foliis longiores. *Folia* $\frac{3}{4}$ lin. lata, ob involucentem eximiam setacea, margine apiceque triquetra scabra, basi vaginis rudimentisque foliorum pallido stramineis tecta. *Spica mascula* 3 lin. longa, $\frac{1}{2}$ lin. lata, erecta, sub 8-flora, subcaesili, brevissime incluse pedunculata, ex eadem vagina cum spica feminea superiori eoque brevior, squamis albis oblongis obtusis. *Spica feminea* 2-4, plerumque 3, erecte, 4-6-floræ, exserte pedunculata, superiores spicam masculam superantes approximato, infima vel duæ inferiores subremote, 2 lin. longæ, 1 lin. latæ. *Pedunculi* glabri, 2-8 lin. longi, sursum decrescentes, striati, erecti, vaginæ membranaceæ pallide ferrugineæ, apice albo-hyalina, obtusæ, inferior rarius in foliolum brevissimum scabrum producta. *Squama feminea* albo-hyalina, basi nervoque pallide ferrugineæ, obtusæ, basi amplectentes, perigynio latiores brevioresque. *Perigynium* $\frac{3}{4}$ lin. longum, lin. latum, viride, demum fusco-olivaceum, nitidum, obsoleto nervosum, triquetro-obovatum, abrupte brevi-rostratum, rostro crassiusculo ore albo hyalino oblique fasso. *Achenium* $\frac{3}{4}$ lin. longum, $\frac{3}{4}$ lin. latum, triquetro-ellipticum, nitidum, fusco-olivaceum.—Proximam affinitatem cum *C. alba*, Scop. habet, sed omnibus partibus minor. *C. alba*, foliis latioribus, perigyniis $1\frac{1}{2}$ lin. longis, $\frac{3}{4}$ lin. latis ellipticis (nec abrupte rostratis) striato-nervis, squamis femineis acutis, spica mascula longe exserte pedunculata gaudet.

C. pauperula, Mich. "spiculis pendulis, femineis subglobosis, squamis acutissimis, capsulis brevioribus muticis" ad *C. irriguam* referenda, fide amicis. C. Lo Mann, o spec. authentic. in Herb. Paris. regali asservato.

HAB. Mackenzie River. Cedar Lake. Fort Norman. Dr Richardson. Rocky Mountains. Drummoud. TAB. CCXXV. Fig. 1, Female Flower; f. 2, Perigynium; f. 3, Achenium:—magnified.

154. *C. capillaris*, L.—Schk. f. 56.

HAB. Fort Norman. Bear Lake. Dr Richardson. Rocky Mountains. Drummoud.

155. *C. flexilis*, Rudge, in *Lin. Trans.* 7. t. 10. f. 1.—*C. blepharophora*, Gray. Torrey.

HAB. Newfoundland. Rudge.

156. *C. arctata* (Boott); spica mascula 1 cylindrica, femineis 3-4 gracilibus laxifloris basi attenuatis longe exserte pedunculatis nutantibus remotis, stigmatibus 3, perigyniis ellipticis triquetris nervosis brevi-rostratis ore bidentato squama ovata acuminata mucronata longioribus.—*C. sylvatica*, Dewey. Torrey.

HAB. Canada. Goldie. Todd. Torrey.

Culmus sub $1\frac{1}{2}$ pedalis, gracilis, superne setaceus scaber, basi vaginis nigro-purpureis tectus, inferne foliatus. *Folia* 1-2 $\frac{1}{2}$ lin. lata, superius sub 7-pollicare culmo brevius, deorsum breviora, supra margineque scabra. *Bractea* foliacea, vaginans, culmo brevior, sursum angustior demum setacea spica brevior. *Spica mascula* 6-13 lin. longa, $\frac{1}{2}$ lin. lata, pedunculata, basi laxiflora, squamis lanceolatis, medio viridibus subtrineis margine albo-membranaceo, inferioribus laxis apice attenuatis vel mucronatis ciliatis. *Spica feminea* 3-4 remotæ, 1-2 poll. longæ, $1\frac{1}{2}$ lin. latæ, graciles, setacco-pedunculatæ, nutantes, laxifloræ, basi flosculis remotiuscule alternis attenuatæ, squamis ovatis acuminatis mucronatis, medio viridibus nervosis margine albo-membranaceis. *Pedunculi* setacei, scabri, vaginas longo superantes. *Perigynium* $1\frac{1}{2}$ lin. longum, $\frac{3}{4}$ lin. latum, ellipticum, triquetrum, distincte nervosum, glabrum, viride demum olivaceum, brevi-stipitatum, ore bidentato vel bifido. *Achenium* 1 lin. longum, $\frac{3}{4}$ lin. latum, oblongo-triquetrum, olivaceo-stramineum, basi styli apiculatum.

Differt *C. sylvaticâ*, Huds. habitu tenuiori, spicis femineis laxifloris basi attenuatis gracilioribus, perigyniis nervosis rostro multum breviori, squamis femineis ovatis.

157. *C. lacustris*, Willd. Schk. f.

HAB. Lake Winnipeg. Cumberland House. Dr Richardson.

158. *C. amplifolia* (Boott); spica mascula 1 longissima pedunculata femineis 4-5 cylindricis longissimis remotis foliaceo-bracteatis evaginatissimis, stigmatibus 3, perigyniis (immaturis) ovato-lanceolatis rostratis oblique bidentatis squama lanceolata aristata multum brevioribus. (TAB. CCXXVI.)

HAB. Marshy places. Columbia River. *Douglas*.

Radix lignosa, crassa. *Culmus* bipedalis, acuto triqueter scaber, basi reliquis setiformibus vaginis rudimentisque foliorum vaginentibus gladiatis rubro-purpureis striatis tectus, pars spicas gerens pedalis. *Folia* 5-7 lin. lata, culmum superantia: inferiora breviora, superne margine scabra, spica triquetra acuminata, striato-nervosa. *Bractea* superior setacea, nigro-auriculata, brevissima; relique foliaceæ pedunculatos circumvolventes; inferiores 5-7 lin. latæ, culmum superantes, ligula ferruginea obtusa. *Spica mascula* 3-3½ poll. longa, 1½ lin. lata, ebracteata, e spica feminea superiori intervallo sesquipollicari remota; squamis lanceolatis, ferrugineis, nervo viridi infra apicem obtusam membranaceo-albam evanescente. *Spica feminea* 4-5 erectæ, inter se intervallis pollicaribus et 3-6-pollicaribus remote: superior sessilis, 1½ poll. longa; relique pedunculatæ; duæ inferiores 3-4 poll. longæ, basi laxifloræ, longius pedunculatæ: omnes 1½ lin. latæ, ferrugineæ, cum masculâ concolores, squamis angustis, nervo viridi, inferioribus longe hispido-aristatis, marginibus incurvis. *Pedunculi* triquetri, scabri; inferior 3-pollicaris. *Perigynium* (floriferum) 1 lin. longum, ¾ lin. latum, squamâ terties brevius. *Stig.* 3, longissima. *Achenium* immaturum.

TAB. CCXXVI. *Fig.* 1, Female Flower; *f.* 2, Young Perigynium:—*magnified*.

2. ELYNA. *Schrad.*

1. *E. spicata*, *Schrad.*—*Torr. Cyp. p.* 385.—*Kobresia scirpina*. *Willd.*—*Schkuhr, Cur.* 2, 1. *Rich. App. ed. 2. p.* 34.—*Scirpus Bellardi*. *Wahl.*—*Carex. All.*

HAB. Barren grounds, between lat. 64° and the Arctic Sea. *Dr Richardson*. Shady places on the Rocky Mountains. *Drummond*. Greenland. *Hornemann*.

2. *E. caricina*. *Mert. et Koch.*—*Kobresia caricina*. *Willd.*—*Carex hybrida*. *Schk. Car. Ittr. f.* 161.—*Schæenus monoicus*. *Sm. Engl. Bot. t.* 1410.—*β. spica* bracteis squamisque latioribus, stylo magis exserto, foliis angustioribus.

HAB. Dry banks of the Rocky Mountains, α. β. Rocky Mountains; with *Carex Bachii*. *Drummond*.

3. ELEOCHARIS. *Br.*

1. *E. palustris*. *Br.*—*Rich. App. p.* 2. *Torrey, Cyp. p.* 299.—*Scirpus. L.—E. Bot. t.* 131.—*β. minor*; spica ovata.—*γ. degenerata*; bi-triuncialis, spica minima 3-5-flora.

HAB. Throughout Canada to Bear Lake, and from Hudson's Bay to the Pacific Ocean; varying much in size from 4 or 6 inches to more than two feet.—*β.* and *γ.* Saskatchewan. *Drummond*. Lake Huron. *Dr Todd*.

2. *E. multicaulis*. *Sm.*—*Hook. Br. Fl. ed. 4. p.* 27. *Scirpus multicaul.* *E. Bot. t.* 1187.—*S. palustris β. L.*

HAB. Saskatchewan and Red Rivers. *Douglas*. Columbia River. N. W. Coast. *Tolmie*.—I can see no difference between this and the European plant of the same name.

3. *E. pauciflora*. Link.—Hook. Br. Fl. ed. 4. p. 26.—Scirpus. E. Bot. t. 1122.—Scirpus Bæothryon. Ehrh.

HAB. Muddy swamps and salt marshes in the Rocky Mountains. Drummond.—Very few specimens of this are in the Herbarium; yet Mr Drummond remarks in his notes, "horses are extremely fond of this plant," which would imply that it was very frequent in that country. It precisely accords with European specimens.

4. *E. cæspitosa*. Link.—Hook. Br. Fl. ed. 4. p. 29.—Scirpus. E. Bot. t. 1029. Torr. Cyp. p. 319. Rich. App. p. 2.

HAB. Newfoundland. Cormack. Labrador. Miss Brenton. Throughout Canada, to near the shores of the Arctic sea, and in swamps of the Rocky Mountains. Dr Richardson. Drummond.

5. *E. obtusa*. Schultes.—Hook. et Arn. Bot. of Beech. Voy. p. 28. Torr. Cyp. p. 305.—Scirpus. Willd.—*S. capitatus*. Walt. (not L.).—*S. ovatus*. Ph.

HAB. Etchemia, Canada. Mrs Sheppard. Saskatchewan. Dr Richardson. Drummond.

6. *E. acicularis*. Br.—Torr. Cyp. p. 308.—Scirpus. L.—E. Bot. t. 749. Gray, Gram. et Cyp. Part. II. n. 133.—*S. trichodes* et *S. capillaceus*. Muhl.

HAB. Hudson's Bay and Red River. Douglas. Saskatchewan. Dr Richardson. Drummond. Fort Vancouver. Tohnia.—The culms are generally longer and more slender, and the scales of the flowers whiter than in the European specimens.

4. SCIRPUS. L. Br.

1. *S. subterminalis* (Torr.); culmo (immerso) filiformi tereti basi foliato, spica oblongo-lanceolata (emersa) bractea basilari brevior, squamis ovato-lanceolatis, nucæ triangulari abrupte acuminata, stylo 3-fido. Torr. Cyp. p. 317. Gray, Gram. et Cyp. Part II. n. 81.

HAB. Deep standing pools of the Rocky Mountains, near the head-waters of the Columbia. Drummond.—Culms 2-3 feet long, flaccid, semipellucid.

2. *S. lacustris*. E. Bot. t. 686. Gray, Gram. et Cyp. Part II. n. 136. Rich. App. ed. 2. p. 2. Torr. Cyp. p. 321.—*S. acutus*. Muhl.—*S. validus*. Vahl, et Ph.

HAB. British America, as far north as lat. 57°. Dr Richardson. Marshes of the Rocky Mountains; the food of the Musk-rat during winter. Drummond. Mouth of the Columbia, N. W. America, where the Indian tribes near the sea weave it into mats. Douglas. De Fuca. Dr Scouler.

3. *S. triqueter*. L.—E. Bot. t. 1694. Torr. Cyp. p. 322.—*S. Americanus*. Pers.—Gray, Gram. et Cyp. Part II. n. 135.—*S. pungens*. Vahl.—*S. tenuifolius*. De Cand. (secund. spec. ex Un. Itin.)—*S. mucronatus*. Ph.

HAB. Marshes of the Saskatchewan. Dr Richardson. Drummond. Missinabie River. Canada. Bolton. Throughout North America to the Arctic regions. Dr Torrey.—The specimens in my possession are not numerous, and they are invariably smaller, more leafy, and have longer leaves than our British plant of the same

name; while they precisely correspond with the *Unio Itineraria* specimens of *S. tenuifolius*, from the Tête de Bouc near Bordeaux.

4. *S. maritimus*. L.—*E. Bot. t. 542. Rich. App. ed. 2. p. 2. Gray, Gram. et Cyp. Part I. n. 82 (in part)*.—*S. maritimus*, β . *macrostachyos*. Mich.—*S. macrostachyos*. Muhl.—*S. robustus*. Ph.

HAB. Marshes (salt?) of the Saskatchewan. *Dr Richardson. Drummond. New Brunswick. Mr Kendall. De Fuca*, and the N. W. Coast. *Douglas. Dr Scouler*.—Varying much in the breadth of the foliage, and size of the spikes; the variety, with the larger spikes, seems to constitute the *S. macrostachyos* of authors.

5. *S. atro-virens*. Muhl.—*Gray, Gram. et Cyp. Part II. n. 137. Torr. Cyp. p. 326.*—*S. polyphyllus*. Ph.

HAB. Saskatchewan. *Drummond*.—I find only one specimen, which, in the densely glomerated spikelets, satisfactorily agrees with the *S. atro-virens* of American authors. But even this appears to me to be scarcely distinct from our European *S. sylvaticus*.

6. *S. lenticularis* (Torr.); culmo obscure triangulari folioso, umbella decomposita, involucri 3-phyllo, spiculis oblongo-ovatis in capitulos (5-8 in capitulo) glomeratis, squamis ovatis vix mucronatis glabris, stylo bifido, nucce orbiculari lenticulari angulis acutis setis 4 rectis brevioribus. *Torr. Cyp. p. 328.*

HAB. Observatory Inlet, N. W. America. *Dr Scouler*.—Nearly allied, as Dr Torrey well observes, to *S. sylvaticus*, (indeed I think it can hardly be specifically distinct from that species, or *atro-virens*), "but differs in its larger spike, lenticular nuts, diandrous flowers, and bifid style."—The true *S. sylvaticus* has a lenticular seed, and the other characters are perhaps variable.

7. *S. sylvaticus*. L.—*E. Bot. t. 919. Mx. Ph.—Rich. App. ed. 2. p. 2.*

HAB. Canada and Hudson's Bay (*Mx.*), to lat. 57°, and to the head-waters of the Columbia in the Rocky Mountains. *Dr Richardson. Drummond. Sitcha. Mertens.*

8. *S. (Trichophorum) Eriophorum*. *Mx.—Torr. Cyp. p. 330.*—*S. thyrsoiflorus*. Willd.—*Trichophorum cyperinum*. Pers. Ph.—*Eriophorum cyperinum*. Willd.

HAB. Hudson's Bay. Canada to the Saskatchewan. *Dr Richardson. Drummond. Newfoundland. Miss Brenton.*

5. ERIOPHORUM. L.

* Spike solitary.

1. *E. alpinum*. L.—*E. Bot. t. 311. Gray, Gram. et Cyp. Part I. n. 87. Bigel. Fl. Bost. ed. 2. p. 23.*—*E. Hudsonianum*. *Mx.—Trichophorum alpinum*. Ph.—*T. Hudsonianum*. Nutt.

HAB. From Hudson's Bay to Lake Mistassins. *Mx.*—I possess mountain-specimens of this plant from the United States; but I have never had the good fortune to see any from British North America, nor do I know the authority for it, save that of Michaux above quoted.

2. *E. vaginatum*. L.—*E. Bot. t. 873. Rich. App. ed. 2. p. 2.—Gray, Gram. et Cyp. Part I. n. 88.—E. cæspitosum. Host, Gram. t. 33. Ph.—β. foliis culmo duplo brevioribus.—γ. perigynii pilis fulvis.*

HAB. Newfoundland. *Mr Cormack.* Canada (*Mrs Perceval*) to Fort Enterprise. *Dr Richardson. Drummond.—β. Saskatchewan.—γ. Newfoundland. Mr Cormack.* Lake Huron. *Dr Todd.*—This is certainly a highly variable species, not only in the length of the leaves, which are generally shorter, though sometimes twice as long as the culms, but also in the spikes, which, according to some of Mr Drummond's specimens, do vary not only in the length of the hairs, but also in the form of the spike, being sometimes oblongo-ovate, and sometimes spherical. Thus I am not surprised at Dr Torrey, who remarks in his valuable account of North American *Cyperaceæ*, that *E. capitatum* is very difficult to be distinguished from *E. vaginatum*.

3. *E. capitatum. Host,—Engl. Bot. t. 2387. Br. App. to Parry's 1st Voy. p. 284. Hook. in Parry's 2d Voy. p. 407.—E. Scheuchzeri. Roth.—E. Chamissoi. Mert. in Mem. Acad. Petersb. 6th Ser. 1. p. 203. f. 3. Torr. Cyp. p. 237.—β. foliis scabris.—E. callithrix. Cham. et Mey. Cyp. Nov. in Mem. Acad. Petersb. 6th Ser. 1. p. 203. t. 23.*

HAB. Labrador. *Miss Brenton.* Newfoundland. *Mr Cormack.* From Quebec (*Mrs Sheppard*) to the swamps on the summits of the Rocky Mountains (*Drummond*), and to the Arctic coasts and islands. *Dr Richardson.* Unalashka. *Chamisso.—β. St Lawrence, Behring's Straits.—*See the remarks on the preceding species. My authentic specimen of *E. Chamissoi* precisely accords with *E. capitatum*.

** Spikes several.

4. *E. Virginicum. L.—Mx.—Ph.—Gray, Gram. et Cyp. Part I. n. 89.*

HAB. Canada to the Saskatchewan. *Mrs Sheppard. Dr Richardson.*—Readily distinguished by its nearly sessile spikes, and constantly tawny hairs.

5. *E. polystachyon. L.—E. Bot. t. 563. Ph.—Hook. in Parry's 2d Voy. p. 407. Gray, Gram. et Cyp. Part I. n. 90. Torrey, Cyp. 339.—E. polyst. β. Rich.*

HAB. Canada to the Rocky Mountains, and to the Arctic sea-shore and islands.

6. *E. angustifolium. Roth.—E. Bot. t. 564. Ph.—Br. in Parry's 1st Voy. App. p. 274. Hook. in Parry's 2d Voy. p. 407. Rich. App. ed. 2. p. 2.—E. tenellum. Nutt.—E. polystachyon var. tenellum. Gray, Gram. et Cyp. Part I. n. 91.*

HAB. Canada to Arctic America.—I have the same difficulty in determining the limits of the many-spiked *Eriophora* of North America, as regards those of Britain (as expressed in *Brit. Flora*, ed. 4. p. 30), *E. Virginicum* alone excepted. Dr Torrey indeed observes, that the present species is easily distinguished from *E. polystachyon* by its narrow triangular leaves, one-leaved involucre, and narrow nut. This is the case with the extreme states of the plant; but Dr Torrey proceeds, "Mr Brown thinks that the Arctic plant, collected in Parry's 1st voyage, may prove a distinct species, between *E. angustifolium* and *E. polystachyon*;" and further, "he notices two varieties of it, one with smooth, the other with scabrous peduncles,"—thus appearing to include the *E. pubescens* of Smith.

7. *E. gracile*. Roth.—*E. Bot. t.* 2402. Hook. in *Parry's 2d Voy.* p. 407. *Torrey, Cyp.* p. 241.—*E. triquetrum*. Hoppe.

HAB. Saskatchewan to Arctic America. *Dr Richardson. Drummond. Capt. Parry.*—Specimens of this entirely accord with the *E. gracile* of Europe, and yet scarcely differ, except in being more slender in every part, from the preceding.

8. *E. strictum* (Br.); spicis pedunculatis involucri brevioribus, squamis acutiusculis tenuissime ciliatis, foliis strictis planis apice triquetris, culmo teretiusculo. *Br. in Rich. App. ed. 2. p. 3.* *Torrey, Cyp.* p. 342.

HAB. Subarctic America. *Dr Richardson.*—"Dubia species, *E. tenello* (Nutt.) proxima." *Br.*—I am unacquainted with this plant.

6. DULICHIMUM. Richard.

1. *D. spathaceum*. Pers.—*Ph.*—*Gray, Gram. et Cyp. Part II. n. 131.* *Torr. Cyp.* p. 247.—*Schœnus. L.*—*Scirpus. Mx.*—*Cyperus. L.*— β . *humilius*; foliis brevioribus, spiculis subdecemfloris. *D. Canadense. Ph.*

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*

7. CYPERUS. L.

1. *C. diandrus*. *Torr. Cyp.* p. 251. *Gray, Gram. et Cyp. Part I. n. 70.*

HAB. Canada. *Goldie.*

2. *C. occidentalis* (Torr.); culmis dense cæspitosis brevibus, foliis planis, umbellæ radiis brevibus compactis, spiculis arcte aggregatis in capitulos ovatos inferioribus compositis, squamis ovatis acutiusculis membranaceis, stylo ad apicem 3-fido, nucis ovata compresso-triangulari. *Torr. Cyp.* p. 259.

HAB. N. W. Coast of America. *Douglas.*—A dwarf tufted species, the culms scarcely 2 inches long.

3. *C. strigosus. L.*—*Ph.*—*Torr. Cyp.* p. 261.

HAB. Upper Canada. *Goldie.* Saskatchewan. *Dr Richardson. Drummond.*

4. *C. repens. Ell.*—*Torr. Cyp.* p. 264.—*C. phymatodes. Muhl.*—*Gray, Gram. et Cyp. Part I. n. 73.*—*C. tuberosus. Ph.*

HAB. Upper Canada. *Goldie.*

5. *C. inflexus. Muhl.*—*Gray, Gram. et Cyp. Part I. n. 68.* *Torr. Cyp.* p. 274.—*C. uncinatus. Ph.*—*C. pygmæus. Nutt.*

HAB. Saskatchewan and Lake Winnipeg. *Dr Richardson. Drummond.*

6. RHYNCHOSPORA. Vahl.

1. *R. alba*. Vahl.—Ph.—Gray, *Gram. et Cyp. Part 1. n. 92. Torr. Cyp. p. 213.*
Schœnus albus. L.—Mx.—E. Bot. t. 985.

HAB. Canada, (Torrey). Newfoundland. *Miss Brenton.*

2. *R. glomerata*. Vahl.—Ph.—*R. capitellata*. Vahl.—Ell.—*Schœnus glomeratus*. L.

HAB. Canada, (Torrey).

ORD. XX. GRAMINEÆ. Juss.

I. ORYZEÆ. Kth.

1. LEERSIA, L.

1. *L. Virginica*. Willd.—Torr. Fl. p. 74.

HAB. Canada. Beck. Goldie.

2. *L. oryzoides*. Sw.—Host, *Gram. 1. p. 35. Ph.—Torr. Fl. p. 75.—Asprella. Lam.*

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*

2. HYDROPYRUM. Link.

1. *H. esculentum*. Link.—Kth.—*Zizania aquatica*, L.—Lamb. in *Linn. Tr. 7. p. 264. t. 13.—Z. palustris*. L. *Mant.—Z. clavulosa*. Mx.

HAB. Canada. Ph. Lake Huron. *Dr Todd.*

2. *H. ? fluitans*. Kth. *Gram. 1. 7.—Zizania. Mx.—Hydrochloa Carolinensis. Beauv.*

HAB. Lakes Champlain and the St Lawrence. *Mx.—I have never seen this species.*

II. PHALANIDEÆ. Kth.

3. ALOPECURUS, L.

1. *A. geniculatus*. L.—E. Bot. t. 1250. *Torr. Fl. p. 97. (excl. var. β.)*

HAB. Canada. Mx. Columbia. N. W. America. *Douglas.*

2. *A. aristulatus*. Mx.—*A. subaristatus*. Ph.—*A. geniculatus β. Torr. Fl. p. 37.—A. fulvus*. Sm.—Kth.

HAB. Canada to Bear Lake. *Dr Richardson. Drummond.* Abundant on the N. W. coast, in swampy grounds. *Douglas.*

3. *A. pratensis*, L.—*E. Bot. t.* 759. *Ph.*—*Torr. Fl. p.* 37.

HAB. Newfoundland. *Dr Morrison*.—In all probability introduced.

4. *A. alpinus*, Sm.—*E. Bot. t.* 1126. *Br. in. Parry's 1st Voy. p.* 184. *Rich. App. ed. 2. p.* 3. *Hook. in Parry's 2d Voy. App. p.* 184.

HAB. Rocky Mountains, and upon the Arctic sea-shores and islands. *Dr Richardson. Drummond. Parry. Kotzebue's Sound. Beechey.*

4. PHEUM, L.

1. *P. pratense*, L.—*E. Bot. t.* 1076. *Ph.*—*Torr. Fl. p.* 38.

HAB. Newfoundland. *Miss Brenton. Saskatchewan. Drummond.* Corn-fields at Fort Vancouver. *Dr Gairdner.*

2. *P. ulpinum*, L.—*E. Bot. t.* 519.—*P. commutatum. Gaud.*—*β. viridius.*

HAB. Summits of the Rocky Mountains. *Drummond. Sitcha. Bongard.*—*β.* Branches of the Columbia in the Rocky Mountains. *Douglas. Greenland. Hornemann.*

5. PHALARIS, L.

1. *P. arundinacea*, L.—*E. Bot. t.* 402. *Mx.*—*Ph.*—*P. Caroliniana. Walt.*—*Calamagrostis colorata. Sibth.*—*Nutt.*—*Phalaris Americana. Ell.*—*Torr. Fl. p.* 100.

HAB. From Canada (*Goldie*) to the Bear Lake; *Dr Richardson, Drummond*; and from Hudson's Bay to the Western Ocean; frequent on the sandy banks of streams. *Douglas.*—This does not seem to differ in any respect from the European plant.

6. HIEROCHLOE, Gmel.

1. *H. borealis*, R. and S.—*E. Bot. Suppl. t.* 2641. *Torr. Fl. p.* 150.—*Holcus. Schrad.*—*Hierochloe fragrans. R. et S.*—*Richard. App. ed. 2. p.* 3.—*H. arctica. Presl, Reliq. Hæmck. 1. p.* 252.—*Holcus. Willd.*—*Ph.*—*H. odoratus. L.*—*Mx.*

HAB. Saskatchewan and the Rocky Mountains. *Dr Richardson. Drummond. Kotzebue's Sound. Beechey.* Dry grounds near the source of the Columbia. *Douglas. Nutka Sound. (Presl.)*

2. *H. alpina*, R. et S.—*Br. in Parry's 1st Voy. n.* 66. *Richard. App. ed. 2. p.* 3. *Torr. Fl. p.* 150.—*Holcus. Sw.*—*Wahl. Lapp. t. 2. Fl. Dan. t.* 1508.—*H. monticola. Bigel.*

HAB. Labrador. *Miss Brenton.* Arctic sea-shores and islands. *Dr Richardson. Parry. Greenland. Hornemann.*

3. *H. pauciflora* (Br.); racemo simplici flosculo masculino superiore brevissime setigero, foliis culmi brevissimis, radicalibus involutis. *Br. in Ross' Voy. App. p.* 35.

HAB. Arctic islands. *Parry.*

7. ANTHOXANTHUM. L.

1. *A. odoratum*. L.—*E. Bot. t. 647.—647.—Mx.—Ph.—Torr. Fl. p. 101.*

HAB. Newfoundland. *Mr Cormack.*

III. PANICEÆ. Kth.

8. MILIUM. L. :

1. *M. effusum*. L.—*E. Bot. t. 1106. Torr. Fl. p. 77. Gray, Gram. et Cyp. Part II. n. 113.*

HAB. Canada (near Montreal). *Dr Paine. Quebec. Mrs Sheppard.*

9. PANICUM. L.

1. *P. clandestinum*. L.—*Torr. Fl. p. 141. Gray, Gram. et Cyp. Part I. n. 27.—P. latifolium* β. *clandestinum. Ph.*

HAB. Quebec. *Mrs Perceval.*

2. *P. latifolium*. L.—*Mx.—Ph.—Torr. Fl. p. 142. Gray, Gram. et Cyp. Part II. n. 100.*

HAB. Canada. *Goldie.*

3. *P. xanthophyllum* (Gray); culmo (simplici aut basi ramoso) panicula foliisque glabris, vaginis villosis, foliis lato-lanceolatis valde nervosis acutissimis basi ciliatis, panicula simpliciuscula pauciflora ramis erectis vel adpressis, spiculis globoso-obovatis pubescentibus, gluma inferiore flosculis subduplo brevior, superiore eosdem æquante 9-nervi, flore masculino bivalvi hermaphroditum glabrum obovatum subæquante. *Gray, Gram. et Cyp. Part I. n. 28.*

HAB. Plains of the Saskatchewan.—This handsome species was first discovered in Pine plains, near Oneida Lake, New York, by *Dr Asa Gray*, and published in his beautiful *Gramineæ and Cyperaceæ of the United States*, above quoted.

4. *P. nitidum*. Lam.—*Mx.—Ph.—Torr. Fl. p. 145. Gray, Gram. et Cyp. Part I. n. 30. and Part II. n. 110, 111, 112.*

HAB. Throughout Canada to the Saskatchewan. *Goldie. Dr Richardson. Drummond.*

5. *P. virgatum*. L.—*Mx.—Ph.—Torr. Fl. p. 147. Gray, Gram. et Cyp. Part I. n. 31.—P. pruinatum. Bernh. (fide Nees.)*

HAB. Lake Huron. *Dr Todd. Saskatchewan. Drummond. Columbia. Douglas.*

6. *P. rectum*. R. et S.—*Torr. Fl. p. 148. Gray, Gram. et Cyp. Part I. n. 29.—P. strictum. Ph.—P. depauperatum. Muhl.—P. involutum. Torr. Fl. p. 144.—P. junceum. Trin. (fide Nees.)*

HAB. Plains of the Saskatchewan. *Drummond*.—Dr Asa Gray has given the following amended character of this species:—"P. culmo caespitose simpliciter (spitham. et ultr.), foliis linearibus rigido-erectis pungentibus, panicula simpliciuscula pauciflora, ramis erectis subpatulisve, spiculis (magna) acuminatis glabris, gluma inferiore floeculis quadruplo brevioribus 1 superiore eisdem subexcedente 7-nervi, hermaphrodito obtuso glabro neutro bivalvi paulo minore."

7. *P. viscidum*. *Ell. Fl. t. 123. Kth. Agr. Syn. p. 107.*

HAB. Dry grounds of the Columbia, about Fort Vancouver. *Douglas*.—The specimens entirely accord with those in my Herbarium, from Mr Nuttall and Dr Torrey, gathered in New Jersey.

8. *P. capillare*. *L.—Mx.—Ph.—Torr. Fl. p. 149.*

HAB. Saskatchewan. *Dr Richardson Drummond. Columbia. Douglas.*

10. OPLISMENUS. *Kth.*

1. *O. Crus-Galli*. *Kth.—Panicum, L.—E. Bot. p. 876. Torr. Fl. p. 140. Mx.—Ph.*

HAB. Canada. *Mrs Sheppard*. Marshy ground along the sea-shore, from "Cape Disappointment," to the Straits of De Fuca, N. W. America. *Douglas*.

2. *O. muricatus*. *Kth. Gram. 1. t. 44.—Panicum. Mx.—P. hispidum. Muhl.—Torr. Fl. p. 141. Gray, Gram. et Cyp. Part I. n. 26.—P. Crus-Galli, β. hispidum. Ell.—P. Walteri. Ph.*

HAB. Canada. *Pursh*.

11. SETARIA. *Beauv.*

1. *S. glauca*. *Beauv.—Torr. Fl. 1. p. 152.—Panicum, L.—Mx. Ph.—Host, Gram. Austr. 2. p. 16.*

HAB. Saskatchewan. *Dr Richardson Drummond.*

IV. STIPACEÆ. *Kth.*

12. ORYZOPSIS. *Richard.*

1. *O. asperifolia*. *Rich. in Mx. Fl. 1. p. 51. t. 9. Ph.—Torr. Fl. p. 71.*

HAB. Canada, to the Rocky Mountains. *Dr Richardson Drummond*.—The *O. melanocarpa*, Muhl. referred here by Kunth, is a very different plant from the *Piptatherum nigrum* of Torr. Fl.

2. *O. parviflora*. *Nutt. Journ. Ac. Phil. p. 79.—Stipa juncea. Mx.—S. Canadensis. Poir.—Ph.—Rich. App. ed. 2. p. 3.—Miliun pungens. Torr. Fl. p. 78.—Uraclne Canadensis. Torr. in Synop. Fl. ined. Gray, Gram. et Cyp. Part II. n. 114.—Uraclne brevicandata. Trin.*

HAB. Canada, to the Saskatchewan. *Dr Richardson. Drummond.*—Dr. Gray is of opinion that this is correctly referred by Nuttall to *Oryzopsis*.

13. STIPA. L.

1. *S. Sparta. Trin. in Act. Petr.* 1830. 1, 82. (teste ipsiss. *Trin.*)—*S. parviflora. Nutt. Gen. Am.* 1. p. 50. (*vide Torrey.*) (*non Desf.*)

HAB. Banks of the Saskatchewan. *Dr Richardson.*—Closely allied, as Trinlus observes, to *S. juncea*. Nuttall's *S. parviflora* is from the Missouri.

2. *S. capillata. L.—Host, Gram.* 3. t. 5.—*S. juncea. Ph.?*

HAB. Carlton House Fort, on the Saskatchewan. *Drummond.*—On the banks and plains of the Columbia, near the Missouri Portage. *Douglas.*

3. *S. membranacea. Ph.* 2, 728. (*non L.*)—*S. hymenoides. R. and S.—Eriocoma cuspidatum. Nutt. Gen.* 1, 40.—*Milium. Spr.*

HAB. Carlton House Fort. *Dr Richardson. Drummond.* Barren plains of the Columbia, from the Great Falls to the source of the Missouri. *Douglas.*—I possess some of Mr Bradbury's original specimens from the Missouri of this exceedingly beautiful grass, given me by Dr Taylor.

V. AGROSTIDÆ. Kth.

14. MUHLENBERGIA. Schreb.

1. *M. glomerata. Trin. Gr. Unifl.* 191. t. 5. f. 10. *Gray, Gram. et Cyp. Part I.* p. 15.—*Polypogon. Willd.—P. racemosus. Nutt.—Torr. Fl.* p. 92.—*P. setosus. Spr.—Agrostis racemosa. Mx.—Ph.—A. setosa. Muhl.—Trichochloa glomerata et calycina. Trin.*

HAB. Plains of Saskatchewan to the Rocky Mountains. *Dr Richardson. Drummond.* Dry plains of the Columbia, and valleys of the Blue Mountains. *Douglas.*

2. *M. aristata. Pers.—Kth.—M. erecta. Schreb.—Ph.—M. Brachyelytrum, Trin.—Gray, Gram. et Cyp. Part I.* n. 11.—*Brachyelytrum erectum. Beauv.—B. aristatum. R. and S.—Torr. Fl.* p. 102.

HAB. Canada. *Goldie.*

3. *M. Cinna. Trin.—Gray, Gram. et Cyp. Part I.* n. 16.—*Agrostis. Lam.—Ph.—Cinna arundinacea. Willd.—Mx.—Torr. Fl.* p. 94.—*Kth.*

HAB. Saskatchewan. *Dr Richardson.*

4. *M. pendula (Bong.); panicula laxa pendula, glumis lineari-lanceolatis acuminatis subæqualibus perianthium obtusiusculum subæquantibus. Bong. Veget. Sitcha, p.* 54.

HAB. Sitcha. *Bongard.*

15. PHIPPSIA. *Br.*

1. *P. algida*. *Br.* in *Ross' Voy. ed. 2. v. p. 191.* *Br.* in *Parry's 1st. Voy. App. p. 185.* *Hook.* in *Parry's 2d. Voy.*—*Agrostis. Soland.* in *Phipps' Voy.*—*Wahl. Lapp. p. 25. t. 1.*—*Vilfa algida. Trin. Ic. t. 83.*

HAB. Melville and other arctic islands. *Parry.* Greenland. *Phipps. Hornemann.*

2. *P. monandra. Trin.* in *N. Entdek. 2. p. 37.*—*Vilfa. Trin. Ic. t. 84.* *Hook. et Arn.* in *Bot. of Beech. Voy. p. 132.*—*Phippsia algida. β. monandra. Kth.*

HAB. Tschutki. *Nelson.* Kotzebue's Sound and Bay of St Lawrence. *Chamisso. Beechey.*

16. COLPODIUM. *Trin.*

1. *C. latifolium. Br.* in *Ross' Voy. Br.* in *Parry's 1st. Voy. App. p. 186.* *Hook.* in *Parry's 2d. Voy. App. p. 28. cum Ic.*

HAB. Arctic sea-coast and islands. *Dr Richardson. Parry.*

2. *C. arundinaceum.*—*Vilfa, Trin. Diss.—Gram. Ic. t. 55.* *Hook. et Arn.* in *Bot. of Beech. Voy. p. 131.*—*Colpodium latifolium β. Kth.*

HAB. Kotzebue's Sound, *Beechey.* Cumberland House Fort, and Hudson's Bay. *Drummond.* Bear Lake to the shores of the Arctic Sea. *Dr Richardson.*—Of this little known grass, Dr Richardson has the following description in his notes made on the recent plant—"Calyx of 2 unequal valves, which are ovato-lanceolate, boat-shaped, concave, scarcely acuminate, compressed, quite smooth and entire, reddish-brown and shining; smaller valve half the size of the other. Corolla of 2 nearly equal valves, of similar colour and consistence with the calyx, equal to, or rather longer than the larger valve of the calyx; its outer valve embracing the inner, and a little longer: both obtuse, compressed, serrulated at the keel, otherwise smooth, somewhat membranaceous at the margin and edges, and there entire. Stamens 3. Styles 2? perhaps united. Stigmas plumose, branching? Seed loose. This seed appears to be oblong, and there are 2 or 3 lanceolate, pointed membranaceous scales.—I should be disposed to refer it to *Cinna*, if it had only one stamen and one style; as it is, it possesses all the characters of *Vilfa* or *Colpodium*."

3. *C. pauciflorum*; panicula erecta spicæformi angusta pauciflora, gluma perianthium superante uniflora cum rudimento pedicellato, valvis subæquantibus acutissimis carina superne præcipue aspera unifloris, perianthio obtuso valvis apice dorso marginibusque asperulis, foliis lineari-acuminatis subrigidis siccitate complicatis vel marginibus involutis.

HAB. Between Fort William and Cumberland House Fort. *Dr Richardson.*—Smaller and much slenderer than *C. latifolium*, with a very narrow few-flowered panicle, the floret of a much paler and greener hue, the glumes sharper and constantly longer than the perianth; and there is always a distinct but abortive pedicellate floret present, arising from the base of the inner valve of the perfect one.

17. VILFA. *Beauv.*

1. *V. cuspidata* (Torr. mst.); culmis numerosis gracilibus vaginisque glabris, foliis

subdistichis angustis involutis tenuissime elongatis, paniculis elongatis angustissimis exsertis, glumis subæqualibus acutissimis carina scabris unifloris absque rudimento, perianthii exserti valvula exteriori paululum longiore trinervi cuspidata.

HAB. Banks of the Saakatchewan, near the Rocky Mountains. *Drummond*. Plains of the Red River. *Douglas*.—Mr Drummond's specimens are named *V. cuspidata* by Dr Torrey, and considered by him a new species. Its nearest affinity is with *V. vaginiflora*, Torr. (in *Gray, Gram. et Cyp. Part I. n. 3.*) and *P. involuta*, Torr. (*Gray, Gram. et Cyp. l. c. n. 4.*); the foliage and habit bearing a considerable resemblance, but the panicle is much elongated, the flowers smaller, more rigid, and considerably different in structure.—*V. clandestina* (*Spr., and Torr. Fl. p. 90.*) agrees with this in so many respects, that I am not sure that they are really distinct; but my authentic specimens of *T. clandestina* are in a very imperfect state.

2. *V. tenacissima*. H. B. K.—*Trin. Gram. Ic. t. 80.* Sporobolus. *Beauv.*—Agrostis. *Jacq. β. fuscicolor*; paniculæ ramis longioribus glumis valde inæqualibus.

HAB. β Common on Menzies' Island, N. W. America, and on the higher parts of the Columbia River. —There is only one specimen of this plant, which may probably prove distinct from that to which I have referred it. The culms and foliage sufficiently accord, however, and the panicle is very similar; but the branches are longer, the flowers rather larger, more deeply coloured and brown, and the valves of the calyx (or glume) very unequal. Indeed in the United States specimens of the true *V. tenacissima*, I find the calyx valves much more unequal than is represented in the figure of Trinlus, or described in Dr Torrey's Flora.

18. AGROSTIS. L.

1. *A. alba*. L. *E. Bot. t. 1189.*—*Ph.*—*Torr. Fl. p. 85.*—var? valvula flosculi e medio dorso setigera. *Nees. in Herb. nostr.*

HAB. var. Moist ground and banks of streams near the confluence of the Columbia River. *Douglas*.—Certainly this plant has so exactly the appearance of our well-known *Agrostis alba*, that we hardly dare venture to consider it distinct, although the back of the valve of the corolla constantly bears a slender awn rather longer than the flower, and very conspicuous. The valves of the glumes too are very rough on the keel.—The European *A. alba* has sometimes a short awn from the corolla.

2. *A. vulgaris*. Sm. *E. Bot. t. 1671.*—*Ph.*—*Torr. Fl. p. 85.*—A. polymorpha. *Huds.*—*Gray, Gram. et Cyp. Part II. n. 108.*

HAB. Common on banks of streams, N. W. Coast. *Douglas*. Observatory Inlet. *Dr Scouler*.

3. *A. exarata* (Trin.); radice fibrosa, culmis erectis simplicibus vaginisque sulcato-striatis et glabris, foliis linearibus acuminatis planis retrorsum scabris, panicula ramosa erecta contracta, ramis semiverticillatis adpresso-erectis hispidis, glumis acuminatis carina denticulata florem muticum duplo superantibus, superiore paulo brevior. *Trin. Gram. Unifl. 205.* *Ejusd. Ic. t. 27.* *Bong. Veg. de Sitcha, p. 52.*—β. minor; perianthio univalvi. A. Drummondi. *Torrey, ms.*

HAB. Unalaska. *Chamisso*. Sitcha. *Bongard.*—β. Valleys of the Rocky Mountains, on the east and on the west side of the dividing ridge. *Drummond. Douglas.*—The var. β. is probably a distinct species; but knowing how sportive are the flowers of several species of *Agrostis*, I prefer considering it a var. of *A.*

ezarata. The plant is smaller, and the leaves shorter; yet the flowers seem entirely to correspond, except in the absence of one of the valves of the corolla. Dr Torrey calls it *A. Drummondii*, *mt.*, but remarks its close affinity with *A. ezarata*, Trin. and the one-valved corolla. According to Bongard, the *A. ezarata* is sometimes furnished with an awn arising from above the middle of the inner valve of the corolla.

4. *A. rubra*. L.—Wahl. Lapp.—Trin. *Gram. Ic. t. 33.*

HAB. Millbank Sound. N. W. Coast America. *Mr Tolmie.*

5. *A. canina*. L.— β . melaleuca. Bong. *Veget. de Sitcha*, p. 52.— β Sitcha Bongard.

HAB. Summits of the Rocky Mountains.—These specimens are scarcely a span high, the glumes purple black, the corolla almost white. Our specimens exhibit no awns from the corolla, a state in which Bongard also found the plant in Sitcha.

6. *A. laeviflora*. Rich. *App. ed. 2. p. 3.*—Kth.—Trichodine. *Mx.*—Ph.—Torr. *Fl. p. 83.*
—*Agrostis Michauxii*. Trin.—Gray, *Gram. et Cyp. Part I. n. 17.*—Trichodium decumbus. *Mx.*—T. scabrum. *Muhl.*

HAB. Burnt woods and dry Prairies, from Canada (*Goldie*), to the Saskatchewan, and to Bear Lake. *Dr Richardson. Drummond.* Common in dry open grounds, near the Pacific Ocean. *Douglas.*

VI. ARUNDINACEÆ. Kth.

19. CALAMAGROSTIS. *Adans.*

1. *C. Canadensis*. Beauv.—Torr. *Syn. Fl. ined. Gray, Gram. et Cyp. Part I. n. 18.*
(not Nutt. and Trin.)—*Arundo Canadensis. Mx.*—*Calamagrostis Mexicana. Nutt.*

HAB. Marshes and shady woods of the Saskatchewan to the Rocky Mountains. *Dr Richardson. Drummond;* and to Bear Lake. *Dr Richardson.* Kotzebue's Sound. *Beechey.*

2. *C. coerctata*. Torr. *Syn. Fl. ined. Gray, Gram. et Cyp. Part I. n. 19.*—*C. Canadensis. Nutt. Richard. App. ed. 2. p. 3. Trin. Gram. Unifl. p. 227. t. 4. f. 14.*

HAB. Woody Country. *Dr Richardson.* Quebec. *Mrs Perceval.* Nutka and Fort Vancouver, N. W. Coast. *Dr Scouler.*

3. *C. stricta. Nutt.*—Rich. *App. ed. 2. p. 3.*—*Arundo. Sm. E. Bot. t. 2164.*—*A. neglecta. Ehrh.*

HAB. Saskatchewan to the Rocky Mountains, and to English River. *Dr Richardson. Drummond.* Observatory Inlet, N. W. Coast. *Dr Scouler.*

4. *C. purpurascens* (Br. in *Richard. App. ed. 2. p. 3.*); panicula spicata, glumis scabris, perianthii valvula inferiore scabra apice 4-dentata dorso aristata, rudimento plumoso villis baseos duplo longiore. *Br.*—*Desvauxia. Kth. Gram. t. 77.*—*C. sylvatica. Trin. (fide Torr.)*

HAB. Rocky Mountains and Arctic sea-shore. *Dr Richardson. Drummond.*

5. *C. longifolia*; lævissima, foliis anguste linearibus longissime acuminatissimis, panicula erecta stricta subspicata, glumæ valvis inæqualibus perianthium acutum muticum superantibus, villis perianthio brevioribus.

HAB. Saskatchewan. *Drummond*.—A species remarkable for the great length of its leaves, exceeding the culm, tapering into a long, slender apex, and for the pale, very smooth, glossy flowers. The base of the culm sends out creeping shoots.

6. *C. strigosa* (*Bong.*); glumis æqualibus linearilanceolatis acuminatis perianthio $\frac{1}{2}$ longioribus, valvula superiori inferiore $\frac{1}{2}$ breviori, pilis perianthio paulo minoribus (interdum longitudine valvulæ superioris), seta infra medium (aut medio) exserta valvulam inferiorem æquante, processu barbato. *Bong. Veget. de Sitcha, p. 53.*—*Arundo strigosa*? *Wahl.—R. et S.*

HAB. Sitcha. *Bongard.*

7. *C. Aleutica* (*Trin.*); glumis subæqualibus lanceolatis acutis perianthium æquantibus valvulis æqualibus, pilis perianthio $\frac{2}{3}$ et ultra brevioribus, seta pl. min. medio exserta valvula breviori, processu barbato, pilis perianthio 2-3-4-plo brevioribus. *Bong. Veget. de Sitcha, p. 53.*

HAB. Unalashka. *Chamisso.* Sitcha. *Bongard.*—Very near *C. coerctata.* *Torr.*

20. AMMOPHILA. *Host.*

1. *A. arundinacea*, *Host, Gram. 4. p. 24. t. 41.*—*Arundo arenaria, L.—E. Bot. t. 520. Mx.—Psamma, Beauv.—Torr. Fl. p. 95.*—*Calamagrostis, Roth.—Gray, Gram. et Cyp. Part I. n. 21.*

HAB. Canada. *Ph.*

21. GRAPHEPHORUM. *Desv.*

1. *G. melicoides*, *Beauv. Agr. 77. t. 15. f. 8.*—*Aira. Mx.—Ph.—Triodia, Spr.*

HAB. Canada. *Mx.*

22. PHRAGMITES. *Trin.*

1. *P. communis*, *Trin.—Kth.—Torr. Fl. p. 103.*—*Arundo Phragmites, L.—E. Bot. t. 401.*

HAB. Canada. *Ph.* Saskatchewan. *Dr Richardson. Drummond. Columbia. Douglas.*

VII. CHLORIDÆÆ. *Kth.*23. SPARTINA. *Schreb.*

1. *S. cynosuroides*, Willd.—Gray, *Gram. et Cyp. Part II. n. 101.*—Limnetis, Rich.—Ph.—Trachynotis, Mx.

HAB. Canada. Ph.

2. *S. polystachya*, Willd.—Gray, *Gram. et Cyp. Part II. n. 102.*—Trachynotis, Mx.—Limnetis, Ph.

HAB. Canada. Mrs Sheppard. Saskatchewan to Slave Lake. Dr Richardson. Drummond.—Dr Asa Gray keeps these two *Spartinae* distinct, in his valuable *Gram. et Cyp. Americ.*;—but I rather incline to agree with those Botanists who unite them.

24. EUTRIANA. *Trin.*

1. *E. oligostachya*, *Kth. Enum. p. 282.*—*Atheropogon oligostachys*, Nutt. *Gen. Am. 1. p. 78.*

HAB. Plains of the Saskatchewan to the Rocky Mountains. Drummond.—This very beautiful and little known grass, which has quite the habit of *Ctenium*, was first detected by Mr Nuttall on the plains of the Missouri. It is now found as far north as the Saskatchewan, and Mr Drummond has also gathered very luxuriant specimens of the same plant in Texas (2d. Coll. n. 223, and 334.)

VIII. AVENACEÆ. *Kth.*25. DESCHAMPSIA. *Beauv.*

1. *D. cæspitosa*, Beauv.—Aira. *L.—E. Bot. t. 1432.*—Ph.—Torr. *Fl. p. 132.* Gray, *Gram. et Cyp. Part II. n. 115.*

HAB. Canada. Ph. Saskatchewan to Bear Lake. Dr Richardson. Drummond. Unalascika. (*Kth.*)

2. *D. brevifolia*, Br. in Parry's 1st *Voy. App. p. 201.* Hook. in Parry's 2d *Voy. p. 409.*— β . *major*; *subpedalis*.

HAB. Arctic Sea-shore and Islands.— β . Arctic Sea-coast.—Var. β . is full twice the size of α ., and seems almost to unite the *D. brevifolia* with *D. cæspitosa*.

26. DUPONTIA. *Br.*

1. *D. Fischeri*, Br. in Parry's 1st *Voy. App. p. 291.* Hook. in Parry's 2d *Voy. App. p. 409.*—Melica. *Spr.*

HAB. Arctic Sea-coast and Islands. Dr Richardson. Parry. Sabine. Kotzebue's Sound. Beechey.

97. AIRA. L.

1. *A. flexuosa*, L.—*E. Bot.* t. 1519. *Ph.—Torr. Fl.* p. 132. *Gray, Gram. et Cyp. Part I.* n. 43.

HAB. Canada. *Ph. Mrs Sheppard.* Newfoundland and Labrador. *Dr Morrison.* N. W. Am. *Douglas.*

2. *A. Danthonioides* (Trin.); glumis perianthia inæqualiter denticulata dorso aristata excedentibus, arista geniculata glumis longiore, foliis angustissimis. *Trin. in Act. Petrop.* 1830. G. 57. *Kth. Agrost.* p. 290.

HAB. Low plains of the Columbia, near Fort Vancouver. *Douglas.* N. W. Am. (*Kth.*)—A very peculiar grass, of which I have seen no authentic specimen, but which I refer here at the suggestion of Dr Gray.

3. *A. atro-purpurea*, Wahl.—*Bong. Veget. de Sitcha*, p. 54.—*Avena*, *Link.*—*Aira alpina*, *Vahl*, in *Fl. Dan.* t. 961.

HAB. Sitcha. *Bongard.*

4. *A. latifolia*; panicula laxa, pedicellis scabriusculis, glumis opacis lato-ovatis acuminatis complicato-carinatis glaberrimis flosculos (2) superantibus, perianthii valv. ext. 4-nervio apice 4-dentato eroso, arista infra medium inserta superiori glumis æquali inf. brevior, foliis lato-linearibus acutis glabris. (TAB. CCXXVII.)

HAB. Rocky Mountains. *Drummond.*—A very remarkable species, which Drs Torrey and Gray are disposed to refer to *Avena*; but it seems to me rather to have the character of *Aira*. It is remarkable for the breadth of the leaves, and for the large, opaque (not glossy), purple-green colour of the glumes. The awns are almost wholly included. The florets at the base, as well as the pedicel of the upper floret, are villous with long white hairs; the inner valve of the perianth is beccarinate, with a strong nerve at each carina, and scabrous.

TAB. CCXXVII.—*Fig.* 1. Spikelet; *f.* 2. Florets; *f.* 3. Outer valve of the perianth; *f.* 4. Inner valve do.—*magnified.*

5. *A. elongata*; panicula longissima composita gracili, ramis appressis scabris, glumis lineari-subulatis carinatis 3-nerviis (carina scabra) flosculos 2 multo superantibus, perianthii valvula exteriori apice 4-dentato obsolete 4-nervio arista stricta longissima perianthium multo superante, foliis angustissimis setaceis rigidis. (TAB. CCXXVIII.)

HAB. Sandy islands of the River Columbia. *Douglas.*—This, too, in the opinion of Messrs Torrey and Gray, should be referred to *Avena*; but it must be recollected that every Agrostographer has his own views respecting the limits of *Aira*, *Trisetum*, and *Avena*. The present plant is very different from every species in those genera with which I am acquainted. Its leaves are slender and setaceous. Culms, including the panicle, two feet and more long; of which the panicle itself occupies about one-half. The glumes are pale, tinged with purple, glossy, the carina green and scabrous.

TAB. CCXXVIII.—*Fig.* 1. Spikelet; *f.* 2. Florets; *f.* 3. Outer valve of the perianth; *f.* 4. Inner valve do.—*magnified.*

28. TRISETUM. *Br. Kth.*

1. *T. subspicatum*, Beauv.—*Richards. App. ed. 2. p. 3. Br. in Parry's 1st Voy. App. p. 292.*—*Trisetum airoides*, R. & S.—*T. molle*, *Kth.*—*Gray, Gram. et Cyp. Part II. n. 166.*—*Trin. Act. Petrop.*—*Avena mollis*, *Mx.*

HAB. Canada. *Mx.* Labrador. *Dr Morrison.* Rocky Mountains, *Drummond*, to the Arctic Sea-shore and Islands. *Dr Richardson. Sir E. Parry.*—A variable plant, in size, from 4 inches to a foot high, in the denseness or laxness of the inflorescence, in the hairiness, and in the more or less purple colour of the glumes.

2. *T. cernuum*; panicula laxa nutante, glumis tri-quadrifloris superiore paulo longiore (circulo latiore,) pilis calli brevibus, racheos medium valvulæ attingentibus, perianthiis bisubulatis supra medium longe aristatis, ovario barbato. *Trin. in Act. Petrop. 1830. 6. 61. Bong. Veg. Sitcha, p. 54.*—*Avena cernua*, *Kunth, Agrost. p. 306.*

HAB. Sitcha. *Mertens.* Columbia River. *Dr Scouler.*—Our Scoulerian specimen precisely accords with an authentic one in my herbarium from the Imperial Academy of Petersburg. It is a tall growing grass, 2-3 feet and more high, with leaves more than half an inch broad. The panicle almost a foot long, the branches slender, drooping, lax, the awn very long and slender, the outer valve of the perianth has the two terminal teeth long, and remarkably slender.

29. AVENA. *L.*

1. *A. versicolor*, *Vill. Delph. 2. p. 142. t. 4. f. 5. Kth. Agrost. p. 300.*—*A. Scheuchzeri*, *Poll.—Host, Gram. 2. p. 52.*

HAB. Rocky Mountains. *Drummond.*—The only difference I can perceive between these specimens and European ones, is that the panicle is longer (3 to 5 inches) and the spikelets more erect.

2. *A. striata* (*Mx.*); panicula subsimplici erectiuscula, spiculis 3-4-floris, flosculis basi barbatis superiore sæpe tabescente, glumis inæqualibus lævissimis, perianthii valvula ext. coriacea 7-nervia, glabra bicuspidata cuspidibus subulatis, arista subtortili perianthio subduplo longiore, foliis lineari-acuminatis angustis, ligula brevi truncata. *Mx. Am. 1. p. 23.*—*Trisetum purpurascens*, *Torr. Fl. 1. p. 127. Gray, Gram. et Cyp. Part I. n. 46.*

HAB. Montreal. *Paine. (Torrey).* Canada to the Saskatchewan and to the Rocky Mountains.—The limits between *Avena* and *Trisetum* do not appear to be well defined: but the habit of the present species (most distinct indeed in point of specific character) is so much that of the preceding, that I think it more natural to place it with the *Avena*.

30. DANTHONIA. *De Cand.*

1. *D. spicata*, *R. et S.*—*Gray, Gram. et Cyp. Part II. n. 117. Trin. Ic. Gram. 5. t. 54.*—*Avena, L.—Ph.*—*Avena glumacea, Mx.*

HAB. Saskatchewan to Hudson's Bay. *Dr Richardson. Drummond.*

IX. FEGUCACEÆ.

31. POA. L.

1. *P. borealis*; culmo erecto subramoso compresso vaginisque glabris, foliis planis innovationum distichis scabris, panícula secunda spicæformi simplicissima erecta, spiculis lanceolatis sub-10-floris, glumis inæqualibus paleisque inferioribus 9-nerviis glaberrimis superiores æquantibus. *Kth.*—*Brizopyrum boreale*, *Presl, in Reliq. Haenk.* 1. p. 280.

HAB. Nutka Sound. (*Haenk.*)

2. *P. capillaris*, L.—*Mx.*—*Ph. Fl.* 1. p. 74.—*Eragrostis*, *Nees.*

HAB. Canada. *Ph.*; but I have never seen specimens from British America.

3. *P. reptans*, *Mx. Am.* 1. p. 6. t. 11. *Torr. Fl.* 1. p. 14. *Gray, Gram. et Cyp. Part I. n.* 52.—*Eragrostis*, *Nees.*

HAB. Sandy banks of streams, N. W. Am. *Douglas.*

4. *P. fasciculata*? *Torr. Fl.* 1. p. 107.

HAB. Carlton House Fort on the Saskatchewan. *Drummond.*—The foliage, culms, and general aspect of this plant are quite the same as those of Dr Torrey's *P. fasciculata*: but the panicles have more regularly erect and shorter branches, and the glumes are longer and sharper. It is probably a distinct species.

5. *P. annua*, L.—*E. Bot. t.* 1141. *Torr. Fl.* 1. p. 107.

HAB. Newfoundland. *Dr Morrison.* Saskatchewan, and York Factory, and Hudson's Bay. *Dr Richardson. Drummond.* Columbia. *Dr Scouler.*

6. *P. festucæformis*, *Host, Gram. Austr.* 3. t. 17.—*Poa arenaria*, var. β . *festucæformis. Trin. in Act. Petrop.* 6. 1. 390. *Bongard, Veg. Sitcha*, p. 55.—*Festuca Hostii, Kth. Enum.* p. 393.

HAB. Sitcha. *Bongard.*—Abundant on Menzies' Island, and on the low sandy banks of the Columbia. N. W. Am. *Douglas.*—Host's figure is an excellent representation of our plant.

7. *P. distans*, L.—*E. Bot. t.* 986.—*Festuca, Kth.*

HAB. Observatory Inlet and shores of the Columbia, N. W. Am. *Dr Scouler.*

8. *P. airoides*, *Nutt. Gen. Am.* 1. p. 68, cum descr. (non *Kth.*)—*P. Nuttalliana, R. et S. Mant.* 2. p. 303.

HAB. Saskatchewan to the Rocky Mountains and to Slave Lake. *Dr Richardson. Drummond.*—A very distinct and well marked species.

9. *P. flexuosa*, *Wahl.*—*Host, Gram. Austr.* 4. t. 26. *Bongard, Veg. Sitcha*, p. 55.—*P. laxa, Wahl. (fide Kth.)*

HAB. Lake Winipeg to the Rocky Mountains and to the Arctic Sea-coast. *Dr Richardson. Drummond.*

—Specimens from the Rocky Mountains and from Bear Lake have larger spikelets and broader leaves; whilst others have more erect spikelets and very narrow leaves; but the structure of the flowers seems to be the same in all.

10. *P. laxa*, *Haenke*.—*Host, Gram. 3. t. 15.*—*P. flexuosa*, *Sm. E. Bot. t. 1123.*

HAB. Hudson's Bay to the Arctic Islands. *Dr Richardson. Drummond.*—Many of our specimens so entirely agree with the description and figures of the European *P. laxa*, that it is impossible not to consider them as identical.

11. *P. arctica*, *Br. in Parry's 1st Voy. App.*—*Hook. in Parry's 2d, 3d, and 4th Voy.*—*Hook. et Arn. in Bot. of Beech. Voy. p. 132.*—*Poa flexuosa*, *β. Trin. in Act. Petrop. 6. 1. 378.*—*P. laxa*, *Br. in Ross' Voy. 2. 192.*

HAB. Labrador. *Dr Morrison.* Rocky Mountains to the Arctic Sea-shores and Islands in every direction. *Dr Richardson. Drummond. Sir E. Parry, &c.*—Some of my specimens from Kotzebue's Sound are a foot high, others are scarcely 4 inches. I must confess myself frequently at a loss to distinguish *P. arctica* from *P. laxa*, and these again from some forms of *P. flexuosa*. A viviparous state of *P. arctica* with greenish flowers is in the collection from the Arctic Sea-coast.

12. *P. alpina*, *L.*—*E. Bot. t. 1003.*

HAB. Labrador. *Miss Brenton*; and from the elevated grounds of the Saskatchewan to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond.*—A most sportive plant in different localities; varying from 3 inches to 2 feet in height; with the leaves broader or narrower (sometimes, when dry, rigid, and with margins involute); the panicle erect or spreading; the spikelets opaque or glossy, broadly ovate and acute to oblong and almost obtuse, and, according to Kunth, with from 4 to 10 florets in each calycine glume: in our specimens, however, even those with the longest spikelets are about 4-flowered. Kunth enumerates 5 varieties of this species, and adduces very many synonyms.

13. *P. pratensis*, *L.*—*E. Bot. t. 1073.*—*β. stricta*; foliis angustioribus paniculisque strictis.

HAB. Saskatchewan to Bear Lake. *Dr Richardson. Drummond.* Greenland. *Hornemann.*—*β.* has a very different appearance, and may perhaps prove a distinct species. It is from Carlton House Fort.

14. *P. crocata*, *Mx. Am. 1. p. 68.*—*P. fertilis*, *Host, Gram. Austr. 3. p. 10. t. 14.*—*P. serotina*, *Gaud. et Auct. Am.*—*Gray, Gram. et Cyp. Part II. n. 120.*

HAB. Canada. *Mr Whitlaw. (Nuttall). Goldie. Mrs Sheppard.* Lake Winipeg to the Rocky Mountains. *Dr Richardson. Drummond.*—Our specimens precisely accord with the figure of Host above quoted.

15. *P. nemoralis*, *L.*—*E. Bot. t. 1265. Torr. Fl. 1. p. 111. Hook. et Arn. in Bot. of Beech. Voy. p. 132.*—*var. glauca*, *P. glauca*, *Sm. E. Bot. t. 1720.*

HAB. Saskatchewan, and plains of the Red River. *Drummond. Douglas.* Slave River. *Dr Richardson.* Rocky Mountains. *Drummond.*—As in Europe, so in N. America, this plant seems liable to great variation. From the Rocky Mountains are specimens 2-3 feet high, and stout in proportion, with very broad leaves, and flowers larger and more crowded than usual. The same mountains, however, afford what appears to be exactly an intermediate state.

16. *P. compressa*, L.—*E. Bot. t.* 365.—*Ph.—Torr.—Gray, Gram. et Cyp. Part I. n.* 59.

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*

17. *P. angustata*, Br. in *Parry's 1st Voy. App. p.* cclxxxvii and cccix.

HAB. Arctic Sea-coast and adjacent islands. *Dr Richardson. Sir E. Parry.*

18. *P. abbreviata*, Br. in *Parry's 1st Voy. App. p.* cclxxxvii and cccix. *Hook. et Arn. in Bot. of Beech. Voy. p.* 132.

HAB. Melville Islands and Igloolik. *Sir E. Parry. Kotzebue's Sound. Capt. Beechey. Greenland. Major Sabine.*

19. *P. glumaris* (*Trin.*); paniculæ angustatæ densæ radiis 2-3 angulato-filiformibus lævibus a basi floriferis, spiculis 2-5-floris pedicello longioribus (glumis flores subæquantibus), perianthiis distinctiuscule nervosis lineari-lanceolatis acutis ad carinam nervosque marginales villosulis nudisve basi barbatis, ligulis brevissimis vel suprema productiuscula, radice repente, culmo tereti. *Trin. in Act. Petrop. 6. 1. p.* 379. *Bongard, Veg. Sitcha, p.* 55. (*et in Herb. nostr.*) *Kth. Enum. Gram. p.* 359.

HAB. Unalashka, Kotzebue's Sound. (*Trinius.*) *Sitcha. Mertens.*—A large and very distinct species.

20. *P. fulva* (*Trin.*); paniculæ (foliis brevioribus) patulæ radiis subquaternis subangulato-filiformibus lævibus inferne nudis, spiculis (subacerosis) 4-6-floris pedicellis subæquilongis vel longioribus, perianthiis obsolete nervosis lanceolato-ellipticis obtusiusculis nudis basi vix barbatis, ligulis productis, radice repente. *Trin. in Act. Petrop. 6. 1.* 378. *Kth. Enum. p.* 359.

HAB. Bay of Eschscholtz, Kotzebue's Sound. (*Trinius.*)

21. *P. stenantha* (*Trin.*); paniculæ contractiusculæ radiis binis (v. pseudo-ternis) solitariisque filiformibus scabriusculis lævibusve inferne nudis, spiculis 2-5-floris pedicellis æquilongis longioribusve, perianthiis obsolete nervosis lanceolato-linearibus acutiusculis ad carinam villosulis inferne pilosiusculis basi subbarbulatis, ligulis productis, radice fibrosa. *Trin. in Act. Petrop. 6. t.* 376. *Bongard, Veg. Sitcha, p.* 54. *Kth. Enum. p.* 358.

HAB. *Sitcha. Mertens.* Grassy slopes near the summit of Mount Ralnier. N. W. Am. *Tolmie.*—A very distinct species of *Poa*, viviparous in the original specimen I have received from the Imperial Herbarium of St Petersburg.

22. *P. leptocoma* (*Trin.*); paniculæ patentis sæpissime flaccidæ paucifloræ radiis binis subcapillaceo-filiformibus lævissimis superne floriferis, spiculis subtrifloris pedicello subæquilongis vel longioribus, perianthiis subobsolete nervosis lineari-lanceolatis acutiusculis vel carinam villosulis basi contortuplicato-lanatis, ligulis productis, radice fibrosa. *Trin. in Act. Petrop. 6. 1.* 374. *Bongard, Veg. Sitcha, p.* 54.

HAB. *Sitcha. Bongard.*

23. *P. rotundata* (*Trin.*); paniculæ sublineari laxæ radiis subquinis angulato-filiformibus scabriusculis simpliciusculis inferne nudis, spiculis (rotundato-apertis) trifloris brevipedicellatis, perianthiis obsolete nervosis lineari-ellipticis acutiusculis dorso lateribus basi que contortuplicato-villosulis, radice subrepente? *Trin. in Act. Petrop.* 6. 1. 378. *Kth. Enum.* p. 359.

HAB. Unalashka. (*Trintus*.)

32. GLYCERIA. *Br. Kth.*

1. *G. aquatica*, *Sm.—Kth.—Poa aquatica*, *L.—E. Bot. t.* 1315. *Torr. Fl.* 1. p. 107. (*var. Americana*). *Gray, Gram. et Cyp. Part I.* p. 58.— β . humilis.

HAB. Lake Winipeg to the Saskatchewan. *Dr Richardson. Drummond.* Marshes near the Western Ocean. *Douglas.—\beta. Rocky Mountains. *Drummond.*—The var. β . is scarcely a foot high, with smaller and less branched panicles than usual.*

2. *G. arctica* (*n. sp.*); panicula erecta (statu juniore) contracta, spiculis erectis elongatis compresso-cylindraceis 7-8-floris, glumis inæqualibus flosculo inferiore brevioribus obtusis, perianthiis valvulis tenui-membranaceis lævibus obtusis, foliis lineari-setaceis. (TAB. CCXXIX.)

HAB. Arctic Sea-coast. *Dr Richardson.*—I possess but one specimen of this plant, which is different from any *Poa* or *Glyceria* with which I am acquainted. It is scarcely a foot high, succid; leaves much tufted at the base, a span long. Culm leafy to the top. Panicle 3 inches long, erect. Florets distichous, erect, slightly imbricated, green, tipped with reddish-purple; texture of the glumes thin and membranaceous.

TAB. CCXXIX.—*Fig.* 1. Spikelet; *f.* 2. Glumes; *f.* 3. Florets:—*magnified.*

3. *G. stuitans*, *Br.—Torr. Fl.* 1. p. 106. *Gray, Gram. et Cyp. Part I.* n. 48.—*G. spectabilis*, *M. et K. Fl. Germ.—Bongard, Veg. Sitcha*, p. 54.—*Festuca fluit.* *L.—Poa, E. Bot. t.* 1520.—*Mx.*

HAB. Saskatchewan. *Drummond.*

4. *G. pauciflora* (*Presl*); panicula erecta composita patentissima, spiculis 4-floris patentibus, glumis rotundatis uninerviis, palea inferiore quinquenervia, radice repente. *Presl, in Reliq. Haenk.* 1. p. 257.

HAB. Nutka Sound.—“Affinis *G. stuitanti*, sed distincta.” *Presl.*

5. *G. nervata*, *Trin. in Act. Petrop.* 6. 1. 365.—*G. Michauxii*, *Kth. Gram.* 1. 118. 343. *t.* 85.—*Poa nervata*, *Willd.—Ph.—Torr.—Gray, Gram. et Cyp. Part II.* n. 57.—*P. striata*, *Mx.*

HAB. Rocky Mountains. *Drummond.*

6. *G. elongata*, *Trin.—Poa elongata*, *Torr. Fl.* 1. p. 122. (*non Willd.*)—*P. Torreyana*, *Spreng.—Gray, Gram. et Cyp. Part II.* n. 56. *Kth. Enum.* p. 333.

HAB. Canada. *Mrs Percival.*

7. *G. obtusa*, Trin.—*Poa obtusa*, Muhl.—*Torrey Fl.* 1. p. 112. (non Nutt.) Gray, *Gram. et Cyp.* Part II. n. 55.

HAB. Canada. Goldie.

8. *G. Canadensis*, Trin.—*Poa Canadensis*, Torr. *Fl.* p. 112. Gray, *Gram. et Cyp.* Part II. n. 121.—*Briza Canadensis*, Mx.

HAB. Canada. Goldie. Saskatchewan. Dr Richardson. Drummond.

33. PLEUROPOGON. Br.

1. *P. Sabinii*, Br. in *Parry's 1st Voy. App.* p. clxxxix. t. D. f. 1-10.—*a. elatior*; subspithameus, antheris stramineis. f. 1—7.—*β. humilior*; 3-4 uncialis, antheris purpureis. f. 8-10.

HAB. Melville Island, Capt. Sabine.

34. REBOULEA. Kth.

1. *R. gracilis*, Kth. *Gram.* 1. p. 341. t. 84.—*Aira obtusata*, et *A. melicoides*, Mx. *Ph.*—*Koeleria Pennsylvanica*, DC.—*Torr. Fl.* 1. p. 116. (*vide Kth.*)—*K. truncata*, Torr. *l. c.* p. 116. Gray, *Gram. et Cyp.* 1. n. 44.—*Aira truncata*, Mx.

HAB. Near the Falls of Niagara. B. D. Greene, Esq. Saskatchewan to the Rocky Mountains. Dr Richardson. Drummond.

35. CATABROSA. P. Beauv.

1. *C. aquatica*, P. Beauv. *Agrost. p.* 97. t. 19. f. 8.—*Aira aquatica*, L.—*E. Bot. t.* 1557.

HAB. York Factory, Hudson's Bay to the Rocky Mountains. Drummond.

36. KOELERIA. Pers.

1. *K. cristata*, Pers.—Gray, *Gram. et Cyp.* Part I. n. 45.—*Torr.*—*Kth.*—*Aira cristata*, L.—*E. Bot. t.* 648.

HAB. Lake Winnipeg and the Red River to the Saskatchewan and to the Rocky Mountains. Dr Richardson. Douglas. Drummond. Arid gravelly soils near the confluence of the Columbia with the sea. Douglas.

37. FESTUCA. L.

1. *F. Myurus*, L.—*E. Bot. t.* 1412.

HAB. Menzies Island and shores of the Columbia River. N. W. Am. Douglas. Dr Scouler.

2. *F. occidentalis*; glaberrima, panicula composita erectiuscula laxa, spiculis 4-floris, flosculis stipitatis laxè imbricatis subcylindraceis, glumis parvis valde inæqualibus apice

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obtusis ciliatis, perianthii valv. ext. obsolete nervosa, arista scabriuscula recta flosculam superante, foliis angustissimis lineari-filiformibus, foliorum vaginis longissimis.

HAB. Plains and elevated grounds of the Columbia, near the sea. *Dr Scouler. Douglas.*—Root tufted. Culms caespitose, $1\frac{1}{2}$ to 2 feet high. Leaves principally radical, one-fourth the length of the culms, 3 or 4 on the culm, distant, but the culm is almost wholly concealed by their remarkably long, sheathing bases. Panicle 5-6 inches long; branches slender, again divided, more or less long, and more or less patent. Spikelets small in proportion to the size of the panicle, green, glossy, smooth. Awns about equal in length to the perianth. Glumes short and obtuse, especially the upper or inner one, which is about twice as long as the outer one, yet not half so long as the floral valves. Inner valve of the floret as long as the outer, acute, flat at the back, but the margins closely inflexed.

3. *F. ovina, L.*—*E. Bot. t. 585.*

HAB. Lake Winipeg to the Saskatchewan and the Bear Lake. *Dr Richardson. Rocky Mountains. Drummond.*—Some of the specimens are a foot and a foot and a half long, but differing in no essential particular from our European *F. ovina*.

4. *F. brevifolia*; racemo subsimplici erecto, flosculis teretibus supra scabriusculis arista duplo longioribus, foliis setaceis vaginisque lævibus, culmeo supremo multoties brevioris vagina sua laxiuscula. *Br. in Parry's 1st Voy. App. p. cclxxxix. et cccix. Hook. in Parry's 2d Voy. App. p. 408, and in Parry's 4th Voy. App. p. 213.*

HAB. Arctic Sea-coast and Islands. *Sir E. Parry. Dr Richardson. Rocky Mountains. Drummond.*

5. *F. subulata (Bong.)*; flosculis lanceolato-linearibus (angustissimis) subobsolete nervosis subulatis, subula isdem æquilonga vel longiori, foliis omnibus planis, radice fibrosa vel subrepente. *Bong. Veget. Sitcha, p. 55.*

HAB. Sitcha. *Mertens.*

6. *F. rubra, L.*—*E. Bot. t. 2056.*—*Bongard, Veg. Sitcha, p. 55.*—*F. duriuscula, Hook. et Arn. Bot. of Beech. Voy. p. 132.*—*var. 1. spiculis hirsutis.—var. 2. racemo subsimplici, spiculis valde hirsutis paucifloris nunc flosculis viviparis.*

HAB. Canada. *Mrs Perceval. York Factory, Hudson's Bay. Drummond. Kotzebue's Sound. Beechey. Greenland (Hornemann).*—*Var. 1. Fort Vancouver.—var. 2. Cumberland House Fort, Bear Lake, and Arctic America. Dr Richardson. (viviparous;) Saskatchewan to Hudson's Bay. Drummond. Greenland. Hornemann.*—In the more northern latitudes this species frequently becomes very hairy in its floscules, and of a dark purplish colour. I have referred the *F. duriuscula* of the Bot. of Beech. Voy. hither, because, like all my specimens which possess a root at all, that root is creeping.

7. *F. Richardsoni*; humilis, racemo simplici brevi, spiculis approximatis compressis ovatis tri-quadrifloris dense villosis, glumis inæqualibus (majore flosculo brevioris), perianthii valvula ext. lato-ovata subcompressa-carinata in aristam perbreve acuminata, foliis brevibus angusto-linearibus planis, radice repente. (TAB. CCXXX.)

Radix repens stolonifera. Culinus basi geniculatus, digitalis ad apithamæam, versus basin præcipue foliosus. Folia 1-3 uncias longa vix $\frac{1}{2}$ lineam lata, angusto-linearia, obtusa, flaccida, plana. Racemus unciam sequi-

unciam longus, simplex vel rarissime subcompositus. Spicula 6-8, approximata, ovata, breviter pedicellata, dense pilosa. Glumæ oblongo-ovatae, cymbiformes, obtusæ, inæquales, flosculis breviores, tri-quadrifloræ, compressæ. Flosculi compressi; perianthii valvula exterior late ovata, complicato-carinata, fusco-purpurea, margine hyalina, apice in aristam perbrevem sensim acuminata: interior bicarinata, ad carinas hirsuta.

HAB. Arctic Sea-coast. *Dr Richardson*.—This appears to be a very distinct species from any with which I am acquainted.

Tab. CCXXX.—Fig. 1. Spikelet; f. 2. Calycine glumo; f. 3. Perianth; f. 4. Anterior view of the inner, and f. 5. posterior view of the inner valvo of the perianth:—*magnified*.

8. *F. (Schœnodorus) pratensis, Huds.*—*E. Bot. t. 1592. Torr. Fl. 1. p. 121. Gray, Gram. et Cyp. Part II. n. 125.*

HAB. Dry plains of the Columbia, and towards the mountains. *Douglas.*

9. *F. (Schœnodorus) borealis (Mert.)*; panicula laxa erectiuscula ramis, primariis subverticillatis, spiculis oblongis sub-4-floris, glumis subæqualibus longitudine fere spiculæ, flosculis teretibus basi fasciculato-pilosis, perianthii valvula exteriori 7-nervi apice brevistaristata lacerata interiore apice bidentata, foliis lato-linearibus planis asperis. (Tab. CCXXXI.)—*Mert. et Koch, Fl. Germ. 1. p. 664. Kth. Enum. p. 404.*

HAB. Carlton House Fort, on the Saskatchewan.—This fine grass is considered by Dr Torrey to be the same with the *F. borealis* of Mert. and Koch; and it must be confessed that it agrees pretty well with their description; but I have no authentic specimen of that plant by which to certify the opinion, and there are some slight discrepancies. The culm in our specimens is as thick as a swan's quill, 3-4 or more feet high, leaves 8-10 inches long, broadly linear-acuminate, rough to the touch. Panicle a foot and more long, almost quite erect, as well as the subverticillate slender branches. Spikelet erect, $\frac{1}{2}$ to $\frac{3}{4}$ ths of an inch long, scattered or subfascicled, sessile or pedicellate, generally 4-flowered. Glumes unequal, convex, rounded at the back, not keeled, the outer one shorter than the florets, acute, entire at the point, the middle nerve reaching beyond the point, so as to form a short arista, there are besides, on each side, two short lateral nerves; the inner glume as long as the whole spikelet of florets, torn at the point, aristate, the middle nerve reaching beyond the point; there are besides, 2 lateral nerves reaching to the apex, and 2 intermediate shorter ones. Florets cylindrical, closely placed, with a tuft of white hairs at the base of each; outer valve of the perianth jagged at the point, shortly aristate, with 7 nerves reaching to the summit: the inner lanceolate, the margin inflected, with 2 strong, green, ciliated, nerves at the flexures, running out so as to form a bifid apex; upper floret smaller than the rest.

Tab. CCXXXI.—Fig. 1. Spikelet; f. 2. Inner glume; f. 3. Outer do.; f. 4. Perianth:—*magnified*.

10. *F. (Schœnodorus) nervosa*; panicula erecto-patens laxa, spiculis oblongis compressis remote 7-8-floris glumis inæqualibus lævibus, superiore longitudine fere flosculi, flosculis scabris lineari-oblongis acute carinatis conduplicato-compressis acutis nervosis, nervis 5 elevatis, foliis planis linearibus.—(Tab. CCXXXII.)

HAB. Nutka Sound. *Dr Scouler*.—Root creeping. Culma cæspitose, 1½-2 feet high, slender, wiry. Leaves flaccid, linear. Panicle 3-4 to 6 inches long, lower branches long and capillary. Spikelets oblong, the flowers remote, and the rachis peculiarly zigzag. These florets are remarkable for being very much com-

pressed; the outer valve completely conduplicate, with a sharp keel, the lateral form (being thus doubled) is linear-oblong, with one nerve at the keel, and two very prominent ones on each side; the apex rather acute, the whole scabrous; inner valve bifid at the point, prominently two-keeled at the back, the keels scabrous.

Tab. CCXXXII.—Fig. 1. Spikelet; f. 2. Glumes; f. 3. Floret:—*magnified*.

11. *F. scabrella*; panicula erecta, ramis patentibus, spiculis 3-4-floris teretibus minute scabrellis, perianthii valvula exteriore 5-nervi in aristam perbreve acuminata, interiore apice bifida, marginibus inflexis ad flexuras nervosis, foliis plerisque radicalibus angustolinearibus ad vaginam cito deciduis. (Tab. CCXXXIII.)—*F. scabrella*, Torr. *Mst.*

Culmi pedales, erecti, caespitosi, striati, subunifoliati, glabri; folio anguste lineari-acuminato vix duas uncias longo, vagina longissima sub lente scabriuscula: reliqua folia etiam glabra, pleraque radicalia, membranaceo-vaginata, angusto-linearia, 3-4 pollicaria, ad vaginas articulata, cito decidua. Panicula composita, 3-4 pollicaris, erecta; rami patentem, versus apicem apicigeri. Spicula viridi-purpurea, 3-plerumque 4-flora, ovata, $\frac{1}{2}$ unciam longe, extus tactu vel sub lente minute scabrella. Glumæ inæquales, acute, flosculis subduplo breviores, enerves, muticæ. Flosculi teretes; perianthii valvula exterior quinquenervis, in aristam perbreve sensim acuminata, interior lanceolata, plana, marginibus inflexis ad flexuras uncinervis scabris, apice bifida.

HAB. Alpine districts of the Rocky Mountains. *Drummond*.—This is a very distinct, and highly peculiar species. There is seldom more than one leaf on the culm. The rest ure radical, and have broad membranous sheathing bases, from the top of which the blade of the leaf is very deciduous. The texture of the florets is soft and membranaceous.

Tab. CCXXXIII.—Fig. 1. Spikelet; f. 2. Perianth:—*magnified*.

38. BROMUS. L.

1. *B. purgans*, L.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 3. Torr. Fl. 1. p. 128.*

This appears to me, judging from the specimens before me, to be a species that varies much according to age and locality. In its more usual form the panicle and spikelets very much resemble our European *B. erectus*; but the great breadth of the hairy leaves will at all times distinguish it. As has been already suggested in the Botany of Capt. Beechey's Voyage, p. 119., probably the *B. pubescens* of Muhl., the *B. Canadensis*, Mich., the *B. ciliatus* of Linn., and the *B. purgans* are all vars. of one and the same species. It will be seen in the "Flora of the Northern and Middle United States," how doubtful Dr Torrey himself is about those reputed species. The following are what I should enumerate as vars. In speaking of the hairiness of the florets, I would be understood as alluding to the outer valve of the perianth: the inner is always beautifully ciliated at the flexure of the margin.

a. vulgaris; panicula elongata laxa, spiculis angustis 6-8-floris viridibus, flosculis sericeo-villosis.—HAB. Canada to the Saskatchewan. *Goldie. Dr Richardson. Red River. Douglas. Columbia. Dr Scouler.*—subvar. *a. flosculis glabris vel ad nervos tantum rarius ciliatis.*—HAB. Fort Norman. *Dr Richardson.*

b. pallidus; panicula densa subcorymbosa, spiculis paulo latioribus magis compressis pallido vircentibus 6-7-floris, flosculis marginibus sericeo-villosis.—HAB. Saskatchewan to the Rocky Mountains. *Drummond.*

γ. purpurascens; panicula elongata laxiuscula, spiculis latioribus 6-8-floris viridi-purpurascensibus marginibus præcipue sericeo-villosis.—HAB. Bear Lake to the Arctic sea-coast. *Dr Richardson.*

δ. longispicata; panicula densa subcorymbosa, spiculis latioribus binuncialibus viridi-purpurascensibus marginibus præcipue sericeo-villosis.—HAB. Rocky Mountains. *Drummond.*

2. *B. Sitchensis* (Bong.); panicula patula (demum patente?) nutante, spiculis 5-7-floris, flosculis lanceolatis setis terminalibus rectis valvula paullo brevioribus, ligula oblonga producta. *Bong. Veget. Sitcha*, p. 55.

HAB. Sitcha. *Mertens*.—"Maxima affinis *Br. pendulino*, Sesse, (Roem. et Sch. 2. p. 644.) cui et habitu simillimus (nam radii inferiores longi, in speciminibus junioribus nostris patuli tantum, demum fortassa patentem); differt potissimum setis, flosculorum longioribus, ligula magna rotundata (nec brevi truncata,) ut in *Br. pendulino*, et foliis majoribus." *Bongard*.

39. CERATOCHLOA. *P. Beauv.*

1. *C. brevi-aristata*; panicula elongata laxa subnutante, spiculis lanceolatis ancipiti-compressis glabris (sub lente scabris), glumis subinæqualibus acutis submuticis nervosis, perianthii valvula exteriore acute carinata multinervi brevi-aristata, foliis lato-linearibus villosulis, vaginis villosu-tomentosis. (TAB. CCXXXIV.)

HAB. Dry elevated ground of Lewis' and Clarke's River, and near the sources of the Columbia. *Douglas*.—Culm 2-3 feet high, near the base as thick as a swan's quill. Leaves very broadly linear-acuminate, slightly hairy. Ligule ovate, membranaceous, white. Panicle 8-10 inches long, slightly compound, erect, or a little drooping to one side. Spikelets inclined (not drooping), an inch or an inch and a quarter long, lanceolate, remarkably compressed, sharply 2-edged, of a harsh and rigid texture, of a pale uniform green colour, minutely scabrous, more so on the keel. Glumes moderately unequal, lanceolate, acutely carinate, gradually coming to a point, not aristate, shorter than the florets, outer about 5, inner about 9-nerved. Exterior valve of the perianth complicato-compressed, sharply carinate, 9-or more nerved, having a very evident, but short, straight awn, from between the slightly bifid points. Inner valve scarcely half so long as the outer, narrow, lanceolate, bifid at the point, the margins sharply inflexed; at the flexures there is a strong ciliated green nerve. Stamens 3. Filaments, apparently, in the advanced state of the flower, incorporated with the ovary, for I can in no instance trace them, till they become free at the top of the crest of the germen. Anthers (abortivo?) small, ovate. Ovary and young fruit oblong with a deep furrow in the inner face, crowned with a 3-lobed whitish hairy crest. Allied to *Ceratochloa unioloides*, Beauv. (which has been found in Texas by Mr Drummond, No. 376, of his 3d Coll.) but very different in the foliage and in the presence of a distinct awn to the florets.

TAB. CCXXXIV.—Fig. 1. Spikelet; f. 2. Glumes; f. 3. Perianth; f. 4. Outer view of an inner valve of do.; f. 5. Immature fruit:—magnified.

2. *C. grandiflora*; panicula subsimplici laxa, spiculis valde compressis subancipitibus pubescenti-scabris 10-11-floris, glumis subæqualibus acuminatis vix aristatis 9-nerviis carinatis, perianthii valvula exteriore compresso-carinata 9-nervi arista stricta valvulæ dimidio longitudinis terminata, foliis lanceolato-linearibus vaginisque hirsutulis. (TAB. CCXXXV.)

HAB. Common on the plains of the Columbia. *Dr Scouler. Douglas*.—Allied to the last in its compressed florets, but quite distinct. The spikelets are in some of the specimens much longer than in any species of the genus I am acquainted with. Although the florets are carinated they are less so than in the preceding species, and more remote on the rachis: the awn, too, is far longer than in that species. The inner valve is gradually attenuated into a long neumen, deeply bifid at the point. In the flowering spikelets, the filaments may easily be traced to the base of the ovary; but in a more advanced state, the lower part of the filaments pro-

bably deliquesces, while the upper seems to adhere, by a glutinous substance, to the crest of the ovary, and then the portion above the ovary seems to have its origin from the top of that body, and to continue there till nearly the perfection of the fruit. The hypogynous scales are 2, broadly obovate, large, but so thin and delicate, that I cannot trace them in the more advanced state of the flower. From an examination of more than one spikelet, it would appear that the lower florets bear abortive stamens, with small and short anthers; the upper ones abortive pistils, with very large linear anthers. In both, the inner valve of the perianth adheres to the ovary as it advances to maturity.

Taa. CCXXXV.—Fig. 1. Spikelet; f. 2. More advanced do.; f. 3. Inner view of inner valve of the perianth; f. 4. Ovary and stamens from a lower floret; f. 5. Do., and hypogynous scales from an upper floret:—magnified.

40. BRIZOPYRUM. Presl.

1. *B. spicatum*, Hook. et Arn. *Bot. of Beech. Voy.* p. 403.—*B. boreale*, Presl, in *Reliq. Haenk.* 1. p. 280.—*Urtiola spicata*, L.—*Torr. Fl.* 1. p. 105. Gray, *Gram. et Cyp. Part 1.* n. 49.—*U. stricta*, Torr. in *Am. of Lyc.* 1. p. 55.—*U. multiflora*, Nutt.—*Festuca distichophylla*, Mx.—Ph.—*Poa Michauxii*, Kth. *Enum.* p. 325.

Haa. Plains of the Red and Saskatchewan Rivers, to the Rocky Mountains. *Dr Richardson. Drummond. Douglas.* De Fuca, N. W. Coast. *Dr Scouler.* Nutka. *Mertens.*—We have observed in the Botany of Beechey's Voyage, that this plant is bisexual, and there is a slight difference between the flowers of the two sexes, which has led to the separation of the species.

41. TRITICUM. L.

1. *T. (Agropyrum) junceum*, L.—*E. Bot.* t. 814.

Haa. Rocky Mountains. *Drummond.* Low plains of the Columbia. *Douglas.*

2. *T. (Agropyrum) repens*, L.—*E. Bot.* t. 909. *Torr. Fl.* 1. 135.—*u. vulgare*.— β . *minus*; spica brevior.— γ . *purpurascens*; spica parva, spiculis purpurascensibus, flosculis aristatis.— δ . *subvillosum*; spica elongata, spiculis subvillosis.—*s. nanum*; spica brevior, flosculis subsericeo-villosis.— ζ . *dasytachyum*; elatum, spicis majoribus, spiculis dense sericeo-villosis.

Haa. α . Saskatchewan to the Rocky Mountains and to the Mackenzie River. *Dr Richardson. Drummond.* Arid barren grounds at the junction of Lewis and Clarke's Rivers with the Columbia.— β . Rocky Mountains. *Drummond.*— γ . Bear Lake to the Arctic sea-coast. *Dr Richardson.*— δ . Fort Norman, on the Mackenzie River. *Dr Richardson.*— ϵ . Arctic sea-coast. *Dr Richardson.*— ζ . Carlton House Fort, on the Saskatchewan. *Dr Richardson.*—All the above I am quite disposed to consider as mere forms of one and the same species, varying according to soil, locality, &c. The last var., *dasytachyum*, very much resembles the *T. dasyanthum*, Spr. (*Agropyrum*, *Schultes Mant.* p. 400.) but that from its obtuse florets and involute leaves, I would rather refer to a hairy state of *T. junceum*.

3. *T. (Agropyrum) caninum*, Schreb.—*E. Bot.* t. 1372. *Torr. Fl.* 1. p. 136.— β . *Gmelini* (Ledeb.); aristis validis demum patenti-reflexis. *Ledeb. Ic. Pl. Ross. Altaic. Illustr.* t. 248.—*Bromus strigosus*, Bieb.

HAB. Lake Winipeg to the Saskatchewan. *Dr Richardson. Drummond.* Plains of the Missouri river, N. W. Am. *Douglas.*— β . Near the great falls of the Columbia, N. W. Am. *Douglas.*—The α . β . has so remarkable an appearance from its strong horizontal, almost reflexed awns, that at first sight, I did not hesitate to consider it a distinct species, as others have done with the same state of the plant; for it is, according to authentic specimens in my Herbarium, the *Agropyrum ægilopoides* of Ledebour's ms. (in Herb. nostr.) from the Altai; and the *Bromus strigosus*, Rich. from the mountains of Tauris; but Ledebour has determined correctly, we doubt not, that it is a variety of *T. coninum*.

42. ELYMUS. L.

1. *E. arenarius*, L.—*E. Bot. t. 1672. Hook. et Arn. Bot. of Beech. Voy. pp. 119, 132.*

HAB. Canada. (Quebec.) *Mrs Perceval.* Labrador. *Dr Morrison. Miss Brenton.* Saskatchewan to Bear Lake, and the extreme Arctic shores and islands. *Dr Richardson. Drummond. Sir E. Parry.* N. W. Am. from the Columbia to Kotzebue's Sound. *Dr Scouler. Douglas. Capt. Beechey.*

2. *E. mollis*, Br. in *Frankl. Journ. ed. 2. App. p. 3.*—*E. mollis*, Trin. in *Spreng. N. Entd. 2. 72? Bong. Veget. Sitcha, p. 56?*—*E. dasystachys.* Trin. in *Ledeb. Ic. Pl. Ross. All. Illustr. t. 249.*— β . spicis minoribus hirsutissimis, spiculis 2-3 floris.

HAB. Saskatchewan to Bear Lake and the Arctic shores, and β . Garry's island. *Dr Richardson. Drummond.*—Ledebour's *E. dasystachys*, from the Altaic mountains, is precisely the same as our *E. mollis*; and his β . of that plant seems to be the same as our β . The flowers of the largest specimens are always smaller than those of *E. arenarius*, which has nevertheless frequently very soft and hairy spikes. I have never seen authentic specimens of the *E. mollis* of Trinlus; Bongard says that it scarcely differs from *E. arenarius*, except in its plane leaves.

3. *E. hirsutus* (Presl); culmo compresso? vaginisque glabris, foliis scabris subtus hirsutis, spica erecta, spiculis hirtis trifloris, glumis sub-quinquenerviis, palea inferiore quinquenervia scabra arista brevior. *Presl, in Reliq. Haenk. 1. p. 264.*

HAB. Nutka Sound. (Presl).—Affinis *E. Europæo* (Presl).

4. *E. Sibiricus*, L.—*Bong. Veget. Sitcha, p. 56. Schreb. Gram. 1. t. 21. f. 1. Gmel. Sib. 1. t. 28.*

HAB. Sitcha. *Mertens.*—"Flosculi et involucella in gramine harum regionum superne ciliatuli." *Bong.*

5. *E. Canadensis*, L.—*Ph.—Torr. Fl. 1. p. 137. Rich. App. p. 3. Gray, Gram. et Cyp. Part I. n. 63.*—*E. Philadelphicus. L.—E. glaucifolius. Willd. Ph.—* β . spicis fusciscentibus dense villosis.

HAB. Canada to the Saskatchewan. *Drummond.* Slave River. *Dr Richardson.*— β . Rocky Mountains. *Drummond.*—This should be compared with authentic specimens of *E. Sibiricus*. What I have from Ledebour as that species, does not seem to differ; but the spikes are in a starved state, while those from Gouan's Herbarium are precisely the same. The figures of Gmelin and Schreber by no means disagree with our *E. Canadensis*.

6. *E. Virginicus*, L.—*Mx.—Ph.—Torr. Fl. 1. p. 137. Gray, Gram. et Cyp. Part I. n. 60.*— β . *submuticus*; glumis flosculisque brevissime aristatis.

HAB. *β*. Cumberland House Fort, on the Saskatchewan. *Drummond*. Common on the shores of lakes and rivers to the east of the Rocky Mountains, but never found to the west of that range. *Douglas*.—The true *E. Virginicus* I possess from various parts of the United States, and even as far north as Boston, with the glumes and outer valve of the florets tapering into a long awn; but all the specimens found by Mr Drummond and Mr Douglas have scarcely an awn at all; yet I can perceive no other difference. The *E. Dahuricus* of Turczaninow (in Herb. nostr.) from Dahuria, I cannot distinguish from *E. Virginicus*.

7. *E. villosus*, *Muhl.*—*Ph.*—*Torr. Fl. 1. p. 138. Gray, Gram. et Cyp. Part I. n. 62.*

HAB. Canada. *Goldie*.—Dr Torrey and the American Botanists, I believe, are disposed to consider the *E. striatus*, Willd., as identical with *E. villosus*. The whole genus needs a very careful revision.

8. *E. Europæus*, *L.*—*E. Bot. t. 1317.*

HAB. Canada. *Mrs Perceval*.—I have closely compared this specimen from Canada with our own *E. Europæus*, and it entirely accords; but I must at the same time remark that *E. villosus* appears to me to be a hairy state of the same plant.

43. ASPRELLA. *Humb.*

1. *A. Hystrix*, *Willd.*—*Kth. Enum. p. 454.*—*Elymus Hystrix*, *L.*—*Muhl.*—*Torr. Fl. 1. p. 138. Gray, Gram. et Cyp. Part II. n. 130.*—*Gymnostichum Hystrix*, *Schreb. Gram. t. 47.*

HAB. Canada. *Goldie*; to the Saskatchewan. *Drummond*.

44. HORDEUM. *L.*

1. *H. pratense*, *Huds.*—*E. Bot. t. 156.*—*H. secalinum*, *Schreb.*—*Host, Gram. Austr. 1. p. 33. Bong. Veget. Sitcha, p. 56.*

HAB. Sitcha. *Mertens*. Common on the plains of the Columbia near the sea. *Douglas*.

2. *H. jubatum*, *L.*—*Ph.*—*Torr. Fl. 1. p. 158. Rich. App. p. 3.*

HAB. Plains of the Saskatchewan to the Mackenzie River. *Dr Richardson. Drummond*. Frequent on the low grounds near the confluence of the Columbia with the sea. *Douglas*.

X. ANDROPOGONÆ.

45. ANDROPOGON. *L. Kth.*

1. *A. scoparius*, *Mx.*—*Ph.*—*Torr. Fl. 1. p. 136. Gray, Gram. et Cyp. Part II. n. 64.*—*A. dissitiflorus*, *Mx.* (*vide Gray*).—*A. purpurascens*, *Muhl.*

HAB. Banks of the Saskatchewan. *Drummond*.

2. *A. furcatus*, *Muhl.*—*Ph.*—*Torr. Fl. 1. p. 137. Gray, Gram. et Cyp. Part I. n. 63.*

HAB. Lake Huron, *Dr Todd*; to the Saskatchewan and the Rocky Mountains, *Dr Richardson*, *Drummond*; and Hudson's Bay, *Douglas*.

3. *A. (Sorghum, Nees) avenaceus*. *Mr.*—*A. nutans*. *L. ?*—*Muhl.*—*Torr. Fl. 1. p. 157.*
Gray, Gram. et Cyp. Part 1. n. 87.

HAB. Saskatchewan. *Drummond.*—This is perhaps the northern limit of this handsome grass. It is more frequent in the south, and according to *Kuuth*, it extends to the West Indies and South America, and is the *A. stipoides*, *H. B. K.*, and the *Sorghum parviflorum* of *Hamilt.* *Prodr. Fl. Ind. Occ.*

(Add at p. 233, after *Alopecurus aristulatus*;

2* *A. cespitosus (Trin.)*; pusillus, thyrsus cylindraceo-oblongo, glumis ad basin usque fissis acutiusculis glabriusculis pectinatis, valvula truncato-obtusa, stylis inferne connatis. *Trin. Gram. Ic. t. 241.*

HAB. Rocky Mountains. *Drummond.*—A very small species, scarcely 3 inches high, with lax, somewhat interrupted and lobed spikes of a tawny green colour; the glumes fringed or pectinated at the keel, and as well as the perianth truncated at the top. The awn is scarcely longer than the valve. It is beautifully figured by *Trinius* in the work above quoted, and, I presume, from specimens which I gave to the late *Mr Prescott*; but no station is mentioned further than that the specimen is "boreall-Americanum."

And at p. 230, after *Vilfa tenacissima*;

3. *V. depauperata (Torr. mat.)*; rigida, culmo brevi dichotome ramoso striato glabro fere toto vnginato, foliis lineari-subulatis vaginis margine membranaceis, ligulis ovatis obtusis, racemo composito sub-paniculato paucifloro, glumis inæqualibus ovatis obtusis membranaceis enervibus perianthio $\frac{1}{2}$ brevioribus, perianthii valvulis subæqualibus lanceolatis chartaceis acutissimis. (TAB. CCXXXVI.)

Tota glaberrima, rigida. Culmus 4-6 uncias longus, decumbens, supra basin dichotome ramosus, teres, striatus, per totam fere longitudinem vaginatus; rami geniculati, flexuosi, articulis sesquiuncialibus. Folia parva, inferiora vix unciam, superiora 2-3 lineas longa, lineari-subulata, rigida, striata. Vagina ad margines membranacea. Ligula obtusæ, in marginem vaginarum decurrentes. Panicula parva subimplex, fere racemus, vix unciam longa, erecta, 8-10 flora. Pedicelli breves, striati, glabri, erecti. Spicula erectæ. Glumæ inæquales, ovatae, obtusæ, membranaceæ, subhyaline, verso obscure uninervio, perianthio $\frac{1}{2}$ breviores. Perianthii valvulæ subchartaceæ, æquales, concavæ vix carinatae, lanceolatae, obscure trinerviæ; exterior acutissima nuda; interior apice bifida.

HAB. N. W. America. Barren sandy parts of the Columbia from *Menzies'* Island upwards. *Douglas.*—A very distinct species from any I have seen. *Dr Torrey* considers its place as between *V. virgata* and *V. vaginifolia*.

TAB. CCXXXVI.—Fig. 1. Spikelet; f. 2. Glumes; f. 3. Perianth:—magnified.)

CL. III. ACOTYLEDONEÆ.

ORD. I. FILICES.

TRIB. I. POLYPODIACEÆ.

1. POLYPODIUM. L.

1. *P. vulgare*, L.—*E. Bot.* t. 1149.—*Ph.*—*Rich. App.* p. 39.—*β. Americanum*; minus, fronde angustiore, laciniis remotioribus. *P. Virginianum*, *Linn. Sp. Pl.* p. 1345 (*excl. Syn. Plum. §c.*). *Ph.*—*γ. occidentale*; frondis laciniis acutis acute serratis. *P. vulgare*, *Virginianum. Bong. Veg. Sitcha*, p. 57.

HAB. *β.* Canada. *Pursh, Mrs Perceval, Mrs Sheppard*; to the Saskatchewan and Slave River. *Dr Richardson, Drummond.*—*γ.* N. W. Am. On rocks and decayed wood, common near the confluence of the Columbia with the sea. *Douglas. Sitcha. Mertens. (in Herb. nostr.)*—The common state of this plant throughout the United States and in British N. America, is to be smaller than the European form, with narrower and more oblong fronds, with laciniæ more distant, and the sori nearer the margin. This is no doubt the *P. Virginianum* of Linnaeus and authors, as far as regards the Virginia plant, on which Linnaeus founded his character:—the synonyms which he has adduced, or at least that of Plumier, belong I think rather to the following. The Columbian and Sitcha variety is different from any I have seen, yet cannot in my opinion be distinguished as a species from this, which we know is a very variable Fern. Mertens' plant from Sitcha described by Bongard, is identical with the Columbian one.

2. *P. intermedium*; fronde ovali-lanceolata membranacea pellucida fere ad rachin pinatifida, laciniis oblongis acutiusculis serratis glabris, venulis (3-4) distinctis liberis vel rarissime sub margine anastomosantibus, soris ovalibus solitaris. *Hook. et Arn. Bot. of Beech. Voy.* p. 405. *Plum. Fil.* p. 60. t. 77.

HAB. Columbia. *Dr Scouler.*—On referring to Plumier's figure above quoted (a W. Indian Plant), to see how far it agreed with any N. American Fern (Linnaeus having referred to it as his *P. Virginianum*), I find it agrees so well with this plant, that I have little hesitation in considering it the same; and the more so from observing that the species is also a native of St Vincent, whence I have received specimens from the late Mr Guilding.

3. *P. (Marginaria) Californicum*, *Kauf.*—*Hook. et Grev. Ic. Fil.* t. 56. *Hook. et Arn. Bot. of Beechey's Voy.* p. 161 and 405.

HAB. N. W. America. Moist Rocks, Columbia river. *Dr Scouler.*

4. *P. Phegopteris*, L.—*α. minus*; subrigidum, pinnarum infimarum laciniis omnibus subintegerrimis, venulis fere omnibus simplicibus, soris densis marginatis, *E. Bot.* t. 224. *Schkuhr, Fil. Tab.* 20.—*β. intermedium*; tenuius, pinnarum inferiorum laciniis crenatolobatis venulisque furcatis, soris submarginalibus.—*P. connectile?* *Mx.—Willd.—Ph.*—*γ. majus*; tenue, pinnis distantibus inferiorum plurium laciniis remotiusculis elongatus pinatifidis, venulis plurimis furcatis.—*P. Phegopteris, γ. Schkuhr, Fil.* t. 20. b.—*P. hexagonopterum, Mx. Am.* 2. p. 271. *Ph.*—*P. cruciatum, Kauf. (sive Prasl.)*

HAB. *α*. Canada. *Lady Dalhousie*. *Mrs Perceval*.—*β*. Canada. *Mrs Perceval*; and thence to the Saskatchewan. *Dr Richardson*. *Drummond*. N. W. Am. Columbia River. *Douglas*. Portage, and near the sources of the Columbia river. *Drummond*.—*γ*. Canada. *Goldie*.—Of the two first varieties that I have here noticed, I have not the slightest doubt of their belonging to one and the same species; and with regard to the third (var. *γ*), among the larger specimens of *β*, which I have seen, are some which appear to constitute quite a connecting link between *α*. and *γ*. This latter seems to be rare in British America; more frequent in the United States, where it is sometimes called *P. connectile* and sometimes *P. hexagonopterum*. The larger the plant, and the more remote the pinnae, the greater the disposition in the fronds to become compound, and the more the veinlets become branched or forked:—then too the decurrent triangular lobe of the rachis is more developed and more remarkable.

5. *P. Dryopteris*, *L.*—*E. Bot. t. 616. Rich. App. p. 39.*—*Nephrodium, Mx.*—*P. calcareum, Ph.*—*β. rigidius, P. calcareum, Sm. E. Bot. t. 1525. Bong. Veg. Sitcha, p. 57.*

HAB. Canada. *Mrs Perceval*, to the Rocky Mountains and to Bear Lake. *Dr Richardson. Drummond.*—*β*. High Mountains of the Rapids of the Columbia. *Douglas*.

2. GYMNOGRAMMA. *Desv.*

1. *G. triangularis, Kauf.*—*Hook. et Grev. Ic. Fil. t. 315. Hook. et Arn. Bot. of Beech. Voy. p. 161 et 405.*

HAB. Columbia. *Douglas*.—A single specimen only of this is in the Herbarium of Mr Douglas, mixed up with other Ferns of the Columbia. It was probably found to the south of that river towards California, a country which the species is known to inhabit.

3. WOODSIA. *Br.*

1. *W. Ilvensis, Br. in Linn. Trans. v. 11. p. 173.*—*E. Bot. t. 2616. Sw.—Ph. Am. 2. p. 600. Rich. App. p. 39.*—*Polypodium, Sw.*—*Nephrodium rufidulum, Ph. (certe.)*

HAB. Canada to Hudson's Bay, Bear Lake and the Rocky Mountains. *Pursh. Goldie. Lady Dalhousie. Dr Richardson. Douglas. Drummond.*

2. *W. hyperborea, Br. l. c. p. 173, cum Ic.*—*Ph. Am. 2. p. 600.*—*Polypodium, Sw. Presl, E. Bot. t. 2023.*

HAB. Canada to the Saskatchewan. *Pursh. Dr Richardson. Drummond.*

3. *W. glabella (Br.); frondibus (lanceolato-linearibus) pinnatis glaberrimis, pinnis triangularibus pinnatifidis imis dilatatis laciniis cuneiformibus, rachi nuda stipite squamato.* (TAB. CCXXXVII.) *Br. in Rich. App. p. 39.*

HAB. Great Bear Lake. *Dr Richardson.*—A very distinct species, always retaining the character above given by Mr Brown.

TAB. CCXXXVII. Fig. 1. Pinna; f. 2. Sorus; f. 3, 4. Capsules; f. 5. Seeds:—*magnified.*

4. PHYSEMATIUM. *Kauf.*

1. *P. obtusum.*—*Aspidium obtusum, Willd.—Schkuhr, Fil. t. 21. and t. 43. b. p.—Ph.*

Am. 2. p. 662.—*Polypodium, Sw.*—*Woodsia Perriniana, Hook. et Grev. Ic. Fil. 1. t. 68.*—*Alsophila Perriniana, Spreng.*

HAB. West side of the Rocky Mountains, near the sources of the Columbia, *Drummond*; and elsewhere on the higher parts of the Columbia. *Douglas.*—This is the *Alsophila Perriniana* of Sprengel, and it is perhaps by some mistake that it is said to be a native of St Thomas. It seems however to have a wide range in N. America, yet to be found nowhere plentifully.—The Genus is distinguished from *Woodsia*, to which it is very nearly allied, by the presence of an hemispherical indusium which covers the whole sorus and then splits from the top into several lacinated segments.

5. CISTOPTERIS. *Bernh.*

1. *C. fragilis, Bernh.*—*Athyrium, Rich. App. p. 39.*—*Cyathea, E. Bot. t. 1587.*—*Ph.*
—*β. laciniis latioribus minus divisis. C. tenuis, Schott.*—*Aspidium tenue, Willd.*—*Ph.*
—*Nephrodium, Mx.*

HAB. Canada, *Mrs Perceval, Goldie*; to Slave Lake and to the Rocky Mountains. *Dr Richardson, Drummond.*—This species varies a good deal in North America; but not more so than it does in Europe. The *C. tenuis* is only a form with broader and less deeply divided laciniæ.

2. *C. montana, Link.*—*Aspidium, Sw.*—*Schkuhr, Fil. t. 63.*

HAB. Shady alpine woods by streams in the Rocky Mountains. *Drummond.*—This is quite new to the Flora of N. America. The specimens entirely accord with European ones. The species cannot indeed readily be mistaken, well marked as it is by its small exactly triangular and much divided frond, with the fructification precisely resembling that of *C. fragilis.*—May not the *Aspidium atomarium*, Muhl. and Willdenow, be a variety of this plant?

3. *C. bulbifera, Bernh.*—*Aspidium, Sw.*—*Schkh. Crypt. t. 57.*—*Ph.*—*Nephrodium, Mx.*

HAB. Canada. *Mrs Sheppard. Goldie.*

6. ASPIDIUM. *Sw.*

1. *A. (Lastrea) Thelypteris, Sw.*—*E. Bot. t. 1018. Schkh. Fil. t. 52.*—*A. thelypteroides, Sw.*—*Nephrodium, Mx.*—*Aspidium Noveboracense, Sw.*—*Ph.*—*Schkh. Fil. t. 46.*

HAB. Canada. *Michaux. Mrs Perceval. Mrs Sheppard.*—The *A. Noveboracense* is quite identical with *A. Thelypteris.*

2. *A. (Lastrea) Goldianum, Hook. in Ed. Phil. Journ. 6. p. 333. Hook. et Grev. Ic. Fil. t. 102.*—*A. Filix Mas, Ph. Am. 2. p. 662.*

HAB. Canada. *Dr Holmes.* About Montreal. *Goldie. Mrs Perceval. Mrs Sheppard.*—This is a most distinct species, and though apparently rare in British N. America, seems to be common in the United States, whence it is not unfrequently sent as *A. Filix Mas*; and there is every reason to believe that this is what Porsh had in view for that plant.

3. *A. (Lastrea) marginale, Willd.*—*Ph.*—*Schkuhr, Fil. t. 45. b.*

HAB. Canada. *Mrs Sheppard. Mrs Perceval,* to the Saskatchewan. *Dr Richardson. Drummond.*

4. *A. (Lastrea) cristatum*, Sw.—*E. Bot. t. 2125 (not t. 1949.) Ph.*

HAB. Saskatchewan. *Dr Richardson. Drummond.*—The specimens are barren, but the form of the plant is so remarkable, as to leave not the shadow of a doubt as to its being the real *A. cristatum*, which, moreover, is frequent in the United States.

5. *A. (Lastrea) fragrans*, Sw.—*Hook. in Parry's 2d Voy. App. p. 410.*—Nephrodiium, *Rich. App. p. 39. Hook. et Grev. Ic. Fil. t. 70.*

HAB. Saskatchewan to the Arctic Sea-coast and Islands. *Dr Richardson. Sir E. Parry. Drummond.*—Some of the specimens from about Bear Lake are nearly a foot in length.

6. *A. (Lastrea) spinulosum*, Willd.—*E. Bot. t. 1460. Bong. Veget. Sitcha, p. 57. Ph. Am. 2. p. 663.*—*A. intermedium? Willd.—Ph.—β. A. dilatatum, Willd.—E. Bot. t. 1461. Bong. Veg. Sitcha, p. 57. Ph. Am. 2. p. 663.*—*A. dumetorum, Sw.—Nephrodiium expansum, Presl, Reliq. Haenk. 1. p. 38.*

HAB. Newfoundland. *Miss Brenton.* Canada, (*Mrs Perceval, Lady Dalhousie*), to the Rocky Mountains. *Dr Richardson. Drummond.* Columbia River. *Dr Scouler. Douglas.*—In America this plant, although at all times easily recognised, is as variable as in England; and it is equally impossible, as with us to limit the marks of the varieties.

7. *A. (Polystichum) Lonchitis*, Sw.—*E. Bot. t. 797.*

HAB. Rocky Mountains. *Drummond.*

8. *A. (Polystichum) munitum (Kauf.)*; frondibus pinnatis, pinnis lineari-lanceolatis spinoso-acuminatis subfalcatis basi sursum auriculatis mucronato-serratis, serraturis subapressis rarissime bidentatis, stipite rachique subtus et basin versus paleaceis.—*Kauf. Enum. p. 230. Hook. et Arn. Bot. of Beech. Voy. p. 162, and 405.*—Nephrodiium Plumula, *Presl, Reliq. Haenk. 1. p. 33.*

HAB. N. W. America. *Menzies. Douglas. Dr Gardner.* Nutka. *Mertens.*—The most common of all Ferns on the N. W. Coast, between the parallels of 40° and 49° n. lat., in the moist grounds of the dark shady Pine Forests. The roots are roasted on the embers, and constitute an article of food. The fronds are used as garlands by the Indians. *Douglas.*

9. *A. (Polystichum) acrostichoides*, Sw.—*Ph.—Schk. Fil. t. 30.*—Nephrodiium, *Mx.*

HAB. Canada. *Mrs Perceval. Mrs Sheppard.*

10. *A. (Polystichum) aculeatum*, Sw.—*E. Bot. t. 1562. (ic. mal.) Hook. Br. Fl. ed. 4. p. 384.*—*A. vestitum, Sw.—Schkuhr, Fil. t. 43. Bong. Veg. Sitcha, p. 57. (et in Herb. nostr.) Nephrodiium setigerum, Presl, Reliq. Haenk. 1. p. 37.*

HAB. Portage, and sources of the Columbia, west side of the Rocky Mountains. *Drummond.* Nutka. *Haenke. Sitcha. Mertens.*—This is a rare plant in N. America; and the form is precisely that which I have characterized as the *Asp. aculeatum* in "British Flora," ed. 4. v. 1. p. 384, a state exactly intermediate between *A. lobatum* on the one hand, and *A. angulare*, Sm., on the other. Pursh records it as an inhabitant of the Green Mountains, Vermont; Mertens discovered it at Sitcha; and my correspondent, Dr W. F. Macrae of Montreal, Canada, has lately communicated specimens to me which he had the good fortune to

detect in the Essex Mountains, State of New York. Dr Bongard's *A. vestitum*, which there is every reason to believe is the true *vestitum* of Sw., has the most perfect conformity with this and with Mr Drummond's specimen.

7. ONOCLEA. L.

1. *O. sensibilis*, L.—*Mx. Am.* 2. p. 272. *Ph.*—*Schkh. Fil. t.* 102.— β . *O. obtusilobata*, *Schkh. Fil. t.* 103.—*Ph.*

HAB. Lake Huron, *Dr Todd*, to the Saskatchewan. *Drummond*.

8. STRUTHIOPTERIS. Willd.

1. *S. Germanica*, Willd.—*Beck, Fl. p.* 456.—*Onoclea Struthiopteris*, *Schkh. Fil. t.* 105, and *O. nodulosa*, *ejusd. t.* 104.—*Osmunda Struthiopteris*, L.—*Struthiopteris Pennsylvania*, Willd.—*Ph. Am. p.* 666.

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond. Douglas*.—After a very careful comparison of the N. American *Struthiopteris* with the European, I am compelled to consider them, as Dr Beck has already done, one and the same species.

9. ATHYRIUM. Presl.

1. *A. Filix femina*, Roth.—*Asplenium, Bernh.*—*Nephrodium, Mx.*—*Aspidium, Sw.*—*E. Bot. t.* 1459. *Schkuhr, Fil. t.* 58.—*Asplenium Athyrium, Schkuhr, Fil. t.* 78.—*Aspidium asplenioides, Sw.*—*Ph.*—*Nephrodium, Mx.*— β . fronde angustiore. *Aspidium angustum, Willd.*—*Ph.*—*Athyrium angustum, Presl, Reliq. Haenk. 1. p.* 39.— γ . fronde angusta oblongo-lanceolata rigidior, pinnis pinnulisque remotioribus.

HAB. α , and β . Throughout Canada, *Goldie, Mrs Perceval, Lady Dalhousie*; to the Saskatchewan and to the alpine woods of the Rocky Mountains. *Dr Richardson. Drummond.*— β . *Nutka. Mertens.*— γ . Common on the N. W. Coast, by the shady banks of streams.—This species in America, as in Europe, varies in the breadth of its fronds: the Columbian var. is the most striking of these forms, but it is evidently not a distinct species.

10. ASPLENIUM. L.

1. *A. (Camptosorus) rhizophyllum*, L.—*Mx.*—*Ph. Am. 2. p.* 666.

HAB. Canada. *Pursh, Goldie*, to the Saskatchewan. *Drummond*.—The reticulated venation of this plant, forming oblong hexagonal areolæ, is very remarkable, and quite different from that of any other *Asplenium*, but very similar to some of the exotic *Scolopendria*, with which the plant agrees in its undivided fronds. Presl has constituted of it the genus *Camptosorus*.

2. *A. Trichomanes*, L.—*E. Bot. t.* 576. *Mx.*—*A. melanocaulon, Willd.*—*Ph.*

HAB. Canada, *Pursh, Mrs Sheppard, Mrs Perceval*; to the Saskatchewan. *Dr Richardson. Drummond.* Damp rocks of the Columbia and Puget's Sound. *Douglas*.

3. *A. viride*; fronde pinnata pinnis rotundato-ovatis obtuse serratis basi cuneatis, rachi concolore. *Huds.*—*E. Bot. t.* 392.

HAB. Moist shady rocks on the Rocky Mountains. *Drummond*.—This is quite new to America.

4. *A. ebeneum*, Willd.—*Ph. Am.* 2. p. 666.—*A. polypodioides*, Sw.—*A. trichomanoides*, Mx.

HAB. Canada. *Mrs Sheppard*.

5. *A. marinum*; fronde pinnata, pinnis oblongis obtusis inciso-serratis basi superiore rotundata et subauriculata inferiore truncata.—*L.—E. Bot.* t. 150.

HAB. New Brunswick. *E. N. Kendal, Esq.*—This species again is now, for the first time, ascertained to be a native of N. America. It may perhaps be frequently found among maritime rocks. I have specimens I can scarcely distinguish from it, from the West Indies.]

11. BLECHNUM. L.

1. *B. boreale*, Sw.—*E. Bot.* t. 1159. *Ph. Am.* 2. p. 669. *Bong. Veg. Sitcha*, p. 58.—*Lomaria spicant*, Desv.—*Presl.*—*Lomaria crenata*, *Presl, Reliq. Haenk.* 1. p. 51.

HAB. N. W. Coast. *M. Lewis. (Ph.)* Observatory Inlet. *Dr Scouler.* Nutka. *Mertens.*—I am aware that an opinion prevails that this plant should be referred to *Lomaria* (*Stegania, Br.*): but the indusium is certainly not marginal. The fructification may be considered that of *Blechnum*, the habit that of *Lomaria*.

2. *B. doodioides*; fronde elongata lanceolata pinnata, pinnis suboppositis basi lata exauriculata lato-lineari-oblongis sensim acuminatis paululum falcatis versus apicem obscure serratis infimis parvis rotundatis superioribus multo angustioribus soriferis, soris continuis vel sæpissime interruptis.

HAB. Interior of N. W. America. *Douglas.*—Of this plant two specimens were sent to me by the late Dr Gairdner, (then resident at Fort Vancouver on the Columbia,) which were gathered in the interior by Mr Douglas: but whether in the Hudson's Bay territories, or, as is possible, in N. California, I am uncertain. I am disposed to believe in the former country, because there is nothing of the kind in Mr Douglas' Californian Herbarium. It is a very distinct plant, almost combining the character of *Woodwardia*, or *Doodia*, with those of *Blechnum*. The veins are obliquely parallel with the costa, forked, and not anastomosing in the sterile pinnæ: when the fructification appears, the lower branch of a vein anastomoses with the vein immediately above it, and in the interior of that vein (next the costa) the sorus is formed. In the lower of the fertile pinnæ, the indusium frequently stands unconnected and more or less distant, as in *Woodwardia*, but generally forming a continued line, from the union of the adjoining indusia. The stipes is dark purple, the upper (fertile) pinnæ are so narrow that the sori occupy nearly the whole surface, as in *B. boreale*.

12. PTERIS. L.

1. *P. aquilina*, L.—*E. Bot.* t. 1679. *Ph. Am.* 2. p. 688. *Agardh, Recens. Sp. Gen. Pter.* p. 49.—*P. caudata*, *Ph.*—*β. lanuginosa*; fronde subtus dense tomentosa. *Bong. Veget. Sitcha*, p. 58.—*P. lanuginosa*, *Hook. et Arn. in Bot. of Beech. Voy.* p. 405.—non *Bory?* et *Agardh?*

HAB. New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton.* Canada. *Pursh, Mrs Sheppard, Mrs Perceval*, to the Saskatchewan. *Drummond.*—*β.* Very common from Cape Mendocino to Puget Sound, and in the open woods and undulating grounds in the interior of Columbia. *Douglas.*

2. *P. (Allosorus) atro-purpurea*, L.—*Mx.*—*Schkuhr*, *Fil. t.* 100. *Ph.*—*P. gracilis*, var. *nana*? *Rich. App. p.* 39.

HAB. Canada to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond. Douglas.*

3. *P. (Allosorus) gracilis*; tenuis, fronde lanceolata, sterili pinnata pinnis pinnatifidis laciniis paucis late ovatis obtusissimis tenuissimis, fertili bipinnata pinnis lineari-oblongis crenatis, rachi concolore, stipite atro-fusco nitidissimo.—*Mx. Am. 2. p.* 262. *Ph. Am. 2. p.* 668.—*Cheilanthes*, *Kauf.*—*Spr.*

HAB. Canada, *Michaux, Goldie*; to the Saskatchewan. *Drummond. Dr Richardson.*—This is a very distinct species, though sometimes confounded with the preceding.

13. CRYPTOGRAMMA. Br.

1. *C. acrostichoides* (Br.); frondibus bipinnatifidis, sterilium pinnulis ovalibus crenatis, fertilium demum explanatis, soris linearibus discum totum occupantibus. *Br. in Rich. App. p.* 39. et *p.* 54. *Hook. et Grev. Ic. Fil. t.* 29. *Bong. Veg. Sitcha, p.* 58.—*Allosorus*, *Presl.*

HAB. Nutka Sound. *Menzies.* Stony places in the Rocky Mountains, but rare: to the sources of the Columbia, *Drummond*, and thence to the Grand Rapids of the Columbia, and the mountains of Macgillivray's River. *Douglas.* Cumberland House Fort to Bear Lake. *Dr Richardson.*

2. *C. crispa*, Br.—*Hook. Brit. Fl. ed. 4. p.* 389.—*Allosorus crispus*, *Bernh.*—*Kauf. Enum. p.* 143.

HAB. Unalashka. *Chamisso.*—May this not be the previous species?

14. ADIANTUM, L.

1. *A. pedatum*, L.—*Mx. Am. 2. p.* 263. *Schk. Fil. t.* 115. *Ph.*

HAB. Canada. *Michaux. Pursh. Mrs Sheppard.* Lake Huron. *Dr Todd.* Columbia River, N. W. Coast. *Dr Gairdner. Dr Scouler. Douglas.*

15. CHEILANTHES. Sw.

1. *C. vestita*, Sw.—*Ph. Am. 2. p.* 670.—*Schkuhr, Fil. t.* 124.—*Nephrodium lanosum*, *Mich. Am. 2. p.* 270.

HAB. Alpine woods in the Rocky Mountains. *Drummond.* New Caledonia, N. W. Am. *Douglas.*

16. DICKSONIA. L'Hérit.

1. *D. pilosiuscula*, Willd. *Enum. p.* 484. *Ph. Am. p.* 671.—*D. pubescens*, *Schkuhr, Fil. t.* 131.—*Aspidium punctilobum*, Willd.—*Ph. Am. 2. p.* 664.—*Nephrodium punctilobum*, *Mx.*

HAB. Canada. *Dr Holmes.* New Brunswick. *Mr Keudal.*

TRIB. II. OSMUNDACEÆ.

17. OSMUNDA. L.

1. *O. spectabilis*, Willd.—*Ph. Am.* 2. p. 658.—*O. regalis*, β. L.—*O. regalis*, Mx.

HAB. Canada. *Pursh. Mrs Perceval*, to the Saskatchewan. *Dr Richardson. Drummond*.—The nearly equal bases of the leaflets distinguish this species from our *O. regalis*; and it is found in South as well as in North America, retaining the same characters.

2. *O. cinnamomea*, L.—Mx.—*Ph. Am.* 2. p. 657. *Schkuhr, Fil.* p. 146.—*O. Claytoniana?* Willd.—*Ph.*—β. frondibus majoribus, rachi magis alata. *O. alata*, Hook. in *Ed. Phil. Journ.* v. 6. p. 332.

HAB. Canada. *Goldie. Mrs Sheppard. Mrs Perceval.* Newfoundland. *Miss Brenton*.—β. Montreal. *Goldie.*

3. *O. interrupta*, Mx. *Am.* 2. p. 273.—*Ph.*—*Schkuhr, Fil.* t. 144.

HAB. Canada. *Michaux. Mrs Perceval.* Newfoundland. *Miss Brenton. Dr Morrison.*

18. SCHIZEA. Sw.

1. *S. pusilla*, *Ph.*—Hook. et Grev. *Ic. Fil.* t. 47.—*S. filifolia*, *De la Pyl.*—*S. australis*, *Gaud. Fl. des Isles Malouines.*

HAB. Newfoundland. *De la Pylaie*.—For a long time this very rare and beautiful little plant has been believed to be peculiar to one locality, Pine Barrens, near Quaker's Bridge, New Jersey, in the United States. But in 1825 it was stated at Paris, that the same Fern (as ascertained by a comparison instituted by M. Victor Jacquemont) had been discovered in Newfoundland, by M. de la Pylaie, and by M. Gaudichaud in the Falkland Islands.

TRIB. III. OPHIOGLOSSÆ. Br.

19. BOTRYCHIUM. Sw.

1. *B. Lunaria*, Sw.—*E. Bot.* t. 318.

HAB. About Carlton House Fort on the Saskatchewan, *Dr Richardson*, to the Rocky Mountains; in the wet prairies. *Drummond*.—I believe this species had not been found before in the New World.

2. *B. simplex*, Hitch. in *Sill. Journ.* 6. p. 103. *Hook. et Grev. Ic. Fil.* t. 82.

HAB. Canada. *Pursh.* (in *Herb. nostr.*) *Mr Cleghorn.* Between Cumberland House Fort and Hudson's Bay. *Drummond.*

3. *B. obliquum*, Muhl.—*Ph. Am.* p. 655.

HAB. About Hudson's Bay, (York Factory,) and on the "Height of Land" in the Rocky Mountains. *Drummond.* Newfoundland. *Dr Morrison.*

4. *B. silaifolium* (Presl); fronde radicali tripinnata, pinnis primariis secundariisque petiolatis, pinnulis subsessilibus ovatis crenato-dentatis inferioribus sublobatis, scapo nudo, panicula coarctata. *Presl, Reliq. Haenk.* 1. p. 76.

HAB. Nutka. *Mertens*.—This species is quite unknown to me.

5. *B. Virginicum*, Sw.—*Ph. Am.* 2. p. 656. *Schkuhr, Fil. t.* 156.—*Botrypus, Mx.*—*Botrychium gracile, Ph.*

HAB. Canada, *Michaux, Goldie*; from Lake Huron, *Dr Todd*, to the Saskatchewan. *Dr Richardson, Drummond.* Newfoundland. *Miss Brenton.* Columbia River, N. W. America. *Dr Scouler.*

ORD. II. LYCOPODINEÆ. Sw.

1. LYCOPODIUM. L.

A. EXSTIPULATÆ.

* Axillares; capsulis axillaribus.

1. *L. Selago*, L.—*E. Bot. t.* 233. *Hook. in Parry's 2d Voy. App. p.* 261. *Beck, Fl. p.* 462.— β . foliis angustioribus sæpe squarrosis. *L. recurvum, Willd.*

HAB. From Hudson's Bay (York Factory) to the Rocky Mountains, and to the extreme Arctic shores and islands. *Dr Richardson, Drummond, Sir E. Parry, &c.* Labrador. *Dr Morrison, Miss Brenton.* West side of the Rocky Mountains near the sources of the Columbia. *Douglas.*— β . N. W. America. From Observatory Inlet, Millbank Sound, to Stikine. *Dr Scouler, Tolmie.*

2. *L. lucidulum*, Mich. *Am.* 2. p. 284.—*Ph.*—*Schkh. Fil. t.* 159.—*L. reflexum, Sw.*

HAB. Canada to the Saskatchewan. *Drummond.*

** Spicate; capsulis spicatis.

† Spicis sessilibus.

3. *L. dendroideum*, Mx. *Am.* 2. p. 282. *Ph.*—*Hook. Ex. Fil. t.* 7.

HAB. Canada. *Pursh, Mrs Perceval, Mrs Sheppard*; to the Saskatchewan, and to Hudson's Bay. *Drummond.* New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton, Dr Morrison.* N. W. Coast of America. *Menzies.*

4. *L. annotinum*, L.—*E. Bot. t.* 1727. *Ph. Am.* 2. p. 653.—an *L. bryophyllum, Haenke.*

HAB. Canada. *Pursh, Mrs Perceval, Lady Dalhousie*; to Slave Lake. *Dr Richardson, Drummond.* Newfoundland. *Miss Brenton, Dr Morrison.* N. W. Am. Observatory Inlet, *Dr Scouler*; to Millbank Sound. *Tolmie.*

5. *L. sabinæfolium* (Willd.); caule elongato repente, ramis erectis brevibus dense

fastigiatis dichotome divisis, foliis undique imbricatis nunc quadrifariis æqualibus erectis tereti-subulatis aristato-acuminatis, spicis sessilibus cylindraceis solitariis, squamis cordato-acuminatis patentibus integerrimis. (TAB. CCXXXVIII.) *Hook. et Grev. Lycop. in Bot. Miscell.* 2. p. 371.—*L. alpinum, Mx.*

HAB. Canada. *Michaux.* Banks of the Saskatchewan. *Dr Richardson. Drummond.* Newfoundland. *Mr Carmack.*—With the habit of *L. alpinum*, the species has totally different leaves and a different insertion of those leaves. Here they are all equal, and imbricated on all sides, or occasionally in 4 rows.

TAB. CCXXXVIII.—*Fig.* 1. Portion of a branch; *f.* 2. Spike of fructification; *f.* 3. Scale from the spike with a capsule, posterior view; *f.* 4. Side view of a scale with the capsule:—*magnified.*

6. *L. selaginoides, L.*—*E. Bot. t.* 1148. *Mx.*—*Ph. Am. 2. p.* 654.

HAB. Canada. *Michaux.* Saskatchewan. *Drummond.*—The few specimens, gathered by Mr Drummond, are all I have seen of American origin. Dr Greville and myself were unquestionably wrong in referring the *L. bryophyllum* of Haenke to this species, it may probably belong to a dwarf state of *L. annotinum*.

7. *L. inundatum, L.*—*E. Bot. t.* 239. *Ph. Am. 2. p.* 653.

HAB. Canada, *Pursh.*

8. *L. rupestre, L.*—*Schkuhr, Fil. t.* 165. *Ph. Am. 2. p.* 654.— β . ramis longissimis, foliis laxioribus. *L. struthioloides, Presl, Reliq. Hænk. 1. p.* 82.

HAB. Canada to the Saskatchewan. *Dr Richardson. Drummond.*— β . N. W. Am. *Douglas.* Observatory Inlet. *Dr Scouler.*

†† *Spicis pedunculatis.*

9. *L. clavatum, L.*—*E. Bot. t.* 224. *Ph. Am. 2. p.* 652.— β . *monostachyon*; spica solitaria, pedunculis brevibus. *Hook. et Grev. Lycop. in Bot. Misc. v. 2. p.* 875.— γ . *tristachyon*, spicis subternis, ramis fastigiatis, foliis subintegerrimis. *L. clavatum, Mx.*—*L. aristatum, \gamma. tristachyon, Nutt.*—*Hook. et Grev. l. c. p.* 876. *L. tristachyon, Nutt. (non Ph.)*— δ . foliis omnino integerrimis muticis.

HAB. Newfoundland. *Miss Brenton. Dr Morrison.* Throughout Canada to the Saskatchewan. *Dr Richardson. Drummond.* Interior of the Columbia. *Douglas.*— β . Rocky Mountains, north of the Smoking River. *Drummond.*— γ . N. W. America, from Observatory Inlet, *Dr Scouler*, to Stikine; and on Mount Rainier. *Tolmie.*—A very variable plant, and very extensively distributed over many parts of the world.

B. STIPULATÆ.

* *Ramis compressis cum foliis distichis decurrentibus coadunatis, stipulis uniseriatis.*

10. *L. complanatum, L.*—*Schkk. Fil. t.* 168. *Ph. Am. 2. p.* 652.—*L. tristachyon, Ph. (non Nutt.)*

HAB. Canada. *Pursh. Goldie. Mrs Perceval.* From Lake Huron, *Dr Todd*, to the Saskatchewan. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton. Dr Morrison.* N. W. Coast of America. *Menzies.*

11. *L. alpinum*, L.—*E. Bot. t.* 234.

HAB. Elevated parts of the Rocky Mountains. *Drummond*.

•• *Foliis distichis, stipulis biseriatis semper superioribus.*

12. *L. Douglasii*; repens dichotome ramosum, foliis distichis ovalibus uninerviis nitidis integerrimis, stipulis conformibus paululum falcatis apiculatis, spicis terminalibus cylindraceis, squamis cordato-acuminatis inferne ciliatis. *Hook. et Grev. in Bot. Misc. v. 12. p. 396.*—*L. ovalifolium. Hook. et Grev. Ic. Fil. t. 177. (non Desv.)*

HAB. Near springs in woody places, N. W. America. *Douglas*.—An extremely distinct and well-marked species, which I have never received from any collector except *Mr Douglas*.

ORD. III. MARSILEACEÆ. *Br.*

1. ISOETES. L.

1. *I. lacustris*, L.—*E. Bot.—Ph. Am. 2. p. 671.*

HAB. Saskatchewan. *Drummond*.

2. MARSILEA. L.

1. *M. vestita*; foliolis cuneatis subobliquis petiolisque appresso-hirsutis, involucris ovalibus hirsutis axillaribus pedunculo subæque longis. *Hook. et Grev. Ic. Fil. t. 159.*

HAB. Common on Menzies' Island and sandy banks of the Columbia, near the Grand Rapids. *Douglas. Dr Scouler*.—The same species is found at Talisco, Mexico, by the Naturalists of Capt. Beechey's Voyage.

ORD. IV. SALVINIACEÆ. *Bartl.*

1. SALVINIA. L.

1. *S. natans*, L.—*Schkuhr, Fil. t. 173. Ph. Am. 2. p. 672.*

HAB. Floating on stagnant waters, Canada, *Pursh*.

2. AZOLLA. Lam.

1. *A. Caroliniana*, Willd. *Sp. Pl. p. 451. Ph. Am. 2. p. 672.*—*A. microphylla, Kaulf. —Hook. et Arn. Bot. of Beech. Voy. p. 162.*

HAB. Canada, on the still waters of Lake Ontario. *Pursh*.—I have not seen British North American specimens of this singular aquatic. But I do not think the Californian *A. microphylla* of Kaulfuss differs from this, nor this probably from the original *A. Magellanica*.

ORD. V. EQUISETACEÆ. Rich.

1. EQUISETUM. L.

1. *E. fluviatile*, L.—*E. Bot. t. 2022. Hook, et Arn. in Bot. of Beech. Voy. p. 40.*

HAB. N. W. America. Columbia River. *Dr Scouter*; who observes that the young shoots are eaten in the Spring as asparagus.—This species extends south into California; and Dr Beck gives it as an inhabitant of Buffalo, N. York, and of the shores of Lake Ontario.

2. *E. sylvaticum*, L.—*E. Bot. t. 1874. Ph. Am. 2. p. 651.*

HAB. Canada. *Cleghorn, Lady Dalhousie*; to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton. Mr Cormack.* New Brunswick. *Mr Kendal.*

3. *E. umbrosum*; caulibus sterilibus pluristriatis superne scabris verticillatim ramosis, ramis strictiusculis summis subcorymbosis, fertilibus simplicibus demum elongatis verticillatim ramosis ut in sterilibus.—*Meyer in Willd. Sp. Pl. 5. p. 3.*

HAB. Saskatchewan to the Rocky Mountains. *Drummond.* Canada. *Mrs Perceval.*—The young fertile specimens of this plant from the Rocky Mountains, are marked "*E. Drummondii*, Hook." (Brit. Fl. ed. 4. p. 393, et *E. Bot. Suppl. t. 2777*): and indeed at first sight I could perceive no difference: but on examining these specimens carefully, I found on several of them incipient branches, budding out from the base of the sheaths. There cannot be a doubt, therefore, but these belong to the same species as the specimens from Carlton House Fort, which Dr Richardson has correctly named "*E. umbrosum*," Meyer and Willd., and which exhibit fertile and sterile branches from the same creeping root, both throwing out the horizontal branches. There are likewise fully developed sterile stems in the collection. Now these last, and the simple (unbranched) fertile plants, are so like our British *E. Drummondii*, that if we only suppose our fertile plants of the latter not sufficiently advanced to throw out the branches (and there are comparatively few specimens which have yet come under my observation), we shall see that the two so-called species are identical, and the name of *Drummondii* must give place to *umbrosum*. Willdenow notices its affinity to *E. sylvaticum*:—that is, in the peculiarity of the fertile stems throwing off the spike and then branching and becoming similar to the sterile ones: for the two species are totally distinct.

4. *E. arvense*, L.—*E. Bot. t. 2020. Ph. Am. 2. p. 651.*

HAB. Lake Huron, *Dr Todd*; to the Rocky Mountains and the Saskatchewan. *Dr Richardson. Drummond.*

5. *E. limosum*, L.—*E. Bot. t. 929. Beck, Fl. p. 446.*—*E. uliginosum*, Willd.? *Ph. Am. 2. p. 651.*— β . *Candelabrum*; ramorum verticillis numerosis superioribus plurimis spicigeris.

HAB. Watery places of the Saskatchewan; and β , growing in water about Winipeg. *Dr Richardson. Drummond.*—The var. β . has a very curious appearance: it bears copious whorls about 2 inches long, 16-20 branches in a whorl, and 7 or 8 of these upper whorls bearing spikes, which are much smaller and much less advanced than the terminal one of the stem.

6. *E. palustre*, L.—*E. Bot. t. 2021.*

HAB. Canada; from Lake Huron, *Dr Todd*, *Mr Cleghorn*, *Mrs Perceval*; to the shores of the Arctic Sea. *Dr Richardson*. *Drummond*. *Sir John Franklin*. *Capt. Back*.

7. *E. hyemale*, *L.*—*E. Bot. t.* 915. *Ph. Am. 2. p.* 652. *Hook. et Arn. Bot. of Beech. Voy. p.* 404.

HAB. Lake Huron, (*Dr Todd*), to the Slave Lake; and from Hudson's Bay to the Western Ocean, (*Columba*), *Douglas*. *Dr Scouler*.

8. *E. variegatum*, *L.*—*E. Bot. t.* 915.— β . minus, caulibus debilibus flexuosis. *E. scirpoides*, *Mx. Am. 2. p.* 281. *Willd.*—*Ph. Am. 2. p.* 652.

HAB. Frequent in Canada, *Goldie*. *Mrs Perceval*; and thence to the Saskatchewan, *Dr Richardson*, *Drummond*; and to the Arctic Islands, *Sir E. Parry*.— β . about the Saskatchewan.—The two forms of this plant above alluded to are also found in Europe.

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<i>arcticum, Fl. Dan.</i>	1	48	<i>hypnoides, L.</i>	2	37
<i>dentatum, Nutt.</i>	1	49	<i>ligustrina, Muhl.</i>	2	39
<i>hyperboreum, L.</i>	1	49	<i>lycopodioides, Pall.</i>	2	38
<i>Ludovicianum, Nutt.</i>	1	48	<i>paniculata, L.</i>	2	39
AMARANTHACEÆ, <i>Just.</i>	2	125	<i>polifolia, L.</i>	2	38
AMARANTHUS, <i>L.</i>	2	125	<i>racemosa, Mx.</i>	2	39
<i>albus, L.</i>	2	125	<i>Stelleriana, Pall. (Tab. CXXXI.)</i>	2	37
<i>paniculatus, L.</i>	2	125	<i>taxifolia, Pall.</i>	2	39
AMNOSIA, <i>L.</i>	1	309	<i>tetragona, L.</i>	2	38
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<i>elatior, L.</i>	1	309	<i>avenaceus, Mx.</i>	2	257
<i>paniculata, Mx.</i>	1	309	<i>dissitiflorus, Mx.</i>	2	256
<i>trifida, L.</i>	2	26	<i>furcatus, Muhl.</i>	2	256
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<i>grandiflora, Dougl.</i>	1	202	<i>scoparius, Mx.</i>	2	256
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<i>sanguinea, Lindl.</i>	1	203	<i>elongata, Rich.</i>	2	119
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<i>villosus, Pursh.</i>	2	22	<i>septentrionalis, L.</i>	2	119
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<i>Amiantulus Nuttallii, Gray,</i>	2	177	<i>aconitifolia, Mx.</i>	1	8
<i>AMMI, L.</i>	1	261	<i>alpina, L.</i>	1	5
<i>majus, L.</i>	1	261	<i>apiifolia, Willd.</i>	1	5
AMMOPHILA, <i>Host.</i>	2	241	<i>arctica, Fisch.</i>	1	6
<i>arundinacea, Most.</i>	2	241	<i>Baldensis, L.</i>	1	5
AMORPHA, <i>L.</i>	1	139	<i>borealis, Rich.</i>	1	5
<i>canescens, Nutt.</i>	1	139	<i>cuneifolia, Juss.</i>	1	5
<i>fruticosa, L.</i>	1	139	<i>deltoides, Hook. (Tab. III. A.)</i>	1	6
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<i>quinquefolia, Mx.</i>	1	114	<i>Hudsoniana, Herb. Banks.</i>	1	7
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<i>monoica, Ell.</i>	1	161	<i>lanceifolia, Pursh.</i>	1	6
AMPLECTRUM, <i>Nutt.</i>	2	194	<i>Ludoviciana, Nutt.</i>	1	4
<i>hymale, Nutt.</i>	2	194	<i>multifida, Poir.</i>	1	7
<i>Anchusa hirta, Muhl.</i>	2	88	<i>multifida, γ. DC.</i>	1	7

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* This should have been inserted at p. 39, as an inhabitant of Newfoundland, on the authority of De la Pylale.

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borealis, Mert. (TAB. CCXXXI.)	2	251	fungosa, Willd.	1	36
brevifolia, Br.	2	250	glauca, Curt.	1	37
<i>distans</i> , Kth.	2	245	media, DC.	1	37
<i>distichophylla</i> , Mx.	2	254	officinalis, Pursh,	1	37
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<i>stuitans</i> , L.	2	248	pauciflora, Steph.	1	37
Hostii, Kth.	2	245	peregrina, Rud.	1	36
<i>myurus</i> , L.	2	249	recta, Mx.	1	36
<i>nervosa</i> , Hook. (TAB. CCXXXII.)	2	251	sempervirens, L.	1	37
occidentalis, Hook.	2	249	tenuifolia, Ledeb.	1	36
ovina, L.	2	250	GAILLARDIA, Foug.	1	315
pratensis, Huds.	2	251	aristata, Pursh,	1	315
Richardsoni, Hook.	2	250	bicolor, Lam.	1	315
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Smithii, <i>Mx.</i>	2	41	MITELLA, <i>Tourn.</i>	1	240
Stelleriana, <i>Fisch.</i>	2	37	cordifolia, <i>Lam.</i>	1	240
MERCKIA, <i>Fisch.</i>	1	102	diphylla, <i>L.</i>	1	240
physodes, <i>Fisch.</i>	1	103	grandiflora, <i>Pursh.</i>	1	239
Mespilus acerifolia, <i>Poir.</i>	1	201	nuda, <i>L.</i>	1	240
arbutifolia, <i>L.</i>	1	204	parviflora, <i>Dougl.</i>	1	241
arbutifolia, $\beta.$ <i>Mx.</i>	1	204	pentandra, <i>Hook.</i>	1	241
Canadensis, <i>L.</i>	1	202	prostrata, <i>Mx.</i>	1	241
Canadensis, $\alpha.$ <i>Mx.</i>	1	202	reniformis, <i>Lam.</i>	1	240
Canadensis, $\beta.$? <i>Mx.</i>	1	202	trifida, <i>Grah.</i> (TAB. LXXXII.)	1	241
Canadensis, $\gamma.$ <i>Mx.</i>	1	203	MOLLUGO, <i>Ser.</i>	1	92
cuneifolia, <i>Ehrh.</i>	1	201	verticillata, <i>L.</i>	1	92
glabra, <i>Nutt.</i>	1	202	MOMORDICA, <i>L.</i>	1	220
lucida, <i>Ehrh.</i>	1	200	? echinata, <i>Hook.</i>	1	220
Mitchauxii, <i>Pers.</i>	1	202	MONARDA, <i>L.</i>	2	112
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Chamissonis, <i>Benth.</i>	2	114	altissima, <i>Willd.</i>	2	112
Douglasii, <i>Benth.</i>	2	114	Clinopodium, <i>L.</i>	2	112
glabella, <i>Benth.</i>	2	113	coccinea, <i>Mx.</i>	2	112
Micropetalum gramineum, <i>Pers.</i>	1	94	didyma, <i>L.</i>	2	112
lunecolatum, <i>Pers.</i>	1	95	fistulosa, <i>L.</i>	2	112
MICROSTYLIS, <i>Nutt.</i>	2	193	fistulosa, var. Bot. Mag. ?	2	112
brachypoda, <i>Gray.</i>	2	193	glabra, <i>Lam.</i>	2	112
diphyllus, <i>Lindl.</i>	2	193	Kalmiana, <i>Pursh.</i>	2	112
monophyllos, <i>Lindl.</i>	2	193	menthaefolia, <i>Grah.</i>	2	112
ophioglossoides, <i>Lindl.</i>	2	193	mollis, <i>L.</i>	2	112
MIKANIA, <i>Willd.</i>	1	305	oblongata, <i>Ait.</i>	2	112
scandens, <i>Willd.</i>	1	305	purpurea, <i>Lam.</i>	2	112
MILIUM, <i>L.</i>	2	235	purpurea, <i>Pursh.</i>	2	112
effusum, <i>L.</i>	2	235	rugosa, <i>Ait.</i>	2	112
membranaceum, <i>Spr.</i>	2	237	MONARDELLA, <i>Benth.</i>	2	113
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MIMULUS, <i>L.</i>	2	99	MONOCOTYLEDONEÆ, <i>Juss.</i>	2	167
alsinoides, <i>Benth.</i>	2	100	MONOTROPEÆ, <i>Nutt.</i>	2	44
floribundus, <i>Lindl.</i>	2	99	MONOTROPA, <i>L.</i>	2	48
guttatus, <i>DC.</i>	2	99	Hypopithys, <i>L.</i>	2	48
Lewisii, <i>Pursh.</i>	2	100	lanuginosa, <i>Mx.</i>	2	49
luteus, <i>Pursh.</i>	2	99	procera, <i>Torr.</i>	2	48
moschatus, <i>Dougl.</i>	2	99	uniflora, <i>L.</i>	2	49
primuloides, <i>Benth.</i>	2	100	MUHLENBERGIA, <i>Schreb.</i>	2	237
propinquus, <i>Lindl.</i>	2	99	aristata, <i>Pers.</i>	2	237
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<i>Chorislana, Cham.</i>	2	84	<i>amphibium, Br.</i>	1	39
<i>deflexa, Wahl.</i>	2	84	<i>natans, DC.</i>	1	39
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<i>squarrosa, Bieberst.</i>	2	84	<i>Canadensis, DC.</i>	1	122
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<i>Groenlandica</i> , <i>Retz.</i>	2	108	<i>serrulatus</i> , <i>Menz.</i>	2	95
<i>hirsuta</i> , <i>L.</i>	2	109	<i>speciosus</i> , <i>Dougl.</i>	2	98
<i>hirsuta</i> , <i>Rich.</i>	2	109	<i>Tolmiei</i> , <i>Hook.</i>	2	98
<i>Labradorica</i> , <i>L.</i>	2	109	<i>triphyllus</i> , <i>Dougl.</i>	2	96
<i>lanata</i> , <i>W. et A.</i>	2	109	<i>venustus</i> , <i>Dougl.</i>	2	95
<i>lanceolata</i> , <i>Pursh.</i>	2	107	PENTHORUM , <i>L.</i>	1	228
<i>Langsdorffii</i> , <i>Fisch.</i>	2	109	<i>sedoides</i> , <i>L.</i>	1	220
<i>Laponica</i> , <i>L.</i>	2	108	PESIATYLUS , <i>Lindl.</i>	2	201
<i>macradontis</i> , <i>Rich.</i>	2	107	<i>bracteatus</i> , <i>Lindl.</i>	2	201
<i>nasuta</i> , <i>Bieb.</i>	2	109	<i>Chorisiannus</i> , <i>Lindl.</i>	2	201
<i>Nelsonii</i> , <i>Br.</i>	2	100	PETALOSTEMUM , <i>Mz.</i>	1	137
<i>ornithorhynchos</i> , <i>Benth.</i>	2	108	<i>candidum</i> , <i>Mz.</i>	1	137
<i>pallida</i> , <i>Nutt.</i>	2	107	<i>ornutum</i> , <i>Dougl.</i>	1	138
<i>palustris</i> , <i>L.</i>	2	107	<i>violaceum</i> , <i>Mz.</i>	1	137
<i>palustris</i> , <i>Hook.</i>	2	107	<i>Peucedanum Ostruthium</i> , <i>Koch.</i>	1	269
<i>purpurascens</i> , <i>Spreng.</i>	2	109	PHACA , <i>L.</i>	1	140
<i>racemosa</i> , <i>Dougl.</i>	2	108	<i>aboriginorum</i> , <i>Hook.</i> (TAB. LVI.)	1	143
<i>ramosa</i> , <i>Wormsk.</i>	2	109	<i>alpina</i> , <i>L.</i>	1	140
<i>Sudetica</i> , <i>Willd.</i>	2	109	<i>astragalina</i> , <i>D.C.</i>	1	145
<i>surrecta</i> , <i>Benth.</i>	2	107	<i>bisulcata</i> , <i>Hook.</i>	1	145
			<i>? caespitosa</i> , <i>Nutt.</i> (TAB. LV.)	1	143

* Reference to Plate omitted in the Description.

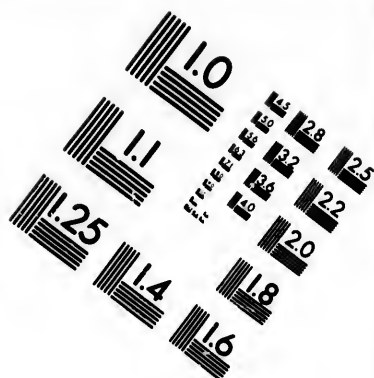
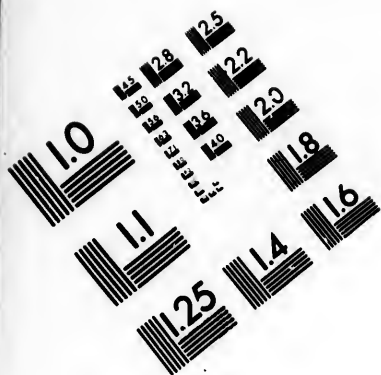
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<i>elegans</i> , Hook.	1	144	<i>leptostachya</i> , L.	2	118
<i>elongata</i> , Hook.	1	140	<i>PHYLLOSPADIX</i> , Hook.	2	171
<i>flexuosa</i> , Dougl.	1	141	<i>Sconleri</i> , Hook. (TAB. CLXXXVI.)	2	171
<i>frigida</i> , L.	1	140	<i>PHYSALIS</i> , L.	2	90
<i>glabriuscula</i> , Hook.	1	144	<i>grandiflora</i> , Hook.	2	90
<i>nigrescens</i> , Hook.	1	143	<i>Pennsylvanica</i> , L.	2	90
<i>pectinata</i> , Hook. (TAB. LIV.)	1	141	<i>viscosa</i> , Jacq.	2	90
<i>podocarpa</i> , Hook.	1	142	<i>PHYSEMATIUM</i> , Kaulf.	2	259
<i>PHACELIA</i> , Mx.	2	80	<i>obtusum</i> , Hook.	2	259
<i>furcata</i> , Dougl.	2	75	<i>PHYSTROIA</i> , Benth.	2	116
<i>hastata</i> , Dougl.	2	80	<i>imbricata</i> , Hook.	2	116
<i>heterophylla</i> , Pursh.	2	80	<i>Virginiana</i> , Benth.	2	116
<i>ramosissima</i> , Dougl.	2	80	<i>PHYTOLACCEÆ</i> , Br.	2	128
<i>PHALARIS</i> , L.	2	234	<i>PHYTOLACCA</i> , L.	2	128
<i>Americana</i> , Ell.	2	234	<i>decandria</i> , L.	2	128
<i>arundinacea</i> , L.	2	234	<i>PICADENIA</i> , Hook.	1	317
<i>Caroliniana</i> , Walt.	2	234	<i>Richardsoni</i> , Hook. (TAB. CVIII.)	1	317
<i>Phalangium esculentum</i> , Nutt.	2	186	<i>PINUCULA</i> , L.	2	118
<i>Quamaah</i> , Pursh.	2	186	<i>grandiflora</i> , Sm.	2	118
<i>PHASEOLUS</i> , L.	1	161	<i>vulgaris</i> , L.	2	118
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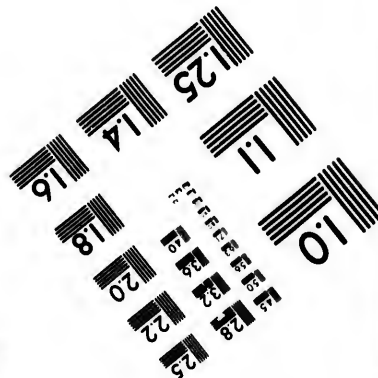
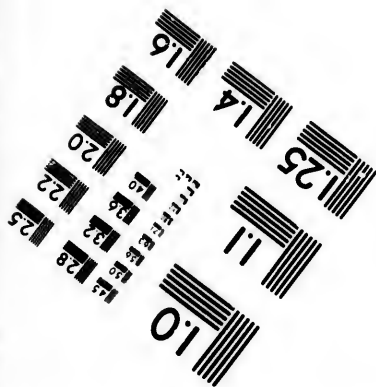
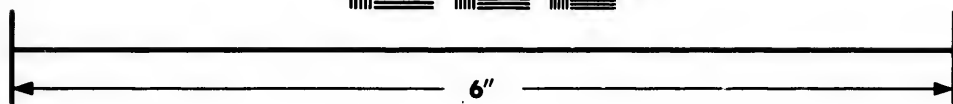
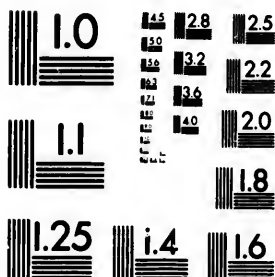
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<i>arguta, Lehm.</i>	1	188	<i>sarmentosa, Muhl.</i>	1	192
<i>biflora, Lehm.</i>	1	195	<i>sarmentosa, Willd.</i>	1	192
<i>lipinnatifida, Dougl.</i>	1	188	<i>sericea, L.</i>	1	189
<i>Canadensis, L.</i>	1	192	<i>simplex, Mx.</i>	1	192
<i>Caroliniana, Poir.</i>	1	192	<i>supina, L.</i>	1	187
<i>chrysantha, Trev.</i>	1	193	<i>tenusifolia, Herb. Willd.</i>	1	186
<i>Comarum, Nestl.</i>	1	187	<i>tridentata, Ait.</i>	1	196
<i>concinna, Rich. (TAB. LXVII.)</i>	1	193	<i>villosa, Pall.</i>	1	194
<i>confertiflora, Torr.</i>	1	196	<i>Vahliana, Lehm.</i>	1	194
<i>dealbata, Dougl.</i>	1	188	<i>uniflora, Ledeb.</i>	1	195
<i>dissecta, DC.</i>	1	193	POTERIUM, L.	1	198

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<i>annuum</i> , Nutt.	1	198	<i>pumila</i> , L.	1	167
<i>Sanguisorba</i> , L.	1	198	<i>spinosa</i> , L.	1	167
<i>Pothos fetida</i> , Mx.	2	169	<i>serotina</i> , Ehrh.	1	169
<i>Prenonthes alba</i> , Willd.	1	294	<i>Susquehane</i> , Willd.	1	168
<i>altissima</i> , Willd.	1	294	<i>Virginiana</i> , L.	1	169
<i>cordata</i> , Ell.	1	294	<i>Virginiana</i> , Nutt.	1	169
<i>juncea</i> , Dougl.	1	295	<i>Psamma arenaria</i> , Beauv.	2	241
<i>juncea</i> , Pursh.	1	295	<i>PsORALEA</i> , L.	1	135
<i>racemosa</i> , Mx.	1	294	<i>arenaria</i> , Nutt.	1	135
<i>Serpentaria</i> , Pursh.	1	294	<i>argophylla</i> , Pursh, (TAB. LII.)	1	135
PRIMULA , L.	2	120	<i>brachiata</i> , Dougl. (TAB. LIII.)	1	137
<i>Egalicensis</i> , Horn.	2	121	<i>candida</i> , Poir.	1	137
<i>farinosa</i> , L.	2	120	<i>elliptica</i> , Pursh.	1	135
<i>farinosa</i> , Sw.	2	120	<i>incana</i> , Nutt.	1	136
<i>farinosa</i> , β . Wahl.	2	120	<i>lanceolata</i> , Pursh, (TAB. LI.)	1	135
<i>Finmarchica</i> , Willd.	2	121	<i>macrostachya</i> , DC.	1	136
<i>Hornemanniana</i> , Rich.	2	120	<i>physodes</i> , Dougl.	1	136
<i>integrifolia</i> , CEd.	2	121	<i>violacea</i> , Poir.	1	138
<i>Mitassinaca</i> , Mx.	2	120	PTEAS , L.	2	263
<i>nivalis</i> , Pall.	2	120	<i>aquilina</i> , L.	2	263
<i>Norvegica</i> , Retz.	2	121	<i>atropurpurea</i> , L.	2	264
<i>pusilla</i> , Hook.	2	120	<i>caudata</i> , Pursh.	2	263
<i>saxifragifolia</i> , Lehm.	2	121	<i>gracilis</i> , Mx.	2	264
<i>Scotica</i> , Hook.	2	121	<i>gracilis</i> , var.? Rich.	2	264
<i>Sibirica</i> , Jacq.	2	120	<i>lanuginosa</i> , H. et A.	2	263
<i>stricta</i> , Horn.	2	120	PTEROSPOEA , Nutt.	2	48
PRIMULACEE , Juss.	2	118	<i>Andromeda</i> , Nutt.	2	48
PRINOS , L.	1	121	<i>Pulmonaria denticulata</i> , Rœm.	2	87
<i>glaber</i> , L.	1	122	<i>lanceolata</i> , Pursh.	2	86
<i>Gronovii</i> , Mx.	1	121	<i>marginata</i> , Nutt.	2	86
<i>verticillatus</i> , L.	1	121	<i>maritima</i> , L.	2	86
PROSEAPINACA , L.	1	215	<i>paniculata</i> , Ait.	2	87
<i>palustris</i> , L.	1	215	<i>parviflora</i> , Mx.	2	86
PARNELLA , Benth.	2	114	<i>pilosa</i> , Cham.	2	87
<i>Pennsylvanica</i> , L.	2	114	<i>Sibirica</i> , Pursh.	2	87
<i>vulgaris</i> , L.	2	114	PURSHIA , DC.	1	170
PAUNUS , Tourn.	1	167	<i>tridentata</i> , DC. (TAB. LVIII.)	1	170
<i>borealis</i> , Pursh.	1	168	PYCNANTHRUM , Mx.	2	113
<i>Canadensis</i> , Willd.	1	169	<i>incanum</i> , Mx.	2	113
<i>Chicasa</i> , Pursh.	1	168	PYRETHRUM , Willd.	1	320
<i>depressa</i> , Pursh.	1	168	<i>Caucasicum</i> , Willd.	1	320
<i>hyematis</i> , Mx.	1	168	<i>inodorum</i> , Sm.	1	320
<i>Insititia</i> , Walt.	1	168	PYROLA , L.	2	45
<i>lanceolata</i> , Willd.	1	168	<i>aphylla</i> , Sm. (TAB. CXXXVII.)	2	48
<i>nigra</i> , Ait.	1	167	<i>asarifolia</i> , Torrey.	2	48
<i>obovata</i> , Big.	1	169	<i>asarifolia</i> , Mx.	2	46
<i>Pennsylvanica</i> , L.	1	168	<i>bracteata</i> , Hook.	2	47

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<i>chlorantha</i> , Sw. (TAB. CXXXIV.)	2	46	<i>Canadensis</i> , Jacq.	1	19
<i>convoluta</i> , Banks.	2	46	<i>cardiophyllus</i> , Hook. (TAB. V. B.)	1	14
<i>dentata</i> , Sm. (TAB. CXXXVI.)	2	47	<i>Carolinianus</i> , DC.	1	20
<i>elliptica</i> , Nutt. (TAB. CXXXV.)	2	47	<i>Cymbalaria</i> , Pursh.	1	11
<i>Groenlandica</i> , Horn.	2	46	<i>Escholtzii</i> , Schl.	1	18
<i>incarnata</i> , Fisch.	2	46	<i>fascicularis</i> , Muhl. (TAB. VIII. A.)	1	20
<i>maculata</i> , L.	2	49	<i>fascicularis</i> , Schl.	1	21
<i>Menziesii</i> , Br.	2	49	<i>filiformis</i> , Mx.	1	11
<i>minor</i> , L.	2	45	<i>Flammula</i> , L.	1	11
<i>occidentalis</i> , Don.	2	47	<i>fluviatilis</i> , Willd.	1	10
<i>phyllocooides</i> , Lyon.	2	53	<i>fluviatilis</i> , Big.	1	15
<i>pieta</i> , Sm.	2	47	<i>glaberrimus</i> , Hook. (TAB. V. A.)	1	12
<i>pumila</i> , Horn.	2	46	<i>Gmelini</i> , Schk.	1	16
<i>rosea</i> , Pursh.	2	45	<i>halophilus</i> , Schl.	1	11
<i>rotundifolia</i> , L.	2	46	<i>hispidus</i> , Mx.	1	19
<i>rotundifolia</i> , Mx.	2	47	<i>hyperboreus</i> , Roth.	1	16
<i>secunda</i> , L.	2	45	<i>Langsdorffii</i> , DC.	1	15
<i>umbellata</i> , L.	2	49	<i>Lapponicus</i> , L.	1	16
<i>uniflora</i> , L.	2	45	<i>multifidus</i> , Pursh.	1	15
PERNOCOMA , Hook.	1	300	<i>nitidus</i> , Muhl.	1	20
<i>carthamoides</i> , Hook. (TAB. CVII.)	1	307	<i>nitidus</i> , Walt.	1	14
PYRUS , Lindl.	1	203	<i>nivalis</i> , L.	1	17
<i>Americana</i> , DC.	1	204	<i>nivalis</i> , β . Walt.	1	17
<i>arbutifolia</i> , L.	1	204	<i>nivalis</i> , γ . Br.	1	17
<i>Botryapium</i> , L.	1	202	<i>orthorhynchus</i> , Hook. (TAB. IX.)	1	21
<i>melanocarpa</i> , Willd.	1	204	<i>ovalifolius</i> , Pursh.	1	12
<i>ovalis</i> , Willd.	1	202	<i>ovalis</i> , Raf. (TAB. VI. B.)	1	13
<i>rivularis</i> , Dougl. (TAB. LXVIII.)	1	203	<i>Pallasii</i> , Schl.	1	10
<i>sanguinea</i> , Pursh.	1	203	<i>pantothrix</i> , Brot.	1	10
<i>Queria Canadensis</i> , L.	1	220	<i>pedatifidus</i> , Sm. (TAB. VIII. B.)	1	18
QUERCUS , L.	2	158	<i>Pennsylvanicus</i> , L.	1	19
<i>alba</i> , L.	2	158	<i>Purshii</i> , Rich. (TAB. VII. B.)	1	15
<i>Bannisteri</i> , Mx.	2	158	<i>Purshii</i> , Rich.	1	15
<i>Garryana</i> , Dougl.	2	159	<i>Purshii</i> , β . Rich.	1	15
<i>obtusiloba</i> , Mx.	2	158	<i>pygmæus</i> , Wahl.	1	16
<i>rubra</i> , L.	2	158	<i>recurvatus</i> , Poir.	1	20
<i>tinctoria</i> , Bartr.	2	158	<i>repens</i> , L.	1	19
RANUNCULACEÆ , Juss.	1	10	<i>reptans</i> , L.	1	11
RANUNCULUS , L.	1	10	<i>rhomboidens</i> , Gold.	1	12
<i>abortivus</i> , L.	1	14	<i>Sabinii</i> , Br.	1	17
<i>acris</i> , L.	1	18	<i>salsuginosus</i> , Pall.	1	11
<i>affinis</i> , Br. (TAB. VI. A.)	1	12	<i>sceleratus</i> , L.	1	15
<i>aquatilis</i> , L.	1	10	<i>Schlechtendalii</i> , Hook.	1	21
<i>aquatilis</i> , β . Schk.	1	10	<i>septentrionalis</i> , Pursh.	1	20
<i>arcticus</i> , Rich.	1	13	<i>stagnatilis</i> , Wallr.	1	10
<i>brevicaulis</i> , Hook. (TAB. VII. A.)	1	13	<i>sulphureus</i> , Sol.	1	17
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REBOULEA, <i>Kth.</i>	2	249	Cynosbati, <i>Mz.</i>	1	230
<i>gracilis, Kth.</i>	2	249	<i>divaricatum, Dougl.</i>	1	231
RESTIACEÆ, <i>Br.</i>	2	187	<i>echinatum, Dougl.</i>	1	232
<i>Rhabdocrinum serotinum, Reich.</i>	2	183	<i>ferox, Sm.</i>	1	229
RHAMNÆ, <i>Br.</i>	1	122	<i>flavum, Berl.</i>	1	235
RHAMNUS, <i>Lam.</i>	1	122	<i>floridum, L'Hérit.</i>	1	233
<i>alnifolius, L'Hérit. (TAB. XLII.)</i>	1	122	<i>fuchsioides, Fl. Mex.</i>	1	229
<i>alpinus, Rich.</i>	1	122	<i>glandulosum, Ait.</i>	1	232
? <i>cuneatus, Hook.</i>	1	124	<i>glandulosum, Rich.</i>	1	232
<i>franguloides, Mx.</i>	1	120	<i>hirtellum, Mz.</i>	1	231
<i>oleifolius, Hook. (TAB. XLIV.)</i>	1	123	<i>Hudsonianus, Rich.</i>	1	233
<i>Purshianus, D.C. (TAB. XLIII.)</i>	1	123	<i>irriguum, Dougl.</i>	1	231
RHINANTHUS, <i>L.</i>	2	106	<i>lacustre, Pursh.</i>	1	232
<i>Crista Galli, L.</i>	2	106	<i>laxiflorum, Pursh.</i>	1	232
<i>Rhodiola rosea, L.</i>	1	227	<i>laxiflorum, Rich.</i>	1	232
RHODODENDRON, <i>Don.</i>	2	42	<i>malvaceum, Sm.</i>	1	234
<i>albiflorum, Hook. (TAB. CXXXIII.)</i>	2	43	<i>Menziesii, Pursh.</i>	1	229
<i>Kamtschaticum, Pull.</i>	2	43	<i>nigrum, Rich.</i>	1	233
<i>Lapponicum, Wahl.</i>	2	43	<i>oxyacanthoides, L.</i>	1	230
<i>maximum, Pursh.</i>	2	42	<i>oxyacanthoides, Rich.</i>	1	234
<i>nudiflorum, Pursh.</i>	2	43	<i>oxyacanthoides, Mx.</i>	1	232
<i>viscosum, Pursh.</i>	2	42	<i>Pennsylvanicum, Lam.</i>	1	234
RHODOXA, <i>L.</i>	2	42	<i>petiolare, Dougl.</i>	1	233
<i>Canadensis, L.</i>	2	42	<i>prostratum, L'Hérit.</i>	1	232
RHYNCHOSPORA, <i>Vahl.</i>	2	233	<i>recurvatum, Mx.</i>	1	234
<i>alba, Vahl.</i>	2	233	<i>rigens, Big.</i>	1	232
<i>capitellata, Vahl.</i>	2	233	<i>rubrum, L.</i>	1	232
<i>glomerata, Vahl.</i>	2	233	<i>sanguineum, Pursh.</i>	1	234
RHUS, <i>L.</i>	1	126	<i>saxatile, Dougl.</i>	1	231
<i>aromatica, Ait.</i>	1	127	<i>saxosum, Dougl.</i>	1	231
<i>glabra, L.</i>	1	126	<i>setosum, Lindl.</i>	1	230
<i>lobata, Hook. (TAB. XLVI.)</i>	1	127	<i>speciosum, Pursh.</i>	1	229
<i>radicans, L.</i>	1	127	<i>stamineum, Sm.</i>	1	229
<i>Toxicodendron, L.</i>	1	127	<i>tenuiflorum, Lindl.</i>	1	235
<i>Toxicodendron, a. Mx.</i>	1	127	<i>triacanthum, Menz.</i>	1	229
<i>Toxicodendron, b. Torr.</i>	1	127	<i>trifidum, Mz.</i>	1	232
<i>typhina, L.</i>	1	126	<i>triflorum, Willd.</i>	1	230
<i>venenata, DC.</i>	1	126	<i>triflorum, Big.</i>	1	231
<i>Vernix, L.</i>	1	126	<i>viscosissimum, Pursh. (TAB. LXXVI.)</i>	1	234
RIBES, <i>L.</i>	1	229	<i>Ricotia lufifolia, Rœm.</i>	2	86
<i>affine, Dougl.</i>	1	232	ROBINIA, <i>DC.</i>	1	140
<i>albinervium? Mx.</i>	1	232	<i>Pseudacacia, L.</i>	1	140
<i>aureum, Pursh.</i>	1	235	<i>Rochelia deflexa, Rœm.</i>	2	84
<i>aureum, Coll.</i>	1	235	<i>Lappula, Rœm.</i>	2	84
<i>aureum, var. Dougl.</i>	1	235	<i>Virginiana, Rœm.</i>	2	83
<i>bracteosum, Dougl.</i>	1	233	ROMANZOFFIA, <i>Cham.</i>	1	104
<i>cereum, Dougl.</i>	1	234	<i>Sitchensis, Bong.</i>	1	104

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Rosa, Tourn.	1	198	<i>saxatilis</i> , β . Mx.	1	181
<i>blanda</i> , Ait.	1	199	<i>sempervirens</i> , Big.	1	180
<i>blanda</i> , Pursh,	1	199	<i>setosus</i> , Big.	1	179
<i>Carolina</i> , L.	1	199	<i>spectabilis</i> , Pursh,	1	179
<i>Carolina</i> , ζ . Ait.	1	200	<i>stellatus</i> , Sm.	1	177
<i>Caroliniana</i> , Big.	1	199	<i>stenopetalus</i> , Fisch.	1	178
<i>cinnamomes</i> , L.	1	200	<i>strigosus</i> , Andr.	1	179
<i>fraxinifolia</i> , Bork.	1	199	<i>triflorus</i> , Rich. (TAB. LXII.)	1	180
<i>fraxinifolia</i> , α . DC.	1	199	<i>trivialis</i> , Mx.	1	180
<i>laevigata</i> ? Mx.	1	200	<i>villosus</i> , Ait.	1	179
<i>lucida</i> , Ehrh.	1	199	RUDBECKIA, Cass.	1	311
<i>majalis</i> , Retz.	1	200	<i>columnaris</i> , Nutt.	1	311
<i>nitida</i> , Willd.	1	198	<i>laciniata</i> , Schrad.	1	311
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<i>Pennsylvanica</i> , Mx.	1	199	<i>Acetosella</i> , L.	2	129
<i>stricta</i> , Muhl.	1	200	<i>acutose</i> , L.	2	129
<i>Woodsii</i> , Lindl.	1	199	<i>acutus</i> , L.	2	130
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RUBUS, L.	1	177	<i>digynus</i> , L.	2	129
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<i>arcticus</i> , L.	1	182	<i>Nemolopatum</i> , Ehrh.	2	130
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<i>Chamæmorus</i> , L.	1	183	<i>salicifolius</i> , Weinm.	2	129
<i>Dalibarda</i> , L.	1	184	<i>sanguineus</i> , L.	2	130
<i>flagellaris</i> , Willd.	1	180	<i>venosus</i> , Pursh, (TAB. CLXXIV.)	2	130
<i>hispidus</i> , L.?	1	180	<i>verticillatus</i> , Rich.	2	129
<i>Idæus</i> , β . Rich.	1	177	<i>viridis</i> , Sibth.	2	130
<i>leucodermis</i> , Dougl.	1	178	RUPPIA, L.	2	170
<i>macropetalus</i> , Dougl. (TAB. LIX.)	1	178	<i>maritima</i> , L.	2	170
<i>Menziesii</i> , Hook.	1	182	RUTACEÆ, Juss.	1	118
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<i>nivalis</i> , Dougl.	1	181	<i>campanulata</i> , Torrey,	2	70
<i>Nutkanus</i> , Moc.	1	183	<i>gracilis</i> , Salisb.	2	69
<i>obovatus</i> , Mx.	1	180	SAGINA, L.	1	92
<i>obovatus</i> , Mx. (TAB. LX.)	1	180	<i>procumbens</i> , L.	1	92
<i>occidentalis</i> , Mx.	1	178	SAGITTARIA, L.	2	167
<i>odoratus</i> , L.	1	183	<i>acutifolia</i> , Pursh,	2	167
<i>parviflorus</i> ? Nutt.	1	181	<i>gracilis</i> , Pursh,	2	167
<i>pedatus</i> , Sm. (TAB. LXI.)	1	181	<i>gramineu</i> , Pursh,	2	167
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<i>pubens</i> , Mx.	1	279	<i>retusa</i> , L.	2	153
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<i>herbacea</i> , L.	2	125	<i>rubra</i> , Rich.	2	149
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SALIX , L.	2	144	<i>serpyllifolia</i> , Scop.	2	153
<i>acutifolia</i> , Willd.	2	150	<i>speciosa</i> , H. et A.	2	145
<i>adenophylla</i> , Hook.	2	146	<i>Stuartiana</i> , Sm.	2	151
<i>Ammanniana</i> ? Rich.	2	153	<i>vestita</i> , Pursh.	2	152
<i>Anglorum</i> , Cham.	2	153	<i>villosa</i> , Don, ?	2	144
<i>arctica</i> , Br.	2	152	<i>viminalis</i> , L.	2	148
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<i>trifoliolata</i> , L.	1	174	<i>capitata</i> , L.	2	237
SPIRANTHES , Rich.	2	202	<i>hymenoides</i> , R. et S.	2	237
<i>cernuus</i> , Rich.	2	202	<i>Juncea</i> , Mx.	2	256
<i>decipiens</i> , Hook. (TAB. CCIV.)	2	208	<i>Juncea</i> , Pursh?	2	237
<i>gracilis</i> , Bigel. (TAB. CCIII.)	2	202	<i>membranacea</i> , Pursh,	2	237
? <i>Unalaschensis</i> , Spreng.	2	107	<i>parviflora</i> , Nutt.	2	237
<i>Sporobolus tenacissimus</i> , Beauv.	2	230	<i>Spartia</i> , Trin.	2	237
STAPHYLZA , L.	2	119	STREPOTOPUS , Mx.	2	173
<i>trifolia</i> , L.	1	110	<i>amplexifolius</i> , DC.	2	173
STACHYS , L.	2	116	<i>distortus</i> , Mx. (TAB. CLXXXVIII.A.)	2	173
<i>ambigua</i> , E. Bot.	2	116	<i>lanuginosus</i> , Mx.	2	175
<i>aspera</i> , Mx.	2	116	<i>roseus</i> , Mx. (TAB. CLXXXVIII.B.)	2	173
<i>ciliata</i> , Dougl.	2	116	<i>Strophostyles helvola</i> , Ell.	1	162
<i>Faniculum</i> , Pursh,	2	115	<i>Struthiopteris Pennytonica</i> , Willd.	2	262
<i>hiipida</i> , Mx.	2	110	SWEETIA , L.	2	66
<i>palustris</i> , L.	2	116	<i>Americana</i> , Spreng.	2	67
STATIC , L.	2	123	<i>corniculata</i> , Mx.	2	67
<i>Armeria</i> , L.	2	123	<i>Michauxiana</i> , R. et S.	2	67
<i>Caroliniana</i> , Walt.	2	123	<i>perennis</i> , L.	2	66
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<i>aquatica</i> , Pall.	1	93	SYMPLOCARPUS , Salisb.	2	169
<i>borealis</i> , Big.	1	94	<i>foetidus</i> , Nutt.	2	169
<i>crassifolia</i> , Cham.	1	97	<i>Kamtschaticus</i> , Bong.	2	169
<i>crassifolia</i> , β. Wahl.	1	97	TALINUM , Adams,	1	223
<i>crispa</i> , Cham.	1	97	? <i>Menziesii</i> , Hook. (TAB. LXX.)	1	223
<i>Edwardsii</i> , Br. (TAB. XXXI.)	1	96	TANACETUM , L.	1	327
<i>gracilis</i> , Rich.	1	97	<i>camphoratum</i> , L.	1	327
<i>graminea</i> , Big.	1	94	<i>nutricarioides</i> , Less.	1	327
<i>graminea</i> , γ. L.	1	93	<i>pauciflorum</i> , Rich.	1	327
<i>humifusa</i> , Rottb.	1	97	? <i>suaveolens</i> , Hook. (TAB. CX.)	1	327
<i>læta</i> , Rich.	1	96	<i>vulgare</i> , L.	1	327
<i>lanceolata</i> , Torr.	1	95	TAXODIUM , Rich.	2	164
<i>longifolia</i> , Muhl.	1	94	<i>sempervirens</i> , Lamb.	2	164
<i>longipes</i> , Gold.	1	95	TAXUS , L.	2	167
<i>media</i> , Sm.	1	94	<i>baccata</i> , L.	2	167
<i>nitida</i> , Hook.	1	96	<i>Canadensis</i> , Willd.	2	167
<i>ovalifolia</i> , Hook.	1	97	TELLIMA , Br.	1	239
<i>palustris</i> , α. Rich.	1	96	<i>grandiflora</i> , Dougl.	1	239
<i>palustris</i> , β. Rich.	1	96	<i>parviflora</i> , Hook. (TAB. LXXXVIII.A.)	1	239
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Cornuti, L. (TAB. II.)	1	3	Americana, Walt.	1	109
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Japonicum, Thunb.	1	23	pubescens, Ait.	1	108
lævigatum, Mx.	1	3	TOFIELDIA, Huds.	2	179
pubescens, Pers.	1	3	borealis, Cham.	2	179
purpurascens, Br.	1	3	borealis, Wahl.	2	179
revolutum, DC. ?	1	3	coccinea, Rich.	2	179
THASPIUM, Nutt.	1	265	glutinosa, Pursh, (TAB. CXCI.)	2	179
actueifolium, Nutt.	1	265	palustris, Huds.	2	179
aureum, Nutt.	1	260	pusilla ? Pursh,	2	179
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fabacea, DC.	1	128	occidentalis, Hook.	2	45
lanceolata, Br.	1	128	TOWNSENDIA, Hook.	2	16
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alpinum, Jacq.	1	58	Trichochloa glomerata, Trin.	2	237
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Bursa Pastoris, Pursh,	1	69	Trichodine luxiflora, Mx.	2	240
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excelsa, Bong.	2	165	Hudsonianum, Nutt.	2	230
gigantes, Nutt.	2	165	TRICHOPHYLLUM, Nutt.	1	315
Menziesii, Dougl.	2	165	integrifolium, Hook.	1	316
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plicata, Lamb.	2	165	TRICHOSTEMMA, L.	2	117
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THYSANOCARPUS, Hook.	1	69	oblongum, Benth.	2	117
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microcephalum, Pursh,	1	132	glaucum, Nutt.	1	300
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plumosum, Dougl. (TAB. XLIX.)	1	130	glabra, L.	1	40
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spinulosum, Dougl.	1	133	mollis, Hook.	1	40
tridentatum, Lindl.	1	133	ovata, Pursh,	1	42
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<i>gracilis</i> , Ait.	2	141	<i>Vitis</i> <i>Idæa</i> , L.	2	34
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<i>membranaceum</i> , Dougl.	2	32	<i>Anagallis</i> , L.	2	101
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<i>Myrtillus</i> , var. <i>Sm.</i>	2	33	<i>nutans</i> , Bong.	2	101
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London



of
FLOR.
William



150° 160° 170° 180°

60° 70° 80°

RUSSIAN TERRITORY

WEST GEORGIA

NORTH GEORGIA

NEW NORFOLK NEW ORLEANS

Gulf of Georgia

Lake of the Hills

II

80°

80°

70°

20°

10°

0°

10°

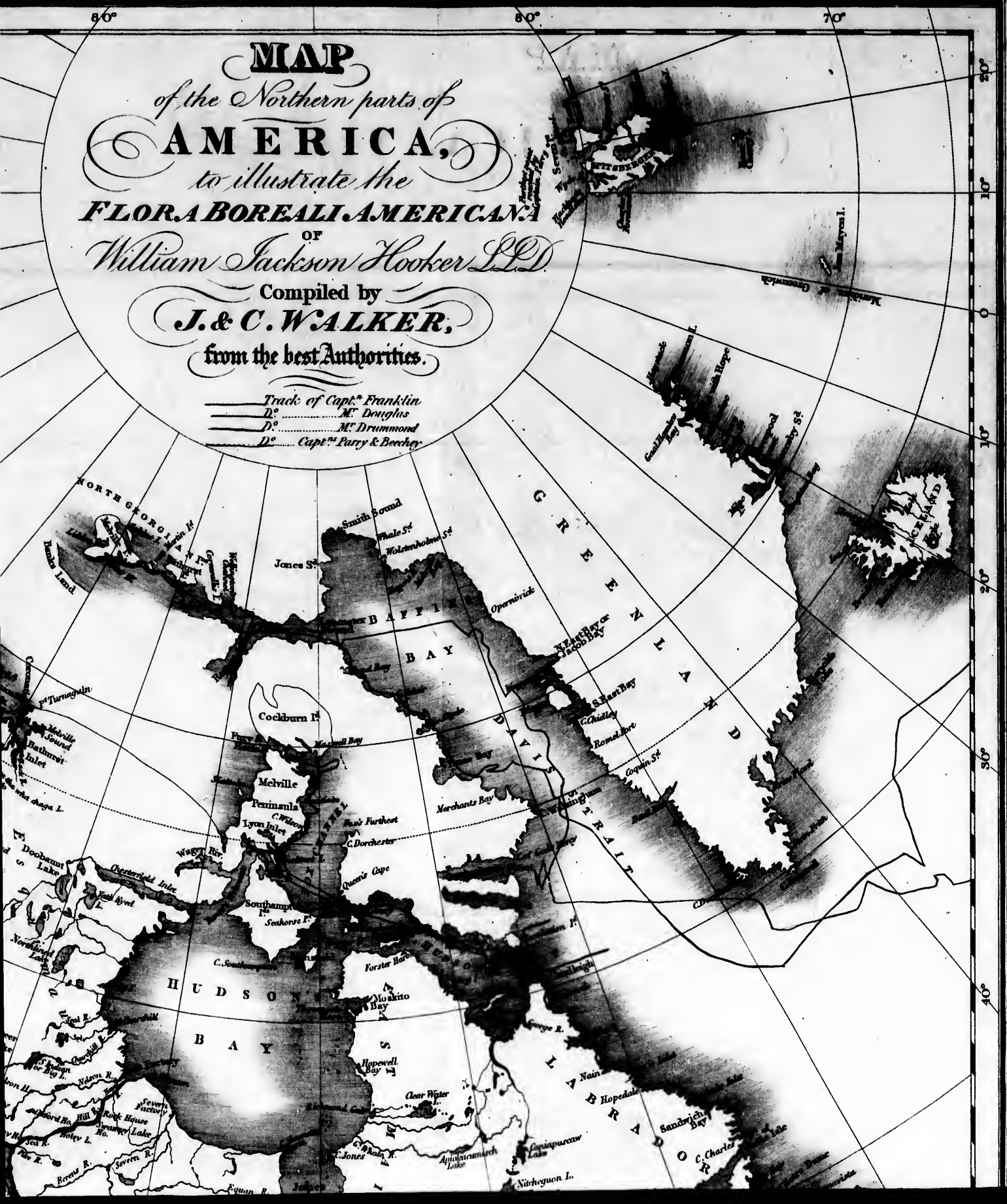
20°

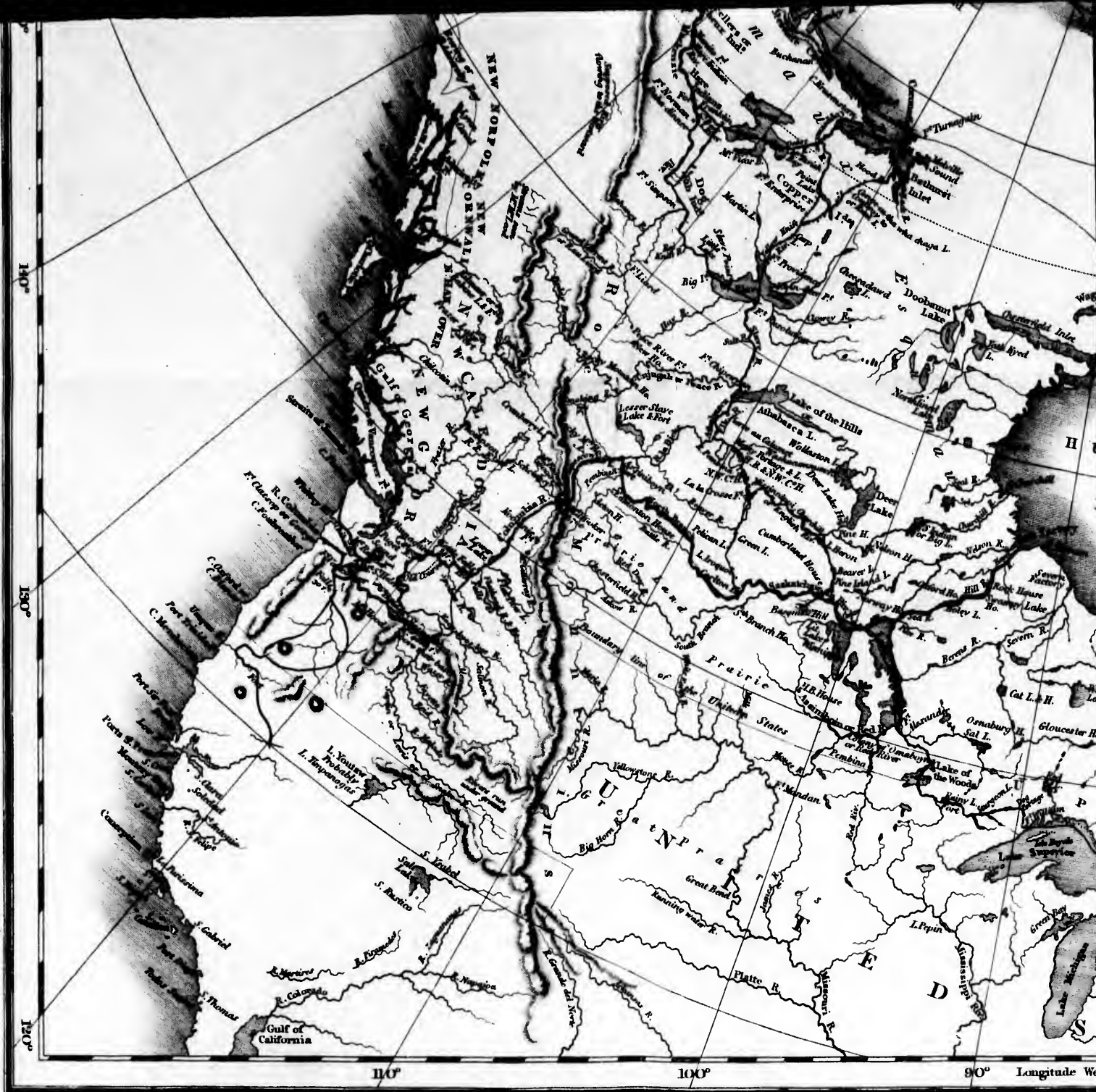
30°

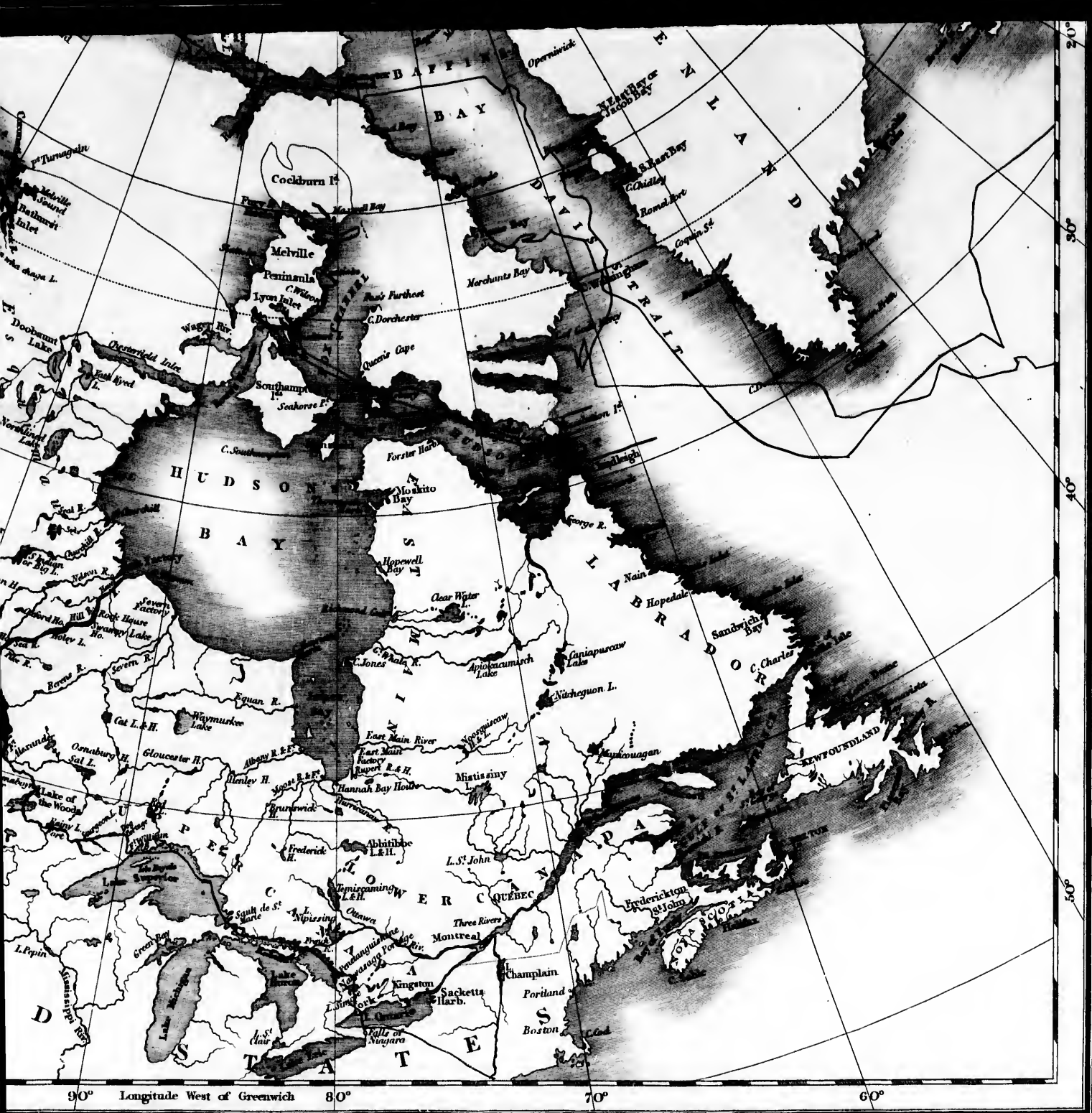
40°

MAP
of the Northern parts of
AMERICA,
to illustrate the
FLORA BOREALI AMERICANA
 OF
William Jackson Hooker LL.D.
 Compiled by
J. & C. WALKER,
from the best Authorities.

— Trade of Capt. Franklin
 — D° M. Douglas
 — D° M. Drummond
 — D° Capt. Furry & Beecher







90° Longitude West of Greenwich 80° 70° 60°

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