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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. Douglas  
D. Drummond  
D. Capt. Parry & Beechey





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

SIR WILLIAM JACKSON HOOKER, K.H., LL.D., F.R., A., & L.S.,

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AND REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW.

ILLUSTRATED BY NUMEROUS PLATES.

PUBLISHED UNDER THE AUTHORITY OF THE RIGHT HONOURABLE THE SECRETARY OF STATE FOR COLONIAL AFFAIRS.

VOL. I.

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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.



## P R E F A C E.

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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.

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\* 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.  $48^{\circ}$ , 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.

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\* 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* authorize 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.



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# FLORA BOREALI-AMERICANA.

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## CL. I. DICOTYLEDONEÆ.

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### SUBCL. I. THALAMIFLORÆ. DC.

### ORD. I. RANUNCULACEÆ. Juss. DC.

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#### I. CLEMATIS.

*Involucrum* 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. Amæn. 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 fœmineis *filamenta* subulata abortiva adsunt, antheris minutis vacuis. *Folia* subtus pilosa, semper ternata, foliolis majusculis, sæpe duas vel tres 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 Winipeg. *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, quadripollicaria, circumscriptione late ovata, e basi usque profunde bi-tripinnatifida, pilosa, ad divisuras segmentorum lanuginosa, segmentis primariis semper exacte oppositis, remotis, et fere petiolatis, reliquis alternis; omnibus linearibus, obtusiusculis; foliorum inferiorum latioribus, superiorum sensim angustioribus. *Rachis* gracilis, petiolum æmulans. *Pedunculus* terminalis, solitarius, tomentosus, uniflorus. *Flos* majusculus, cernuus, subcylindraceus, basi obtusus. *Sepala* 4 vel 5, sesquiunciam longa, coriaceo-membranacea, oblonga, obtusiuscula, erecta (quoad axin floris,) 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 "*Flammulæ*," (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 *Pæonia 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 pinnæ, 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. *Sepala* 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 exemplaribus) magnitudine *T. dioici*, et iis similibus, subtus valde glaucis. *Stipellæ* nullæ. *Panicula* subpauciflora, laxa, pedicellis longis. *Flores* erecti. *Stamina* pauca, brevia, perianthii longitudine. *Filamenta* superne insigniter dilatata. *Antheræ* breves, ellipticæ, muticæ. *Pistilla* 8-10 in singulo flore. *Germen* ovatum, stipitatum, gibbum, læve, demum inflatum, in stylo, germine  $\frac{1}{4}$  breviora 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. lævigatum. Mich. Am. v. 1. p. 322.*

*Caulis* pedalis nunc bipedalis. *Folia* fere omnino ut in *T. clavato*, submollia, membranacea. *Panicula* terminalis, magis minusve longa. *Stamina* numerosa, filamentis filiformibus, antheris linearibus mucronatis. *Germen* oblongo-ovatum, hinc intus planum, stylo stigmatæque 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, stigmatæ 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 foemineo: *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. Linnæus 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*, *α*. 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. Am. 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. Bost. ed. 2. p. 223. Curtis, in 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 Linnæus et Cl. Bigelow, sed, ut bene habet De Candolle, “petiolo ab ipsa basi tripartito et ideo segmentis petiolulatis, subverticillatis, ovatis, tridentatis (nunc integerrimis, *H.*) involucrum constituentibus.” *Sepala* petaloidea, alba. *Stamina* pauca. *Pericarpia* 7–11, lineari-oblonga, breviter stipitata, sulcata: *Stylus* vix ullus: *Stigma* sessile, capitatum.

HAB. Canada. *Linnæus. 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, involucre 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 Irkutsek 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.*—(*α. 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. *α. 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.—*Mich. 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, involucralibus 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. (fide 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 (involucralibusque sessilibus) rhomboideis integris trifidisve inciso-serratis acutis, sepalis 5–6 obovatis. (TAB. III. A.)

*Folia* radicalia, longe petiolata, ternata, foliolis late-ovatis subdeltoideis, integris, trifidisque. *Scapus* erectus, gracilis, 8–10 pollicaris, parce pilosus, supra medium involucratum. *Involucrum* 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. Richardsoni*; subpilosa, foliis reniformibus 3–5 partitis, lobis subtrifidis acute dentatis, involucralibus 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. (fide specim. ejus.)*

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

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



to 68°, in wet mossy ground. *Dr. Richardson. Drummond.* Unalaska, 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, superne in pedunculos divisus, pilis brevibus, sericeis, appressis, magis minusve vestitus. *Folia* ampla; *radicalia* longe petiolata, omnia pulcherrime reticulatim venosa. *Pedunculi* elongati, 3 vel 4 ab eodem puncto, ubi involucrum trifoliatum, foliis radicalibus conforme, petiolatum: pedunculus centralis nudus, laterales bifoliati. *Flores* parvi. *Sepala* acuta, subcoriacea, pallide flavo-viridia, nunc purpur-ascentia, extus sericea. *Capitula* pericarpium oblonga, nunc fere cylindracea, (raro, in speciminibus ab amicis. *Boott*, tereti-globosa.) *Cariopsides* 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 Pericarps:—magnified.*

9. *A. multifida*; pilosa, foliis ternatim divisis, 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 pericarps, 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. Pennsylvanica*; 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 minora. *Flos* magnus, albus: *Sepala* membranacea, extus sericeo-pubescentia. *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.  $\zeta$ . *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* ecaudata.—*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.*

*δ.* 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 Europæan 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 nectariferâ instructa. *Stam.* ovariaque plurima. *Cariopsides* ovatae, subcompressae, in mucronem aut cornu semine vix longius desinentes, laeves, striatae aut tuberculatae, in capitulum globosum cylindraceumve dispositae. *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 lacinias filiformes tenues dissectis. *DC.*—*R. pantothrix. Brot.—Elliott, Carol. v. 2. p. 56.—R. fluviatilis. Willd. Sp. Pl. v. 2. p. 1333. Æd. Fl. Dan. t. 376. Bigel. Fl. Bost. ed. 2. p. 227.*

*γ. cœspitosus*; foliis petiolatis, omnibus emersis, circumscriptione suborbiculatis in lacinias 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 carpellis acutiusculis glabriusculis. *DC.*—*R. stagnatilis. "Wallr. 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* levia, 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 sphaerico, 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 Eschscholtz 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 triphyllous 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. salsuginosus*; and, certainly, according to Jacquin's figure of *salsuginosus*, in *Hort. Vindob. v. 3. t. 31*, (sub. nom. *R. ruthenici*,) 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 *salsuginosus* 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, caulinis 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, caulinis subcuneatis trifidis, calyce patente petalis dimidio brevioribus, fructibus globosis. (TAB. V. A.)

*Radix* fasciculato-fibrosa. *Tota planta* hirsutie destituta. *Caulis* erectus, subspithamæus, superne uni-biflorus. *Folia* omnia (nisi supernum quod subsessile,) petiolata, subsucculenta: *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, caulinis subsessilibus digitatis, lobis omnium linearibus, caule erecto 1-2 (multi) floro cum calycibus ovarisque (an semper?) pubescentibus, fructibus oblongo-cylindræis, 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. 95° 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 Mr. Brown's *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, petiolata, petiolis vaginantibus, cordata, basi truncata vel sæpe fere exacte ovalia, nunc, sed rarissime, profunde trifida vel etiam palmato-pedatifida, margine, superne 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. Cariopsides 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 pleases, 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 fasciculato-fibrous roots, erect stems, deeply divided cauline leaves or bractæ, 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. cassubicus* 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. cassubicus* 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 lineari-lanceolatis integris vel incis, 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 cælo 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 pericarps 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 subgloboso, 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. 23.*

*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 multifid 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 Candolle. 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  $\gamma$ . and  $\delta$ . 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*,  $\beta$ .; *fig. 2*, var.  $\gamma$ .; *fig. 3*, var.  $\delta$ .: *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. ed. 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) spathulate 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.—*Rottb. 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. Hook. 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 *germens* globose, compact. Each *cariopsis* or *carpel* is distinctly margined on the back, and tipped with a very short inconspicuous mucro.

16. *R. pygmæus*; 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 Candolle. It is equally the *R. Gmelini* of De Candolle, 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. c.* (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. Pericarps 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. Sabinii*; foliis radicalibus elongato-petiolatis tripartitis, lobis ellipticis lateralibus semi-bifidis, caulinis 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. Sabinii*. 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, caulinis 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 sesquolongiora. *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 Collie 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.  $\beta$ . 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.*

$\beta$ . 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.  $52^{\circ}$  to  $56^{\circ}$ . *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.  $\beta$ . 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 palmatim 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 crassiusculis, subsimplicibus vel solummodo fibrillosis, fasciculatis. *Folia* subciliata et parce pilosa, præcipue 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 palmatim profunde 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. *Germina* in capitulum subrotundum congesta, ovata, stylis paulo brevioribus recurvatis attenuata.

HAB. Barren summits of the Rocky Mountains, on the eastern side of the ridge, lat.  $52^{\circ}$  to  $55^{\circ}$ . *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 Kamschatka. 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. Sabinii*, 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 cuneate 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 incis, sarmentis radicanibus, 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 incis laciniis lanceolatis apice callosis, calyce hispido 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 præcipue pilis patentibus, hispidissimus. *Folia inferiora, caulina, et radicalia* præcipue, petiolata, *superiora* subsessilia, ternata; foliolis fere omnibus sublonge petiolatis obovatis basi attenuatis, trifidis vel tripartitis, laciniis lato-lanceolatis incis, apicibus acutis, callosis, nonnunquam distincte, et fere albidis. *Petioles* 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, sublente pulcherrime impresso-punctata, stylo brevi rectiusculo terminata.—Variat 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 incis 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 vallies, 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.*

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

$\gamma$ . 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.  $52^{\circ}$  to  $55^{\circ}$ , in woods and shady places. *Drummond. \beta. Unalashka. Nelson. \gamma. 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. fascicularis*; 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 subæque 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.*

$\beta$ . magis hirsutus.

HAB. Canada, to the south end of Lake Winnipeg. *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 pinnated, 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, margined, 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 incisis, 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, descendentibus. 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, minute 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. *Capsulæ* 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 unifloro 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 spithamæi, erecti. *Folia* pauca, 4–5, plerumque omnia radicalia, cordato-rotundata, tenui-membranacea, sinu acutiusculo, margine, apice præcipue, obsolete crenata: *Caulina* nulla vel solitaria, radicalibus similia sed minora. *Petioles* 2–3 uncias longi, basi membranaceo-vaginata. *Flores* solitarii, vel sæpissime bini in singulo caule. *Sepala* 8–10, elliptico-oblonga, alba, extus subcærulea, siccitate sordide-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 stipitatae, substellatae, membranaceæ, ovato-oblongæ, stylo acuminatae, 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. aspleniifolia*; 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; foliolis 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, albidi. *Calycis sepala* 5, lineari-lanceolata, glabra, reflexa. *Petala* 5, longissima, angusta, filiformia, medium versus dilatata, et ibi concava, cucullata. *Stamina* subdecem. *Filamenta* breviuscula, flexuosa. *Antheræ* subglobosæ, compressæ, connectivo lato, loculis subreniformibus oppositis. *Pistilla* 8-10, sessilia: *Germen* oblongum, curvatum, stylo attenuatum: *Stigma* lineare, recurvum, papillosum. *Capsulæ* 6-10, longe stipitatae, stipitibus subpubescentibus, oblongo-ovatae, styli basi brevi persistente acuminatae, membranaceae, inflatae, supra planae, binerves, nervo centrali duplici, nervis lateralibus non ad apicem attingentibus, inferne gibbosae, 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. asplenioides* 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, interiori minimo, deorsum producta in calcaria totidem cava, apice callosa inter sepala exserta. *Ovaria 5*. *Capsulæ* totidem, erectæ, polyspermæ, stylis acuminatæ. *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, cærulei, plerumque pubescentes. *Calycis sepala* 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. *Capsulæ 5*, unciam longæ, stylo brevi vix duas lineas longo terminatæ.

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. cærulea* 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,



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. vulgare* and *A. canadense*, so is the present of *A. brevistyla* and *canadense*; 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 cærulei. *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, nectararia,*) longe unguiculata, apice in saccum expansa, sub galea recondita.—*Folia palmatisecta. DC.*



1. *A. Napellus*; floribus dense spicatis vel laxe 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. Ejusd. 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 cucullus 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. ACTÆA. *Linn.*

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

1. *A. cimicifuga*; ovariis 4 subsessilibus villosissimis, racemis paniculatis, foliis ternatim biternatimve sectis, segmentis ovato-lanceolatis inciso-dentatis, carpellis siccis dehiscentibus. DC.—*Linn. Amæn. 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 foetid smell has recommended it, as the name implies, for driving away bugs.

2. *A. palmata*; ovariis 12–15 in capitulum subrotundum 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.  $\delta$ .) *Rich. in Frankl. 1st Journ. ed.* 2. p. 21.—*A. americana*,  $\beta$ . baccis rubris. *Pursh, Fl. Am.* v. 2. p. 367.—*A. spicata*,  $\alpha$ . 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*,  $\delta$ . *De Cand. Prodr.* v. 1. p. 65.—*A. americana*,  $\alpha$ . baccis niveis. *Pursh, Fl. Am.* v. 2. p. 366.—*A. spicata*,  $\beta$ . 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 purpurascens. *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 minora, 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 triserialia. ♂ *Stam.* 16–20. ♀ *Ovaria* 2–4. *Drupæ* baccatæ, subrotundo-reniformes, 1-spermæ.—*Frutices scandentes. DC.*

1. *M. canadense*; foliis subpeltatis glabriusculis cordatis obtuse angulatis mucronatis, racemis compositis, petalis 8.—*Linn. Sp. Pl. p. 1468. 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. BERBERIDEÆ. *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 carnosio, 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 Rapids 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. 118°. *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. glumacea. 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. Bractææ, at the base of the peduncles, several, large, convolute, pungent. I retain the name of *nervosa*, in preference to *glumacea*, 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. glumacea* 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. vix 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, cylindræo-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* globose, didymæ, loculis dorso distinctis, facie superna connectivo nullo, subuniloculares, in labia 2, transversim, a basi sursum dehiscentes, flavæ, labiis 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 anthers 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 minora. *Petala* 4–6, intus appendice discolore aucta. *Capsula* siliculæformis, polysperma. *Semina* oblique transversim inserta.—*Herbæ radicebus perennibus, foliis petiolatis multisectis.*

1. *E. hexandrum*; foliis radicalibus bi-triternatis, foliolis cordatis obtuse quinquelobis subpilosus, 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



tri-quinqueloba, tenuia, 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-biuncialibus, 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, insigniter reflexa, oblongo-obovata, apice cucullata, alba, intus appendice spathulata valde concava, flava aucta. *Stamina* 6, recta, petalis oppositis: *Filamenta* linearia, plana, extus minute glandulosa: *Antheræ* longe mucronatæ, loculis lateralibus, valvulis dehiscentibus. *Pistillum*: *Germen* vel *ovarium* oblongum, glandulosum, glandulis rufis, *stylo* subæque longo attenuatum: *Stigma* capitatum, ad apicem perforatum, subobliquum. *Ovula* unilaterialia, 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 *sepals* would be considered by De Candolle as bractæ, 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. PODOPHYLLÆ. DC.

### TRIB. I. PODOPHYLLÆ 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 unicæ carnosæ latæ adfixa.—Herba perennis, foliis peltato-lobatis oppositis, floribus solitariis albis, habitu *Meconopsidis*. 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*.

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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 *ampli, albi, rosei, rubri aut cærulei, nunquam lutei. DC.*

1. *N. odorata*; foliis cordatis integerrimis subtus nervis venisque prominentibus, stigmatate 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, β. 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, stigmatate 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, stigmatate 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, β. 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 involucro triphylo etiam persistente stipatus. *Cor.* pentapetala; *petalis* basi contractis, unguiculatis. *Stamina* numerosa, hypogyna, arcte posita, compacta. *Filamenta* breviuscula: *Antheræ* 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, cylindraceus. *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 too 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 *Nymphæaceæ* 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 Pylaie 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.

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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-ocularis, 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 foetæ*. *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. 1633. 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 faucis 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. *Stigmas* 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 facta, foliis longius basi cuneatis, panícula 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. (DIOLYTRA. DC.)

*Petala* 4, 2 exteriora basi æqualiter calcarata, aut gibbosa. *Siliqua* bivalvis, polysperma.—Herbæ perennes. Flores racemosi, albi aut purpurascens. 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, stigmatè 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, stigmatè 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. B.—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. lachenaliæfolia*; 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 extreme 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 Rudolphi, 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 glabræ, sæpe glaucæ. DC.

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

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

*Radix* crassa, sublignosa, tortuosa, collo squamoso. *Folia* perpauca, 1 vel plura radicalia, 1 vel 2 caulina. *Folium* caulinum 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 *caulinum* superius magis simplicia, multoties minora. *Flores* pendentes, rosei, unciam ad sesquiunciam longi, in racemum laxum terminalem folio breviorum, dispositi. *Bracteæ* 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 cohærentia. *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. pæoniæfolia*, 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 incis, 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 planæ, 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 planæ, accumbentes, septo parallelæ. DC.*



## 1. CHEIRANTHUS. Br.

*Siliqua* teres aut compressa. *Stigma* bilobum aut capitatum. *Cal.* basi bisaccatus. *Semina* 1-serialia, ovata, compressa (o=). 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 subscaber, pube bipartita subcanescens. *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 saccatis. *Petala* limbo ovato, ungue sepalis longiore. *Germen* lineare, rectum. *Stylus* crassiusculus, lineam longus. *Stigma* mediocre, capitatum, bilobum, lobis rotundatis. *Siliquæ* nostris exemplaribus absunt: sed, *Chamissonis* fide, "15 circiter lin. longæ, lineam latæ, compressæ; plurimis ovulis abortu haud perfectis, pauca modo aderant semina in quoque loculo; valvulæ medio nervo extus prominente a basi ad apicem sunt notatæ. *Stylus* siliquam terminans, brevis, vix semilineares, crassus, stigmatate capitato, indistincte bilobo. *Semen* 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 *Mathiolæ incanæ*. *Siliqua* teretiuscula, stigmatate parvo subcapitato." DC.—This seems to agree in some particulars with *Cheiranthus pygmæus*, 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 (o=). DC.

SECT. I. CARDAMINUM. *Pet. alba, calyce majora. Siliquæ teretiusculæ. Glandulæ 4 ad basin staminum. Semina reticulato-rugosa, cotyled. oblique incumbantibus. (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. *Mr. 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 Unalashka. *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 *albidi vel purpureo-rosei*.

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 spathulatis sinuato-dentatis, superioribus lanceolato-sagittatis integerrimis, omnibus caule erecto ramoso pedicellisque pilis numerosis patentibus molliter hirsutis, siliquis lineari-elongatis erectis strictis.

*Radix* annua, subfusiformis, ramosa. *Caulis* erectus, superne ramulos plurimos proferens, molliter hirsutus. *Folia radicalia* patentia, spathulata, 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. *Siliquæ*, vix maturæ, anguste lineares, unciam et ultra longæ, rectæ vel leviter curvatæ. *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. hispidula* of DC. (*Arabis andicola* of *Humb. et Kunth*): but that plant has the leaves rough with flocculose 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. *Caules* 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 subintegris.

Facies *T. strictæ*; 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 Hornemann has sent me the var. β. from Greenland.

5. *T. retrofracta*; erecta, incano-pubescentis 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 subintegris, caulinis sagittatis vix dentatis, siliquis linearibus patentibus pedicello duplo longioribus.

*Radix* parva, subfusiformis, ut videtur, annua. *Caules* plurimi ex eadem radice, diffusi, glabri, ramosi, subspithamæi. *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, æqualibus, pedicello glaberrimo triplo brevioribus. *Petala* calyce dimidio longiora, alba, obovata, unguiculata. *Siliquæ* vix unciam longæ, patentès, lineares, obtusæ, *stigmatè* 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-seralia, 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 Europæan 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.—*Turritis 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.  $\gamma$ . *ovata*.

HAB. Island of Unalashka. *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 Europæan 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 hispidis, 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. petræa*; caulibus erectiusculis vel diffusis glabris, foliis radicalibus sublonge 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. petræa. 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.* Unalashka. *Chamisso*.—Authentic specimens of *Arabis lyrata*, from Dr. Schweinitz and Professor Torrey, and from Dr. Richardson, I have compared with our Europæan *A. petræa*, 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.

$\beta$ . foliis glabris, caule basi hispido. *DC.*—*Cham. et Schlecht. in Linnæa*, v. 1. p. 16.



HAB.  $\beta$ . 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. petræa*.

\* \* *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. *Siliquæ* quite erect,  $1\frac{1}{2}$  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. 929. 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 augustis 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 radicalia*, 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* edentula. *Antheræ* dorso prope basin affixæ, lineares, siccitate recurvæ, plumbeæ. *Glandulæ* ad basin staminum 4, majusculæ. *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 Linnæa, 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 Unalaska 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*, Andrzejewski 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 Linnæa, 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, tridentato, vel subtrilobo, dentibus acutis. *Flores* in racemo laxo, subdecem. *Petioles* 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 quinatisve 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, foliosus. *Folia* omnia petiolata, glaberrima, membranacea, ternata, rarius quinato-pinnata; foliolis radicalium subrotundis vel cordatis, caulinarum 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, caulinarum 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. Iglookik,* and others of the islands in the Arctic Sea. *Capt. Sir E. Parry.*

6. *C. hirsuta*; foliis pinnatis, foliolis radicalium petiolulatis plerumque rotundatis, caulinarum 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. Am. 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.* Unalashka. *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. flaccida* 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. Siliquæ juniores breviusculæ; 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. *Linn.*

*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 Linnæa, v. 1. p. 18.*—*Neuroloma arabisiflorum. De Cand. Prodr. v. 1. p. 156*; et *Hesperis arabisiflora. 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. 439.*

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

*β. glabra, tota glaberrima.*—*Neuroloma arabisiflorum. 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 florescens 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 late obovato, venoso, retuso, basi in unguem attenuato. Stamina unguibus petalorum sublongiora: Filamenta subulata: Antheræ oblongo-lineares. Glandulæ ad basin filamentorum 4. Pistillum: Germen lineari-lanceolatum, in stylum perbreve attenuatum: Stigma lobis brevibus erectis approximatis. Siliquæ fere 2 uncias longæ, 2 lineas latæ, sublonge racemosæ, erectæ, subcurvatæ, lato-lineares, inter semina subconstrictæ, paululum torulosæ, plano-compressæ, in α. scabræ, 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) integerimis, 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 *Neurolomata* 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. Fl. 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 siliculæ 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* (ut et tota planta, nisi corolla staminaque,) pilis vel squamulis stellatis numerosissimis incani, simplices, 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 sepala* oblonga, erecta, æqualia, obtusa. *Petala* læte 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, Stamens 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 membranacea cincta. *Calyx* basi æqualis. *Petala* integra. *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.*—*Lunaria 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 Candolle* 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 subruncinato-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, pilis 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.*

α. 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  $\frac{1}{4}$  brevior.

*Radix* perennis, tenuis, sublonge descendens, superne multiceps. *Caules* breves, unciam-2-uncias longi, ramosi, inferne foliorum vetustorum vestigiis obsiti. *Folia* erecta, linearia, obtusiuscula, inferne subattenuata, rigida, nitida, utrinque sed 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. *Siliculæ* in racemum laxum, duas uncias longæ, ellipticæ, planæ, utrinque acutæ, pube brevi sparsa tectæ, loculis 2–3, rarius 4-spermis. *Stylus* evidentissimus, *silicula* subquadruplo brevior, *stigmatate* 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, ovariis 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 pedicellisue pilosis, foliis lato-lanceolatis subvenosis integerrimis pilis furcatis simplicibusque, petalis (albis) anguste-spathulatis calycem pilosiusculum vix superantibus, siliculis ellipticis, stigmatе 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 *siliculæ* 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 cæsi-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. *cæsia* has yellow ones.

8. *D. oblongata*; scapis nudis, pube floccosa subhirsutis, foliis cæspitosis oblongo-linearibus integris ciliatis velutinisque, 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. oblongatæ et hirtæ affinis.*"

10. *D. hirta*; scapis puberulis, folia pauca plerumque dentata gerentibus, foliis radicalibus oblongis subintegris puberulis, siliculis oblongis pedicellisue 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.*

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

ε. foliis glabriusculis, scapo omnino glabro.



HAB. Arctic and subarctic America, as well as upon the Rocky Mountains; frequent.  $\delta$ . Unalashka. Chamisso.  $\epsilon$ . 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 siliculæ, 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, stigmatemarginato.

$\alpha$ . 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,  $\beta$ . 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.*

$\beta$ . siliculis glabris.

HAB.  $\beta$ . Rocky Mountains, in stony places, between lat.  $52^{\circ}$  and  $57^{\circ}$ . *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 siliculæ 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. androsacea. 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, siliquis 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.*

$\beta$ . *hebecarpa*; siliculis undique velutino-pubescentibus. *DC.*

HAB. Unalashka. Chamisso.  $\beta$ . 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.  $\beta$ . is very hairy, and more disposed to be leafy on the stem than the *D. rupestris* of this country.

14. *D. levipes*; 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.  $52^{\circ}$  and  $57^{\circ}$ . *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. *Siliculæ* glaberrimæ, 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.?* *lævigata*; 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 siliculæ 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.



*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 subtriplo brevioribus. *Ehrh.*—*De Cand. Prodr. v. 1.* p. 171.—*D. muralis, β. nemorosa.* *Linn. Sp. Pl.* p. 897.



α. floribus luteis, petalis subintegris.

β. floribus fere albis, petalis emarginatis.

HAB. α. About Lac la Pluie, and Rocky Mountains, (not found in the low grounds.) *Drummond*. β. 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 siliculæ, according to specimens sent to me from New York, by Dr. Torrey; and which that gentleman has ascertained to be *Draba hispidula* of Muhlenberg.

### 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 *siliculæ* 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 subaveniis, dissepimento elliptico-lanceolato, axi sæpius fenestrato, foliis radicalibus cordatis integerrimis, caulinis spathulato-oblongis subdentatis.—*Brown in Ross's Voy. ed. 2. v. 2. p. 193, et in Parry's 1st Voy. App. p. cclxvi. De Cand. Prodr. v. 1. p. 173.*

HAB. Shores of the Arctic Sea; Capts. 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. 903. 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 deltoideis. DC.—*Linn. Sp. Pl. p. 903. Engl. Bot. t. 100. Cham. et Schlecht. in Linnæa, 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 dente 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 spathulatis grosse dentatis acutis venosis.—*Schlecht. pat. in Herb. Willd.—De Cand. Prodr. v. 1. p. 174. Cham. et Schlecht. in Linnæa, v. 1. p. 27.—C. septentrionalis. De Cand. Prodr. v. 1. p. 174. ("excl. syn. Schlecht. pat. in Herb. Willd.")—Draba grandis. Langsdorff, MSS.—De Cand. Syst. v. 2. p. 355. De Less. Ic. v. 2. f. 47.*

HAB. Aleutian Islands of St. George and St. Paul, lat. 56°, 57°. Chamisso.—Of this interesting plant I possess beautiful specimens, both from Dr. Fischer and from Chamisso. The latter considers it as the only plant peculiar to the islands just mentioned, and has published an excellent description of it in the *Linnæa* above quoted. In a dried state, the large *siliculæ* 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. siliquosa*; siliculis oblongo-lanceolatis stylo apiculatis pedicello dimidio breviori-



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

HAB. Rocky places 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 *siliculæ*.

TRIB. III. THLASPIDÆ seu Pleurorhizæ Angustiseptæ. *Silicula* dehiscens, septo angustissimo, valvis carinatis navicularibus. *Semina ovalia, interdum marginata. Cotyledones planæ, accumbentes* (o=), *septo contrariæ.*—*Tribus distinctissima, cum Lepidineis 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, caulinis 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, caulinis 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, caulinis 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-pubescentibus, 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, longe petiolata, profunde pinnatifida, fere pinnata, inferiora nonnunquam, in var. β. præcipue, integerrima, spathulata, incana, pubescenti-tomentosa, juniora præcipue, laciniis linearibus acutiusculis vel obtusis; *caulina* pauca, minora, laciniis paucioribus. *Flores* albi, suavisissimi, dense corymbosi, pedicellos longitudine subæquantes. *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 Lomentaceæ. *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. NOTORHIZÆ (o ||). *Cotyledones* planæ, incumbentes. *Radicula* dorsalis, nempe medio dorso cotyledonum incumbens. *Semina* ovata. DC.

TRIB. V. SISYMBREÆ seu Notorhizæ 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* teretiuscula 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 spithamæus, paululum flexuosus, teres, subangulatus, purpureo-viridis, parce foliosus. *Folia* pleraque radicalia, quæ 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. *Petala* magna, purpurea, obovata, unguiculata, venosa. *Stamina* calyce paulo longiora. *Antheræ* lineares. *Pistillum*: *Germen* lineare, compressum: *Stylus* brevis: *Stigma* bilobum, lobis erecto-conniventibus, intus glandulosis, albidis. *Siliquæ* numerosæ, erectæ, vel erecto-falcatae, 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* uniserialia, 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 *Pleurorhizææ*, and to place it among the *Notorhizææ*, 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, 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 spathulatis carnosis, 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 spathulate, 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



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, laciniis 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 racemosæ, teretes, in stylo brevi acuminatæ, lineares, falcatae, subunciam longæ, subtorulosæ. *Valvæ* leves, 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 Arkansa,) 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-pubescens. *Folia* plurima radicalia, pinnatifida, fere pinnata, pinnis iterum pinnatifidis ovatis lanceolatisque, juniora glanduloso-pubescentia, adulta glabra, suprema segmentis angustioribus. *Flores* in corymbis umbellatis, pedunculatis, subaphyllis, terminalibus axillaribusque. *Rachis* semper glanduloso-pubescens. *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, densæ et ita compactæ, ut fere exacte in umbellam dispositæ videantur, non raro secundæ, biunciales et ultra, pedicello triplo longiores, paululum falcatae, anguste lineares, teretes; *stylo* brevissimos, stigmatæque parvo capitato, terminatæ. *Valvæ* dorso



medio uninerviæ. *Semina* uniserialia, 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 Europæan *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. sophioides* 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-pubescens, 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 parciter 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 subrosei) brevissime pedicellati. Pedicelli ebracteati. DC.*

7. *S. humile*; incano-pubescens, perenne, caulibus diffusis, foliis integris vel sinuato-dentatis radicalibus spathulatis, 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. *Caules* 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-incana, pube ramosa, versus basin pilis 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 subæquantes. *Calyx* pubescenti-hirtus, pilis ad apicem longioribus; *sepalis* late ovatis, concavis, erectis. *Petala* calyce plusquam duplo longiora, unguiculata, limbo lato, patente, subretuso. *Pistillum*: *germen* cylindraceum, valde pubescens: *Stigma* subsessile, obtusum, vix capitatum. *Siliquæ* in racemis triuncialibus, pollicem longæ, subcurvatae, lineares, teretes, torulosæ, pubescentes, in acumen breve terminantes. *Semina* uniserialia, ovalia, fusca. *Cotyledones* incumbentes.

*HAB.* *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 petræa*, 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.

8. *S. arabidoides*; annum, foliis radicalibus lyrato-pinnatifidis subhirsutis, caulinis 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. petræa*, p. 42 of this work.)

*Radix* parva, annua, subfusiformis. *Caules* erecti, spithamæi et ultra, solitarii, vel plurimi ex eadem radice, glabri, subglaucci, 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* floris longitudine, glaberrimi. *Calyx* omnino glaber, foliolis ovatis. *Petala* oblongo-obovata, calyce plusquam duplo longiora, alba vel purpurascencia. *Siliqua* sesquiunciam 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.

*HAB.* 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. petræa*, 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. petræa*, 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.

δ. 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,



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 subsemicylindræis. *Stigma* planiusculum. *Dissepimentum* medio fissum. *Semina* quoque loculo subsex. *Calyx* basi æqualis, sepalis erectis.—Perennes, *radice crassa longe descendente. Folia pleraque 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 Europæan 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 *Pleurorhizæ*, 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, utrinque margineque pilosa, pilis plerumque simplicibus. *Scapi* plurimi ex eadem radice, vix digitem longi, pubescentes, omnino aphylli. *Flores* majusculi, albi, fragrantés, primum in corymbum compactum dispositi, demum racemosi. *Pedicelli* breves, vix calyce longiores. *Sepala* late ovata, concava, æqualia, margine glabro, membranaceo, dorso pubescente. *Petala* calyce duplo longiora; ungue angusto calyce brevioré, *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 brevioré terminatum. *Stigma* dilatatum, obscure bilobum. *Semina* seu 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 laminae* dilatatae. *Cotyledones* incumbentes. *Br.*

1. *P. purpurascens*; stigmatè bilobo patenti, 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*; stigmatè indiviso subsessili, siliculis scapisque pubescentibus.—*Br. in Parry's 1st Voy. App. p. cclxvii*.

HAB. Melville Island. *Capt. Sabine*.—"Floribus ignotis, dubiæ generis planta, cujus exemplaria tria in Herb. *D. Sabine* exstant. *Cotyledones* certe incumbentes et lineares, basibus tamen crus radiculare embryonis vix occupantibus." *Br.*

### 24. EUTREMA. *Br.*

*Siliqua* (abbreviata) anceps, valvis carinatis, dissepimento (nonnunquam) incompleto. *Cotyledones* incumbentes.—(Herba habitu omnino *Brayæ* et *Platypetali*, quibus maxime affine genus, distinguendum facile *siliqua* ancipiti, dissepimento incompleto, et seminum funiculis. *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, superne sæpe multicaulis. *Caules* plerumque breves, sed non raro innovationibus elongati, ad apicem dense foliati. *Folia* in rosulam expansa, obovata, longe petiolata, subcarnosa, glabra, integerrima vel parce dentata, viridia vel purpurascens, petiolis subnunciam 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* parvæ, subrotundæ, didymæ, flavæ. *Siliquæ* abbreviatæ, seu *siliculæ* 6–8 lineas longæ, in racemum dispositæ, pedicello vix duplo longiores, brevissime stipitatæ, lato-lineares, aucipiti-subcompressæ, viridi-fuscæ, stigmatibus 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 rufo-fusca, immarginata. *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:—*natural 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, stigmatibus capitato. *Silicula* lanceolata, compressa, unilocularis, septo nullo, valvis planiusculis, nervo medio notatis. *Semina* plura, ovoidea, funiculis umbilicalibus elongatis e supera parte nervi placentarii dependentia, cotyledonibus incumbentibus. *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; *bracteæ* sub pedicellis confertæ, involucrum 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 Unalasccha. *Chamisso*.

### 26. PLATYSPERMUM. *Nov. Gen.*

*Silicula* ovalis, dorso compressa, plana, stigmatate 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, subruncinato-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-obovata, alba, vix unguiculata, calyce paulo longiora. *Stam.* 4, tetradynama: *Filamenta* filiformia, edentula: *Antheræ* parvæ, subrotundatæ, flavæ. *Pistillum*: *Germen* ellipticum, tereti-compressum, stigmatate bilobo terminatum. *Silicula* exacte ovalis, sessilis, 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 Notorhizeæ 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 parallelæ. DC.

### 27. LEPIDIUM. *Linn.*

*Silicula* ovata aut subcordata, valvis carinatis aut rarius ventricosis, dehiscentibus, loculis 1-spermis. *Semina* subtriquetra aut compressa. (*Cotyledones* nonnunquam incumbentes.)—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 Frankl. 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. *Siliculae* 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 *ruderale*, 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 *siliculæ* 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.*—“*Mœnch, 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 Nucamentæ. *Silicula* valvis indistinctis aut indehiscentibus carinatis, septo evanido, 1-ocularis, 1-sperma. *Semina* ovato-oblonga. *Cotyledones* planæ, incumbentes, septo (si adesset) verosimiliter parallelæ. DC.

#### 29. THYSANOCARPUS. *Nov. Gen.*

*Silicula* obovata, plano-convexa, undique latissime marginato-alata, apice emarginata, unilocularis, evalvis, monosperma. *Semen* late obovatum, pendulum. *Radicula* insertione dorsalis, obliqua et ad margines cotyledonum applicata.—Flores parvi, albi, racemosi. *Siliculæ* pendulæ.—Genus *Tauscheriæ* affinis. *An vere distinctum?*

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

*Radix* parva, annua, subfusiformis. *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* æqualia, ovalia, convexa, glabra, erecto-patula. *Petala* minuta, lineari-oblonga, basi attenuata, integra, alba, sepalis breviora. *Stamina* 6, tetradynama: *Filamenta* filiformia, edentula: *Antheræ* subglobosæ. *Germen*



brevissime stipitatum, obovatum, plano-compressum, lato-marginatum, alatum, apice emarginatum, stylo subæque 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, evalvis. *Semen* solitarium, paulo infra apicem, sublateraliter insertum, pendens, lato-obovatum, compressum, fuscum. *Embryo* flavus. *Cotyledones* suborbiculatæ, plano-convexæ: *Radicula* subæque 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. *Linn.*

*Cal.* 4-sepalus, patens (vel erectus) subæqualis. *Pet.* 4. *Torus* subhemisphæricus. *Stam.* 6, rarius 4. *Siliqua* dehiscens, 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, spithamæus vel etiam pedalis, erectus, teres, foliosus, simplex vel ramosus, glaber. *Rami* erecto-patentes. *Folia* longe petiolata, quinquefoliolata; foliolis unciam sesquiunciam longis, lanceolatis, acutis, nonnunquam mucronulatis, inferne in petiolulum brevissimum attenuatis, glabris vel pilis minutis sparsis pubescentibus. *Petiolus* foliis plerumque longior, gracilis, glaber. *Folia floralia*, vel *bracteæ*, integra, lanceolata, breve 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 constanter 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* dehiscens, 6–8 lineas longa, lanceolata, teres, stylo persistente



terminata, longe stipitata. *Thecaphorum* e toro minuto calyce corollaque 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 vallies 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 lineari-lanceolatis 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* spithamæus et ultra, erectus, flexuosus, ramosus, ut et fere tota planta magis minusve glanduloso-pilosus, subviscosus, fœtidus. *Rami* erecto-patentes. *Folia* petiolata, trifoliolata, foliolis unciam sesquiunciam longis, oblongo-ellipticis, integerrimis, basi attenuatis: *Petioli* glandulosi, folio vix longiores. *Folia suprema* vel *bractea*, simplicia, lanceolata, breve petiolata. *Flores* terminales, numerosæ, corymboso-racemosi. *Pedicelli* unciam longi, graciles, pubescentes. *Cal.* e foliolis 4, subpatentibus, æqualibus, oblongo-lanceolatis, acutis, purpureis, dorso glanduloso. *Petala* pallide sulphurea, fere albida, calyce duplo longiora, longe unguiculata, ungue exserto, limbo late ovato, profunde emarginato. *Stam.* subundecim, sursum curvata, petalis paululum longiora, basi solummodo monadelpha, hinc uniglandulosa, glandula majuscula, subtetragona, carnosæ. *Filamenta* filiformia, purpurea, glabra. *Antheræ* oblongæ, flavæ, biloculares, siccitate curvatæ. *Pistillum*: *Germen* lineare. *Stylo* filiformi, purpureo, duplo longius, pubescenti-glandulosum. *Fructus*: *Siliqua* sesquiunciam fere ad duas uncias longa, lineari-lanceolata, 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. CISTINEÆ. *Juss.*

### I. 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. Amæn. 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' Cyclopaedia*, 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 lineari-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 Winipeg. *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*, Mich., 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, subcæspitiosi. Folia parva, exstipulata.

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.

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## 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, æstivatione 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 varias nectariferas in *calcar* intrantes gerentia. *Orarium* nunc superum, nunc basi toro concavo cinctum et semiinferum. *Valvulæ capsulæ* elasticæ post maturationem contractæ *semina* ejicientes; *semina* horizontalia manifeste carunculata, plus minus ovoidea et nitida. *Embryo* oblongus, *radicula* teretiuscula, *cotyledones* sæpius oblongo-orbiculatae planiusculæ *radicula* vix longiores.—Herbæ plerumque perennes, rarissime annuæ, 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 Florula 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, stigmatе incrassato oblique brevirostrato truncato perforato, foliis multipartitis, segmentis linearibus inferioribus hinc pinnatifidis.—*Linn. Sp. Pl. p. 1323. Mich. Am. 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. flabellifolia*, 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, stigmatе triangulari-marginato, foliis hastato-cordatis palmato-lobatis, lobis angustis latioribusque raro exterioribus cordatis indivisis.—*Linn. Sp. Pl. p. 1323. Mich. Am. 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 Sill. 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 triangulāri-marginato, foliis cordatis acutis glabriusculis serratis junioribus præcipue basi cucullatis, rhizomate carnosō 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, subunciam longa, lato-cordata, basi sinu profundo bilobata, crenato-serrata, facie superna pilis sparsis, subtus omnino glabra, pallidiora. *Petioli* graciles, glabri. *Pedunculi* seu *scapi* foliis vix longiores, medium versus bibracteati, bracteis lanceolato-acuminatis, integerrimis. *Calycis sepala* parva, late ovata, acuta, glabra. *Petala* cærulea, obovata, unguiculata, imberbia: *Calcar* petalorum limbo subæque longum, crassum, obtusum.

HAB. Hilly ground about Montreal, and only there. *Mr. Goldie*.—In size and general aspect, this species approaches my var.  $\beta$ . 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, stigmatè marginato, foliis oblongo-seu ovato-cordatis serratis basi nunc grosse serratis in 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, stigmatè 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*; stigmatè marginato, foliis teneris glabriusculis lato-cordatis ovatisque crenatis patentibus sinu profundo, petalis ovatis obtusis subimberbibus.—*Willd. Hort. Berol. t. 24. Nutt. Gen. 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 Winnipeg. *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 Candolle 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. clandestinæ*.)*

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 Unalashka, (*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*; stigmatē decurvo acuto, caulibus assurgentibus, foliis rotundato-cordatis sæpissime ferrugineo-punctatis serratis glabris, stipulis oblongo-lanceolatis ciliato-dentatis, sepalis lineari-lanceolatis, 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 *Violæ* 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*; stigmatē 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.



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 sphæroideo-capitatum, utrinque fasciculis pilorum onustum, foraminulo minuto sublaterali. Stylus compresso-clavatus. Stamina oblonga approximata. Torus planiusculus. Capsula sæpe trigona. Folia seminalia sæpius 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. *Caules* 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, venis lateralibus oblique parallelis. *Stipulæ* mediocres,



foliaceo-membranaceæ, oblongo-lanceolatæ, integræ. *Pedunculi* folia plerumque subæquantes, bibracteati, glabri, nunc superne pubescentes. *Flos* magnitudine *Violæ blandæ*, nonnunquam major, ut in  $\beta$ ., pallide sed evidentissime flavus. *Calyx*, sepalis lanceolatis acuminatis glabris, basi vix productis. *Petala* omnia imberbia, inferum late ovatum, obtusum, subtus basi carinatum, calcare brevissimo, vix ullo; *reliqua* oblongo-ovata, unguiculata, oblique patentia. *Stamina* approximata, duobus appendice lata brevi dorso auctis. *Stylus* superne incrassatus. *Stigma* utrinque depressum et fasciculo pilorum instructum.

HAB. About Carlton House, on the Saskatchewan, lat. 53°. *Dr. Richardson*.  $\beta$ . 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*, Stamens, 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, calcare 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, calcare 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. Scoulerii* 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, calcare 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*.

$\beta$ . *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.  $\beta$ . is frequently cultivated in our gardens, and differs in no essential particular from  $\alpha$ .

21. *V. sarmentosa*; caule stolonifero, foliis reniformi-cordatis crenatis, stipulis lanceolatis integris, pedunculis folia æquantibus, calcare 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 seminalia 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, calcare crasso obtuso non porrecto, nectariis brevibus, seminibus oblongo-ovatis.—  
*Linn. Sp. Pl. p. 1326.*

*x. arvensis*; DC. caulibus ramosis assurgentibus, petalis calyce vix longioribus flavescentibus cæruleis 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.

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## ORD. XIII. DROSERACEÆ. DC.

### 1. DROSERA. 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. Cormack*. Unalashka. *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. 360. 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 lævibus. (TAB. XXVII. A.)—*Goldie in Edin. Phil. Journ.* 1822. p. 325. *De Cand. Prodr.* v. 1. p. 318.

*Radix* parva, fibrosa, annua, e fibris descendentes simplicibus, subfasciculatis, crassiusculis, nigris. *Folia* omnia radicalia, subdigitalia, erecta, limbo duas fere tres uncias longo, duas lineas lato, exacte lineari, obtuso, inferne in petiolum subæque longum, glabrum attenuato, margine dorsoque pilis longis patentibus, rubris, glandulosis tecto. *Scapus* solitarius, erectus, gracilis, glaber, dum florens, foliis subæque longus vel paululum brevior, plerumque uni-nunc bi-triflorus, demum, fructiferus, folia excedens. *Flores* pedicellati; pedicelli breves, glabri. *Calyx* glaber, profunde 5-fidus. *Capsula* ovalis, calyce plusquam duplo longior, 3-valvis. *Semina* ovali-oblonga, exarillata, lævia, 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* (*tenuifolia*, 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 oppositæ, (plerumque) in setas apice glandulosas desinentes. *Stam.* 5. *Antheræ* posticæ. *Stigmata* 4, sessilia. *Caps.* 4-valvis, 1-locularis, 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*,  $\beta$ . tenuis. *Wahl. Fl. Lapp.* p. 74.?



*Radix* parva, annua? fibrosa. *Folia* fere omnia radicalia, ovata, vel anguste ovata, obtusiuscula, subquinquenervia, in petiolum subæque longum attenuata, patentia. *Caules* solitarii vel 3-4 ex eadem radice, erecti, tenues, gracillimi, unifoliati, folio, (seu bractea) parvo oblongo-lanceolato vel sublineari, spithamæi ad pedalem, glaberrimi. *Flos* parvus, terminalis. *Calyx* inferne cum basi germinis accretus. *Sepala* patentia, lineari-lanceolata, viridia, petalis  $\frac{2}{3}$  breviora. *Petala* ovata, brevissime unguiculata, alba, lineata. *Stamina* et *Pistillum* ut in *P. palustri*. *Squamæ* 5, obovatæ, setis 5, vel rarius 6, gracilibus pellucidis albis terminatæ, uno, centrali, longiore, in faciem interiorem 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*.

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. Torrey, 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. *Caules* 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 longum 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. *Petala* 5, elliptica, seu ovato-elliptica, alba, *sepalis* subbreviora, nervibus tribus præcipuis, 2 magis obscuris marginem versus. *Squamæ* parvæ, petalis oppositæ, obcordatæ, flavo-virides, setis tribus, raro 4, brevibus gracilibus terminatæ: *glandulæ* 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* nullum? *Embryo* cylindricus, *radicula* ad hilum seminis versa.

HAB. Unalashka, 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



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 biauriculato-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. *Caulis* pedales, fere ad sesquipedalem, nunc duo ex eadem radice, erecti, graciles, angulati, glabri, multo supra medium unifoliati. *Folia* radicalia plurima, erecto-patentia, longe petiolata, petiolo superne insigniter dilatato, reniformia, acutiuscula, subcoriacea, radiatim nervosa, lobis ad petiolum curvatis, quasi biauriculata; 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* ovaes, 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.

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## ORD. XIV. POLYGALEÆ.

### 1. POLYGALA. *Tourn.*

*Calycis sepala* 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 Cæsarea. 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 *Linnaeus*. It is to be regretted that Sir J. E. Smith has not noticed it in *Rees' Cyclopaedia*: we can only, at a distance from the *Linnaean 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 aëæ 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 aëæ, 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 *Florula 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, sublignosa, perennis? descendens, ramosa. *Caules* nunc solitarii, nunc plurimi ex eadem radice, erecti, angulati, glabri, palmares ad spithamæi, simplices, virgati, foliati. *Folia* alterna, erecta, seu erecto-patentia, unciam vel sesquiunciam 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, patentes, demum recurvati, ad basin bractea minutissima suffulti. *Flores* carneo-rosei, mediocres. *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 *capsulæ* 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. Corollæ carina subcristata aut apice callosa. Flores pauci, magni. Herbae 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.

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ORD. XV. CARYOPHYLLÆ. *Juss.*

TRIB. I. SILENÆ. *DC.* (Caryophyllæ. *Lam.*) *Sepala coalita in tubum cylindraceum apice 4–5-dentatum. DC.*

1. DIANTHUS. *Linn.*

*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 Linnæa, 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. *Linn.*

*Cal. tubulosus, 5-dentatus, nudus. Pet. 5, unguiculata, fauce sæpissima coronata, limbo bifido. Stam. 10. Styli 3. Capsulæ basi triloculares, apice in 6 dentes dehiscentes. DC.*

SECT. I. NANOSILENE. *Otth. MSS. Cæspitosæ. 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 vesiculosus 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.*) *Caules* simplices vel ad basin solummodo ramosi, pedales, erecti, graciles, læviter sed ubique, ut et folia calycesque, pubescenti-scabri. *Folia* ad basin caulium congesta, *caulina* remota; *omnia* opposita, basi connata, 2–3 uncias longa, linearia, angusta, subsesquilineam lata, uninervia, superne rara, parva. *Flores* mediocres, paniculati; rami sæpe 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, anthophoro 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 *Linnæa*, 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, dense 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 sæpe acuminata, utrinque pubescentia, margine scabriuscula; *inferiora* majora, nunc 3-4 uncias longa, basi in petiolum attenuata; *superiora* sensim minora, erecta, sessilia. *Bracteæ* ovato-acuminatæ. *Flores* subracemoso-spicati, ramis plerumque trifloris, oppositis, et ita verticillati videantur: pedicellis bracteolatis. *Calyx* oblongo-clavatus basi abruptus, glanduloso-pubesceus, apice 5-dentatus, decem-striatus. *Petala* bifida, alba nunc rosea. *Stamina* stylique exserta.—*Capsula* anthophoro longo suffulta, bifida, laciniis 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 Spokane 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-cylindræis 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, viscidi, superne præcipue. *Folia* lineari-lanceolata, *radicalia* latiora, in petiolum attenuata; *caulina* remota sursum sensim minora, opposita, basi connata, uninervia. *Flores* pauci, 3-5 in racemum laxum, raro spicatum, strictissimum dispositi. *Bracteæ* subulatæ. *Pedicelli* alterni, nunc, sed raro, oppositi, unciam sesquiunciam longi, simplices, nudi vel, nunc, bibracteati. *Calyx* oblongo-cylindræus, pubescenti-viscidus, 5-dentatus, dentibus parvis, striis decem viridibus, demum, fructiferus, paulo latior, nunquam inflatus nec clavatus. *Petala* alba, parva, vix calyce longiora. *Capsula* cylindræa, 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 Prodromus. 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. SIPHONOMORPHA. *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 *P. pennsylvanica*, a bright purple (*Elliott*), purplish white (*Bigelow*). *Torrey* unites the *S. Catesbæi* 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 subcrenatis. *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 *Linnaeus*. *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* spithamæi 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, subæqualia, exerta: *Antheræ* oblongo-ovales. *Germen* 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 Oakanagan. *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 *Saponaria ocymoides*, 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. *Otth. 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. apetala*; 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 Linnæa, v. 1. p. 42.—L. uniflora. "Ledeb. Mém. Petersb. v. 5. p. 537."*

*β.* caule 3-6-floro elongato.—*L. apetala*; *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 spathulate; 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 PHARNACEUM. 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. 131. *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. Mant. 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.



$\beta$ . 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 Assiniboin Rivers. Douglas.  $\beta$ . Common on the banks of the Columbia at Fort Vancouver, and near the Pacific, in open prairies. Douglas.—The seeds in  $\beta$ ., as well as in  $\alpha$ ., 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  $\alpha$ . 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.

$\beta$ . axillis foliorum superiorum viviparis.

$\gamma$ . 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.—Swartz, 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*,  $\beta$ . 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. *Orula* axi centrali adfixa. *Capsula* apice 6-valvis, valvis nempe tribus apice bifidis.—Herba glabra habitu *Stellaricæ medicæ*. Flores parvi albi. DC. Prodr. v. 3. p. 366.

*L. uliginosa*.—Larbreæ 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*,  $\gamma$ . Linn.



*β. foliis latioribus, floribus minoribus.*

HAB. Island of Unalashka. *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 *Stellariæ*.

7. STELLARIA. *Linn.*

*Cal.* 5-partitus. *Pet.* 5, bifida. *Stam.* 10, aut abortu 3–8. *Styli* 3. *Caps.* 1-ocularis, 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*. Unalashka. *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 *Larbrea*.

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.*)  
—*Spergulastrum lanceolatum*. *Mich. Am. v. 1. p. 275.*—*Micropetalum lanceolatum*. *Pers. Syn. Pl. v. 1. p. 320.*

β. *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 *Spergulastrum lanceolatum* of Michaux. Its petals are sometimes wanting. When the panicles are much elongated, bractæ 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 *Larbreca 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 *Stellariæ uliginosæ* (*Smith*) quæ quoque non raro tetragyna.”

3. *S. longipes*; subflaccida glaberrima glauca, 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. Caules in α., subpatentes, flaccidi, pedales et ultra, in β. spithamæi, basi decumbentes, dein erecti, subtetragoni, ramosi. Folia glauco-viridia, sesquiunciam ad duas uncias longa, late lineari-subulata, seu e 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. læta*, which, however, differs in its yet smaller size, shorter foliage, and more acute sepals.

4. *S. stricta*; erecta stricta nitidissima vel subglaucescens, 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*,  $\beta$ . *Frankl. 1st Journ. ed. 1. App. n. 164.* (excl. syn.)

$\alpha$ . caulibus laxè pubescenti-pilosis.—*S. stricta*,  $\alpha$ . *Rich. l. c.*

$\beta$ . caulibus glabris. *Rich. l. c.*—*S. palustris*,  $\alpha$ . *Rich. in Frankl. 1st Journ. ed. 1. App. n. 164. var.  $\alpha$ .* (excl. syn.)

$\gamma$ . foliis superioribus præcipue glaucescentibus.

HAB.  $\alpha$ . and  $\beta$ . From Lake Winipeg (*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,  $\gamma$ , 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. læta*; 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. Parry*; 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.  $\gamma$ . 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.—*Rottb. 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, β. 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 *Laranea 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 enervibus petalis bipartitis brevioribus.—*Rich. in Frankl. 1st Journ. ed. 2. App. p. 17.*—*β. 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. Unalaska. *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. *Pet.* 5, integra. *Stam.* 10, aut abortu pauciora. *Styli* 3. *Caps.* 1-ocularis 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.

*Caules* 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 subdilatata atque connata, apice mucrone curvato terminata. *Rami* fertiles vix spithamæi, 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 *Arenariæ*, 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. laricifolia*; foliis subulatis denticulato-ciliatis, caulibus adscendentibus 3-6-floris subscabris, 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.— $\alpha$ . foliis magis erectis, fasciculis axillaribus 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.*— $\beta$ . 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.  $\beta$ . From the United States to the shores of 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.  $\beta$ . 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  $\alpha$ . and  $\beta$ . 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.  $\beta$ . 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. rubellæ, 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. Rossii*; glaberrima, "foliis triquetro-subulatis obtusiusculis muticis enerviis florem vix æquantibus, pedunculis unifloris elongatis, petalis oblongis calyces obsolete trinervios paulo superantibus."—*Br. in Parry's 1st Voy. App. p. cclxxii.*— $\beta$ . statura majore, 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 carnosus enerviis flore longioribus margine ciliato, flore solitario subsessili, petalis oblongo-spathulatis calyces trinervios 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 (speciosis) obovatis calyce duplo longioribus.—*Steven in De Cand. Prodr. v. 1. p. 404. Cham. et Schlecht. in Linnæa, v. 1. p. 54.*— $\alpha$ . *minor*; foliis falcato-curvatis. (TAB. XXXIV. A.)— $\beta$ . *grandiflora*; magis cæspitosa, floribus magnis. (TAB. XXXIV. B.)  $\gamma$ . *stenopetala*; petalis abortivis linearibus.

Habitus, ut bene monet Cl. De Candolle, *Silenes acaulis*. Cæspitosa, robusta, perennis. *Caules* procumbentes, breves, nunc, in  $\alpha$ , subelongati. *Folia* semiunciam longa, linearia, dorso convexa, 3-striata, supra plana, obtusa, margine magis minusve ciliata; in  $\alpha$ . valde uno latere curvata, in  $\beta$ . strictiora. *Pedunculi* terminales, uniflori, pubescenti-glandulosi. *Sepala* ovalia vel oblonga, mollia, obscure trinervia, plerumque, nisi ad basin, glabra, sæpe purpurascens. *Petala* in var.  $\beta$ . maxima. *Capsula* 3-valvis, calyce subduplo longior.—Var.  $\gamma$ . forte distincta species. *Radix* ut videtur, annua; *folia* longiora, remotiora, magis carnosia. *Caules* etiam pubescenti-glandulosa. *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 Collie* in *Capt. Beechey's Voyage*.  $\gamma$ . 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*, *a.*—*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 Linnæa, 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. *Caules* 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 lente 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, albida, 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 bracteæ; *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 membranaceis, 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. Unalaska. (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 acuminated 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 *Wormskiold.*

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. peploides*; 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 peploides. 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-cæspitosa*. Folia *opposita subpetiolata*. Flores *pedunculati, terminales et laterales, solitarii*. HAB. *ad littora maris in regionibus arcticis Asiæ orientalis et Americæ occidentalis. Cham. et Schlecht.*

1. *M. physodes*. Fisch. MSS.—Cham. et Schlecht. in *Linnæa*, 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. Nutk. 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 margine 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.*— $\beta$ . *glabratum*; foliis glabratis. *Hook. in Parry's 2d Voy. App. p. 390. Fl. Dan. t. 979.*

**HAB.** Arctic America and adjacent Islands. Kotzebue's Sound. *Lay and Collie in Capt. Beechey's Voyage.  $\beta$ . 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-cylindræa 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 cylindræa sursum curvata calyce plusquam duplo longiore.—*a. 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.*—*β. vestitum*; ubique pilis longis mollibus albis arachnoideis tectum.

HAB. *α.* 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.* *β.* 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. *β.* 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. Unalashka. *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 Unalashka specimens are similar, but smaller.

10. *C. Beeringianum*; 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.

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ORD. XVI. LINEÆ. *De Cand.*

1. LINUM. *Linn.*

*Flores* proportione partium quinaria. *Sepala* integra. *Styli* rarissime 3, cum petalis staminibus sepalisque 5. *DC.*

\* *Floribus flavis.*

1. *L. rigidum*; annum, 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 Hasler*; 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. Bost. 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 cæruleis.*

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 3-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. læve*, *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, ramique stellatim pubescentes. *Folia* ampla, superne læviuscula, infra pilis raris ramosis scabra. *Pedunculi* stellatim tomentosi, racemosi. *Pedicelli* ad basin folio parvo instructi, breves, erecti. *Flores* magnitudine *Malvæ rotundifoliæ*, 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. *Caules* versus basin divisi, flexuosi. *Folia* unciam lata, reniformi-cordata, crassiuscula, subrigida, venosa, venis subtus prominentibus, superne depressis, ut folia subplicata videantur, margine vix lobata, crenato-serrata. *Petioli* foliis subbreviares. *Pedunculi* petiolis sesquialongiores, graciles, uniflori. *Calyx* 5-fidus, segmentis acutis, ad basin involucellis 3 deciduis setaceis cinctus. *Petala* flava, obovato-cuneata seu obcordata, linea dorsali lata marginibusque exterioribus stellato-pubescentibus. *Caules, folia, petioli, pedicelli calycesque* 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 polyphylo, 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 5–30, circa axim verticillata, plus minusve inter se coalita, 1-locularia, mono-aut-oligosperma, apice mutica aut aristata. DC.

## SECT. I. MALVINDA. Medik.

1. *S. malvæflora*; foliis radicalibus subrotundatis 9-lobatis basi truncatis, lobis apice tridentatis, caulinis 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. malvæflora* of De Cand., it is a native also of Mexico, and perhaps of all the intermediate country near the coast.

2. *S. coccinea*; stellato-pubescens 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 varie 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 lineari-oblongis 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 Winipeg 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 Winipeg. *Dr. Richardson.—Petals red.*

SECT. III. PERFORARIA. *Chois.*

4. *H. micranthum*; caule tereti punctato purpurascente, 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.*— $\beta$ . *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*, paniced 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, spithamæus ad pedalem et ultra, erectus, subgracilis, acute tetragonus, superne solummodo divisus, ramulis brevibus plerumque sterilibus. *Folia* opposita, unciam sesquiunciam longa, fere exacte elliptica, plana, membranacea, obtusissima, pellucido-punctata atque superficie subtus præcipue magis minusve obscure fusco-punctata. *Pedunculus* aphyllus, terminalis, dichotome corymbosus, floribus in axillis sessilibus. *Calycis foliola* 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 "*Perforaria*," 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.

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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 acuminated 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 glabriusculis 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 Winnipeg. *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, sinubus 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. *Bracteæ* lineares, glabri. *Pedicelli* subfasciculati rachisque glabri. *Calyx* glaber, foliolis ovalibus. *Petala* calyce majora, obovata. *Stam.* 10, an semper? *Filam.* basi hirsuta. *Germina* pilis rigidis aculeiformibus erectis hispidissima. *Fructus* majusculus, hispidus vel subnudus. *Alæ*, 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 inæqualiter 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, sinubus 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 divaricatissimis, 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 is 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 Rapids, 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, foemineis 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 incisis serratisque, floribus conglomeratis breviter pedicellatis "pentandris apetalis," germinibus tomentosis, 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 *alæ* are remarkably large, broad upwards, and falcato-incurved, beautifully striated, the striæ running in strait 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 alis subdivergentibus superne dilatatis paululum falcatis.—*Linn. Sp. Pl.* p. 1496. *Mich. Am.* v. 1. p. 253. *Pursh, Fl. Am.* v. 1. p. 265. *Elliott, Carol.* v. 1. p. 449. *De Cand. Prodr.* v. 1. p. 595. *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. *Mæench.*

*Flores* dioici. *Cal.* minimus inæqualiter 4-5-dentatus. *Pet.* 0. ♂ *Flores* fasciculati, pedicellis filiformibus. *Antheræ* 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. AMPELIDEÆ. *Humb. et Kunth.*

### 1. AMPELOPSIS. *Mich.*

*Cal.* subinteger. *Pet.* 5, (ut in *Vite*) ab apice ad basim (more *Cissi*) abscendentia. *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.

(Dioicæ et Polygamæ. Omnes Americanae.)

*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 tomentosus.—*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 Winnipeg, 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.*— $\beta$ . *tota planta pubescenti-pilosa.*

HAB. Canada. *Michaux.*  $\beta$ . 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 brevè 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-rarius-7-partita, segmentis ovatis acuminatis profunde incisus subpinnatifidis, laciniis valde acutis: *radicalia* longe petiolata, petiolo spithamæo 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, obcordata, 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 Europæan *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 barbatae, demum elastice spiraliter tortæ. *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.

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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. *Capsulæ* 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 brevioris, 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.

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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 cylindræa.—*Herbæ perennes, caulescentes, stipulatæ aut acaules, foliis variis sed nunquam abrupte pinnatis. DC.*

\* *Corniculatæ. DC.*

1. *O. corniculata*; caule decumbente ramoso radicante, pedunculis sub-2-floris petiolo brevioribus, stipulis basi petioli unitis, foliolis obovatis, 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, foliolis obcordatis, petalis integris, stylis staminum interiorum longitudine.—*Linn. Sp. Pl.* p. 624. *Jacq. Ox.* 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*.

\* \* *Acetosellæ. 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. trilliifolium*; 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. fraxinum*; but it has decidedly and strongly aculeated 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 adnexis. *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 carnosio 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 *Waxwork*.

### 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-ocularis 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, stigmatate 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 subcrenato staminifero tectum, et cum ore calycis tubi unitum, biloculare, loculis biovulatis. Ovals 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  $\beta$ . valley of the Rocky Mountains, particularly abundant near the sources of the Columbia, in  $52^{\circ}$  N. lat. and  $118^{\circ}$  W. long. *Douglas*.— $\beta$ . 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. Rar. 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*,  $\alpha$ . B. var.  $\beta$ . *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 subcoalita. *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, foemineis 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 subsolitariis 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 *Ink-berry*; and sometimes *Evergreen Winter-Berry*.

#### 7. NEMOPANTHES. *Rafin.*

*Flores* abortu dioici polygamive. *Cal.* minimus vix conspicuus. *Pet.* 5 distincta oblongo-lineararia 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.*

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### 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 spinescentibus, 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, stigmatate 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. *Stipulæ* 2, oppositæ, membranaceæ, circumvolutæ, margine ciliatæ, 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 acutiusculis 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-fid flower; *fig. 4*, a 5-fid 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 lineata, venisque obscure transversalibus reticulata. *Petioli* subunciam longi, pubescentes. *Stipulæ* cito deciduæ. *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* subhemisphæricus, 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 iis fere circumvoluta. *Filamenta* brevissima: *Antheræ* subglobosæ. *Germen* parvum, ovatum: *Stylus* germine 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 Kooxkoosky. *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, brevipetiolata, 3–4 uncias longa, oblonga, perennantia, coriacea, integerrima, acuta, nervosa, nervis lateralibus subremotis obliquis obscure reticulata, utrinque glabra, junioribus solummodo subtus pube brevi dense vestita. *Petioli* breves, subpubescentes. *Paniculæ* axillares, breves, subfoliosæ, floribusque glomeratis pubescentes. *Calyx* 5-fidus, tubo subhemisphærico discigero, segmentis ovatis erecto-patentibus. *Petala* minuta, cucullata. *Stamina* minuta, petalis circumvoluta. *Filamenta* brevissima. *Antheræ* rotundatæ. *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 *Rhamneæ*. 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-Poplars*, 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.), cocculis chartaceis 1-spermis basi perviis latere interiore dehiscentibus. *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. Boott, 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 incano-velutinis, 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. *Paniculæ* terminales elongatæ, 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* subrotundum. *Stylus* elongatus, staminibus brevior. *Stigma* bi-trifida, segmentis subrecurvis. *Bacca* sicca, 2-3-ocularis, 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. thyrsiflora*; 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 bractæ, 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 nucelei 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.



\* \* *Foliis 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, α. Mich. Am. v. 1. p. 183. Pursh, Fl. Am. v. 1. p. 205.*—*R. Toxicodendron, β. 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 subrhomboideis acutis seu acuminatis inciso-angulatis.—*Linn. Sp. Pl. p. 381. Elliott, Carol. v. 1. p. 363. De Cand. Prodr. v. 2. p. 69.*—*α. Torrey, Fl. of Un. St. v. 1. p. 323.*—*β. 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, ramis 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. Bracteæ ad basin ramulorum oblongæ, ciliatæ. Cal. profunde 5-partitus, laciniis oblongis. Petala 5, calycis laciniis multo longiora, obovata, basi in unguem sensim attenuata, dorso venosa. Stamina 5, erecta, petalis parum breviora. Filamenta subulata. Antheræ majusculæ, ovatæ, pallide flavæ, loculis subappositis. 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 rhombico, lateralibus ovato-rhombicis, floribus in amentis compactis 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.* persistentia. *Legumen* compressum falcatum aut lineare polyspermum.—Herbæ perennes sericeo-villosæ. Folia trifoliolata. Stipulæ ovato-lanceolatae 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 foliisque pilis sericeis vestita, demum glabriuscula. *Folia* petiolata, trifoliolata, foliolis sessilibus subrhombéo-obovatis, acutiusculis, inferne cuneatis. *Stipulæ* maximæ, ovatæ cordatæve, foliaceæ, persistentes, virides, non raro unciam longæ, petiolo subæque longæ. *Pedunculus* subterminalis, sed fere semper e basi rami annotini, et ita lateralis, racemosus. *Racemus* oblongus, 10–12-florus, floribus inferioribus subinterruptis, pedicellis brevibus, sericeis. *Bracteæ* obovatæ, longitudine fere calycis. *Calyx* oblongo-campanulatus, sericeus, 5-fidus, seu potius 4-fidus, segmentis subæqualibus, superiore bifido. *Corollæ* flava. *Vexillum* obovatum, obtusum, primum lateribus inflexis demum subreflexis. *Alæ* obtusæ, longitudine vexilli et carinæ obtusæ. *Stamina* 10, libera, membranacea. *Antheræ* omnes fertiles, subrotundæ. *Germen* lineare, rectiusculum, dense sericeum. *Stylus* sursum curvatus, carina vix longior. *Stigma* obtusum. *Legumen* valde falcatum, fere digitale, compresso-planum, marginatum hic illic 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, a. Linn. Amæn. v. 2. p. 250.?*

HAB. Kamtschatka. *Pallas*. Near the sources of the Rivers "Utalla" and "Wallawallah," 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. Kamtschatka. *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 Altaic Mountains.

## 2. BAPTISIA. Vent.

*Cal. semi-4-5-fidus bilabiatus. Pet. 5 subæqualia, vexillo lateribus reflexis. Stam. decidua. Legumen ventricosum pedicellatum polyspermum.*—*Herbæ Boreali-Americanæ. 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 cylindræis.—*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 diadelphæ (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. diadelphæ. 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 laxè 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* diadelpa. *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 integræ vel denticulatæ, petiolo utrinque per totam fere longitudinem adnatæ, cauli appressæ, margine anteriore liberæ. *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. *Petioli* 6-8-pollicares. *Stipulæ* magnæ, petiolo utrinque adnatæ, margine anteriore liberæ, foliaceæ, lineari-lanceolatae, acuminatæ, subdenticulatæ; *superiores* latiores, breviores, *inferiores* angustiores, nonnunquam 3 uncias longæ, magis acuminatæ. *Pedunculi* terminales, dense sericei. *Capitula* 3-pollicaria, compacta, conico-oblonga, multiflora, ebracteata. *Flores* albi, primum 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 filamentaque* 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 cylindræis 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 adscendentibus, 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-cylindræis 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 vallies 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*; adscendens, 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. *Stipulæ* unciam sesquiunciam longæ, foliaceæ, striatæ, ovatæ seu ovato-lanceolatæ, versus apicem nonnunquam laciniatæ, margine spinuloso-serratæ. *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. *Alæ* carinaque sublineares, subæquales, inferne una cum filamentis 9, in unum corpus coalitæ: *Filamentum* superius liberum. *Antheræ* oblongæ, flavæ. *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. INVOLUCRARIUM.

8. *T. microcephalum*; adscendens, 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 lata 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 *Clarck'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 groupe, 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, involucreo 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, involucreo 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 vallies between *Spokan* 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-vallies, 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, involucreo 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, involucreo (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.*

*Radix* parva, annua, subfusiformis, fibrosa. *Caules* prostrati, glabri, ramosi, pedales ad sesquipedalem. *Folia* sublonge petiolata, trifoliolata, glabra, foliolis nunc oblongis basi subattenuatis, nunc obovato-cuneatis



vel fere obcordatis, mucronatis, spinuloso-denticulatis. *Stipulæ* ovatae, acuminatae, reticulatae, basi membranaceae, albidæ, margine spinuloso-laciniatae. *Pedunculi* laterales, terminalesque digitem longi. *Involucrum* magnum, cyathiforme seu hemisphæricum, membranaceum, venosum, intra venas transversim rugosum, pallide viride, basi albida, margine multifido, segmentis brevibus latis subtriangularibus inæqualiter denticulatis. *Capitula* hemisphærica, compacta, multiflora, vix involucre longiora. *Calyx* oblongus, membranaceus, scariosus, albus, minutissime reticulatus atque venosus, subinflatus, dentibus corollam æquantibus, setaceis, 2 superioribus brevioribus, 2-3-partitis, 2 lateralibus 3-partitis, inferiore reliquis longiore 3-partito, laciniis trifidis, segmentis omnibus magis minusve patentibus. *Corolla* pallide rosea. *Vexillum* oblongum basi latum, vix unguiculatum, rectum, liberum. *Alæ* vexillo vix breviores; *Carina* staminaque in unum corpus coalita. *Germen* oblongum: *Stylus* filiformis. *Legumen* ovali-oblongum, compressum, dehiscens, dispermum. *Semina* subrotunda, compressa, lævia.

HAB. Moist vallies 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, læve.—Herbæ, *foliis impari-pinnatis* (*rarius 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. Bentham, 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 dissepiments 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 obsoletis deciduis, pedunculis 1-floris, bractea sub flore sæpissime 3-foliolata.—*Benth. in Bot. Reg. sub t. 1257.*

*Radix* annua, parva. *Caules* spithamæi, erecti. *Stipulæ* 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.*) common 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 obsoletis, 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. *Stipulæ* 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, cernuus. *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 cincta, unciam longa, basi styli terminata, fusca, sub lente pallide punctata, margine superiore præcipue incrassata, unilocularia, loculo isthmis transversalibus spongiosis completis interrupto. *Semina* 5-6, reniformia, lævia, 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-spermum, interdum in rostrum desinens.—Frutices aut Herbæ *tuberculis glandulosis sæpius verrucosæ*. *Folia varia*, stipulis *petiolo basi adnatis*. *Flores dispositione varii, cærulei albidipurpurascentisve*. 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, utrinque glandulis fuscis obsitis. *Petioli* foliis longitudine. *Stipulæ* lineares, liberae, non cum petiolo adnatæ. *Pedunculi* axillares, solitarii, petiolo longiores, folio plerumque breviores. *Racemus* brevis, capitatus, 8-10-florus. *Bracteæ* ovato-lanceolatæ, glandulosæ, pedicello longiores, post florescentiam



deciduae. *Calyx* brevi-campanulatus, appresse pilosus, glandulosus, dentibus brevibus subæqualibus acutis ciliatis. *Flores* parvi, (cærulei, *Ph.*) *Vexillum* subrotundum, unguiculatum. *Carina* obtusa, cum *alis* oblongis obtusis coadunata. *Stamina* diadelpa, 9-1. *Legumen* globosum, magnitudine seminis *Pisi sativi*, glandulosum, pilis albidis appressis brevibus tectum, stylo subulato terminatum. *Semen* subrotundatum, solitarium, compressum, læve, 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*, Alæ 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-rhombeo-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, spicis 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 bractæque pilis mollibus appressis pulcherrime argenteo-sericea. *Caules* erecti, ramosi, striati, ramis patentibus. *Folia* 3-seu 5-foliolata, foliolis digitatis, elliptico-lanceolatis, acutis, breve petiolulatis, 2-3 uncias longis. *Petiolus* folio brevior. *Stipulæ* lineares, liberæ, semiunciam vel unciam fere longæ. *Pedunculi* axillares, folio duplo longiores. *Flores* (purpurei, *Ph.*; azurei, *Nutt.*), interrupte et verticillatim spicati, verticillis bracteatis. *Bractææ* subbifloræ, calycis longitudine, lanceolatæ. *Calyx* densissime sericeo-villosus. *Tubus* brevis: dentes subulati, 4 superiores subæquales; inferiore elongato petalis longiore. *Vexillum* ovatum, unguiculatum, ad basin laminæ bicallosum. *Alæ* oblongæ, unguiculatæ, cum carina obtusa unitæ. *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*, Alæ 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, spicis cylindræis rachi bracteis calycibusque hirsutissimis.—*De Cand. Prodr. v. 2. p. 220.*

**HAB.** Nootka. (*Lagasca in De Cand.*)—"Bractææ 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 subsericeis; foliolis 2 fere tres uncias longis, ellipticis, acutis, basi attenuatis, nonnunquam obovato-cuneatis. *Petiolus* digitalis et ultra, patenti-villosus. *Pedunculus* axillaris, solitarius, folio longior, patenti-pilosus. *Racemus* spicam elongatam bracteosam efformans, 3–4 uncias longus, sesquiunciam latus, albido-villosus. *Bracteæ* florem subæquantes, lanceolatæ, foliaceæ, virides, superiores subcærulescentes. *Calyx* fere unciam longus, pilis longis albis hirsutus. *Tubus* breviusculus, subcampanulatus, membranaceus, laciniis foliaceis 4 superioribus lineari-lanceolatis corolla paulo brevioribus, inferiore majore lanceolata corollam subæquante. *Corolla*: *Vexillum* ovale, album, inferne in unguem attenuatum, ad basin laminæ utrinque subcallosum. *Carina* cærulea cum alis unita. *Stamina* diadelpa, 1, 9, tubo ad apicem in dentibus latis antheriferis alternim longioribus fisso. *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 *Navet de Prairie* of the Canadian “*Voyageurs*”: 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-Americanæ, glanduloso-punctatæ.* *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 lineari-oblongis 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.*—*Dalea 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-cylindræa, bracteis calyce sericeo-pubescente longioribus, foliolis bijugis 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-cylindræa, 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 subcuneatis, subtus pallidis glanduloso-punctatis, supra, siccitate, pulcherrime æruginosis. Spica solitaria, terminalis, pedunculata, oblongo-cylindræa, crassa, multiflora. Bracteæ valde hirsutæ, subulatæ, 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 concretis. Cor. vexillum ovato-lanceolatum, rectum, carina biceps aut dipetala recta acuta. Stam. diadelpa. Stylus filiformis. Legumen ovatum aut oblongum, compressum, 1-loculare 1-4-spermum.*—*Herbæ perennes. Radices dulcissimæ. 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, Assinaboin, 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 Mendocina, 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. fætida* 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 pubesens patenti-reflexum, *alæ carinæ* obtusæ adherentes. *Stamina* varie connexa, monadelpha aut diadelpha, *filam. 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 subulate, non sagittate.* Folia in *Tephrosiis veris impari-pinnata, in spuriis trifoliata aut palmata.* Racemi axillares rarius oppositifolii. Flores albi aut purpurascens. DC.

1. *T. Virginiana*; (SECT. BRISSONIA. DC.), herbacea, erecta, foliolis 8–11-jugis ovali-oblongis mucronatis subtus 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.

#### II. 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 subfasciculati.* Flores *cæruleo-violacei.* DC.

1. *A. fruticosa*; subarborescens, subvillosa aut glabra, 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.—an 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 *vexillo* amplo, *carina* obtusa. *Stam.* diadelpha decidua; *ovarium* 16–20-ovulatum. *Stylus* antice barbatus. *Legumen* compressum subsessile polyspermum, valvis planis tenuibus, sutura seminifera marginata.—Arbores *Boreali-Americanæ*, *spinis stipularibus sæpe donatæ*. *Folia impari-pinnata*, *foliolis petiolulatis basi stipellatis*. *Flores albi aut rosei*, *in racemos axillares sæpius 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* diadelpha. *Stylus* imberbis. *Stigma* capitatum. *Legumen* subturgidum uniloculare, sutura superiore seminifera tumida.—*Herbæ foliis impari-pinnatis*, *racemis pedunculatis axillaribus*. *Legumina matura sæpius 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.—*α. 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 coriaceis cylindræis 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. *Stipulæ* parvæ, inferiores subcuneatæ, superiores liberæ, duas uncias longæ, e lata basi sensim acuminatæ, subsericeæ. *Pedunculi* axillares, solitarii, non raro spithamæi, folio duplo triplove longiores, erecti, stricti. *Flores* in racemum elongatum laxè dispositi, patentes, demum deflexi. *Stipulæ* lineam longæ, subulatæ, sericeæ, pedicelli perbreves. *Calyx* cylindræo-campanulatus, sericeus, ore obliquo, dentibus lato-subulatis brevibus. *Flores* parvi, albi vel ochroleuci, carina solummodo apice purpureo, ut videtur, tincta. *Stamina* diadelpa. *Germen* lineare, sericeum, rectum, sessile, stylo subulato sursum curvato glabro duplo longius. *Legumen* unciale et ultra, sessile, coriaceo-cartilagineum, cylindræum, sursum curvatum, hirsutum, apice acutum, uniloculare, 8-12-spermum, valvis intus spongioso-subhirsutis, suturis angustis æqualibus, 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 subsericeis, leguminibus coriaceis cylindræis rectis sessilibus acutis.—*Astragalus flexuosus. Douglas, MSS. in Herb. Hort. Soc.*

HAB. Abundant on elevated and dry fertile soils of the Red River and Assinaboin, 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 stipitatis deflexis.—*Astragalus collinus. Douglas, MSS. in Herb. Hort. Soc.*

*Caulis* erectus vel declinatus, ramosus, pedalis et ultra, teres, striatus, pubescenti-hirsutus. *Folia* remota, digitalia, sessilia, 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. *Stipulæ* parvæ, oblongæ, acuminatæ, subfoliaceæ. *Pedunculi* foliis subduplo longiores, pubescentes. *Racemi* 3-4 uncias longi, oblongi. *Flores* arcte dispositi, retrofracti. *Bractææ* subulatæ, 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.*— $\beta$ . foliis filiformibus.

*Caules* decumbentes, pedales, flexuosi, crassi, fistulosi, striati, glabriusculi, inferne subnudi. *Folia* remota, alterna, digitem longa, pectinato-pinnatifida (!) potius quam pinnata, dorso præcipue appresso-subsericea. *Rachis* compressa nonnunquam furcata. *Foliola* opposita vel alterna, 6-8-10-juga sesquiunciam vel duas uncias longa, linearia, in  $\beta$ . fere filiformia, rigidiuscula, subacuta, basi sessilia, minime articulata, cum substantia rachidis concreta, et ita persistentia, terminali nonnunquam bifido, axillis glandula flava cornea notatis. *Stipulæ* mediocres, bi-tri-lineares, subtriangulari-acuminatæ, inferiores marginibus hinc unitæ, apice solummodo bifidæ, superiores liberæ magis angustiores. *Pedunculi* axillares, solitarii, crassi, striati, glabriusculi, folium subæquantes. *Racemus* lato-ovatus, sub-13-florus. *Flores* magni, albi. *Bracteæ* minutæ, ovato-acuminatæ, pedicellis paululum breviores. *Calyx* cylindraco-campanulatus, oblique 5-dentatus, pilosus, pilis sparsis, nigris, appressis: *dentes* breves. *Vexillum* ovatum, attenuatum, obtusum, alis multo longioribus, lateribus reflexis. *Alæ* oblongæ, subacuminatæ, unguiculatæ. *Carina* obtusa, alis brevior. *Stamina* diadelpa, 1-9. *Germen* lineari-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*, Alæ 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 striatis, foliolis 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. *Caules* diffusi, subpedales, valde ramosi, striati, flexuosi, superne præcipue 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 obsiti. *Racemi* laxi. *Flores* mediocres, albi. *Calyx* cylindraco-campanulatus, pubescenti-scaber; *ore* oblique 5-dentato. *Alæ* *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, unciale, 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. Fl. 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 sparsis 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. *Bracteæ* ovatae, acuminatae, parvae; inferiores connatae, bifidae. *Racemi* axillares, elongati, laxi, brevissime pedunculati, foliis vix excedentes, demum fructiferi longiores. *Flores* parvi. *Bracteæ* lanceolatae, acuminatae, membranaceae, pedicellis brevibus longiores ciliatae. *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 *Phacæ*, is similar to that of several species in that division of *Astragali* 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, magnae, ovatae, membranaceae, albæ, 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, uniloculare, intus subspongiosum. *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 purpurascens aut albo et violaceo pictis.*

9. *P. Aboriginorum*; 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* caulinis: inferioribus connatis ovatis acutis; superioribus magis distinctis acuminatis. *Pedunculi* axillares foliis duplo longiores, pilosi. *Racemus* erectus, laxis, 15–20-florus, pedicellis erectis calyce et bractea subulata pilosa brevioribus. *Calyx* nigrescenti-pilosus, laciniis quinque subulatis æqualibus: superioribus sinu obtuso separatis. *Corolla* albida 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 aucto. *Carina* obtusa, calyce tertia parte longior. *Legumen* immaturum oblongum, pilis canis adpressis tectum, (nunc glabrum,) pedicello longitudine calycis sustentatum, *stylo* brevi incurvo capitato terminatum. *Semina* 14.” *Rich.* *Legumen* (maturum) uniloculare, nutante, unciam sesquiunciam 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, lævia, fusco-olivacea, *podospermo* brevi.

HAB. From Lake Winipeg 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. Vallies 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-velutinis 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 linearicylindræis 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 *alæ* 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* diadelpa. *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.*— $\beta$ . *subsucculenta*; foliis fere glabris.— $\gamma$ . *minor*; glabriuscula, floribus paucis patulis purpurascens.

HAB.  $\alpha$ . Arctic regions and Islands. *Dr. Richardson; Capt. Parry, &c.*  $\beta$ . Arctic sea-shore to the east of the Mackenzie River. *Dr. Richardson.*  $\gamma$ . 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.  $\zeta$ .* 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.*— $\alpha$ . *subumbellata*; capitulis 2–4-floris. *O. arctica. Br. in App. to Parry's 1st Voy. p. cclxxxviii. Hook. in Parry's 2d Voy. App. p. 396. De Cand. Prodr. v. 2. p. 276.*—*O. Uralensis,  $\beta$ . microphylla. Un. Itin.*— $\beta$ . *minor*; dense sericea, floribus solitariis. *Hook. in Parry's 2d Voy. l. c.*— $\delta$ . *inflata*; foliis leguminibusque inflatis glabriusculis.

HAB.  $\alpha$ . and  $\beta$ . 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. Lay and Collie.*  $\delta$ . Highest summits of the Rocky Mountains. *Drummond.*—The specimens given in the "*Unio Itineraria*" collection, from Cambre d'Aze and the Vallée d'Eynes in the Pyrenées, under the name of *O. Uralensis,  $\beta$ . 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-approximata, ovata, seu oblongo-ovata, 3–4-lineas longa, acuta, una cum rachide subappressim pilosa. *Petiolus* ad basin patentipilosus. *Stipulæ* lanceolatæ, acuminatæ, sublonge pilosæ. *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 plantæ parva, floribus compactis, patentibus, inferioribus reflexis. *Bractea* herbacæ, lineari-lanceolatæ, pilosæ, calycibus nigro-pilosis breviores. *Dentes calycini* subulati, tubi longitudine. *Petala* intense cæruleo-purpurascens, basi fere alba. *Carina* obtusa cum mucrone conspicuo subrecurvo. *Legumina*, vix matura, omnia pendentia, unciam longa, fere exacte cylindracea, acuta, dense nigro-pubescenti-hirsuta, basi in stipitem calycis tubo brevioribus 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. cærulea*; 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*; subcaulis, 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 *δ.* Carlton-House on the Saskatchewan to the Rocky Mountains, (*Drummond,*) and as far as the sources of the Columbia. *Douglas.* *ε.* 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<sup>im</sup> 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 hypoglottidi 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 subbrevioribus 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, pilis brevibus albis appressis; *foliolis* 7-11, 3-raro 4-lineas longis oblongis, vel lineari-oblongis, raro ellipticis, acutis. *Stipulæ* quasi oppositifoliæ accretæ, inferioribus integris superioribus sensim magis profunde bifidis foliaceo-membranaceis, appresso-pilosis. *Pedunculi* subunciam vel sesquiunciam longi, folia vix longitudine excedentes incani. *Racemi* 2-3-4-flori, floribus laxis parvis patentibus. *Bractea* lineari-lanceolata, pedicelli longitudine. *Calyx* brevi-campanulatus, villosus, pilis 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. hypoglottis*, 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 bractæ.

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 Aboriginorum*, (*Astragalus Aboriginorum*, 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. Aboriginorum*.

\* \* ONOBRYCHOIDEI, *stipulis a petiolo et inter se distinctis, floribus purpurascentibus 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 albido-pilosis, pilis nigris perpauca. *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. adsurgens* and *A. Laxmanni* 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. melanocarpon. "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. *Caules* plurimi, decumbentes, breves, 3–4 uncias longi, suffruticosi, superne præcipue incani, 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, laxus, 5–9-florus; floribus majusculis cæruleo-purpurascensibus albisque. *Bracteæ* lanceolato-subulatæ, 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 subhirtus, stipulis ovatis acutis, foliolis 9–12-jugis ellipticis, pedunculis folio brevioribus, racemis capitatis laxis, "leguminibus nuciformi-inflatis rugosis mucronatis glabris polyspermis."—*α. calycibus dense pubescenti-hirsutis. A. caryocarpus. Ker in Bot. Reg. t. 176. De Cand. Prodr. v. 2. p. 287.*—"A. crassicarpus. *Fraser's Cat. 1813.*"—*A. carnosus. Nutt. Gen. v. 2. p. 100. (non Purshii.)*—*β. 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, foliolis 5-jugis obovatis, pedunculis folio brevioribus, racemis capitatis subovalibus, floribus (majusculis) patentibus laxis, stipulis lineari-subulatis pedicello brevissimo longioribus, calycibus pilis laxis hirsutis, leguminibus (biuncialibus) lineari-lanceolatis nitidis glabris falcatis hinc carinatis illinc profundissime et subconduplicatim sulcatis bilocularibus polyspermis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the barren grounds of the Columbia, and near the Wallawallah 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, foliolis 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 acutis, foliolis 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 its 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, foliolis 9-10-jugis ellipticis acutiusculis obovatisve obtusis, pedunculis folii longitudine, racemis laxis late ovalibus, pedicellis brevibus, bracteis longis subulatis calycem membranaceum æquantibus, leguminibus ovato-acuminatis depressis bilocularibus tomentosus sursum insigniter curvatis.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the barren sandy grounds of the Columbia, 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, foliolis lineari-oblongis 6-jugis, pedunculis folium subæquantibus seu brevioribus 3-4-floris, pedicellis brevibus, bracteis linearibus calyce cylindræo-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, foliolis 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, foliolis 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 sessili lineari pilosissimo.—*Douglas, MSS. in Herb. Hort. Soc.*

HAB. On the low hills of the Spokane River, North-West America. *Douglas*.—"Flowers yellow. Calyx cylindrical; its teeth subulate, equal, half the length of the calyx; vexillum obovate, bidentate; alæ 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, foliolis 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 *Phaca*, 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 cylindræis glabris paululum falcatis semibilocularibus, sutura superiore obtusa, inferiore introflexa profunde canaliculata. (TAB. LVII.)—*Douglas, MSS. in Herb. Hort. Soc.*

*Radix* perennis. *Caules* 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 læte-viridibus, superne margine rachibusque pilis longis flexuosis hirsutissimis. *Stipulae* semiunciam longæ, e lata basi sensim acuminatæ, membranaceæ. *Pedunculi* folio longiores, hirsuti, striati. *Racemi* digitales et ultra, laxi, floribus ochroleucis pendulis. *Bractea* subulatæ, pilosæ, pedicellis longiores. *Calyx* oblongus, pilis nigris albis intermixtis tectus, dentibus brevibus subulatis. *Vexillum* ovatum, attenuatum, obtusum, alis longius. *Carina* obtusa. *Stamina* diadelpa, 1, 9. *Germen* glabrum, lineare, compressum, sublonge stipitatum, stylo curvato terminatum. *Stigma* obtusum. *Legumen* cartilagineum, glabrum, fere duas uncias longum, lineari-cylindræum, semibiloculare, intus 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.*) Eagle 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 Spokane 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. HEDYSARÆ. DC.

16. DESMODIUM. DC.

*Cal.* basi bibracteolatus ad medium obscure bilabiatus, labio superiore bifido inferiore tripartito. *Cor.* papilionacea; *vexillo* 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 sæpius 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 pilosiusculo striato, foliolis 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*.— $\beta$ . *minor*; foliolis ellipticis. *Hedysarum ciliare?* *Pursh, Nutt.*

*HAB.* Throughout Canada, as far as Norway-House, in lat 54°.—*Flowers* small. *Leaflets* variable; in  $\alpha$ ., 2–3 inches long, broadly lanceolate and gradually acuminate; in  $\beta$ . 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, foliolis 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*.— $\beta$ . *cuspidatum*; foliolis margine scabris, stipulis ovato-lanceolatis, leguminis articulis reticulatis glabris margine pubescentibus. DC.—*Hedysarum cuspidatum*. *Willd.*—*Pursh, Fl. Am. v. 2. p. 483*.

*HAB.*  $\alpha$ . Near Fort-Erie, rare;  $\beta$ . near Queenstown, on the Niagara. *Douglas*.

3. *D. acuminatum*; caule erecto simplici parce pubescente, foliis longissime petiolatis, foliolis (amplis) tenui-membranaceis rotundato-ovatis anguste acuminatis subpilis terminali latissimo longe petiolulato, pedunculo longissimo, panicula elongata subsimplici pauciflora, 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, foliolis lato-ovatis acuminatis,



scapo paniculato glabro radicali caule foliifero altiore, leguminis articulis subrotundo-triangularibus glabriusculis.—*De Cand. Prodr. v. 2. p. 330.*—*Hedysarum nudiflorum. Linn. Sp. Pl. p. 1056. 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. *Jaum. DC.*

*Cal.* 5-fidus, 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 lenticularibusve 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. LEOLOBIUM, *leguminum articuli læves, nec echinati, nec (manifeste) pilosi. Calycis laciniæ corolla breviores. DC.*

1. *H. boreale*; caule erecto stricto basi decumbente, foliis subsessilibus, 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 pubescentibusve reticulatis compressis.—*Nutt. Gen. v. 2. p. 110. De Cand. Prodr. v. 2. p. 343.*—*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. *Messrs. 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 lomentum 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 subracemosæ. *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, angulum fere rectum cum ovario conficiens, superne et infra apicem subtus villosus. *Legumen* oblongum, 1-loculare, polyspermum. *Semina* hilo laterali ovali 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.*— $\gamma$ . *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.*— $\beta$ . *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.*  $\beta$ . 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 sessilibus.*

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 cylindræis, 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 semisagittatæ. 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 *Lathyri*, 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 *Lathyri* 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. pisiformis*, “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 germen, 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), foliolis 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 *Lathyri* 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 *Lathyri* 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-ovatis, 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 Winipeg. *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, foliolis 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.*— $\beta$ . *major*.

HAB. Abundant throughout Canada, and as far north as the Saskatchewan. *Lady Dalhousie, Mr. Goldie, Mr. Cleghorn, Mr. Todd.*— $\beta$ . Straits of De Fuca, North-West America, in lat. 48°. *Dr. Scouler.*—This species entirely agrees with our Europæan *L. palustris*. The stipules resemble those of *L. decaphyllus*.

### TRIB. V. PHASEOLEÆ. *Br. DC.*

#### 22. AMPHICARPÆA. *Ell. DC.*

*Cal.* campanulatus 4-dentatus basi ebracteolatus, dentibus æqualibus subulatis. *Corolla* papilionacea, *petalis* oblongis, *vexillo* lato incumbente subsessili. *Stam.* diadelphæ. *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 apetalæ, 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.* diadelphæ. *Ovarii stipes* tubulo vaginatus. *Stigma* emarginatum. *Legumen* polyspermum et (ex *Pursh*) biloculare, 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.*—*Mænoch, 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, foliolis 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. Elth.* 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* monadelphæ, vagina integra, antheris 5 parvis subrotundioribus præcocioribus, 5 oblongis serioribus. *Stylus* filiformis. *Stigma* terminale subrotundum barbatus. *Legumen* coriaceum oblongum compressum oblique torulosum. *Cotyledones* crassæ, per germin. in folia conversæ.—*Herbæ aut suffrutices.* *Stipulæ petiolo adnatæ.* *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 foliisque 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 alæ, 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 hispidissimis 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*; herbaceus, 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 vallies 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*; herbaceus, 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-vallies 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*; herbaceus, 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*; herbaceus, 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 bractees 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 Kooskooskye, 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 Kooskooskye. *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 vallies of the Spokane 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 saccato, inferiore longiore ovato-acuminato, carina imberbi, vexillo obcordato, foliolis 7-9 lineari-lanceolatis, stipulis minimis subulatis. *Lindl.*—*Douglas in Bot. Reg. t. 1140.*— $\beta$ . foliolis linearibus, calyce basi minus saccato.—*L. tenellus. Douglas, MSS. in Herb. nostr.*

HAB.  $\alpha$ . and  $\beta$ . 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.  $\alpha$ . 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.  $\beta$ . 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. 2952.*

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 Chenook 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. Sabinii*; 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 foliisque (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.* æqualia oblonga e tubo exserta. *Stam.* 10 inclusa. *Legumen* oblongum crassum intus pulposum.—Arbores *inermes*, 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. Am. v.* 1. p. 241. *t.* 51. *Pursh, Fl. Am. v.* 1. p. 304. *De Cand. Prodr. v.* 2. p. 480.—*Guilandina dioica.* *Linn. Sp. Pl. p.* 546.

HAB. Canada, (*Linn.*); in the forests. *Michaux.*

27. CERCIS. *Linn.*

*Cal. sepala* 5 concreta in urceolum obtuse 5-dentatum inferne gibbum. *Pet.* 5 unguiculata subpapilionacea omnia distincta, alis majoribus. *Stam.* 10 libera inæqualia. *Ovarium* substipitatum. *Legumen* oblongum tenue compressum 1-loc. 00-spermum, sutura supra 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 orta. *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. *Tourn.*

*Drupa* ovata aut oblonga carnosae glaberrimae, polline cæsi 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 carnosae glaberrimae, polline cæsi destituta nucleo subgloboso lævi.—Folia juniora *conduplicata*. Flores nunc pedicellis 1-floris e gemma squamosa plurimis *umbellato-fasciculatis insidentes, et tunc foliis præcociores, nunc ramosi 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 Prodrusus, 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 Susquehanæ*. *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 acuminatisve, 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. Percival. 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 obovato-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, petiolis subglandulosis, fructu globoso atro-rubro.—*Mich. Am. 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-ahtik* 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-mecna*, (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 obovatisve breviter acuminatis opacis acutissime serratis, subtus in axillis barbatis, petiolis 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. 167. Elliott, Carol. v. 1. p. 551.*—*P. Virginiana. Mill. 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-vallies 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. *Ovulum* unicum paulo supra basin insertum in parietem loculi adscendens. *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, gemmis squamosis. Folia fasciculata simplicia 3-dentata subtus albida. Flores terminales conferti. Petala filamentaque siccitate æruginosa.

1. *P. tridentata*. (TAB. LVIII.) *De Cand. in Linn. 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. *Stipulæ* minutæ triangulares. *Flores* solitarii vel congesti e fasciulis foliorum. *Pedunculus* brevis, glandulosus. *Calyx* extus tomentosus, tubo elongato glanduloso glandulis pedicellatis, limbo 5-fido, patente, segmentis ovalibus, obtusis. *Petala* 5, calyce inserta, laciniis alterna, patentia, obovata, obtusa, undulata, venosa, siccitate viridescencia, 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 stylum attenuatum. *Stigma* lineare, laterale, pubescens. *Capsula* (seu *Achenium*) 6–7 lineas longa, coriaceo-membranacea, pubescens, ovata, 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* magnæ, crassæ. *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 Linnæan 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. *Linn.*

*Cal.* 5-fidus persistens. *Stam.* 10–50 cum petalis toro calyce adhaerente inserta. *Carpella* 1–∞, 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. *Linn. Sp. Pl. p. 702. Mich. Am. v. 1. p. 293. Pursh, Fl. Am. v. 1. p. 312. Elliott, Carol. v. 1. p. 560. Torrey, Fl. of Un. St. v. 1. p. 482. De Cand. Prodr. v. 2. p. 512.*—*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. 312. De Cand. Prodr. v. 2. p. 512.*—*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 fasciculated.

#### 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 adscendentibus. *Ser.*—*Linn. Sp. Pl. p. 701. Pursh, Fl. Am. v. 1. p. 311. 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. *Linn. Sp. Pl. p. 701. Pursh, Fl. Am. v. 1. p. 313. De Cand. Prodr. v. 2. p. 542.*—*β.* 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. chamædryos foliis* of Amman, St. Rar. p. 190.

### SECT. III. SPIRARIA. *Ser.*

4. *S. betulifolia*; foliis late ovalibus breve petiolatis glabris superne præcipue inciso-serratis 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.*— $\beta$ . foliis majoribus magis lobatis subtus pallidioribus.

HAB.  $\alpha$ . and  $\beta$ . Vallies of the Rocky Mountains, in lat.  $52^{\circ}$ – $54^{\circ}$ . *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 fructified 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*; glabriuscula, foliis lanceolatis argute subduplicato-serratis, lobis calycinis triangularibus patulis, racemis elongatis, floribus densis, carpellis 5 glabris. *Linn. Sp. Pl. p. 700.*— $\beta$ . 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. salicifolia, \gamma. paniculata. Ait. Hort. Kew.*

HAB.  $\beta$ . 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 Winipeg. *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. *Douglas, 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. ariæfolia*; 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 Spokane, 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 "*nivco-tomentosa*," 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.*— $\beta$ . 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. *Mench.*

*Cal.* tubuloso-campanulatus ore contractus 5-fidus. *Pet.* 5, lineari-lanceolata, subinæqualia, ex apice tubi. *Stam.* 10–15 inclusa. *Carpella* 5 stylo filiformi erecto apice capitato superata, subconnata in capsulam 5 loc. *Semina* in loculis 2.—Herbæ perennis, foliis trifoliolatis, foliolis petiolulatis serratis, floribus longe pedicellatis ex albo roseis axillaribus terminalibusque. Radices emetico-cathartice. *DC.*



1. *G. trifoliata*; stipulis linearibus acuminatis integris. “*Mæench, 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.*

TRIB. 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. Colmaster.* 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* exsucca caudata in capitulum disposita, stylo post anthesin geniculato, articulo superiore sæpe deciduo. *Semen* adscendens.—*Herbæ, foliis varie pinnatisectis.*



\* *Calyce reflexo.*

1. *G. strictum*; caule petiolisque patentibus hispidis, foliis radicalibus interrupte lyrato-pinnatis, pinnis ovatis obovatis cuneatisve inciso-lobatis serratisque terminali suborbiculari caulinis 5-3natis, stipulis incisissimis, 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.)*— $\beta$ . 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.*— $\beta$ . Fort Vancouver, on the Columbia.—My var.  $\beta$ . 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 hirto, foliis radicalibus trifoliolatis interrupte pinnatisve, foliolis lato-ovatis ellipticisve lobatis crenatis inciso-serratisque, caulinis trifoliolatis, foliolis saepe obovato-acuminatis incisissimis, 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.* 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 incisissimis, floribus corymbosis. *Pursh, Fl. Am. v. 1. p. 352.*

HAB. On the banks of the *Kooskooskye 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. SIEVERSIA. *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. Amœn. 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 *Rosaceæ* of that country described in the *Linnæa*, nor does it exist in Capt. Beechey's Collection.

2. *S. Rossii*; aristis nudis, foliis radicalibus interrupte pinnatis glabris, pinnis trilobis accessoriis 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 Linnæa, 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 subunidentatis, 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 simplice 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. Cormack.* Plains of the Saskatchewan, Athabasca Lake, and vallies 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. Unalashka. Langsdorff, (ex Fisch.) Chamisso.*—Closely allied to *S. Peckii*, (*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 siccæ basi non coarctata. Semen erectum.*—*Herbæ habitu Waldsteinia sed calyx nudus. Folia trisecta fere trifoliolata. DC.*

1. *C. fragarioides*; carpellis glabriusculis, scapis ramosis, foliis trifoliolatis, foliolis lato-cuneatis breve petiolatis.—*α. 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. Ros.*—*β. 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 Candolle 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 carnosæ capitata, stylo sublaterali superata, in drupellas carnosas conversa. Semen inversum.*—*Frutices rarius herbæ perennes. Caules biennes (an semper?) sæpe radicanter, nunc inermes, nunc sæpius aculeati. Folia petiolata 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 lato-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, β. Rich. in Frankl. 1st Journ. ed. 1. App. p. 739, (excl. syn.)*—*R. Pennsylvanicus. Poir.*



“ *Caules* fusci, subteretes, setis parvis rigidis crebris. *Stipulæ* 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* revera 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. Idæus*. 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. Idæus* in our country.

2. *R. occidentalis*; caulibus subteretibus, pedunculis petiolisque aculeatis glaucis, aculeis recurvis, foliis ternatis rarius quinato-pinnatis, foliolis ovatis oblongisve 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. Bost. 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.—β. 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.—β.* 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 glabriusculis, foliolis ovatis lobatis inciso-pinnatifidis serratis membranaceis, terminali majore longe petiolulato, lateralibus sessilibus, 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.* Unalashka. *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.)—*α.* foliolis acutis.—*R. macropetalus. Douglas, MSS. apud Hort. Soc. Lond.—β.* 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  $\beta$ . obtusa, terminali majore, longe petiolulato, lateralibus breve petiolulatis, costa subtus, basi præcipue, aculeata, pubescenti-hirsuta. *Stipulæ* lanceolatae, majusculæ, 5-6 lineas longæ. *Pedunculi* folio breviores glanduloso-hirsuti valde aculeati, biflori. *Flores* magni. *Calyx* pubescenti-glandulosus, segmentis ovatis longe angusteque acuminatis nunc sub-laciniatis corollam subæquantibus. *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 acuminate 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 bractee, 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. flagellaris. 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 Rees' 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. Rafin. in Sill. Journ. v. 1. p. 377, et De Cand. Prodr. v. 2. p. 568. (fide Torrey.)*

HAB. Canada. *Linn.*—Linnæus 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 Linnæan plant. Michaux does not notice it; nor do I possess any *Rubus* from Canada which quite agrees with Linnæus'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. obovalis. 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 pennæ passerinæ, 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 vetustioribus aculeatis. *Stipulæ* lineari-lanceolatæ, membranaceæ, integerrimæ. *Pedunculus* inermis, subpubescens, gracilis, terminalis, flores 4–5 parvos subpaniculatim dispositos gerens. *Pedicelli* pubescentes, nudi, bracteati. *Calyx* pubescens, segmentis ovatis obtusis submucronatis, pubescentibus, mar-

\* Seringe, in De Candolle, refers the *R. trivialis* of Mich. to *R. hispidus* of Linn. But Sir J. E. Smith says that Linnæus'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' Cyclopædia, that the name of this plant, and the definition of its leaves, "*foliis obovalibus*," 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 foliorum) 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. *Petioli* 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. *Calyx* 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. β. 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. 188?*—*R. parviflorus? Nutt. Gen. Am. v. 1. p. 308?*

*Radix* lignosa, dura, valde flexuosa, nigrescens. *Flagelli* procumbentes, teretes, longissimi, crassitie pennæ



*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 amplexicaulibus obvelatis. *Folia* singulis caulibus 2-4, alterna, ternata, (vel rarius pedatim quinata,) elongato-petiolata. *Stipulæ* magnæ, obovatæ, nunc obtusæ, nunc acutæ, sæpius acumine brevi, basi attenuatæ. *Petoli* 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-subrhomboidem, utrinque sensim acuminatum, acutum, rarissime obovatum et obtusum, semper basi attenuato integerrimo; lateralia subsessilia, inæqualia, sæpius extus inciso-lobata. *Pubescentia* caulium, petiolorum, foliorum et stipularum laxa, breviuscula, magis aut minus rara, et in foliis sæpe fere obsoleta. *Flores* erecti, terminales, rare 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 obsitus; laciniis sensim elongato-acuminatis intus versus apicem tantum pubescentibus, sub-anthesin reflexis, mox erectis. *Petala* 5-6, alba, ovalia, obtusa, passim emarginata, 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. Kolmaster\**) 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. acaulis*; 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. Kolmaster, 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 zigzag, 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 tripartitisve serratis, stipulis ovatis obtusis, pedunculo (brevis) unifloro, calycis segmentis lineari-subulatis, 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.)—*Linn. 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.—*Linn. 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 sæpius indivisis, pedunculis scapiformibus 1-floris. DC.*

1. *D. repens*; caule repente, foliis cordatis obtusis crenatis pubescentibus, stipulis linearisetaceis, 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 carnososucculentum sparsa exsucca. *Stylus* lateralis. *Semen* appensum.—*Herbæ flagelliferæ, 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. 62°.—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-serobiculatis, 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 subaequantibus 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, Pugillus secundus,*” printed at Hamburg, 1890.



lateralis 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.*— $\gamma$ . foliis angustioribus densissime pilosis cinereis. *Lehm. Monogr. Pot. p. 32. De Cand. Prodr. v. 2. p. 579.*—*P. fruticosa,  $\beta$ . Nestl. Monogr. Pot. p. 30.*—*P. tenuifolia. Consp. Pot. Herb. Willd. in Mag. der Gesell. Natur. Freunde in Berlin Jahrg. 7. p. 285.*—*P. floribunda. Pursh, Fl. Am. v. 1. p. 355. Bigel. Fl. Bost. ed. 2. p. 203.*

HAB. Throughout Canada, from Lake Huron (var.  $\gamma$ , *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 subbrevioribus. (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. Stipulæ ovatæ, 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 subhemisphærico 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 in *P. palustri*. Ovaria ovata, pallide rosea: stylo infra medium margine interiore inserto, subulato, flavo, carnosum, paululum glanduloso. Stigma acutum. Achenia ovata, lævia, 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. argutæ*) varietas, foliolis 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 Florula of Boston, as a new genus, 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 *Potentillæ* 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 annulatim 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. Am.* 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 sæpissime 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 Assinaboyne, 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. Am.* 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 laciniis



majorum æquantibus, stipulis subindivisis.—*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. *Mænoch.*) *Lehm. Monogr. Pot.* p. 55. *Torrey, Fl. of Un. St.* v. 1. p. 499. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 20. *De Cand. Prodr.* v. 2. p. 581, (excl. syn. *P. argutæ.*)— $\beta$ . *strigosa*; foliolis 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. absinthiifolia.* *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 Sound. *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  $\alpha$ , such as is delineated in the above-mentioned work of Jacquin, but the transitions between these two forms are as frequent as  $\beta$ , so that  $\alpha$  and  $\beta$  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.  $\beta$  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 pectinatim-pinnatifidis, supra sericeo-argenteis subtus niveo-tomentosis, stipulis rhomboideis incisis, floribus corymboso-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 nitidis, stipulis lanceolatis acuminatis integerrimis, panicula subdichotoma laxa, petalis obcordatis 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. dealbata.* *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 cujusvis generis peritissimo, tum de juvenibus naturæ indagandæ studio incendendis optime merito et adhuc merente."



Pulchra et distinctissima species, habitu fere *P. Pennsylvanicæ*. *Caules* 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. *Stipulæ* lanceolatæ, acuminatæ, integerrimæ, sericeo-tomentosæ. *Calyces* sericeo-tomentosi, foliolis æquali longitudine; *exterioribus* lanceolatis, *interioribus* ovato-lanceolatis. *Petalu* obcordata, aurea, calycem paullo superantia. *Receptaculum* villosum.

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 adscendente 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. β. 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. *Grænlandica*; glabriuscula, 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. δ. 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. δ. 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 calyce 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, *floralia* ternata sessilia, foliolis lanceolatis acuminatis. *Stipulæ* magnæ, ovatæ, acutæ, integerrimæ. *Floris* in summo caule subpaniculati. *Pedicelli* graciles, pilosi, superne pilosissimi. *Calycis foliola* basi valde pilosa, ciliata, acuta, *exteriora* lineari-lanceolata, *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 subdichotomam 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 impresse venosa, e medio ad apicem grosse inciso-serrata, serraturis apice pilis densis longissimis albis, *subtus* plus minusve pilis longis sericeis instructa; *juniora* *subtus* sericeo-villosa. *Stipulæ* ovato-lanceolatæ, subfalcatæ, acutæ, integerrimæ, *inferiores* *subtus* albido-pilosæ, *superiores* glabriusculæ. *Flores* erecti, plus minusve longe pedicellati. *Pedicelli* teretes, graciles, subpurpurascens, superne præsertim tomentosi. *Calyces* pilosi, *folia exteriora* linearia acuta, *interiora* lanceolata acuminata reliquis duplo majora. *Corolla* aurea, petalis obcordatis calyce duplo longioribus. *Receptaculum* villosum: *Acheniis* lævibus 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. *Petioli* 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. *Stipulæ* ovato-lanceolatae, acutæ, integerrimæ, subtus valde tomentosæ. *Flores* erecti, pedicellati. *Calyces* villosi: pilis patentibus, foliolis calycinis acuminatis apice sphacelato-mucronulatis, *exterioribus* lineari-lanceolatis, reliquis lanceolatis paullo 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 tomentosis, stipulis integerrimis, petalis obcordatis calycem subsuperantibus, receptaculo glabriusculo.

*Caules* ex eadem radice plures, subpedales, adscendentes, teretes, pubescentes, purpurascens. *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. *Petioles* pilosi, foliorum radicalium 2-3 pollices longi. *Stipulæ* ex ovato-lanceolatae, subfalcatae, acutæ, integerrimæ. *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. *Stipulæ* 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 quinatisque, foliolis lanceolato-cuneiformibus profunde serratis utrinque proluxe 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 subpilis, 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.) an Muhl.?*—*P. Caroliniana. Poir.*

HAB. Canada. *Michaux.* About Quebec. *Mrs. Percival, 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. *Petioli* lanati foliorum radicalium 3–6 pollices longi. *Stipulæ* angusto-lanceolatæ, acuminatæ, integerrimæ, subtus lanatæ. *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 adscendente, foliis septenatis quinatisve, foliolis ellipticis grosse serratis pubescentibus, stipulis superioribus subincisis, petalis obcordatis calyce duplo longioribus. *Trevir, In ind. sem. H. Wratisl. 1828.*

Proxime accedit ad *P. intermediam*, differt: caule simplice nec dichotome ramoso superne nudo, foliis magis ellipticis quam ovatis, stipulis latioribus superioribus plerumque incisis, foliolis calycinis inæqualibus, acheniis lævibus 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 sæpe integerrimis. *Stipulæ* sublanatæ, foliorum *radicalium* membranaceæ, subhyalinæ, lanceolatæ, acuminatæ, nervoso-striatæ, *caulinorum* ovatæ, lanceolatæ, acutæ, herbaceæ. *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*; laxè 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-obovatis 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 sericeo-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 GOTLEIB 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. niveæ* sed certe species distincta, petalis reniformibus facile ab omnibus *P. niveæ* 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. Vahliana* 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 obovali-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. (fide speciminum 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.* (SIBBALDIÆ 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.—*Eglandulosæ, 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.* (SIBBALDIÆ 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-pilosæ, 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.—Amm. 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 involucriformibus 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.— $\beta$ . *hirsuta*. *Torrey*.— $\delta$ . *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 Winnipeg. *Dr. Richardson, Drummond.*  $\beta$ . and  $\gamma$ . 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. SANGUISORBEÆ. *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 glabrusculis, 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* hermaphroditi. *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 cylindræasve aggregatis. *DC.*

1. *S. media*; spicis elliptico-cylindræis (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.— $\beta$ . *minor*.

HAB. Canada. (*Linnæus*), *Douglas, MSS.* Columbia River, on the North-West coast of America. *Mr. Menzies, Dr. Scouler.*  $\beta$ . 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 bractæas at the base of the calyx.



2. *S. Canadensis*; spicis longis cylindricis (albis), staminibus longe exsertis, filamentis superne dilatatis, foliolis 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*; foliolis brevioribus latioribus.

HAB. Canada, about Quebec. *Michaux, Mrs. Sheppard, Mrs. Percival.* Newfoundland. *Dr. Morrison.* *β.* Observatory Inlet, North-West coast of America. *Dr. Scouler.* Grassy pastures in the vallies of Unalashka. *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 stigmatate penicilliformi superata. *Achenia* intra calycem induratum sicca 1-sperma. *Semen* inversum.—*Herbæ aut suffrutices.* *Folia impari-pinnata, foliolis serratis (vel profunde divisis.) Flores in spicas globosas cylindræasve dense aggregati.* *DC.*

1. *P. Sanguisorba*; herbaceum, caule anguloso foliisque glabris, foliolis 4–5-jugis ovatis subrotundisve 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, foliolis 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 costam usque pectinato-pinnatifida, laciniis angustissimis linearibus. *Capitula* terminalia, elliptica, ut videtur flavescenti-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 subcrustacea, e latere interiore stylum gerentia, stylis e calycis tubo coarctato exsertis, nunc omnino liberis, nunc in stylum columnarem accretis. *Semen* in achenio solitarium exalbuminosum, inversum. *Embryo* rectus, *cotyledonibus* planiusculis.—*Frutices aut Arbusculæ; foliis sæpius impari-pinnatis, foliolis serratis, stipulis petiolo adnatis.* *DC.*

DIV. I. CINNAMOMÆÆ. *Setigeræ vel inermes bracteatae. Foliola lanceolata eglandulosa. Discus tenuis nequaquam incrassatus.* *Lindl.*

1. *R. nitida*; pumila, armis confertissimis gracilibus, foliolis 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. Res. 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 setæ, 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. Scouler. Newfoundland, (Herb. Banks.)*—In *De Caudolle’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, foliolis oblongis rugosis subtus tomentosus. *Lindl.*—*Linn. Sp. Pl. p. 703. Engl. Bot. t. 2388. 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, foliolis oblongis planis subtus glaucis tomentosus. *Lindl.*—*Retz, 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; ebracteate (rarissime bracteate.) 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.  $\beta$ . foliis subtus pubescentibus.

HAB.  $\beta$ . On the Saskatchewan. *Drummond.*

DIV. III. BANKSIANÆ. *Stipulæ subliberæ, subulatæ v. angustissimæ, sæpius deciduæ. Foliola sæpius ternata, nitida. Caules scandentes. Lindl.*

10. *R. lævigata?* 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. lævigata*, 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. Bracteæ subulatæ 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, baccis 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.*— $\beta$ .? *brevispina. Douglas, MSS. apud Herb. Hort. Soc. Lond.*

HAB.  $\beta$ . 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*,  $\beta$ . 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. Cleghorn.* Dry shores of Lake Erie, common. *Douglas.*—Fruit red, eatable.

7. *C. cordata*; foliis cordato-ovatis inciso-angulatis glabris, petiolis calycibusque eglandulosis, 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. *Medik.*

*Cal.* 5-fidus. *Pet.* lanceolata. *Stam.* calyce subbreviora. *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. fil. 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. β. ? 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.*—*Cratægus 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.*—*Cratægus 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 Europæan *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 *Meesassquat-ahtick*, is prized for making arrows and pipe-stems, and is thence termed by the Canadian voyagers *bois de flèche*. 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 *Meesasscootoom-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. Botryapium* 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* clausum 5-loc. putaminibus cartilagineis. *Semina* in loculo quoque 2, testa cartilaginea.—Arbores fruticesve. *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 tomentosus, 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 subinaequaliter serrata, *juniora* pubescentia, *adultæ* superne glabriuscula subtus pubescenti-hirsuta nervis prominentibus. *Petoli* graciles unciam sesquiunciam longi, pubescentes. *Corymbi* terminales in ramis junioribus, simplices. *Pedicelli* longi, fusci, pubescente-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 deciduo) coronatum, 3–4-loculare, loculis nonnunquam 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-itck*. 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 Europæan *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 Europæan 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. Americana*, 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 Europæan prototype, I am unable to say.

## SECT. III. ADENORACHIS. DC.

3. *P. arbutifolia*; foliis obovato-oblongis lanceolatisve crenato-serratis subtus pallidis reticulatim venosis costa supra glandulosa, floribus corymbosis.—*α.* foliis subtus præcipue junioribus calycibusque tomentosis, fructu rubro. *P. arbutifolia. Linn. 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.*—*Cratægus pyrifolia. Lam.*—*Mespilus arbutifolia. Linn. 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.*—*A. 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. ONAGREÆ.

1. EPILOBIUM.\* *Linn.*

*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 uni-bracteati. Corollæ purpureæ, roseæ, subcarneæ, 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 bracteatis, stylo reflexo basi piloso staminibus brevior. *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 Fret*, 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 brevior.

Medium fere inter *E. angustifolium* et *latifolium*, floribus capsulisque cum *E. latifolio*, foliis cum *E. angustifolio* magis convenientibus. *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 sublente conspicuis obducta, subtus pallidiora, glabriuscula. *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 adscendentibus brevior: *stigmatibus* 4-partito, revoluto. *Germen* incanum, pollicare. *Capsulam* 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 aveniis, floribus axillaribus pedicellatis, stylo suberecto glabro staminibus brevior.—*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 bifariam 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. α. and β. Observatory Inlet, North-West America, lat. 56°.*—Like *Wahlenberg* and *Hornemann*, I am unable to separate the *β.* (*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 *α.* 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. organifolium*; caule basi repente glabriusculo apice nutante, foliis subpetiolatis ovatis denticulatis superioribus acuminatis, stigmatē 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, stigmatē clavato, capsulis sessilibus angulis tenuissime pubescentibus.

*Caulis* basi repens, dein erectus, simplex, subpedalis, angulatus, multiflorus. *Folia inferiora* ovato-lanceolata, opposita, repando-subdenticulata, *reliqua* alterna, sparsa, glanduloso-denticulata, *floralia* basi subcordata, omnia sessilia, decurrentia, glabra, acuta, sub lente pellucido-punctata. *Calycis foliola* lanceolata, acuta, integerrima, subpilosa, colorata. *Petala* obcordata, 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. organifolium* 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, stigmatē 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, stigmatibus clavatis, 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, stigmatibus clavatis, capsulis breviter pedicellatis arcuato-reflexis glabriusculis.—*Lindl. in litt.*—*E. collinum. Douglas, MSS. in Herb. Hort. Soc. Lond. (non Flor. Friburg.)*

*Radix* annua, fibrosa. *Caulis* erectus vel ascendens, vario modo flexus, teres, puberulus, sæpissime ramosissimus: ramis patentibus, junioribus canescentibus. *Folia* petiolata, elliptico-lanceolata, obtusa, integerrima vel leviter repanda: pilis sparsis versus marginem crebrioribus, venoso-nervosa, nervo medio pallido ad apicem fere evanescente, sub lente pellucido-punctata. *Flores* cernui. *Calycis foliola* lanceolata, acuta. *Petala* obcordata, pallide rosea, venosa. *Stamina* inæqualia. *Stigma* clavatum longitudine staminum. *Germen* breviter pedicellatum subcanescens. *Capsula* glabriuscula (brevior quam in reliquis Epilobiis) arcuato-flexa.

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, stigmatibus 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.*— $\beta$ . *albiflora*; caule tereti simplici glabriusculo, foliis sessilibus linearibus subdenticulatis, floribus cernuis, stigmatibus indiviso, capsulis pedicellatis elongatis canescentibus.—*E. palustre, var. albescens. Wahl. Fl. Succ. 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.  $\alpha$ . Labrador. *Dr. Morrison.*  $\beta$ . 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.  $\beta$ . 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.  $\beta$ . 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, stigmatibus indiviso, capsulis pedicellatis gracilibus canescentibus. *Rafin.*—*Desv. Journ. Bot. 1814. p. 271. De Cand. Prodr. v. 3. p. 43.*

Affinis *E. palustri*; differt caule stricto 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. luteum*; caule tetragono pilosiusculo, foliis oppositis serrulatis, pedunculis axillaribus alternis elongatis, calycis lobis angustis longitudine petalorum, stylo exserto, stigmatibus crasso 4-lobis. *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 glabriuscula. *Spicæ* terminales, elongatæ. *Rachis* inferne velutina, versus apicem sensim magis glabrescens. *Flores* conferti, minuti, bracteati. *Bracteæ* subulatæ, pilosæ, caducæ. *Calycis* tubus pubescens, germine brevior, cylindricus, apice incrassatus, laciniæ lineares glabriusculæ. *Petala* laciniis calycinis breviora, lineari-spathulata, 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 cuneata, 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 terminalibus verticillatim congestis, bracteis linearibus deciduis, fructibus candicantibus.



*Caules* 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. *Bracteæ* deciduæ, lineares, acuminatæ, longitudine tubi calycis. *Calyx* canescens: laciniis linearibus tubo brevioribus. *Petala* spathulato-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 foliisque anguste lanceolatis undulatis glaberrimis, spicis elongatis, floribus alternis, bracteis linearibus persistentibus, germinibus linearibus tetragonis glabris.

*Caules* suffruticosi, adscendentes, ramosi, 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. *Bracteæ* lineares, persistentes, acutæ, longitudine tubi calycis. *Calycis* *tubus* clavatus, 2 lineas longus; laciniis linearibus tubo longioribus. *Petala* rubra, spathulata, unguiculata, venosa, longitudine laciniarum calycis. *Stamina* erecta, filiformia; *antheræ* lineares, jam in flore adhuc clauso latere dehiscentes. *Stylus* filiformis, erectus: stigmatate 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. ŒNOTHERA. *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. *Capsulæ* prismatico-cylindricæ obsolete tetragonæ, interdum basi, nunquam apice, crassiores.

§. 1.—*Calycis* *tubus* elongatus cylindricus apice tantum dilatatus, lacinias et petala superans. *Stigma* luteum, laciniis linearibus.

α. *Floribus* luteis.

1. *Œ. biennis*; caule erecto subramoso, foliis radicalibus oblongo-lanceolatis, caulinis ovato-lanceolatis dentatis glabris s. pubescentibus, petalis obcordatis stamina superantibus, capsulis subcylindricis basi crassioribus valvis dehiscentibus 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. *Œ. 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, (e sem. in *Hort. nostr. cult.*) *Drummond.* Straits of de Fuca. *Dr. Scouler.*

2. *Æ. albicaulis*; caule erecto superne ramoso albido 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 lacinias puberulas 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 foliisque lineari-lanceolatis acuminatis 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 odoratissimi. *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* spithamæa, 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, lacinias 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, adnatæ. *Stigma* quadrilobum, luteum, lobis ovatis. *Capsula* cylindrica, albido-sericea, truncata.

HAB. Dry banks of the Saskatchewan. *Drummond.* Common upon limestone rocks on the Red and Assinaboyné Rivers. *Douglas.*



*β. Floribus albis s. purpureis, antheris innatis.*

5. *Æ. 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* lanceolatae apice curvatae. *Pistillum* stamina longiora sublongior. *Stigmatis* laciniæ intense purpureæ, patentés, 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. *Æ. Lindleyi*; caule adscendente diffuso ramoso, foliis lineari-lanceolatis integerrimis glabris, calycis tubo laciniis triplo brevior, 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.—*Obs.* Descriptio caulis e plantis cultis desumpta est, in speciminibus spontaniis caulis videtur erectus strictus. In icone operis landati *Bot. Mag.*, genitalia sunt duplo longiora, quam in speciminibus spontaniis et cultis. Miro errore in eodem libro descriptione hujus et præcedentis speciei character *Epilobii* generis (“semina comosa,” etc.) pro *Ænotheræ* caractere insertus est.

*HAB.* North-West coast of America, about Fort Vancouver, and at the Multnomak River. *Douglas.*

7. *Æ. 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) obcordata, margine crenulata, calycis laciniis duplo, genitalia longiora duplo magis, superantia. *Stamina* inæqualia: *antheræ* oblongæ apice curvatae. *Stylus* stamina longiora æquans. *Stigma* crassum purpureum, laciniis reflexis appressis. *Capsula* obscure-tetragona, a basi crassiore ad apicem usque attenuata, villosa.—Ab omnibus speciebus affinibus stigmatibus forma differt.

*HAB.* Dry mountain vallies in North California. *Douglas.*

8. *Æ. 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-triquetris 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 brevior, petalis late obovatis crenulatis violaceis, staminibus corolla multo brevioribus, antheris viridibus, stigmatibus fere sessilibus inclusis atro-purpureis, capsulis oblongo-cylindricis 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. Reg.*, 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. purpureæ.*”

SECT. II. *ÆNOTHERIUM. DC.*—*Stigma cruciatum profunde 4-fidum. Calycis tubus cylindricus apice dilatatus. Capsulæ obovatæ, clavatæ, angulatæ, 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 longioribus, 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 adscendente 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. Mich. Am. v. 1. p. 225. (ex descr.)*—*β. minima; Æ. pusilla. Mich. 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 subspicatis breviter pedicellatis, petalis emarginatis genitalia 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 paullo 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. SPHÆROSTIGMA. *Ser.*—*Stigma capitatum integrum aut læviter quadrilobum. Calycis* *tubus* *infundibuliformis s. obconicus. Capsula* *prismatico-cylindrica.*

13. *Æ. quadrivulnera*; caule adscendente subramoso debili foliisque 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, laciniis 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* spithamæus 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. *Capsulae* 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 integerrimis 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* numerosi, minimi. *Calyx* infundibuliformis, tubo lacinias æquante. *Petala* vix lineam longa calycis tubum æquantia. *Genitalia* —? *Capsulae* cylindricæ, elongatæ, pollicares et ultra, torulosæ, contorto-curvatæ, *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. pygmæa*, 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* adscendentia 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.*— $\beta$ . petalis minus profunde lobatis magis denticulatis. *Hook. in Bot. Mag. l. c.*

HAB. On the banks of the Kooskoosky 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*.

### TRIB. II. JUSSIÆ. DC.

#### 5. ISNARDIA.

*Calycis* tubus ovatus aut subcylindræus 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 cylindræa tetragona 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. CIRCÆEÆ. DC.

#### 6. CIRCÆA.

*Calyx* brevis, limbo bipartito. *Petala* 2 obcordata. *Stamina* 2 petalis alterna. *Stigma* emarginatum. *Capsula* ovata pilis uncinatis 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.*— $\beta$ . *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.  $\beta$ . 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.—HYGROBIEÆ. Rich.

#### 1. PROSERPINACA. Linn.

*Calycis tubus* ovario triquetro adhærens, limbus 3-partitus. *Petala* 0. *Stam.* 3. *Stigmata* 3 ad apicem ovarii sessilia. *Carpella* 3 in fructum trigonum concreta sicca indehiscencia 1-sperma. *Semen* ex apice loculi pendulum. *Albumen* carnosum seu endopleura tumida. *Embryo* rectus, teres, radícula longa supera, cotyledonibus brevibus.—*Herbæ aquaticæ Boreali-Americane glabræ, radicibus repentibus, foliis oppositis, floribus axillaribus 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. CALLITRICHINEÆ. *Link, DC.*

### 3. CALLITRICHE. *Linn.*

*Flores* polygami, hermaphroditi, dioici aut sæpius monoici. *Bracteæ* 2 oppositæ petaloidæ ad basin floris (petala, 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, indehiscentibus, 1-spermis, lenticulari-compressis. *Semina* cum carpella concreta, albumine carnosio, embryone inverso teretiusculo subincurvo, radícula longa supera, 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 Cand. 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 cæspitose 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.—“Rafin. Med. Spec. xi. p. 358.” De Cand. 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 carnosâ (ex *Rich.*); embryonis radícula cylindræa cotyledonibus longior.—*Herbæ aquaticæ, caule simplici, foliis verticillatis linearibus acutis, infimis longioribus, floribus axillaribus sessilibus minimis, nonnullis sæpe abortu fœmineis aut neutris.*

1. *H. vulgaris*; foliis 8–12 linearibus acutis 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 Frankl. 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 senisve 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. tetraphylla. 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. *Folia* verticillata, rigidula, in lobos filiformes acutos divisa, secus lobos subserrata. DC.

### 1. CERATOPHYLLUM. Linn.

Character idem ac Ordinis.

1. *C. demersum?* nuce 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, sinus 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.*— $\beta$ . 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.  $\beta$ . 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. *Pctala* 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. Am. 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.*—*Nesæa 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. PHILADELPHÆ. *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* scobiformia 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 foeminei 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, foemineis 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 Columbia, 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 Assinaboyné 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* cylindræus 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 vesperem expansi. *DC.*

1. *B. lævicaulis*; petalis 5, staminibus 5 petaloideis, bracteis nullis, caule lævissimo, seminibus alatis. (TAB. LXIX.)—*Douglas, MSS. apud Hort. Soc. Lond.*

*Caulis* herbaceus, annuus, erectus, 2–3-pedalis, ramosus, lævis, albidus, subnitidus. *Folia* lanceolata, sinuato-pinnatifida, sessilia; inferiora læviuscula; superiora sensim minora 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-cylindræum, asperum, obscure 5-sulcatum. *Stylus* longitudine staminum, filiformis, versus apicem obscure 3-lineatus. *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 laciniated bracteæ, 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 lævicaulis*. 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.*

Annua, 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-ocularis 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 forsân 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-ocularis, 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 carnosae. 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 Spokane 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 journies: 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.* disepalus persistens, sepalis ovatis oppositis. *Petala* 5, obcordata aut obovata hypogyna æqualia unguiculata, unguibus basi subconnatis. *Stam.* 5 ad ungues petalorum inserta. *Ovarium* sessile. *Stylus* 1 trifidus, ramulis intus stigmatosis. *Caps.* 1-ocularis 3-valvis 3-sperma. *Fila conductoria* 3 ante fœcundationem 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 bracteatis, 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-curvati, 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.*— $\beta$ . foliis latoribus fere ovato-lanceolatis in petiolum attenuatis. *Torrey, Fl. of Un. St. l. c.*— $\gamma$ . 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.  $\alpha$ . Near Montreal. *Mr. Cleghorn. Saskatchewan. Drummond*— $\beta$ . 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.  $\beta$ . appears to be more abundant in the British Possessions than  $\alpha$ .; 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.  $\beta$ .: 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. Unalaskensis*; 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.*— $\beta$ . 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*.— $\beta$ . Nootka. *Mocca*.—Whatever the *C. Sibirica* of Linnæus 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 subunciam 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 vallies 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. perfoliata*; 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-Americanæ erectæ dichotomæ annuæ, 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 suffrutescentes, 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 brevia, linearia, erecta, imbricata, obtusa, stipulis tecta; superiora longiora subulata, recurva, acuta et etiam mucronata stipulis breviora; omnia crassiuscula rigida striata vix nervosa, integerrima. *Stipulæ* oblongæ profunde bifidæ, albæ, scariosæ, membranaceæ, sæpe laceræ. *Flores* omnino sessiles in apicibus ramorum, foliis fere immersi solitarii. *Calyx* profunde 5-partitus, cartilagineus, pallide viridis; segmentis seu laciniis 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, laciniis opposita. *Filamenta* subulata. *Antheræ* 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 Prodrômus; 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 sessiliflora*. *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 nectariferæ* 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, carnosæ, 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. spathulifolium*; glabrum, caule erecto, foliis obovato-spathulatis 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 scariose 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. PENTHORIIUM. *Linn.*

*Calyx* 5-partitus. *Petala* 5. *Stamina* 10. *Squamæ* 0? *Carpella* 5 basi inter se concreta in capsulam 5-rostratam 5-locularem apice 5-gonam et sub rostris dehiscentem. *Semina* 00 minima, placentæ latiusculæ undique adfixa, forsan exalbuminosa.—*Herbæ*



*erectæ 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.*

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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.

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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 glandulosis, staminibus 4 longe exsertis, germine pedicellisque setoso-glandulosis.—*Sm. in Rees' Cycl.—De Cand. Prodr. v. 3. p. 477.—R. speciosum. Pursh, Fl. Am. v. 2. App. p. 731.—“R. fuchsioides. Fl. Mex. ined.” (De Cand.)—R. triacantha. Menz. MSS. cum Ic. nitidiss.*

HAB. North California. *Mr. Menzies. Monterrey. 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 viridescentibus.*

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 cylindræo 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 subbracteatis, calycibus tubulato-campanulatis, laciniis linearibus obtusis patentibus petalis integerrimis duplo longioribus, baccis hispidis. *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 cylindræo, 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 cylindræo (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.*—3. fructu inermi. *R. oxyacanthoides. Rich. in Frankl. 1st Journ. ed. 2. App. p. 7.*—7. ramis nunc aculeatis, pedunculis brevioribus, floribus pubescenti-hirsutis purpurascenscentibus, fructu aculeato.



HAB. Canada. *Michaux. Mrs. Percival. Mrs. Sheppard. Mr. Cleghorn.* β. 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 nudis, 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 subquinelobis 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 glabriusculis, pedunculis brevissimis deflexis 1–2-floris, calycis glabri tubo campanulato, laciniis patentibus demum reflexis corolla duplo longioribus stamina 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. oxycanthoides*, 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 Florula Bostoniensis: where the fruit is described as resembling a common Gooseberry.

10. *R. hirtellum*; spinula subaxillari, ramis breviter rariterque hispidulis, foliis parvis semitrifidis lobis paucidentatis, pedunculis unifloris, bacca glabra rubra. *Mich. Am. 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 pedicellisque 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*; inerme, 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*, accords sufficiently well, except that I find no evidently white or pale-coloured nerves.

13. *R. prostratum*; inerme, 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*; inerme, foliis glabriusculis modice lobatis, racemis laxè 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, spathulata, 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 incisive duplicato-serratis supra hispidulis subtus resinoso-punctatis, racemis sæpe terminalibus demum deflexis, pedicellis (quoad axin) erecto-patentibus pubescentibus bracteis spathulatis 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 incisive duplicato-serratis. *Racemi* sæpe in ramulis terminales primum erecti, fructiferi deflexi, valde elongati spithamæi. *Rachis* robusta glabriuscula. *Pedicelli* semi-unciam longi pubescentes, erecto-patentes, stricti, non raro oppositi, bractea spathuliformi 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 adpersum. *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.)*— $\beta$ . racemis longioribus, calycibus glabriusculis. *R. petiolare. Douglas, in Hort. Trans. v. 7. p. 514.*

*Frutex* tripedalis, inermis. *Cortex* brunnescens, cuticula incano-grisea lævigata decidua tectus. *Folia* vix ad medium triloba, paulo latiora quam longiora, inæqualiter grosseque argute serrata, basi integerrimo fere horizontaliter secto, vix unquam cordata, supra glaberrima, venosa, subtus pallidiora pilis brevissimis mollibus albescentibus villosa, et sparsiter punctis resinosis exiguis flavis adspersa. *Petiolus* diametrum folii vix longitudine æquans, antice sulcatus, tenuissime villosus. *Bracteæ* parvæ, membranaceæ, subulatæ. *Pedicelli* villosi, longitudine fere florum, bracteis duplo longiores. *Flores* parvi, campanulati. *Lacinie calycinæ* albæ, ellipticæ, obtusæ, patentis, extus villosæ, nervis tribus anastomosantibus. *Petala* exigua, alba, erecta, spathulata. *Germen* obovatum, utrinque læviter sulcatum, glandulis flavis exiguis adpersum. *Stylus* etiam sulcatus, quasi ex duobus connatis formatus, stigmatibus binis glandulosis. *Rich.*

HAB. From Hudson's Bay to the Rocky Mountains, in the west, and as far north as lat. 57°. *Dr. Richardson. Drummond. Douglas.*  $\beta$ . 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.  $\beta$ ., very downy, narrower segments.

17. *R. floridum*; inerme, foliis resinoso-glandulosis 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' Hérít. 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 germi glabro adpressis, floribus subsessilibus cylindræco-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. LXXVI.)—*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 subtus præcipue petiolisque pilis brevibus glanduloso-viscidis tecta, 3–5-loba, lobis rotundatis obtusis inciso-crenatis. *Stipulae* magnæ, membranaceæ, fuscæ. *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. LXXVI. *Fig. 1, Flower:—magnified.*

† † *Flores intense rosei.*

20. *R. sanguineum*; inerme, foliis cordatis subquinelobis serratis venosis supra glabriusculis subtus villosotomentosis, 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. App. 3. t. 1. A. nec aliorum. (Lindl.)—R. flavum. Berl. 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. *Juss. De Cand.*

(TRIB. IV. *Saxifrageæ 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. Caules aphylli. Flores paniculati aut racemosi. DC.*



1. *H. micrantha*; scapo inferne petiolisque pilis longis patentibus fulvis villosissimis, foliis subrotundo-cordatis obtuse lobatis mucronato-crenatis nudiusculis, bracteis infimis foliosis incisissimis 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 subincisissisque 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 incisissimis, 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 vetustorum 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; *stipulæ* adnatæ, ut in *genere Rosæ*, apicibus liberis acuminatis ciliatis. *Scapus* seu *Caulis* spithamæus ad pedalem et ultra, glaber, superne paniculatus. *Panicula* laxa. *Pedunculi* graciles, patentes, dichotomi, ramis divaricatis, bracteatis, bracteis lineari-subulatis. *Flores* parvi, minute pubescenti-scabri. *Calyx* turbinatus; tubus fere omnino basi germinis adhaerens, 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* subrotundatæ, 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 cylindræa subspicata, floribus (majusculis) apetalis, staminibus inclusis. *Douglas, MSS. in Herb. Hort. Soc. Lond.*

*Radix* descendens, elongata, crassa, squamosa. *Folia* omnia radicalia, longe petiolata, cordata, alte lobata, 2 uncias longa, supra glabriuscula subtus præcipue ad venas hirsuta, lobis obtusis, rotundatis, crenato-dentatis, dentibus acutis pilo apiculatis. *Petioli* patentim hirsuti. *Scapus* omnino nudus, pedalis ad sesquipedalem, pilis numerosis patentibus obsitus. *Panicula* terminalis, digitalis, vix 8 lineas lata, compacta, cylindræa, subspicata, ramis brevissimis bi-trifloris, bracteæ pedicellis longiores lineari-subulatae, 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* rotundatæ.

**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 subpilosus, foliis cordatis sinu profundo obtuse lobatis ciliatis crenatis dentibus piliferis utrinque sparsim pilosis, panicula laxe thyrsoidæa, (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 cylindræo-infundibuliformibus, staminibus exsertis, ovario libero. (TAB. LXXX.)—*Tiarella Menziesii?* *Pursh, Fl. Am. v. 1. p. 313. De Cand. Prodr. v. 4. p. 50*.— $\beta$ . 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. *Petioli* 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 semiunciam 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-fusea.

**HAB.** North-West coast of America; at Banks' Isles. *Menzies*. From the Columbia to Puget Sound. *Douglas, Scouler*.  $\beta$ . 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-loculare. *Capsula* 1-locularis, imo calyci adnata membranacea 2-valvis, valvis inæqualibus (carpello uno interdum abortivo) inter stylos dehiscentibus. *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. 580. 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 unifoliolatus. *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 pedicellisque 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, lævia, 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, caulinis 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 minora, minus incisa. *Panicula* solitaria, nunc 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. *Antheræ* 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, petalis 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, foliis ternatis, 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; *foliolis* ovato-lanceolatis, inciso-pinnatifidis, laciniis obtusis: *caulina* 2-3, superne sensim minora. *Racemus* terminalis, curvatus. *Flores* mediocres, secundi, densi, ebracteati, nisi bractea minutissima ad basin pedicellorum inferiorum. *Pedicelli* calycis longitudine, demum recurvi, semper simplices. *Calyx* turbinatus, æqualis, 5-fidus, basi tubi cum ovario adhærente, extus glanduloso-hirsutus, intus ad lacinias ovatas acutas erectas pubescens. *Petala* 5 patentia, unguiculata, laciniis calycinis alternantia, lamina late obovata, profunde 3-fida, segmentis linearibus obtusis. *Stamina* decem ad oram tubi calycis inserta, inclusa; *Filamenta* perbrevia, fere nulla. *Antheræ* 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 laciniata 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-laciniatis, 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. (mala.) 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 miteloides. 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 Candolle, 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. (*Musci 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. *Petioli* pilis rigidis deflexis asperi. *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. CHRYSOSPLENIUM. *Tourn.*

*Calycis* tubus ovario adhærens, limbus 4–5-lobus, lobis obtusis. *Stam.* 8–10 sepalis alterna oppositaque. *Styli* 2. *Capsula* 2-rostra 2-valvis demum unilocularis polysperma. *Semina* lævissima fundum versus capsulæ 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.*— $\beta$ . *Scouleri*: foliis profunde crenato-serratis.

HAB.  $\beta$ . 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.

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I have followed Jussieu and De Candolle in referring *Adoxa*, which usually stands next to *Chrysosplenium* in the *Saxifrageæ*, to *Araliaceæ*.

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#### 6. SAXIFRAGA. \* *Linn.*

*Calyx* 5-sepalus, sepalis plus minus inter se et sæpe cum ovario coalitis. *Petala* 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 polymorphæ in eadem specie. Flores sæpius paniculati vel corymbosi, abortu solitarii. DC.*

SECT. I. PORPHYRION. *Tausch.*—*Scringe, in De Cand. Prodr.*

1. *S. oppositifolia*; viridi-purpurascens, foliis ramorum sterilium quadrifariam imbricatis rariter remotis obovatis carinatis ciliatis apice oblique truncatis et 1-3-porosis, floribus

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\* 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 pectinatim 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 laricifolia*, 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 capsule 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 concave 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 sæpissime rubro vel luteo 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 adhærentibus, petalis lato-obovatis subtrinerviis.—*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. cæsia*, 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. androsacea*; caule subaphyllo 1-4-floro piloso, pilis acutiusculis sæpe capitellatis, foliis herbaceis obovato-spathulatis integris rariter tridentatis, lobis calycis ovatis obtusis, 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*; subacaulis, foliis simplicibus trifidisque nervosis, scapo unifloro folioso, foliis scapi linearibus integris. *Haw. Enum. Saxifr. p. 28.*

HAB. Melville Island. *Lieutenant Hopner*.—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. Grœnlandica. 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. Grœnlandica. 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 segmentis linearibus acutiusculis, caulibus floriferis elongatis pubescenti-glandulosis superne paniculatis, floribus majusculis ovario calycis pubescenti-glandulosi 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 sparingly 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. petræa*; annua, glanduloso-pilosa, foliis carnosis trilobis, radicalibus cordatis, lobis incisissublonge petiolatis, caulinis subcuneatis, 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. Ponæ. 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 subinvolucratis, 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, caulinis 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.*— $\beta$ . *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*; cæspitosa, caule unifoliato, racemo nutante paucifloro, foliis radicalibus reniformibus longe petiolatis grosse inciso-dentatis pilis rigidis brevibus adpressis onustis, pedicellis 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. Unalashka. *David Nelson, in Herb. Banks.*

17. *S. ranunculifolia*; subglanduloso-pubescens 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 late obovato-cuneatis, bi-trilobis, incis; *Caulina* pauca, sensim minora, trifida, petiolo latissimo dilatato, *Suprema* minuta, oblonga, integerrima, bracteiformia. *Panicula* terminalis, compacta, corymbosa. *Flores* albi, magnitudine *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. *Antheræ* 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 *Saxifragæ*; 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 spathulatis acutis segmenta calycina acutiusecula vix superantibus. (TAB. LXXXIV.)—*Torrey, Pl. of Rocky Mountains in Ann. of Lyc. N. York,*<sup>2</sup>*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. *Bracteæ* oblongæ, obtusæ, integerrimæ. *Pedicelli* breves calycesque purpurei dense glandulosi. *Calyx* campanulatus, tubo ovato inferne cum ovario adhærente, laciniis ovatis acutiuseculis erecto-patentibus intus etiam glandulosis. *Petala* spathulata, valde acuta, segmentis calycinis vix longiora, patentia, purpur-ascentia, obscure venosa. *Stamina* decem: *filamenta* brevia. *Antheræ* oblongæ, pubescentes, vix filamentis longiores. *Pistillum* basi solummodo calyci aceretum. *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 groupe.



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. Virginiensis.* *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. Virginiensis* 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. Virginiensis*, 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. Virginiensis*; 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. Virginiensis*, 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. hieraciifolia*; scapo stricto subpiloso, foliis petiolatis obovato-spathulatis repando-dentatis 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. Sterub. 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-subdiscoideis, 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. Elth. 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 laxe 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. *Gonan. Ill.* p. 28. (fide *Seringe*,) excl. mult. syn.—*S. ferruginea, Graham, in ed. Phil. Journ.* July, 1828. p. 348.— $\beta$ . 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.*  $\beta$ . 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 Gardens 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*.  $\gamma$ . *Linn. Fl. Lapp. ed. Sm.* p. 144. t. 2. f. 3.—*S. stellaris*.  $\beta$ . *carnosa*. *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, ovariis 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*,  $\beta$ . *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  $52^{\circ}$  and  $56^{\circ}$ . *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 ovalibus 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 Newnham, 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 aliis 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, spithamæus 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 Collic*, in *Captain Beechey's Voyage*.

38. *S. flagellaris*; flagellis filiformibus, caule erecto simplici 1-3-floro calycibusque glanduloso-pubescentibus, foliis radicalibus caulisque 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. Att. v. 2. p. 121. Ejusd. "Ic. 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-uncialem, foliatum, pubescentem, pilis brevibus strictis purpureo-capitatis, sursum crebrioribus, basi demum glabratum. *Folia* indivisa, radicalia et caulina inferiora confertissima, patentia, superiora sparsa: radicalia cuneato-obovata et subspathulata, acutiuscula, plana, basi angustata in petiolum brevem latiusculum, immerse 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 purpurascens 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, arcuato-deflexa, pilis glandulosis rarissimis conspersa, aphylla, apice sobolifera: *gemma* parva, turbinata, e foliolis nanis numerosis conniventibus, arcte imbricatis, obovatis acutiusculis, immerse nervosis, glabris, marginibus ciliis nonnullis brevibus ornatis; et in ipsa basi radiculis 2-3 simplicibus singulis e vagina (colearhiza) membranacea, primo clausa dein lacerata erumpentibus." *Br.*—*Flores* terminales, erecti, plerumque solitarii in *α.*, 1-5 in *β.*, pedicellati, majuseuli, aurei, speciosi. *Pedicelli* laterales, seu exteriores, bracteati. *Calyx* dense glanduloso-pubescentis, sæpe purpureus, in *α.* 5-sepalus, omnino liberus, sepalis oblongis; in *β.* monophyllus 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, basibus approximatis fere connexis. *Antheræ* subcordatæ, 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) dehiscens, ore membranaceo. *Semina* oblongo-obovata, numerosa, lævia, 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 *Liunæan Transactions*,\* that this most remarkable plant was first discovered, according to Mr. Don, at Cape Newnam, 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*,  $\alpha$ . and B. B. *S. flagellaris*,  $\beta$ . natural size. Fig. 1, Leaf; figs. 2, 3, Flowers of var.  $\alpha$ .; fig. 4, Flower of var.  $\beta$ .; fig. 5, Fruit of var.  $\alpha$ . 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. bronchialis*; caule adscendente tenui, ramulis brevibus evolventibus, foliis subcoriaceis linearibus tenuissime ciliatis mucronatisque, floribus paniculato-subcorymbosis vel solitariis, pedunculis longis debilibus, sepalis lanceolatis acutiusculis, petalis obovato-oblongis punctis munerosis 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 tricuspидatis margine tenuissime ciliatis, apicibus cartilagineo-mucronatis, floribus subcorymbosis, pedunculis brevibus rigidiusculis, sepalis ovatis subcoriaceis petalis obovato-oblongis albis immaculatis calyce longioribus, capsulis ovoideis 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.— $\beta$ . 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*.— $\beta$ . 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, pendentia. *Nucleus* oblongus. *Albumen* nullum.—*Herbæ perennes Americae borealis, locis frigidis provenientes, Habitu fere Saxifragearum hypnoidearum, stoloniferæ. 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 cæspitosi, decumbentes, graciles, rigidi, elongati, stoloniferi; *Folia* rosulata, unciam fere longa, horizontaliter patentia, rigida, subcoriacea, e basi elongata anguste, lineari, trifida, glaberrima, uninervia, nervo tenui superne exarato, segmentis tri-quadrifidis, lacinnis 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 deciduous 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. *Br.*

*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 dehiscencia. *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. amplexifolia. Sternb. 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. *Petioli* subunciam longi, insigniter dilatati, canaliculati, subeiliati, 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-tetragonæ, 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 dehiscencia. *Semina* non vidimus, sed, (fide Ill. Brown,) scobiformia, testa utrinque ultra nucleum ovalem elongata, subulata.

HAB. Unalashka. (*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. *Mericarpi* evittata, jugis 5 filiformibus, carinali et lateralibus sæpe obsolete, intermediis 2 accretis. *Semen* carinato-compressum.—Herbæ rarius suffruticentes, sæpius tenues, aquaticæ. Umbellæ simplices. Involucrum oligophyllum. Flores sessiles aut pedicellati albidii. DC.

1. *H. Americana*; glaberrima, foliis orbiculato-reniformibus sublobatis duplicato-crenatis 9-nerviis, umbellis capitatis 5-floris, superioribus subsessilibus, inferioribus breve pedunculatis. DC.—*Linn. Sp. Pl. p. 234. Rich. Hydroc. 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 capitatis 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. SANICULEÆ. *Fructus ovato-globosus.*2. SANICULA. *Linn.*

*Calycis tubus* echinatus; lobi foliolosi persistentes. *Petala* erecta conniventia obovata emarginato-infracta in lacinulam longitudine petali. *Fructus* subglobosus non sponte partibilis. *Mericarpi* ejugata multivittata, aculeis uncinatis dense tecta, carpophoro nullo distincto, seminibus semiglobosis.—Herbæ perennes. Folia radicalia petiolata palmatiloba, 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. fœm. 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. Rar. 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. 1. 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 Pylanc. 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, involucelli foliolis lanceolatis acutis umbellam æquantibus. (TAB. XC.)—*Hook. et Arn. in Bot. of Beech. Voy. p. 142.*

*Radix* subfusiformis. *Tota planta* glaberrima. *Caulis* erectus, spithamæus ad sesquipedalem et ultra, erectus, striatus, superne subpaniculatim ramosus. *Folia radicalia* et *caulina inferiora* longe petiolata, circumscriptione cordata, profunde trifida, fere tripartita segmentis late obovatis, obtusis cuneatisve, varie lobatis, inciso-serratis, serraturis ciliato-mucronatis: *caulina* suprema subsessilia, segmentis lanceolatis, incis. *Umbellæ* subcompositæ, basi plerumque foliatæ. *Umbellulæ* globosæ, involucellatæ, involucelli foliolis lanceolatis acutis umbellulam subæquantibus. *Flores* masculi brevissime pedicellati: *feminei* 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. Libertu* of Chamisso in Linnæa, 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. arctopioides*; subacaulis, foliis longe petiolatis profunde 3-partitis, laciniis elongato-cuneatis lateralibus bifidis intermedio trifido omnibus subciliato-pinnatifidis, pedunculo foliis vix longiore, involucris foliolis foliaceis lanceolatis integerrimis umbella compacta simplici 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. arctopioides.* 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-lanceolatisve, varie lobatis inciso-serratisque, serraturis acutissimis. *Rachis* linearis, profunde dentata, dentibus horizontalibus acutissimis. *Folia* superiora sessilia, segmentis omnibus angustis, acuminatis. *Pedunculi* elongati. *Umbellæ* subcompositæ, involucro laciniato, laciniis inæqualibus acuminatis; radiis gracilibus non raro proliferis. *Umbellulæ* globosæ, densifloræ. *Flores* *feminei* 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-infracta in lacinulam longitudine petali. *Fructus* sect. transv. subteres obovatus squamatus tuberculosusve, *mericarpiis* ejugatis evittatis semiteretibus, *carpophoro* per totam longitudinem seminibus adnato.—Herbæ sæpius perennes et spinoscentes. Folia radicalia et caulina basi petioli plus minus vaginantia. Flores aggregati in capitula subrotunda aut oblonga. Bracteæ inferiores sæpius majores involucrum conficientes, cæteræ seu paleæ inter flores mixtæ. DC.

1. *E. petiolatum*; caule superne dichotomo, foliis parallelim nervosis lanceolatis in petiolum longum attenuatis remote ciliato-spinosis supremis angustis sessilibus, involucri foliolis paleisque subulatis ciliato-spinosis rigidis capitulo globoso duplo longioribus.

HAB. 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 involucres 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.*

† *Paucijugatæ, nempe jugis primariis tantum donatæ.*

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 planiusculis æqualibus, lateralibus marginantibus. *Valleculæ* 1-vittatæ; *vittæ* valleculas replentes in sicco, jugis paulo magis elevatis. *Commissura* 2-vittata, 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. *Invollucella* polyphylla. Flores albi. DC.

1. *C. virosa*; radicis trunco cavo septis transversalibus celluloso fibris cylindræis verticillato-fasciculatis, foliis tripinnatisectis segmentis lanceolatis serratis, umbellis oppositifoliis et terminalibus. DC.—*Linn. Sp. Pl.* p. 368. *Engl. Bot.* t. 479. *Rich. in Frankl. 1st Journ. ed. 2. App.* p. 10. *De Cand. Prodr.* v. 4. p. 99.

HAB. 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 Frankl. 1st Journ. ed. 2. p. 10.* *Torrey, Fl. of Un. St.* v. 1. p. 308. *De Cand. Prodr.* v. 4. p. 99.—β. *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 De Fuca, lat. 48°, on the West coast. *Dr. Scouler.*—β. On the Saskatchewan, frequent. Canada. *Mr. Cleghorn.*

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. *Valleculæ* 1-vittatæ. *Commissura* 2-vittata. *Carpophorum* bipartitum. *Semen* tereti-convexum antice vix planiusculum.—*Herbæ perennes Boreali-Americanæ.* *Caules subsimplices erecti.* *Folia uni-aut bi-ternatisecta, segmentis oblongis ovatis 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 biternatim-sectis foliolis oblongo-lanceolatis basi attenuatis inciso-serratis, involucellis triphyllis unilateralibus. *DC.—Koch. Umb. p. 129. De Cand. Prodr. v. 4. p. 100.—Smyrnum 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 radicalibus indivisis cordatis crenatis petiolatis, caulinis subsessilibus trisectis, segmentis petiolulatis ovatis cordatis serratis, involucellis submonophyllis. *DC.—Koch. Umb. p. 129. De Cand. Prodr. v. 4. p. 100.—Smyrnum 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.—Smyrnum trifoliatum. Nutt. Gen. Am. v. 1. p. 195. Rich. in Frankl. 1st Journ. ed. 2. App. p. 10.*

HAB. Plains of the Red River. *Douglas.* Saskatchewan, and the River Winipeg, 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, involucris involucellisque 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. *Linn.*

*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. Involucra 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. 349. 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. *Valleculæ* 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.*— $\beta$ . foliorum segmentis lineari-elongatis.

HAB.  $\beta$ . Canada. *Mrs. Percival*.—This is probably introduced; but the foliage is considerably different from that of the European plant, the segments being remarkably long and slender.

#### 9. CRYPTOTÆNIA. *DC.*

*Calycis margo* obsoletus. *Petala* obovata subintegra in lacinulam inflexam angustata. *Fructus* a latere contractus lineari-oblongus stylopodio brevi et stylis rectis coronatus. *Mericarpia* jugis 5 æqualibus filiformibus obtusis, 2 lateralibus ante marginem positis. *Vittæ* plurimæ pericarpio subcorticoso, sed arcte adnato, tectæ et carpello transversim scisso tantum visibiles. *Semen* tereti-convexum antice planiusculum. *Carpophorum* liberum apice bifidum.—Herbæ perennes 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. Involucella 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. Am. v. 1. p. 168. Bigel. Fl. Bost. ed. 2. p. 114.* Sium Canad. *Lam.*—Chærophyllyum 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. *Carpophorum* bipartitum, cruribus mericarpio adnatis, stylopodio pulvinato margine depresso. *Semen* subteres.—Herbæ *plerumque aquaticæ.* Folia *pinnati-secta segmentis ovatis oblongis dentatis aut multipartitis.* Umbellæ *terminales multipartitæ;* involucro *polyphylo, rarius submonophyllo.* 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, involucro 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.*— $\beta$ . foliolis profunde inciso-serratis.

HAB. Watery places, Saskatchewan. *Drummond.*  $\beta$ . 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, involucro oligophyllo lineari. *DC.*—*Mich. Am. 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 multifid or tripinnate, with very narrow linear-subulate segments.

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\* 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* obsoletus. *Petala* subrotunda integra arcte involuta lacinula lata retusa. *Fructus* a latere compressus vel subdidymus, stylopodio depresso coronatus. *Mericarpia* jugis 5 alatis acutis filiformibus aut obsoletis, lateralibus marginalibus, valleculis vittatis aut evittatis lævibus granulatisve. *Semen* tereticonvexum antice planiusculum.—Herbæ aut frutices glaberrimi. *Folia* rarius secta sæpius limbo abortivo et petiolo dilatato mutata in phyllodia integerrima. Umbellæ compositæ. Involucra varia. Flores flavi. *DC.*

1. *B. ranunculoides*; foliis radicalibus lineari-lanceolatis, caulinis amplexicaulibus cordato-oblongis striatis, involucro 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 mericarpis 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. *Mericarpia* jugis 5 prominulis filiformibus vel elevatis crassis corticosis, lateralibus marginantibus et sæpe paulo latioribus. *Valleculæ* 1-vittatæ, exteriores rarius 2-vittatæ. *Commissura* bivittata, rarius 4-vitt. *Semen* subsemiteres.—Herbæ sæpius glaucæ, biennes aut perennes. *Folia* pinnatisecta aut ternato-decomposita. Involucrum subnullum; involucella polyphylla. Flores albi, rarrissime 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) lævissimo oblongo-cylindræo, involucris involucellisque nullis. (TAB. XCIII.)

*Radix?* *Caulis* spithamæus, simplex, basi solummodo foliosus. *Folia* longe vaginantia, ad vaginam usque ternata, pinnis seu foliolis primariis divergentibus, longe petiolatis, ternatis seu quinato-pinnatis; pin-nulis 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. *Umbellulæ* multifloræ, capitato-globosæ, flavescens. *Flores* dioici seu polygami. *Fructus* (immature) oblongo-subcylindræus, lævissimus, 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 subcylindræo, mericarpiis jugis 5 elevatis acutis notatis, involucris involucellisque 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 soils 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 æqualibus, involucellis lineari-subulatis, fructu subrotundo-ovato dentibus calycinis coronato, mericarpiis asperis costis 5 elevatis multivittatis.—*Pursh, Fl. Am. v. 2. p. 732. Sims, Bot. Mag. p. 1742. Nutt. Gen. Am. 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. *Valleculæ* 1-vittatæ. *Commissura* bivittata. *Semen* semiteres. *Albumen* hinc applanatum.—Herbæ perennes rarius suffrutices. Folia pinnati-aut ternatisecta, segmentis multifidis, lobis linearibus. Involucrum varium, involucella polyphylla. Flores albi aut rosei. Proxime accedit ad *Seseli*, sed jugis fructus membranaceo-alatis et calycis margine obsoleto differt. DC.

1. *C. Canadense*; caule angulato flexuoso, foliis bipinnatisectis lucidis segmentis multipartitis, laciniis lanceolatis, involucro utroque oligophyllo. DC.—*Spreng. 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. Am. 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, valleculis striatis 1-vittatis. Commissura 2-vittata. Semen teres.*—*Herbæ perennes Boreali-Americanæ. Involucrum nullum. Involucellum 5-phyllum 1-laterale.*—*Genus a Smyrnio et Zizia distinctissimum, Cuidio 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. Am. 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 pleræque perennes. 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.—Linn. Sp. Pl. p. 359. Engl. Bot. t. 1207. Mich. Am. v. 1. p. 157. Pursh, Fl. Am. v. 1. p. 193. Torrey, Fl. of Un. St. v. 1. p. 313. Cham. et Schlecht. in Linnæa, 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 obcordata 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 vittata, vittis inæqualibus. Carpophorum bipartitum. Semen hinc planum.*—*Herbæ biennes glabræ. Caules ramosi fistulosi. Folia bipinnatisecta, segmentis pinnatipartitis, lobis oblongo-linearibus. Umbellæ terminales multiradiatæ, involucro nullo aut oligophyllo. Involucelli foliola 5–7 lineari-subulata umbellæ*



*subæqualia aut longiora. Flores albi.*—*Ambigit inter Peucedaneas et Seselineas; 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 Linnæa, 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. *Valleculæ* 1-vittatæ, exteriores sæpe 2-vittatæ. *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, involucro 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. *Umbella* composita, radiis valde inæqualibus. *Involucrum* nullum. *Involucellum* parvum, foliolis linearibus. *Flores* specimine meo absunt. *Pedicelli* plurimi, abortivi. *Calycis* dentes subfoliacei, decidui. *Fructus* majusculus, ovalis, compressus. *Mericarpia* 5-alata, alis latissimis membranaceis undulato-crispatis. *Vittæ* 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 dilatatatis. *Valleculæ* 1-vittatæ. *Semen* subsemiteres. *Carpophorum* bipartitum liberum.—*Herbæ perennes biennesve. Folia bipinnatisecta. Umbellæ terminales. Involucrum nullum aut oligopyhllum, partiale polyphyllum. Flores albi. DC.*



1. *A. lucida*; caule tereti glabro, foliis bipinnatisectis, segmentis æqualibus ovatis inciso-serratis, vaginis dilatatis, involucro 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, parziale 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. PEUCEDANÆ. *Fructus a dorso mericarpiorum compressus, raphe marginali, marginibus in alam (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 obsoletis in marginem dilatatum abeuntibus. *Vittæ* in valleculis dorsalibus 3 aut plures, in commissura 4 aut plurimæ. *Semin* complanatum. *Carpophorum* bipartitum.—Herbæ *radice crassa, caule elato, foliis supra-decompositis, segmentis sæpius in lacinias lineares fissis. Umbellæ multiradiatæ, laterales sæpe oppositæ aut verticillatæ. Involucra varia. Flores lutei. DC.*

1. *F. fœniculacea*; pubescens, caule brevi, foliis supradecompositis, segmentis linearibus angustissimis brevibus acutis, involucro nullo, involucello unilaterali dimidiato digitato segmentis linearibus.—*Nutt. Gen. Am. v. 1. p. 183. De Cand. Prodr. v. 4. p. 174.*—*Pastinaca fœniculacea. 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, subacaulis, glabra, foliis supradecompositis segmentis linearibus brevissimis acutis, involucro nullo, involucello unilaterali dimidiato digitato segmentis linearibus.—*De Cand. Prodr. v. 4. p. 174.*—*F. nudicaulis. Nutt. Gen. Am. v. 1. p. 182.*—*Smyrnium 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 subacaulis, foliis bipinnatifidis sublonge petiolatis glaucis, segmentis linearibus obtusiusculis inferioribus non raro iterum pinnatifidis, pedunculo foliis subbreiores, involucro 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. *Linnæus.*—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.

*Calycis margo* obsoletus. *Petala* obovata in lacinulam inflexam coarctata 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 contiguis vel in eundem abeuntibus. *Valleculæ* 1-vittatæ, laterales subinde sesqui-vel bivittatæ. *Commissura* sæpius bivittata. *Carpopodium* bipartitum. *Semina* antice plana.—Herbæ *glabræ perennes*. *Caulis* teres striatus. *Folia* bi-aut triternati-secta, segmentis ovatis oblongisve serratis. *Umbellæ* amplæ composite. *Involucrum* nullum. *Involucella* 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.—*Pacedanum Ostruthium*. Koch.

HAB. Newfoundland. *De la Pylaie, in De Cand. Prodr.*

### 22. PASTINACA. Linn.

*Calycis 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 contiguis. *Vittæ* lineares acuta jugis vix breviores, in valleculis solitariæ; in commissura 2 aut plurimæ. *Carpophorum* bipartitum. *Semen* complanatum.—Herbæ *radice fusiformi sæpius carnosa*, foliis pinnatisectis, segmentis dentatis incisus aut lobatis. *Umbella* composita, involucria 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 contiguis remotis. *Vittæ* dorsales 4, in valleculis solitariæ, commissurales sæpius 2, omnes fructu breviores sæpius clavulatæ. *Carpophorum* bipartitum. *Semen* complanatum.—Herbæ *ample*, foliis pinnatisectis trisectis aut lobatis; petioli ample vaginantes. *Umbellæ* multiradiatæ. *Involucrum* caducum 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 radiantibus.—*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.*—*H. Sphondylium. Cham. et Schlecht. in Linnæa, v. 1. p. 394. Rich. in Frankl. 1st Journ. ed. 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. Unalashka. Chamisso.*—This plant is called *Pehpoon-ahtic*, (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 clavæformibus, 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.

† † *Multijugatæ, nempe jugis primariis et secundariis donatæ.*

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 incisive. 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. Helv. 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 teres, jugis primariis lateralibus plano commissurali impositis, secundariis in aculeos liberos aut in alam basi connatos 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 intermediis dorso, 2 lateralibus plano commissurali impositis; secundariis 4 æqualibus 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-aut pinnatifidis,*



involucellum foliolis 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 lacinias lineares sectis, involucri foliolis pinnatifidis umbellam parvam confertam subæquantibus aculeis fructus ovati latitudinem subæquantibus 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. (Paucijugatæ.)*

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* angulis subsulcatis hispidis, jugis 5 acutis, commissura sulcata, valleculis planis evittatis. *Semen* teres, anguste involutum, tubo calycino multo brevius. *Carpopodium* semibifidum.—*Herbæ Americane perennes.* Radices fusiformes odoratæ. *Caulis ramosus bipedalis.* Folia biternatisecta, segmentis late ovato-lanceolatis inciso-dentatis. *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, involucri persistentibus (TAB. 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* longe petiolata, superiora sessilia, biternatim secta, segmentis seu foliolis 2–3-uncialibus, ovatis subcordatisque, subacuminatis, pinnatifido-lobatis, serratis, glabris, vel magis minusve hirsutis. *Umbellæ umbellulæque* pauci-radiatæ, divaricatæ. *Involucra involucellaque* e foliolis subquinque, lanceolato-acuminatis, ciliatis, demum reflexis, persistentibus. *Flores* albi. *Calyx* obsoletus. *Petala* obcordata, lacinula inflexa. *Styli* erecto-divergentes, germinis longitudinem fere dimidiam æquantes. *Fructus* oblongus obtusus inferne valde attenuatus seu omnino clavatus, stylis longis erectis coronatus, lateraliter compressus, jugis 5 acutis, appresso-hispidis, duobus lateralibus marginantibus. *Vittæ* nullæ. *Semen* antice profunde sulcatum.

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.



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 subemarginata cum lacinula brevissima inflexa. *Fructus* a latere compressus ovatus. *Mericarpiæ* jugis 5 prominulis undulato-crenatis æqualibus lateralibus marginantibus. *Valleculæ* multistriatæ evittatæ. *Carpophorum* apice bifidum. *Semen* sulco profundo angusto incisum eoque complicatum.—*Herbæ Europææ 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 Panaces 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 brevior, 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 æquali, 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 seriatim dispositis, acicularibus, aureis. *Folia* ampla, cordata, palmata, inciso-serrata, petiolata, petiolis nervisque aculeatis. *Umbellæ* capitatae, polygamæ, in racemum valde aculeatum, nudum vel lanatum, nunc hispidum dispositæ. *Calyx* obsoletus. *Petala* 5, ovata, subacuminata, patentia. *Stamina* 5. *Ovarium* inferum, turbinatum, abortivum in flore masculino, in fœmineo 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 exinvolucratis.—*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 incisiss 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 valvulæ dehiscentes. DC.*)

### 1. HAMAMELIS. *Linn.*

*Calyx* imo ovario adhærens 4-lobus, extus 2-3-squamosus. *Petala* 4 longa ligulæformia,



laciniis 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 *Americanæ aut Asiaticæ*. Folia alterna, breve petiolata, bistipulata, ovata aut cuneata, penninervia subintegra. Flores in axillis glomerati subsessilis, involucre 3-phyllo 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 involucreti, nunc corymbosi aut paniculati exinvolucreti. *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



nascentibus 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 paniced 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.*— $\beta$ . 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. *Miss Brenton.* North-West coast of America, (*Mr. Garry,*) where, however, the var.  $\beta$ . 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 *Musquameena*, 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.  $\beta$ . 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 tomentoso-canis 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.*



\* \* *Involucratæ.*

8. *C. florida*; arborescens, ramis nitidis, foliis ovatis acuminatis subtus pallidis utrinque adpresse pilosis, floribus umbellatis post folia nascentibus, involucreo maximo, foliolis subrotundis 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 involucreo 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. Miss Brenton. Mr. Cormack. Columbia River, frequent. Douglas. Observatory Inlet, North-West coast, lat. 55°. Dr. Scouler. Unalashka. 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. Wm. Kelly. Behring's Straits. Chamisso. Messrs. Lay and Collie in Capt. Beechey's Voyage. Unalashka. 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. ARCEUTHOBIMUM. *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 laciniarum 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. *Stam.* 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-cylindraceutum basi acuminatum. *Integumentum* tenue. *Albumen* carnosum. *Embryo* immersus, versus basin seminis, axilis 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 obtuse 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.

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ORD. XLVIII. CAPRIFOLIACEÆ. *Juss. (excl. Sect. 2 et 4.)*

Trib. I. SAMBUCEÆ. *Corolla gamopetalâ regularis rotata seu petalis 5 æqualibus basi tantum concretis constans, rarius tubulosa. Stylus nullus. Stigmata 3 sessilia. DC.*

1. SAMBUCUS. *Linn.*

*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 (Gærtn.) 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 thyrsum 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.— $\alpha$ . 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.*— $\beta$ . foliis majoribus, foliolis 7 oblongis.

HAB. Canada, and as far as the Saskatchewan.— $\beta$ . 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 vix 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. Lentago*; 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. pyrifolium.* *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.*  $\beta$ . *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 radiantés.*"

5. *V. dentatum*; glabriusculum, foliis ovatis subrotundisve grosse dentato-serratis plicatis, nervis pennatis crassis, corymbis pedunculatis fructibus subglobosis. *DC.*—*Linn. Sp. Pl.* p. 384. *Jocq. 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.*  $\beta$ . *pubescens.* *Ait.*—*V. dentatum.* var. *semitomentosum.* *Mich. Am.* v. 1. p. 179.—*V. Rafinesquianum.* *Roem. et Schultes. Syst. Veget.* v. 6. p. 630.

HAB. Lake Winipeg. *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, ovariis hirsutissimis, baccis ovali-globosis nigris.— $\beta$ . ovariis 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 Pylaie.* 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. 130.—V. molle. Mich. Am. v. 1. p. 180?—β. subintegrifolium; foliis subincisis 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. *Tourn.*

*Calycis tubus* oblongus basi bibracteatus, limbus 5-fidus. *Corolla* infundibuliformis 3-fida patens calyce duplo longior. *Stam.* 5 subexserta. *Stigma* capitatum. *Capsula* oblonga acuta non coronata 1-locularis. *Semina* plurima minuta.—Frutices *erecti.* *Folia ovata acuminata serrata.* *Pedunculi axillares bibracteati sæpius dichotomi 2-3-4flori. 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 subruncinata.* *Flores axillares dispositione varii. DC.*



SECT. I. CAPRIFOLIUM. *Baccæ solitariæ juniores 3-loculares sæpe 1-locul. calycis tubo persistente coronatæ. 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.— $\alpha$ . 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.*— $\beta$ . foliis subtus pubescentibus etiam tomentosis.—*Caprifolium parviflorum. Rich. in Frankl. 1st Journ. ed. 2. App. p. 6.*

HAB.  $\alpha$ . and  $\beta$ . 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  $\alpha$ . 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. ciliosa*; 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 Kooskoosky, 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. Baccæ geminæ distinctæ, aut plus minus concretæ, juniores 3-locul. rarius adultæ 2-locul. calycis deciduo limbo non coronatæ. 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 ovariiis 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. cærulea*; 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 unicum 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. 66°. *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. cærulea*, 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 hirsutæ tubo basi hinc gibboso limbo inæquali profunde bilabiato labio superiore 4-dentato inferiore subintegro, baccis in unam globosam biumbilicatam (sicco 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 lævi tectis, junioribus pubescentibus. *Folia* 2-3-uncialia, membranaceo-subcoriacea, sessilia seu brevissime petiolata, plerumque oblonga, nonnunquam lanceolata, rarius superne 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* profunde 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. Mr. Goldie. About Montreal. Mr. Cleghorn. Lake Winipeg. 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 germens; fig. 2, Style and stigma; fig. 3, Berry:—magnified.

10. *L. involucrata*; ramis acute tetragonis, foliis ovatis ovalibusve petiolatis submembranaceis subtus appresse pilosis, pedunculis axillaribus 2-3 floris, bracteis 4, 2 ext. ovatis, int. late obcordatis demum ampliatis pubescenti-glandulosis, corollis pubescentibus extus basi gibbosis, stylo exserto.—*Herb. Banks. MSS. Rich. in Frankl. 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 pauca ovulatis. *Bacca* calyce coronata 4-locul., loculis 2 vacuis, 2 monospermis.—Frutices erecti dumosi 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 didynama 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.* Bracteæ 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.*) Unalashka, (*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. HEDYOTIDEÆ. *Cham. et Schlecht.*—*Fructus capsularis bilocularis, loculicidodehiscens aut submembranaceus indehiscens, loculis polyspermis. Sem. non alata, albumine carnos.*—*Frutices aut Herbæ. Folia opposita. Stipulæ 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 spathulatis paucè 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. 48°, 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. Gært. 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 caulinis ovato-spathulatis sessilibus, 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 pavoit 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. GUETTARDACEÆ. *Fructus drupaceus, pyrenis 2-5 monospermis. Semina teretia elongata sæpius erecta. Albumen carnosum. Frutices aut Arbusculæ. 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 baccæ duæ coalescunt;) *pyrenæ* corneæ 1-spermæ. *Albumen* subcartilagineum. *Embryo* minutus erectus cotyledonibus brevissimis.—*Herbæ Americanæ glabræ repentes* Linnææ aut *Nerteriæ facie*. *Folia subrotunda aut ovata. Stipulæ utrinque solitarie minimæ. 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. SPERMACOCEÆ. *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 breves distinctæ aut subconcretæ. Pedunculi ex axillis supremis et apice ramorum orti nudi. Capitulum globosum. Flores supra receptaculum sphericum 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 Herbæ. Folia opposita ad axillam gemmifera, et stipulæ foliiformes (vulgo etiam folia dictæ) 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 ramosæ. Folia cum stipulis verticillata. Inflorescentia varia. DC.*

#### \* *Fructibus lævibus 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 Linnæa,* v. 4. p. 221.—*G. tinctorium. Rich. in Frankl. 1st Journ. ed. 1. App. n. 40.*—“*Aparine* α. 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.* Unalashka. *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 Linnæa, v. 4. p. 220. De Cand. Prodr. v. 4. p. 599.*— $\beta$ . foliis angustioribus longioribus, foliis paucioribus. *G. rubioides. Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 115 et 125.*

HAB.  $\beta$ . 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,  $\beta$ . 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 axillariibus 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. Unalashka. Chamisso.*

8. *G. micranthum*; caulibus ramosissimis divaricatis retrorsum aculeatis, foliis brevibus lanceolatis mucronatis glabris, margine carinaque aculeatis, ramulis floriferis divaricato-ramulosis, 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.*— $\beta$ . *minor*; caulibus vix spithamæis.

HAB. "Etchmin," Canada. *Mrs. Sheppard.* North-West coast of America. Columbia. *Douglas.* De Fuca. *Dr. Scouler.*  $\beta$ . Abundant on the elevated soils near Fort Vancouver. *Douglas.*—My var.  $\beta$ . appears to be the same with that which De Candolle describes, "caule pygmæo, 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 pinnatiloba. 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 connata, 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, stigmatibus 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 Europæan *V. dioica*, and if Scopoli's statement be correct, when he says of this latter,—“*Millena* specimina examinavi et nunquam vidi flores dioicos, sed nunc omnes hermaphroditos, nunc filamento uno aliove castrato instructos, nunc masculos et fœmineos 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.*— $\beta$ . foliolis 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, foliolis plerumque 5; *superiora* sensim minora minusque petiolata, foliolis ovatis acutis sinuato-dentatis, in  $\beta$ . subintegerrimis, terminali latiore majore; supremis ternatisectis vel simplicibus, sessilibus. *Panicula* terminalis, cymosa, sublaxa, pedunculis pedicellisque hinc villosa, bracteata, bracteis oppositis basi connatis lineari-subulatis. *Flores* inter majores hujusce generis, ut videtur rosei. *Corollæ* tubus hinc gibbosus. *Stamina* 3 exserta. *Fructus* ovatus, compresso-planus, glaberrimus, dorso linea 1 elevata, facie superna lineis duabus, pappo coronatus.

HAB. Woods in the Rocky Mountains, north of the Smoking River, (lat. 56° North,) and on Wolf Plain. *Drummond.*  $\beta$ . Moist rocks and islands of the Columbia River. *Douglas, Dr. Scouler.*

TAB. CI. *V. pauciflora.* *Fig. 1,* Flower with bracteæ; *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, foliolis 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 bracteas 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 tomentosus.—*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 involucrisque 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 Brenton*.—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. *Linnæus*.—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. 2125.*

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.*— $\beta$ . panicula patentissima.

HAB. Lake Huron. *Dr. Todd. Dr. Torrey*, in Herb. Nostr. Etchmin, Canada. *Mrs. Sheppard. Saskatchewan. Drummond.*— $\beta$ . 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 *l.c.* 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 *Senecio*; 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.  $\beta$ . 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 uniserialibus basi squamulosis. *Receptaculum* nudum. *Achenia* lineari-oblonga subcylindrica striata. *Pappus* coloratus sessilis scaber.—*Habitus* Prænanthidis, sed flores albidis, involucria pluriflora, flosculi albidis, 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 Linnæan *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 involucrisque hirsutissimis.—*Prænanthes 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, involucris subquinquefloris. *Pursh*.—*Prænanthes 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*.—*Prænanthes 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 involucrisque pubescenti-hirsutis. (TAB. CII.)

*Radix* parva, subfusiformis, 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, caulinis subrotundo-ovatis dentatis petiolatis summis lanceolatis, panicula laxa, fasciculis terminalibus nutantibus, involucri 8-phyllo 9–10-flori. *Pursh*.—*Prænanthes 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 caulinis longe petiolatis sinuato-pinnatifidis subtrilobis lacinia intermedia 3-partita summis lanceolatis, racemis terminalibus subpaniculatis brevibus nutantibus, involucri 8-phyllo 12-flori.—*Prænanthes 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 *Prænanthes 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. *Prænantes 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 simplicia. *Pappus* capillaris: radiis multiplici ordine copiosissimis (vel paucis) denticulato-scabris (plumosisve) subpersistentibus.—Suffrutices (seu herbæ) Amer. Bor. et Syriæ, 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.—*Prænantes 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, subglaucus, 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, unciam longi, cærulei. *Involucrum* cylindraceum, e foliolis 5, erectis, lineari-oblongis, membranaceis, margine subscariosis, basi squamosis; squamis erectis, imbricatis, brevibus. *Flosculi* 5, majusculi. *Corolla* ligulata, lata, 5-dentata. *Staminum* tubus elongato-cylindraceus: *Antheræ* basi utrinque breve calcaratæ. *Stylus* inclusus. *Stigmata* exserta, linearia, erecto-patentia, glanduloso-pubescentia. *Achenia* oblonga, striata, ad orem dilatata. *Pappus* sessilis e 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 *Prænantes 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. Don'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.)—*Prænantes 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, stipitatus, pilis 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, involucre 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.*

*Involucris 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.*

*Involucris foliola duplici serie, externa laxa, brevia. 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, involucrio subscabro pubescente.—*Linn. Sp. Pl. p. 1136. Engl. Bot. t. 149.*— $\beta$ . foliis latioribus plerumque runcinato-dentatis rarius pinnatifidis nunc omnino integerrimis.

HAB.  $\beta$ . 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 multicipite, caulibus erectis dichotomis multifloris, foliis inferioribus spathulatis superioribus linearibus, involucrio cylindratis, acheniis tenuissime rostratis.

HAB. "Battures" of the Assinaboyné 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, involucrio cylindratis, acheniis in rostrum attenuatis.— $\alpha$ . 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.*— $\beta$ . foliis subrotundatis plerumque lyrato-pinnatifidis.

HAB.  $\alpha$ . Barren grounds from lat 64° to the Arctic Sea and Islands. *Dr. Richardson. Capt. Sir E. Parry.*— $\beta$ . 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, sæpissime sordide flavescens. *Achenium* erostre, sulcatum.

1. *H. pusillum*; pusillum villosissimum, caule simplici erecto unifloro remote subfoliato, foliis lanceolatis attenuatis acutis integerrimis caulinis 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 nudis margine ciliatis glanduloso-denticulatis,



venis coloratis, calycibus glabris. *Ph.*—*Linn. Sp. Pl. p. 1125. Pursh, Fl. Am. v. 2. p. 502. Bigel. Fl. Bost. ed. 2. p. 288.*— $\beta$ . *gracilum*; foliis angustioribus magis petiolatis venis vix coloratis.

HAB. Canada. *Pursh.*— $\beta$ . 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.  $\beta$ . 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 involucrisque 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, involucris pilis longis albidis sparsis, "floribus albis."

HAB. Alpine woods in the Rocky Mountains, north of the Smoking River, in lat.  $56^{\circ}$ . *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 fuscescentibus, caule folioso paniculato, panicula ampla multiflora ramis erectis, foliis lato-lanceolatis subcoriaceis rigidis acutis vix dentatis, radicalibus in petiolum brevem attenuatis, caulinis remotiusculis sessilibus, involucris fuscescenti-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 involucrisque 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.*— $\beta$ . 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 ( $\alpha$ .) a slender plant, with few and distant and narrower leaves on the stem, and more petiolated radical ones; and ( $\beta$ .), 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 lanceolatis 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 paniculæ 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, involucris 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. prænanthoides*; caule erecto folioso pubescenti-hirsuto, panicula corymbosa, pedicellis involucrisque 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. prænanthoides*.



14. *H. umbellatum*; caule erecto simplici valde folioso, foliis lineari-lanceolatis glabriusculis 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 Scorzonerae 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.* involucri lanato.—*β.* involucri 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 purpurascentem attenuata. *Scapus* spithamæus 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, ligulatæ, calycis foliola excedentes, apice 5-dentatæ: *tubus* glabriusculus, ad faucem vix pilosus. *Achenium* oblongum, compressum, leviter striatum, in rostrum attenuatum. *Pappus* e pilis numerosis, æqualibus, albissimis, 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 angustilinearibus 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. 1138. Mich. Am. v. 2. p. 88.*

HAB. Canada. *Michaux. Pursh.*

### Trib. II. CYNAREÆ. Lessing.\*

#### Subtrib. I. CENTAURIEÆ. 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. CARDUINEÆ. Less.

### 15. ARCTIUM. Linn.

*Involucrum* globosum, foliolis squarrosis lanatis. *Receptaculum* paleaceum. *Pappus* simplex, multiserialis, brevis, pilis 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 paleaceo-fimbrillifera.* (*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.*— $\beta$ . 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.*— $\beta$ . 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 striato 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. *Antheræ caudæ* subintegræ. *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.*— $\beta$ . *densa*; caule subdecumbente, foliis glabriusculis densis fere omnibus anguste lanceolatis, corymbis glomeratis.— $\gamma$ . *remotifolia*; caule erecto striato, foliis glabris rigidis anguste lanceolatis superioribus minutis.

HAB.  $\beta$ . Elevated parts of the Rocky Mountains. *Drummond.*— $\gamma$ . 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.  $\beta$ . 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.  $\gamma$ . 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*; pauce 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. VERNONIÆ. *Capitula multiflora et homogama aut uniflora, involucre 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 Herbæ, plerumque Americanæ, quarum in parte occidentali Americæ Septentrionalis ne una quidem, Meridionalis non nisi 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. EUPATORIÆ. *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-multiseriale. *Receptaculum* nudum. *Achenium* 4-5-quetrum.—Arbores vel Frutices aut Herbæ, 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, involucre 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*; involucre 12-13-floro, foliis petiolatis 3-5-natimve 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 uniserialibus 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. *Involucrum* 4-5-phyllum, uniserialis. *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* pluriserialis, plumosus. *Cor.* limbo a tubo non distincto. *Involucrum* multiserialis. *Receptaculum* nudum.—*Herbæ Boreali-Americanæ, perennes, radice fibrosa vel tuberosa; foliis alternis, integerrimis, sæpe angustis, glanduloso-punctatis; capitulis multifloris, spicatis 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, involucris globoso-hemisphæricis, squamis obovatis obtusissimis membranaceis 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, involucris ovato-cylindræcis, squamis magnis patenti-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.*— $\beta$ . *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, involucris subcylindræcis, 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 adscendens, 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-cylindræcum, squamis imbricatis impresso-punctatis margine ciliato lanatis mucronato-acuminatis, mucrone subrecurvo, exterioribus rigidis, viridibus, interioribus magis membranaceis sæpe coloratis. *Flosculi* subquinque, 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; *foliolis interioribus* membranaceis integerrimis; *ext. foliaceis* spinuloso-dentatis.—Herba *Boreali-Americana*; foliis *alternis, coriaceis, subspinoso-dentatis, punctato-pellucidis*; capitulum *terminale, solitarium*; involucris *imbricatis.*—Nomen à *πυρρος* fulvus, et *κομη*, hair; ob pappi colorem derivatum.



1. *P. carthamoides*. (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, solitarium. *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 pilis 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 *Eupatorineæ*, near *Liatris*. 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 carthamoides*. *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 stigmas; *fig. 6*, Extremity of the style and stigmas; *fig. 7*, Anthers; *fig. 8*, Portion of a hair of the pappus:—*magnified*.

Subtrib. II. TUSSILAGINEÆ. *Capitula heterogama, sæpe subdioica. Less.*

22. NARDOSMIA. *Cass.*

*Capitula* subdioica, *mascula* radio 1-seriali fœmineo cincta, *fœminea* homogama. *Cor.* ♀ lingulata. *Pappus* pilosus, *mari*um multo minus copiosior quam fœminearum.—Herbæ *Europææ* (et *Americæ Arcticæ*) *perennes*, tantum basi ima foliatæ, simplices; foliis petiolatis, rotundis, angulatis; capitulis thyrsoideis, multifloris; foliolis involucri æqualibus; rachide nuda. *Less.*

1. *N. frigida*; foliis cordatis inæqualiter dentatis subtus tomentosis.—*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 tomentosis.—*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 tomentosis.—*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 tomentosus.—*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, Americanæ, glandulis pedicellatis adpersæ; foliis subtus albotomentosis, petiolatis; involucris uniserialibus demum reflexis; capitulis paucifloris, 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, bracteolis glabris. Antheræ ecaudatæ. Less.*

(*A. AMBROSIEÆ veræ. Cor. floris ♀ filiformi; acheniis calvis, erostribus, involucro sæpe inclusis; stylo floris masculi clavato, truncato, apiceque solo penicillato. Less.*)

### 24. XANTHIUM. *Linn.*

*Capitula* homogama, monoica; *fæminea* biflora, involucro hamato-spinoso cincta. *Achenia* compressa, singula in loculis singulis *involucris* demum indurati et bilocularis nidulant.—*Herbæ Americæ vel Europæ indigenæ, sæpe spinosæ; foliis alternis, asperis, varie incisissimis; capitulis irregulariter glomerato-spicatis; spica terminali, superne mascula, basi fæminea.*

1. *X. Canadense*; foliis profunde cordatis basi cuneatis angulatis subdenticulatis scabris, caule maculato superne aspero, fructibus geminis hispidissimis, 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. *Linn.*

*Capitula* homogama, monoica; *fœminea* uniflora, involucro 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 fœminea; 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. Am. 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 spinescent fruit of this species, distinguishes it from every other with which I am acquainted.

26. IVA. *Linn.*

*Capitula* heterogama, floribus fœmineis uniserialibus in ambitu, reliquis masculis. *Achenium* obcompressum. *Cor.* ♀ tubulosa s. campanulata. *Rachis* bracteolata.—Herbæ vel Frutices Americanæ; foliis alternis seu oppositis, trinerviis; capitulis spicatis (nunc axillaribus), spica terminali solitaria lineari basi fœminea, 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 hemisphæricum 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. HELIANTHÆ. *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. Antheræ nigricantes, ecaudatæ. Styli rami sæpissime 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. HELIOPSIDÆ. *Acheniis ecorticatis, exalatis, semper erostribus, calvis, aut pappo coroniformi coronatis; capitulis homogamis aut plerumque heterogamis, floribus marginalibus fœmineis. Less.*

#### 27. HELIOPSIS. Pers.

*Radius uniserialis. Achenium angulato-compressum, omnino calvum, glabrum, disco epigyno parvo.—Herbæ Americanæ; foliis oppositis, integris vel pinnatifidis; capitulis luteis, solitariis, ramos superne aphyllis terminantibus; involucris imbricatis; rachide conica. Less.*

1. *H. scabra*; foliis breve petiolatis ovatis trinerviis grosse serratis apice integerrimis utrinque scabris, involucro 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. laevis*, Pers., only in the more scabrous leaves and more downy involucre.

2. *H.?* *balsamorhiza*; subpubescens, foliis radicalibus plurimis petiolatis pinnatis pinnis subpinnatifidis incisis, 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 scape, 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 *Heliopsis*, 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. RUDBECKIÆ. *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 hispido-sabræ, perennes, ramis oppositis; foliis alternis, integris vel pinnatifidis; capitulis terminalibus solitariis, radio luteo, disco fusco-violaceo; rachide conica; involucris patentibus, circiter biserialibus. Less.

1. *R. laciniata*; elata, foliis inferioribus pinnatis segmentis lanceolatis incisissimis 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 Dalhousie. 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 cylindræo, pappo marginato brevissimo, paleis punctis duobus nigris.—Nutt. *Gen. Am.* v. 2. p. 178. *Bot. Mag.* t. 1601.

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; involucris biserialibus, serie interiori gamophylla, exteriori squarrosa. Less.

1. *C. Atkinsoniana*; foliis glaberrimis, radicalibus bipinnatifidis, caulinis pinnatis laciniis linearibus spathulatis, flosculis radii basi sæpius maculatis irregulariter trilobis, radice perenni.—*Coreopsis Atkinsoniana*. (Dougl.) Lindl. in *Bot. Reg.* t. 1376.

HAB. Shores of the Columbia and Menzies' 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. COREOPSISIDÆ. *Acheniis ecorticatis, erostribus, slatem 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; involucris 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, involucri 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 spathulate; 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, panicula trichotoma gracili parviflora, involucri 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, involucri foliolis squarrosis undulatis frondosis ciliatis, radiis 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. Gigas. Mich. Am. v. 2. p. 141.* (according 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, involucri 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. Reg.* 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. *Acheniis 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 Collic. 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, involucris foliolis exterioribus flore longioribus, foliis lanceolatis subconnatis serratis.—*Linn.*—*Engl. Bot. t. 399.* *Pursh, Fl. Am. v. 2. p. 566.*— $\beta$ . minima.

HAB. Throughout Canada; from Lake Huron, (*Dr. Todd*), to the Saskatchewan; *Dr. Richardson. Drummond.*— $\beta$ . 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 involucro 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, involucro 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, involucris 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, involucris 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. Antheræ ecaudatæ. 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 aristam longe acuminatæ. *Stylo hermaphroditto* rami appendiculati. *Rachis* tota ebracteolata.—Herbæ *Boreali-Americanæ*, foliis alternis, inferioribus inciso-dentatis; capitulis solitariis, longe 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. Am. v. 2. p. 142.*—*Virgilia helenioides. L'Hérit.—Sm. Ex. Bot. t. 37.—β. flore minore.*

HAB.  $\alpha$ . and  $\beta$ . Lake Winipeg to the Saskatchewan and the Rocky Mountains. *Dr. Richardson. Douglas. Drummond.*— $\beta$ . 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 tomentosus, pinnatifidis vel crenato-lobatis; capitulis corymbosis vel subglomeratis; involucris cylindræis, pauciserialibus; rachide plana, sæpe paleaceo-fimbrillifera. *Lag.*

1. *B. artemisiæfolia*; foliis alternis sessilibus profunde pinnatifidis subtus niveo-tomentosis margine revolutis, capitulis fasciculatis inæqualifloris heterogamis, involucris 9-phyllis 1-serialibus cylindræis. *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* foemineus. *Paleæ pappi* æquales, obovatæ, obtusæ, muticæ. *Stylus* exappendiculatus. *Rachis* tota ebracteolata.—Herbæ *Americanæ*, foliis alternis s. oppositis, integris s. palmato-pinnatifidis; capitulis luteis, terminalibus, solitariis, pedunculatis; involucris polyphyllis. *Less.*

1. *T. lanatum*; foliis oppositis pinnatifidis subtus præcipue tomentosus 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. Kooskoosky 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 Lagasca, 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.*

*Radius pauciflorus* fœmineus, corollis lato-cuneatis profunde trifidis. *Paleæ pappi* sub-8, lineari-acuminatæ, fimbriato-ciliatæ. *Rachis* bracteolata.—Herbæ annuæ, ramosæ, Americæ Borealis; foliis alternis linearibus integris; capitulis terminalibus solitariis, radio albo; involucri hæmisphærici foliolis uniserialibus æqualibus oblongis seu ellipticis; acheniis pilosis.

1. *B. glandulosus*; hispidus, foliis lato-linearibus superioribus involucrisque glandulosis, glandulis nigris pedicellatis, pappi paleis elongatis basi longe pilosis, radii acheniis nudis 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 scariose 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. *Paleæ 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 paniced 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  $\pi\iota\kappa\rho\varsigma$ , amarus, et  $\alpha\delta\eta\nu$ , glandula: ob glandulas amarissimas.

#### 1. *P. Richardsoni*. (TAB. CVIII.)

*Radix* subfusiformis, lignosa, descendens, ramosa, superne divisa. *Caules* 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 unicostatis. *Pedunculi* terminales, uniflori. *Flos* majusculus. *Involucrum* hemisphæricum, impresso-punctatum, glandulosum, subpubescens; foliolis oblongis imbricatis, exterioribus inferne coadunatis. *Rachis* (seu receptaculum) conica, carnosâ, 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 correa. 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. Antheræ ecaudatæ. 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.*

I. 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 divulgatæ, 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 divulgatæ, foliis alternis, rarius pinnatifidis plerumque varie pinnatisectis; capitulis corymbosis; radio plerumque albo, rarius luteo vel purpurascete, 5-decemfloro. 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 laciniae, (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 laciniae.

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 Kooskoosky, 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 carnosio, plano-obcompressio et subbialato, *radii* lingulata. *Stylus disci* ramis exappendiculatis.—Herbæ rarissime suffrutices, per totam orbem terrarum divulgatæ, foliis alternis, pinnatifidis vel dentatis, superioribus sessilibus; capitulis solitariis ramosque superne aphyllis 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 tectus, et interdum 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 laxe 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-obcompressa et bialata, radii ♀ lingulata, lingula 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; involucris 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.-pluriseri-  
alibus, fæmineis, corollas tubulosas aut rarissime obsolete lingulatas gerentibus, ubi tunc (1)  
aut lingulæ ipso tubo plano-obcompressa et bialata 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 formatis constans. *Antheræ* ecaudatæ. *Stylo* ♂  
vel ♂ rami semper exappendiculati. *Less.*

1. COTULÆ. *Capitulis* multifloris; corollis staminigeris tubum plano-obcompressum et  
bialatum, stylumque bifidum gerentibus aut teretibus, si achenium aut corolla fæminea  
et obcompressa est; rachide ebracteolata. *Less.*

#### 44. OMALANTHUS. *Less.*

*Capitulum* heterogamum, floribus uniseriatis in ambitu, reliquis ♂ fertilibus. *Ach-*  
*enium* exalatum, quadrigonum, conforme. *Pappus* coroniformis, repandus. *Cor.* ♀; ♂



glabra, plano-compressa, bialata, 3-crenata. *Rachis* ebracteolata.—Herba *Californica*, *facie* Santolinæ, *tomentosa*, foliis *bipinnatisectis alternis*; capitulis *solitariis vel corymbosis*; involucris *campamulatis, pauciserialibus*; rachide *convexa*. *Less.*

1. *O. camphoratus*. *Less. in Syn. Gen. Compos. p. 260.*—Tanacetum camphoratum. *Less. in Linnæa, 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 fœmineis plano-obcompressis et inferne alatis."

2. ARTEMISIÆ. *Capitulis multifloris; corollis staminigeris teretibus stylumque bifidum gerentibus; acheniis exalatis, nunquam plano-obcompressis et orbicularibus, rachide cbracteolata.* *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 incano-sericeis caulinis pinnatisectis laciniis linearibus 3-5-fidis.—*Willd. Sp. Pl. v. 3. p. 1838. n. 51. Bess. l. c. p. 251.*—δ. *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. Culta ramosissima more *A. camphorate*. *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, (' '' ''') attached to figures, imply, (') an inch, (")  $\frac{1}{2}$  an inch, (''') a line.



*Petropolitanæ*. Huc *A. Jenizeensis*, Spreng. *Syst. Veget.* v. 3. p. 69. n. 27. et Willd. *Herb. ex adnotationibus Stevenianis in Herb. Willd. Bess. MSS.*

HAB. δ. Saskatchewan. *Dr. Richardson. Drummond.* On Limestone rocks on the higher parts of the Assinaboyné 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.*—α. *legitima*; folia integerrima 1–1½ longa, vix ⅓ 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 Spokane 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 integrisve 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.*— $\delta$ . *Canadensis*; folia caulina 3-partita subtus cinerea, margine vix revoluta, periclinii squamæ manifeste tomentosæ.

HAB.  $\beta$ . Canada. *Goldie, in Herb. Lindl.*

7. *A. longifolia*; suffruticosa erecta, calathidibus paniculatis ovatis(?), panicula foliosa e spicis thyrsoideis 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.*— $\alpha$ . *latifolia*; folia elliptico-lanceolatis  $1\frac{1}{2}$ " longis,  $\frac{1}{2}$ " latis.—(*A. integrifolia. Rich. in Frankl. 1st Journ. ed. 2. App. p. 30. fide Herb. nostr.*)— $\beta$ . *angustifolia*; foliis lanceolatis,  $1\frac{1}{2}$ " longis,  $3$ " latis.

HAB. On the plains of the Saskatchewan. *Dr. Richardson. Drummond.*— $\beta$ . 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,) paniculæ 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-quinquefidis 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 cæspitosa ubique sericeo-villosissima, ramis brevibus arcte foliatis, foliis brevibus 3-5-fido-palmatis laciniis lanceolatis brevi-acuminatis 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 Americæ, 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.  $\zeta$ . *arctica* (*Bess. Monogr. ined. cum ic.*) foliorum laciniis integerrimis magis distantibus obtusis brevibus, pericliniis 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 foliisque 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. (fide specim. in Herb. Hook.) Hook. et Arn. in Bot. of Beech. Voy. v. 1. p. 125.*

Hujus var.  $\beta$ . *saxatilis* (*Bess. in l. c.*) est a Rocky Mountains, in qua periclinii squamæ sunt ovatae margine sphacelatae.—*A. arctica.* (*Lessing in Linnæa, l. c.*) est mea var  $\epsilon$ . *Koraginskiana*, a D. Mertensio lecta, periclinii squamis fuscis sphacelatis 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*. *Messrs. 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 caulinisque inferioribus 2-pinnatifidis superioribus floralibusque pinnatifidis, ramis laciniisque linearibus acutis, inferioribus argute inciso-dentatis superiorum subintegerrimis.—*Willd. Phytogr. p. 11. n. 39.*—*A. Hispanica. Jacq. Ic. Rar. v. 1. t. 172.*

Cum *A. annua* nequaquam confundenda, cui calathidia cernua in panicula patente ramosa foliorumque laciniæ sunt inciso-pectinatae. Proxima potius *A. Tournefortianæ*, Reich.; a qua tamen duratione bienni, foliorum laciniis (bidenticulatis in altera) flosculisque flavis (purpurascentibus 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 hemisphæricis 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, caulinis 3-7-partitis semiamplexicaulibus laciniis linearibus vel lanceolatis media pinnatisecta.—*Spreng. Syst. Veget. v. 3. p. 490. Bess. Drac. MSS.*— $\gamma$ . *Scouleriana*; calathidia plus 1" glabra, periclinii squamis interioribus acutiusculis. Folia radicalia 2-pinnatisecta, juniora subsericea, laciniis linearibus elongatis 8"-1" longis  $\frac{1}{3}$ " latis. (Reliquis strictior.)— $\delta$ . *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 adscendens, aliorum strictus videtur.— $\zeta$ . *Richardsoniana*; calathidia (?) incano-sericea, periclinii squamis exterioribus late ovatis. Folia (radicalia et caulina inferiora desunt) caulina superiora subsericea, laciniis linearibus 6-9" longis  $\frac{1}{3}$ " latis; floralibus simplicissimis 1". *A. virgata. Rich. in Spreng. Syst. Veget. v. 3. p. 104. (?)*—*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.— $\eta$ . *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. Ircutensis et Kamtschatka occupant atque per Americam septentrionalem late sese extendit.

HAB.  $\gamma$ . North-West coast of America, Fort Vancouver, and Straits of de Fuca. *Dr. Scouler*. Rapids of the Columbia. *Douglas*.— $\delta$ . et  $\zeta$ . 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 quæ vidi sunt  $1\frac{1}{2}'$  quorum panicula ipsa maximam partem occupat. Folia  $1\frac{1}{2}$ -1" longa laciniis,  $\frac{1}{2}$ - $\frac{2}{3}$ " latis. Calathidibus sat affinis *A. Dracunculo*.

HAB. Red River. *Douglas, in Herb. Lindl.*

21. *A. Dracunculus*; suffruticosa, calathidibus racemoso-paniculatis 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.*— $\delta$ . *glauca*; fastigiata. Specimen unicum est  $1\frac{1}{2}'$ , 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.*—*a. Purshii*; sericea, cinerea; folia radicalia lineari-lanceolata integerrima, vel apice 3-5-fida: caulina et floralia linearia: calathidia inferiora pedunculata, superiora sessilia; periclinii squamæ villosæ, medio fuscescentes, 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 sessilia, 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 subsessili, pedunculi infimi 2-3-flori; periclinii squamæ medio fuscae, 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 sectis; 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 longiore 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.*—"Ulnaris. 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 involucre 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. Tanaceti pauciflori, Rich. ?).*—*Santolina suaveolens. Pursh, Fl. Am. v. 2. p. 520.*

*Radix* annua, ramosa, fibrosa. *Caulis* palmaris ad spithamæam, 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 sesquiunciam longi, nudiusculi, striati, apice paululum incrassati, uniflori. *Involucrum*, ratione floris magnum, hemisphæricum, 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 Kooskoosky. *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 caudatæ. Corolla flori femineo s. neutro, si adest, filiformis, rarissime in capitulis bifloris lingulata. 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 spathulatis superioribus lineari-lanceolatis undulatis, floribus densis corymboso-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 lineari-lanceolatis 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 lineari-lanceolatis 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, ♂ apice clavatus. *Stylus* ♂ 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 subtus cauleque lanatis, corymbo multifloro, involucri hemisphærici squamis ellipticis obtusis opacis albis extimis solummodo basi tomentosis.—*Linn.*—*Engl. Bot. t.* 2018. *Mich. Am. 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 fuscescentibus superioribus elongatis cujus apicibus albis subopacis.—*α. 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. Suec. v. 2. p.* 515.—*Gnaphalium alpinum. De Cand. Fl. Fr. p.* 3312. (aliorumque fide *Wahl.*)—*γ. pulcherrima*; elata (pedalis sesquipedalis) subargentea, 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 spathulatis, caulinis linearibus, corymbo capitato, involucri squamis interioribus acutis membranaceis fuscescentibus 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*. Unalaska. *Chamisso*, (in herb. nostr.) Kotzebue's Sound. *Lay and Collie*.

4. *A. dioica*; stolonibus reptantibus, foliis subtus præcipue tomentosus, radicalibus spathulatis 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-spathulatis 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 albo-tomentosis, radicalibus ovato-spathulatis, 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. SENECTIONIÆ. Capitula nunquam dioica; si heterogama, floribus marginalibus fœmineis, sæpissime uniserialibus, reliquis ♂. Pappus setaceus, multiradiatus, subæqualis; corollæ floribus ♀ aut lingulatæ 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.*— $\beta$ . *angustifolia*; foliis angustioribus.—*A. montana, \beta. alpina. Linn.*—*Br. in Parry's Voy. App. p. cclxxix. 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. Una-*



laschkiana, *Less.* and Chamissonis of the same author (all from Unalaska. *Chamisso.*)  
—*A. plantaginea* 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. Unalaska. *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 supremo solummodo 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 Spokane 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 Cacaliæ sp. *L. et Auct.*)

*Capitulum* homogamum vel pl. heterogamum. *Pappus* pluriserialis, setaceus, caducus, rectus, subæqualis, conformis. *Stylus* ♂ 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; foliolis involucri uniseri- alibus, basi sæpe aliis magis minusve numerosis, accessoriis auctis, linearibus, alternis angustioribus, alternis latioribus, sæpe sphacelatis; rachide plana, nuda, vel paleaceo-fimbrillifera. *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, involuero basi multisetoso.—*Mich. Am. v. 2. p. 119. Pursh, Fl. Am. v. 2. p. 529. Elliott, Carol. v. 2. p. 328.*—*Erechtites præalta. 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.*— $\beta$ . *reniformis*; foliis radicalibus reniformi-triangularibus.—*C. reniformis. Willd.*

HAB. Canada. *Mr. Cleghorn.*—My variety  $\beta$ . quite agrees with the *Cacalia reniformis* of Willdenow, except that the involucri are 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. tussilaginoides, 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. Balsamitæ*; 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.*— $\beta$ . *majus.*

HAB. Woody country, from lat. 54° to 64°. *Dr. Richardson. Woods and river banks on the Rocky Mountains. Drummond.  $\beta$ . 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.  $\beta$ . 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 deltoideo-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*, Scale of the involucre; *fig. 2*, Floret of the ray; *fig. 3*, Floret of the disk.

8. *S. Serra*; elatus 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.)— $\beta$ . foliis supra glabriusculis.

HAB. Banks of the Saskatchewan, rare. *Drummond*.  $\beta$ . Lake Huron. *Dr. Todd*.—The white and hoary surface of the stem and leaves, in this plant, is very striking; though in the var.  $\beta$ . 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*; elatus 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.*— $\beta$ . *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*.)— $\gamma$ . *foliosus*; foliis caulinis majoribus magis divisis.— $\delta$ . *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*.  $\delta$ . Mackenzie River. *Dr. Richardson*.—This and the following species are remarkable for the woolly hairs in the axils of the leaves.

11. *S. resedifolius*; 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 bractees are less remarkable in the specimens of the second Expedition, than in the solitary individual gathered on the first. 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. atropurpurea. 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 semiamplexicaulibus 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 lanatus, caule fistuloso, foliis lato-lanceolatis, caulinis lineari-lanceolatis sinuato-dentatis fere pinnatifidis, floribus corymbosis.—*Cineraria palustris. Linn.*—*Engl. Bot. t. 151. Rich. in Frankl. 1st Journ. ed. 2. App. p. 31.*— $\beta$ . *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.— $\beta$ . Chiefly in the Arctic regions. *Dr. Richardson. Capt. Sir E. Parry, &c.*—I am quite unable to distin-



guish *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.—Cineraria Canadensis. Linn. Sp. Pl. p. 1241. 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*; arachnoideo-tomentosus, foliis integris, inferioribus oblongo-ovatis spathulatis, caulinis lanceolatis, floribus corymbosis —*Nutt. Gen. Am. v. 2. p. 165.—Cineraria 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* homogamum. *Disci Achenia* papposa, pappo æquali, setis hirsutulis; *radii* nuda, obovata, compressa, tuberculosa, crenato-marginata, glaberrima.—Herba *annua, humilis.* *Caules 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, *κεκνη*, 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.*

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<i>Nuttallii</i> , Pursh, (TAB. XXVI.)	79	<i>cordata</i> , Koch.	260
<i>ochroleuca</i>	77		



GLASGOW:

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*Stenota - Douglasii*





*Thalictrum  
Cornuti? a.*





*Anemone deltoidea?*



*A. pennsylvanica?*





*Anemone Richardsoni*

J.H. Vell.

*Anemone virginiana*





*Ranunculus cardiophyllus.*

*R. repens*





*Ranunculus affinis.*

*Ranunculus acris.*





A.  
*Ranunculus hircianus.*



B.

*Ranunculus Puschii*





*Ranunculus pedatifidus.*

*Ranunculus fasciculatus*





*Ranunculus orthorhynchus.*





*Baltha leptocarpa*

W. H. K. 1865





*Coptis asplenifolia?*

W. J. Hooker





*Michx.*  
*1818/18*





*Bifidium hexandrum.*





*Corydalis*  
*poulsonii*

1891





*Brya macrocarpa.*

H. del.

1845





*Taraxacum didymocarpha*





*Braya pilosa.*



*Hutchinsia calycina.*





*Platyspermum scapigerum*

*Thymus ascarifolius*





*Halimolobos pumila*





*Lysimachium*  
*siphocides.*









*Crucianum asperum.*





*Platypetalum purpurascens.*









*Blechnum latius.*





*Vicia Nuttallii.*





*Grosera linearis*



*Ranunculus pinniflorus*

*H. & A. Bot. Beechey*





*Parnassia Kotschyana.*





*Colymba rotundifolia*  
— 11 —





*Silene Menziesii.*





*Stellaria Edwardsii.*





*Arenaria nardifolia*





*Arenaria stricta*





*Arenaria arctica*





*Arenaria Franklinii*





*Arenaria lateriflora.*





*Serratia macrophylla*





*Acacia mangium*





*Asa circinalis*

1811. 48





*Thalictrum albiflorum.*





*Myrica ascytophila*





*Rhamnus alnifolia.*

W. & A. del.





*Malva Purshiana*





W. J. H. del!

*Phamrus celticus.*

Swartz





*Sarcocolla retinaria.*





*Prunella*





*Thermopsis rhombifolia*









*Trifolium plumosum*

W. J. H. del.

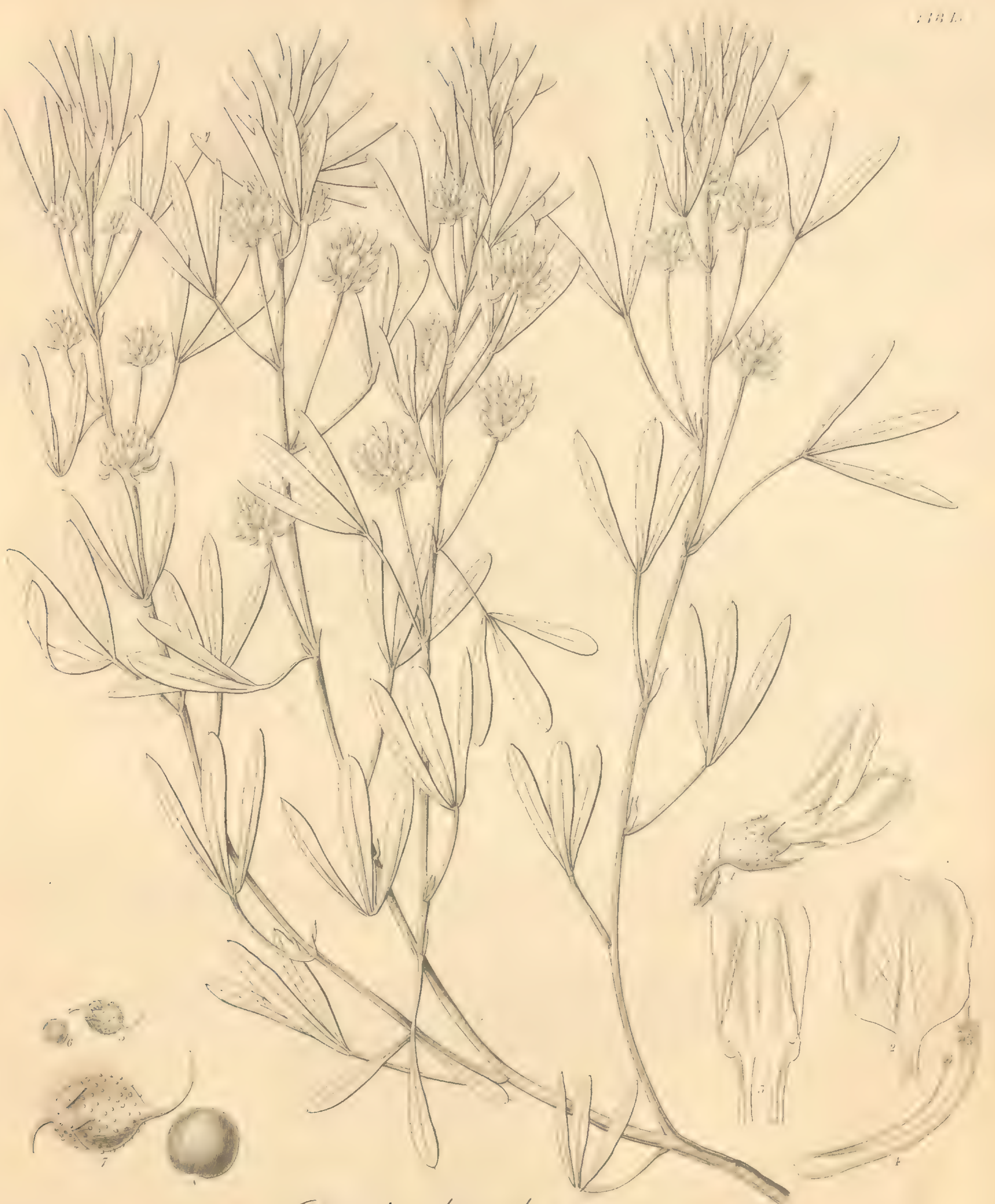
Swan Sc.





*Trifolium cyathiferum*





*Berula lanccolata*





*Berula angophylla*





*Psoralea baccata*

w. J. H. det.





*Phaca pectinata.*





*Puccinia scirpitesa.*





*Phaca Aboriginum*





*Astragalus Drummondii*





*Scutellaria tuberculata.*





*Rubus macropetalus.*

W. J. H. del.





*Rubus strigosus*





*Rubus parviflorus*





*Rubus triflorus.*





*Eriogonum angustatum*





*Sium* *officinale*





*Chamaenerion*





*Lactuca pulcherrima.*





*Urtica dioica*





*Cydonia vulgaris.*





*Chilopsis leucantha*





*Thymus Majorani*





*Hydrocotyle*





*Antennaria flammula*





*Hyacinthus parviflorus*





*Platytenia spathulata.*





*Juniperus communis*





*Castanopsis*





*Tharella laciniata.*





*Calluna vulgaris*

*Calluna vulgaris*





*Andropogon glaberrimus*





*Zuchera Menziesii.*





*Samolus asperifolius*





*Nettle trifida.*





*Carthagenensis*





*Parisiaca Lamesii*





*Saxifraga reflexa.*









*Taraxacum flagellare.*

M. Gussone del.





*Eryngium pectinatum*  
Pursh





*Plantago pumila*





*Tanicula Merziana*





*Panacula arctopoides.*





*Tanacetum officinale.*





*Psali lucidulum.*





*Asclepias tuberosa*





*Selinum terbinthinum.*

*W. & A. G. Smith del.*





*Smilax longistylis*

N<sup>o</sup> 1000 del.





M. G. Gentile del.

*Quercus laevis*





*Gaiusac ferrugineus*





1-6 on *Pinus Banksiana*  
♂



7-9

♀

*Abies balsamea* (Mill.) (B.S.P.)





*Zinnia oblongifolia*





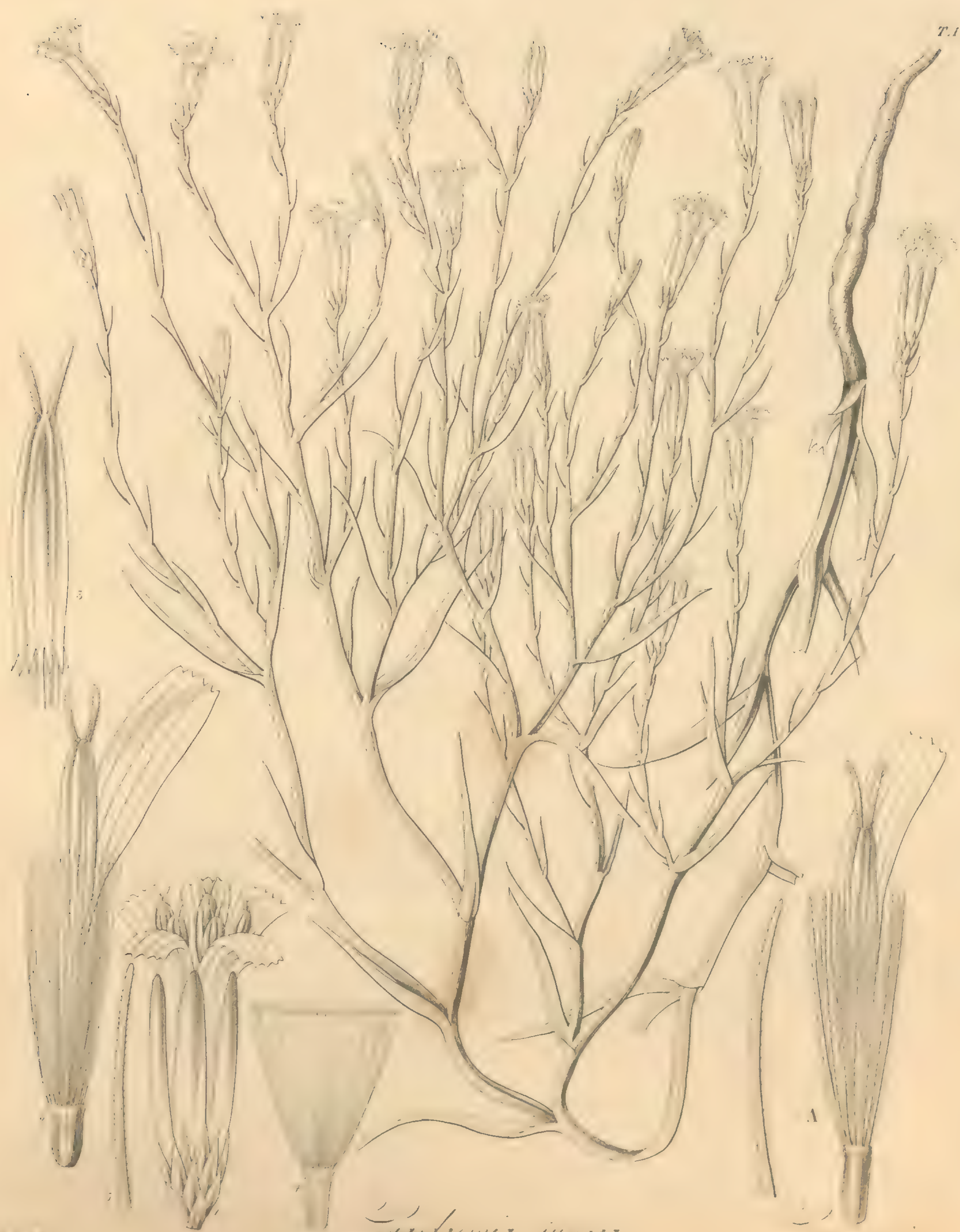
*Galium pauciflorum.*





*Scrophularia alata*





*Zosteresmia juncea*

*Zosteresmia minor*

1177





*Conium maculatum*





*Elymus pumilus*





*Calluna vulgaris*





*Lychnis viscaria*





*Picradenia Richardsonii*





*Chrysanthemum integrifolium*

11. 5. 11. 2011





*Cassia auriculata*





*Arnica (Menziesii)*





*C. pinnatifida*





*Senecio jacobinae* Torr.





*Scrophularia*





*Senecio triangularis*

W.H. del.

Swain Sc.





*Senecio cana*

W. B. d. d.

Scut. Sc.





*Senecio resedifolius.*





*Procidium multicaule.*