A FLORA
OF THE
NORTHERN AND MIDDLE SECTIONS
OF THE
UNITED STATES:
OR,
A SYSTEMATIC ARRANGEMENT AND DESCRIPTION
OF
ALL THE PLANTS HITHERTO DISCOVERED
IN THE
UNITED STATES NORTH OF VIRGINIA.

BY JOHN TORREY, M. D.
President of the Lyceum of Natural History of New-York; Member of the New-York
Literary and Philosophical Society; of the Academy of Natural Sciences of
Philadelphia; of the Physiographical Society of Lund, Sweden; of the
Wernerian Natural History Society, Edinburgh, &c.

VOLUME I.

NEW-YORK:
PRINTED AND SOLD BY T. AND J. SWORDS,
No. 99 Pearl-street.
1824.
TO

THOMAS NUTTALL, ESQ.

FELLOW OF THE LINNEAN SOCIETY OF LONDON,
MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY, &c. &c.

THIS WORK

IS RESPECTFULLY INSCRIBED,

AS A TRIBUTE OF RESPECT FOR HIS SCIENTIFIC ATTAINMENTS,

AND

AS A TOKEN OF ESTEEM FOR HIS PERSONAL CHARACTER,

BY HIS FRIEND,

THE AUTHOR.
THE progress of botanical science in the United States has been so rapid during the last few years, that new works, containing the discoveries continually making, are, from time to time, required. The excellent Flora of Mr. Pursh, which appeared in 1814, exhibited all that was then on record, as well as all which the enterprising author himself discovered, relative to North-American botany. Since that time have appeared the "Genera of North-American Plants," by Mr. Nuttall, a work which has contributed more than any other to advance the accurate knowledge of the plants of this country; Mr. Elliott’s excellent "Sketch of the Botany of Georgia and South-Carolina;" "Barton’s Flora of North-America," besides numerous monographs and miscellaneous observations on North-American plants, published in various scientific journals. A considerable number of our plants have also found their way to Europe, and have there been described and illustrated by the most celebrated botanists of the age. A small proportion, however, of North-American plants, even of those growing in the most explored parts, have yet been attentively examined.

Having devoted a number of years to the study of the plants of this country, particularly those of the northern and middle parts of the United States, the author conceived that a Flora embracing this section, would be a proper counter part to the work of Mr. Elliott on the Botany of the Southern States. He accordingly commenced collecting materials for the present work; and, after much labour and care, he at length ventures to submit it to the public. The advantage of local Floras is now generally acknowledged; as their authors, it is presumed, must be better acquainted with the plants of which they treat than with those of a more extensive district; they are the means of recording many facts and observations, and minute descriptions, which could not be introduced into general works; they also increase our knowledge of vegetable geography.

It has been the object of the author to bring together all that has hitherto been published on the subjects embraced by this work, and to add such observations as his own opportunities have enabled him to make. In prosecuting this task
it has been necessary, in many instances, to alter and amend the characters of genera and species as they were described in previous works, and also to make some changes in nomenclature. He is well aware of the great inconvenience of changing established names, but this must necessarily be done while botany is an advancing science. A large proportion of our plants have not been examined since botany has assumed a philosophical character; hence they have been imperfectly described, and, in many instances, referred to wrong genera and species. We are, therefore, often under the necessity of using erroneous names, or of changing them for such as are more appropriate. It appears to us that the interest of science requires us to adopt the latter alternative; but, at the same time, to make no alteration except such as the natural progress of botany renders necessary. There can be little doubt that Linnaeus himself, had he lived to this day, would have materially altered both his system and nomenclature; as he did in each successive edition of his own works. In all cases where there was not especial reason for the contrary, we have adopted the names given to plants by those who discovered or first described them; thus we have revived the neglected name of Bartonia, given to a plant by Muhlenberg, and described in 1801, instead of adopting Centaurella of Michaux, which was several years later; Gymnopogon of P. de Beauvois has been preferred to Anthopogon of Nuttall, and Brasenia of Schreber to Hydropeltis of Michaux. So in specific names, Frasera carolinensis and Utricularia inflata of Walter, have been used instead of F. Walteri and U. ceratophylla of Michaux.

The most important changes of this kind have been introduced in the Gramineæ, a family which has been less attended to by our botanists than any other of the phanerogamia. Mr. Nuttall has exhibited his usual acuteness in reforming their characters, but, as the Agrostographia of P. de Beauvois had not reached this country when he published his valuable work, most of his new genera must give place to those of the French botanist. It is principally to this work, and to the recent Agrostographia of Trinius, that the author is indebted for the improved generic characters of the grasses, as well as for the somewhat new arrangement which he proposes.

The Umbelliferae are adopted with but little alteration from Sprengel, as they are elaborated by him in the 6th volume of Römer & Schultes' Systema Vegetabilium, though his distribution of the North-American species of this tribe is not altogether satisfactory.

Of the Cryptogamia, it is concluded at this time to de-
scribe only the ferns, leaving the other orders for a future period; when the author, in connexion with his friends, the Rev. L. D. Schweinitz, and A. Halsey, Esq. proposes to give a Cryptogamic Flora of the United States. Large collections have already been made towards this work.

The names of genera and species proposed by the author have an asterisk (*) annexed to them. To a few doubtful plants the mark (+) is added. It is probable that these last should all be expunged from our Flora.

The detailed descriptions are always original, except in a few cases, where the authority is given.

The author would not forget his friends who have assisted him in contributions to this work. Although their names appear so frequently on its pages, he must express his particular obligations to the following gentlemen:—Prof. Bigelow, and J. Oakes, Esq. for plants of the vicinity of Boston, the White Hills, &c.; Prof. C. Dewey, Dr. J. Porter, Dr. Cooley, and the Rev. Mr. Hitchcock, from various parts of Massachusetts; Dr. E. Ives, Dr. J. Hooker, and Mr. J. B. Brace, from Connecticut; Dr. L. C. Beck, Mr. J. Tracy, and Dr. E. James, from Albany and its neighbourhood; Dr. M. Stevenson, from the northern parts of the State of New-York; Dr. J. Barratt, from the Highlands; Win. Cooper, and A. Halsey, Esqrs. from the vicinity of this city and elsewhere; and Capt. Le Conte, Mr. A. Eaton, and the Rev. Mr. Schweinitz, from various parts of the northern and middle States. To the Messrs. Prince, of Flushing, he is indebted for unrestrained access to the Linnaean Botanic Garden; which extensive collection embraces a large proportion of the plants of our country, capable of cultivation. Their establishment merits the extensive patronage it receives.

As this work, from its size, may be inconvenient for reference in the field, or may be too expensive for many botanists, a Compendium, comprising the essential generic and specific characters of all the plants described in the larger Flora, has been prepared, and will shortly be published.

Should the present undertaking be favourably received by the botanic world, it is the intention of the author to publish a General Flora of North-America, to include all the discoveries made since the work of Mr. Pursh, now amounting to many hundred species. Collections are continually making for this purpose, and the aid of botanists in all parts of our country, by the communication of local catalogues, observations, and dried specimens, is respectfully solicited.

New-York, July 20th, 1824.
INDEX

To the

Principal Authors quoted in this work.


— fl. americ. sept. Id. A Flora of North-America, illustrated by coloured figures. 3 vol. 4to. Philadelphia, 1821—1824.


Big. bot. Florula Bostoniensis; or, a Collection of the Plants of Boston, and its environs, by Jacob Bigelow. 2 vol. 8vo. Boston, 1814.

— bot. ed. 2. The same greatly enlarged. 1 vol. 8vo. Boston, 1824.

— med. bot. Id. American Medical Botany. 3 vol. 8vo. 1817—1821.

Bosc. bull. soc. See Bull. Soc. Phil.


Choix prod. hyp. Prodromus d'une monographie de la famille des Hypéricacées, par J. D. Choisy. 4to. Genève, 1821.

Clay. virg. See Gron. virg.

Comm. gat. Commentarii societatis regiae scientiarum Göttingensis. 4to. 1751—1820.

Comm. hort. Horti medici Amstelodamensis rariorum plantarum description


*De Cand. cat. h. monsp.* Catalogus plantarum horti botanici Monspeliensis addito observationum circa species novas aut non satis cognitas fasciculo, auctore A. P. De Candolle. 1 vol. 8vo. Monspelli, 1813.

— reg. veg. Id. Regni vegetabilis systema naturale. 1 vol. 8vo Paris, 1818. 2 vol. 8vo. 1821.


— astrag. Id. Astragalologia. 1 vol. 4to. Paris, 1802.

*De la roche eryng.* Eryngiorum nec non generis novi alepididê historia 1 vol. fol. Paris, 1808.


— musc. Id. Historia muscorum. 1 vol. 4to. Oxonii, 1741.

*Dom cat.* Hortus Cantabriciensis; or, a Catalogue of Plants, &c. ed. 10. 1 vol. 8vo. London, 1223.

*Duham. arb.* Duhamel du Monceau, traité des arbres et arbustes qui se cultivent en France en pleine terre. 2 vol. 4to. Paris, 1755. Seconde édition considerably augmentée. 1801.

*Du. sol.* Histoire naturelle médicale et économique des Solanum et des genres qui ont été confondus avec eux. 1 vol. 4to. Montpelier, 1816.


*Cat. man.* A Manual of Botany for the Middle and Northern States of America. ed. 3. 1 vol. 12mo. Albany, 1822.

*Edin. phil. jour.* The Edinburgh Philosophical Journal, ed. by Dr. Brewster and Prof. Jameson. vol. 10, 8vo. 1819—1824.

*Ehrb. beitr.* Frid. Ehrhart, Beiträge zur naturkunde. 7 vol. 8vo. Hambur, 1787—1792.


*Fl. peruv.* Vid. Ruiz and Pav.

*Gart. de fr. & sem.* Jos. Gartner, de fructibus et seminibus plantarum. 2 vol. 4to. Lipsia. 1788—1791.

*Gart. carp.* G. F. Gartner, Carpologia. 1 vol. 4to. Lipsia, 1805—1807.


— exot. fl. Id. Exotic Flora. 1 vol. 8vo. 1822, et seq.


INDEX.

Humb & Bonp. equin. A. de Humboldt et Am. Bonpland, Plantes equinoctiales.
— hort. vndl. Id. Hortus botanicus Vindobonensis. 3 vol. fol. Vindobonæ, 1770—1776.
— ic. rar. Id. Icones plantarum rariorum. 3 vol. fol. Vindobonæ, 1781—1793.
— oxal. Id. Oxalis monographia iconibus illustrata. 1 vol. 4to. Vindobonæ, 1792.
— hort. schen. Id. Plantarum rariorum horti cæsarei Schenbrunensis. 4 vol. fol. 1797—1804.
Kunth. syn. Synopsis plantarum quas in itinere ad plagam equinoctialem orbis novi colligerunt, A. de Humboldt et Am. Bonpland. 3 vol. 8vo. Paris, v 1, 1832; v 2, 1833; v 3, 1824.
Lagase gen & spec. nov. A. M. Lagasca, Genera et species plantarum, quæ aut novæ sunt, aut nondum recte cognoscuntur. 1 vol. 8vo. Mastriti, 1816.
Lam. enc. Encyclopédie Méthodique; botanique par M. de Lamarck. 4 vol. 4to. Paris, 1783—1797.
— ill. Id. Illustration des genres, pl. 900, et 2 vol. de texte. 4to Paris, 1791, et suiv.
— nicot. Id. Generis Nicotianarum historia. 1 vol. 4to. Hamburghii, 1830.
— sup pl. Id. Species plantarum. 2 vol. 8vo. Holmiae, 1762.
— syst. veg. Id. Systema vegetabilium, curante J. E. Murray. 1 vol. 8vo. Gottingæ, 1784.


Manch. meth. C. Mænch, Methodus plantas horti et agri Maburgensis describendi. 1 vol. 8vo. Maburgi, 1794.


Pall aât. P. S. Pallas, Species Astragalorum descriptæ et iconibus illustratae. 1 vol fol. Lipsie, 1800.


Pall. fl. ros. Id. Flora Rossica. 2 vol. fol. Petropoli, 1784—1728.

Parad. lond. The Paradisus Londinensis, containing plants cultivated in the metropolis; the descriptions by R. A. Salisbury; the figures by William Hooker. 2 vol. 4to. 1803—1808.


Pluk. phyt. Leon. Plukenett, Phytographia sive Stirpium illustriorum, etc. 4to. Londoni, 1691—1692.

—— alm. Id. Almagestum botanicum. 1 vol. 4to. Ibid. 1696.

—— mant. Id. Almagesti botanici mantissa. 1 vol. 4to. Ibid. 1700.

—— umalth. Id. Almethæum botanicum. 1 vol. 4to. Ibid. 1705.


Poir. enc. Encyclopædia methodica; Dictionnaire de botanique, continué par Poirret, 4 vol. 4to. 1804—1808.


Roest jun. F. G. Rostkovii, Dessoratio botanica de Junco. 1 vol. 8vo. Hæle, 1801.

Roth. cat. A. W. Roth, Catalecta botanica. 3 vol. 8vo. Lipsie, 1797—1803.

—— germ. Id. Tentamen flore Germanico. 3 vol. 8vo. Lipsie, 1788—1801.

beitr. Id. Beiträge zur botanik. 8vo. Bremen, 1782—1783.


—— gen. Id. C. a Linné, syst. veg. secund. classes ordines et genera. 1 vol. Stuttgarttiae, 1820.

Salisb. stirp. R. A. Salisbury, Icones stirpium rarious descriptionibus illustratae. 1 fasc. fol. Londoni, 1791.

Scheuch. gram. J. Scheuchzer, Agrostographia. 1 vol. 4to. Tiguri, 1719.
INDEX.

Schr. car. C Schkuhr, Beschreibung der reidgraesser. 2 vol. 8vo. Wittenberg, 1812.

—. habit. Id. Botanisches handbuck. 3 theile, 8vo. 1791-1803.

Schr. fil. Id. Abbildungen der Farnkrauter. 4to.


Sill. jour. The American Journal of Science and the Arts. 8 vol. 8vo. 1816-1824, and continuation.


Sm. fl. brit. J. E. Smith, Flora Britannica. 3 vol. 8vo. Londoni, 1800-1804.

—. extot. bot. Id. Exotic Botany, fasc. 4to. London, 1804-1808.

—. icon. pict. Id. Icones pictae plantarum rariorum. 3 fasc. fol. London, 1790-1793.


—. spic. Id. Spicilegium botanicum, 2 fasc. fol. Londoni, 1791-1792.


—. neue. entd. Id. Neue entdeckungen in ganzen umfang der pflanzenkunde. 2 vol. 12mo. Leipzig, 1820-1821.

—. pl. pug. Id. Plantarum minus cognitarum pugillus primus, 8vo. Halaec, 1813: 2, 1815.


—. icon. Id. Icones plantarum Indiae occidentalis, 1 fasc. fol. Elangae, 1794.

—. obs. Id. Observationes botanicae. 1 vol. 8vo. Elangae, 1791.

—. fl. Id. Synopsis filicum earum genera et specierum. 1 vol. 8vo. Kiliac, 1806.


—. symb. Id. Symbolae botanicae, 3 fasc. fol. Hauniae, 1790-1794.


—. choix. Id. Choix des plantes, 10 fasc. fol. Paris, 1803-1808.


Willd. sp. pl. C. L. Willdenow, Species plantarum C. Linnæi, ed. post Richard quinta. 5 vol. 8vo. Berolini, 1797-1810.

—. amar. Id. Historia Amaranthorum. 1 vol. fol. Turici, 1790.


CLASS I.

MONANDRIA.

ORDER I.

MONOGYNIA.

1. SALICORNIA. L.


Root fibrous or fusiform. Stem 6 to 10 inches high, more or less branched, succulent; branches jointed and succulent, the summit of each joint with 2 pretty sharp teeth. Flowers in threes at each joint, very minute. Stamens always 2, expanding at different times; anthers didymous, yellow. Germ. ovate; styles very short; stigmas glandular.

Hab. In salt marshes, common. August—September. On the Salt-Lake of Onondaga, New-York. Pursh. The S. virginica of Linnaeus does not appear to differ in any respect from the European S. herbacea, except in being less branched, which is a character of no importance. The common species of this vicinity varies considerably, being sometimes almost simple, sometimes very much branched.


*Hab. In sedgy salt-meadows. New-Jersey to Carolina. **Pursh. New-York** and **New-Jersey. Muhlenberg.** Intermediate between **S. herbacea** and **fruticosa** L. **Mich.** This species I insert on the authorities above quoted. I have found a Salicornia on the sea-coast of Long-Island, which was evidently a variety of **S. herbacea.**

### 2. HIPPURIS. L.


*Stem a foot or more high, the lower part floating, simple, articulate. Leaves almost linear, those on the emerged part of the stem about three-fourths of an inch long, narrowed at the base, with an obscure nerve along the middle; submerged leaves much longer and more crowded. Flowers situated in the axils of the leaves; calyx very minute, crowning the germin. Stamen growing out of the side of the minute calyx; filament short, flat; anther oblong, formed of two rounded lobes, through which the style passes, purple; stigma simple, glandulous. Ripe seed not seen.*

*Hab. In a pond near Schenectady, New-York, in company with the remarkable **Bidens Beckii.** August. In ditches and small ponds. Canada to Pennsylvania. **Pursh. In Pennsylvania,** flowers in May! **Muhlenberg.**

The only American locality of this plant with which I am acquainted, is that near Schenectady, discovered about four

**The specimen of Hippuris vulgaris in Muhlenberg's Herbarium is probably not native, as the handwriting is the same as that on the labels of many undoubted foreign specimens in that collection.**
years since by Dr. L. C. Beck, a gentleman to whom I am under many obligations for his valuable contributions to this work. From a careful comparison of the American Hippuris with numerous specimens of H. vulgaris of Europe, I have little doubt of their identity. The former has, according to the observations of Dr. Beck, pretty constantly eight leaves in each whorl, though Michaux describes it as having six. Pursh remarks (Fl. II. p. 774) that he compared specimens of Hippuris vulgaris from Hudson's Bay, with the European species, and found them entirely distinct. Are there two species of this genus in North-America?

ORDER II.

DIGYNIA.

3. CALLITRICHE. L.


Water-Chickweed.


Root annual, fibrous. Stem floating, composed of two tubes, nearly simple, in deep water sometimes two or three feet long. Leaves two to each joint, the uppermost ones crowded into a stellated tuft, obscurely 3-nerved, the lower ones gradually becoming narrower till they are quite linear. Flowers solitary, the uppermost ones stameniferous, the middle ones perfect, and the lowest fertile; calyx (corolla, Lin. &c.) white, leaves lanceolate, as long as the germen, but shorter than the ripe capsule. Stamen 1; (rarely 2;) filament as long as the germen; anther oblong, didymous. Germs quadrangular, compressed and emarginate, twice as long as the subulate styles: capsule 2-parted; seeds oblong.

Hab. Very common in shallow waters, stagnant or flowing. April—August.

Root annual. Stem floating, somewhat branched, bifidulous and diaphanous. Leaves spreading, very narrow, generally emarginate, or slightly bifid at the end; the uppermost ones somewhat lanceolate and 3-nerved. Calyx shorter than the germs, obtuse? Capsule very short, margin more or less acute, (membranaceous in the European plant. Wahl.berg.)

Hab. In similar situations with No. 1, and perhaps not a distinct species. In a pond near Williamsburg, Long-Island. In small streams about Williamstown, Massachusetts. Dewey.


Root annual. Stem creeping, densely covering the earth on which it grows. Leaves crowded, short, obtuse, succulent, nerves obsolete. Flowers polygamous, the upper ones perfect. Capsule very short and broad, emarginate, with a deep groove as if a re-entering angle on the margin. Stamen very short. Styles 2, recurved.


4. BLITUM. L.


Root annual. Stem a foot high, branched. Leaves with acute angles, deeply toothed. Heads round, sessile, about a fourth of an inch in diameter, approximated on the extremities of the branches, consisting of 30 or 40 minute flowers. Segments of
the calyx ovate, spreading, becoming succulent and red when ripe. Stamen longer than the germin; anther didymous. Style very short; stigmas simple. Seed ovate, compressed.


Root annual. Stem spreading, branched. Leaves 2-3 inches long, with large sinuate teeth; petioles shorter than the leaves. Flowers in axillary heads, always lateral, calyx as in the preceding species, swelling and becoming red, resembling a strawberry.

**Hab.** In similar situations with No. 1, which it much resembles. Doubtless introduced.


Root annual. Stem a foot or two high, erect, much branched. Leaves succulent, attenuated into a petiole, teeth few and large. Heads axillary, numerous; flowers very minute. Calyx 3-leaved, leaves concave, obtuse, rather longer than the germin. Stamen 1; anther minute, didymous. Styles 2, short, simple. (“Style 1.” Nutt.) Seed lenticular, vertical.

CLASS II.

DIANDRIA.

ORDER I.

MONOGYNIA.

A. Flowers complete, inferior, 1-petalled.
   †. Fruit a drupe or nut.
   7. Ornus.
   ‡. Fruit a capsule.
   11. Lindernia.  15. Utricularia.
   ‡‡. Seeds 4, naked. (Labiatae).

B. Flowers superior.
   †. —— complete.
   22. Circaea.
   ‡. —— incomplete.

5. Ligustrum. L.


A shrub 4 to 6 feet high, with smooth opposite leaves and branches. Flowers in terminal panicles, white; calyx very small, with obtuse, almost obsolete teeth; corolla funnel-form, tube cylindrical, much longer than the calyx, segments ovate, obtuse. Filaments opposite; anthers as long as the tube of the corolla. Berries black, nearly round.


6. Chionanthus. L.


A small tree, 6, 10, or more feet high, with numerous opposite branches, and large pendulous panicles of white flowers. Calyx very minute, 4-cleft. Corolla sometimes 5 or 6-cleft (P. soon); segments lanceolate-linear, about three-fourths of an inch long. Stamens very short, subulate. Germen ovate; style as long as the calyx; stigma 3-cleft. Drupe purple.


7. Orinus. Dalech.

DIANDRIA. MONOGYNIA. ORNUS.


Flowers resembling those of Chionanthus; seeds small, winged.

Hab. In moist shady woods; Maryland and Virginia; rare. May. Pursh. With this plant I am entirely unacquainted. It does not appear to have been described by any botanists except Persoon and Pursh, and the habitat is not even mentioned by the former.

3. VERONICA. L.


Root perennial. Stem diffuse, with the branches ascending. Leaves opposite, on short peduncles, scabrous, pale green. Spikes erect, generally proceeding from the lower part of the stem. Corolla pale blue, with darker veins. Capsule much compressed, pubescent; seeds 8—10, nearly round, flattened, yellow.


Root perennial. Stem procumbent at base, 5—6 inches long. Leaves opposite, as in all the rest, nearly sessile, rather fleshy. Racemes with somewhat distant flowers. Corolla pale blue,
sometimes almost white, with darker coloured veins. Capsule broadly obcordate; seeds 15—20, ovate, compressed.

HAB. Among grass, in meadows, road-sides, &c.; very common. May. Probably introduced.


Root perennial. Stem about a foot long, throwing out roots at the base, terete, smooth. Leaves decurrent into a short petiole. Racemes erect, axillary, arising from near the extremity of the stem, bearing numerous flowers; bracts lanceolate, shorter than the pedicels. Calyx rather obtuse. Corolla blue. Capsule inflated.


Root perennial. Stem succulent, somewhat 4-sided, a foot or more high. Leaves about an inch and a half long, very smooth; the upper ones nearly sessile, the others on short petioles. Racemes longer than in the preceding species; peduncles somewhat hairy, nearly as long again as the bracts; flowers pale blue. Calyx as long as the capsule; segments acute. Capsule inflated, emarginate. Seeds numerous, ovate, compressed.

HAB. In ditches and creeks; common. June—August.


Root creeping, perennial. Stem weak, often branched and diffuse, about a foot high. Leaves opposite, narrow-linear, or linear-lanceolate, $1\frac{1}{2}$—2 inches long, remotely denticulate, or rarely almost entire, rather fleshy, 1-nerved. Racemes axillary, filiform, pendulous and divaricate after flowering. Bracts subulate, shorter than the pedicels. Segments of the calyx lanceolate and acute. Corolla pale blue, or flesh-coloured;
segments ovate-subrotund. *Capsule* nearly orbicular, much compressed.

**Hab.** In wet meadows and inundated places; common. May—June.


*Root* fibrous, annual. *Stem* procumbent and ascending, 2 to 8 inches long, more or less branched. *Leaves*, as well as the stem, pubescent. *Corolla* pale blue, shorter than the calyx. *Capsule* much compressed, with 6 to 8 seeds in each cell.

**Hab.** On dry hills, and in fields; not rare. April—August. Introduced from Europe.


*Root* fibrous, annual. *Stem* diffuse, branched. *Leaves* alternate, round-ovate, shorter than the petioles. *Peduncles* about the length of the leaves, recurved after the fruit is formed. *Segments* of the *calyx* 3-nerved, ciliate. *Corolla* pale blue, with deep blue veins; sometimes nearly white. *Capsule* a little turgid, emarginate; *seeds* about 8 in each cell, each with a deep pit.

**Hab.** In dry sandy fields near New-York; rare. May.


**Hab.** In low clayey situations; frequent. May—July.

9. *V. hederifolia* L.: flowers solitary; leaves equalling the petioles, cordate-round, 5-lobed, the upper ones 3-lobed;

Root fibrous, annual. Stem diffuse, pubescent, reniform-cordate, hairy, and a little fleshy. Calyx somewhat 4-angled when the fruit is ripe; margin only ciliate, the rest smooth; segments converging. Corolla blue, caducous, smaller than the calyx. Capsule somewhat 4-sided, ventricose. Seeds 2 in each cell, large and urceolate.

*Hab.* Among the shady rocks on the hills between Bergen and Weehawk, New-Jersey. Near Brooklyn, Long-Island. In Delaware. *Muhlenberg.* One of our first spring plants, frequently flowering as early as the 28th of March.


With this species I am unacquainted. It is probably the *V. arvensis* of this work.

**9. LEPTANDRA. Nutt.**


DIANDRIA. MONOGYNIA. LEPTANDRA.

Root perennial. Stem angular, 2—3 feet high, smooth, simple. Leaves generally in fours, sometimes in sixes, sharply serrate, a little pubescent beneath. Flowers in long, dense, terminal spikes. Corolla white, tubular, pubescent within. Filaments much longer than the corolla, at length divaricate; anthers cordate, didymous, white. Style at length exceeding the stamens, persistent; stigma capitate, entire. Capsule with 2 marginal nerves contrary to the dissepiment; valves opening about half way down (Nutt.;) seeds numerous, obovate, compressed.


The Veronica virginica was many years since proposed as the type of a new genus by Colden,* and afterwards by Rafinesque, who called it Callistachya. I should have adopted his name, had it not been already applied to a South-American genus. This species is said to be also a native of Japan, which seems hardly probable. "Non, ut Heister suasit, genus proprium." Roem. & Schult. l. c.

10. GRATIOLA. L.


Root perennial, creeping. Stem herbaceous, 8—12 inches high, somewhat quadrangular, 2-furrowed, rooting at the base. Leaves obtuse or acute, obscurely 3-nerved, dotted with minute glands, with 2 or 3 remote teeth on each side.

Flowers on axillary peduncles, which are at first shorter, but afterwards longer, than the leaves, alternate, (rarely opposite,) pubescent. Bracts as long as the calyx. Corolla bright yellow, pubescent. Filaments inserted into the tube of the corolla; the sterile ones inferior, hardly apparent. Capsule ovate, rather shorter than the calyx. Seeds minute, rough.


It is remarkable that the sterile filaments in this species should have been overlooked by Pursh, Bigelow, and Michaux, who all remark that they are wanting.


Root fibrous, perennial. Stem about 6 inches high, branched at the base, terete. Leaves broad-lanceolate, smooth, rather obtuse, a little connate. Peduncles varying in length, some shorter, others longer than the leaves; the upper ones opposite. Segments of the calyx lanceolate, obtuse, a little more than one-third the length of the corolla. Tube of the corolla curved, yellow; throat hairy; segments all emarginate, white; the upper one longer. Filaments shorter than the tube. Stigma oblique, compressed. Capsule ovate, rather acute, about as long as the calyx.


This species appears to differ from the G. virginica of Elliott, and was named G. neglecta by me in the Catalogue of N. York Plants. Having, however, sent specimens to Sir J. E. Smith for examination, this excellent botanist obligingly compared them with the Linnæan Herbarium, and informs me it is "precisely the authentic G. virginiana from Kalm." The southern plant differs from ours in having sterile filaments, a smooth stem, &c.

3. G. megalocarpa Ell.: leaves lanceolate, serrate, pubescent; peduncles opposite, longer than the leaves; leaves of the calyx linear, as long as the globose capsule. Elliott Sk. I. p. 16. G. acuminata Pursh Fl. I. p. 12. (excl. syn.)

Flowers pale yellow. Capsule larger than in any other Gratiola. Ph.
DIANDRIA. MONOGYNIA. GRATIOLA.

*Pursh*. This plant I have never seen.

11. LINDERNIA. L.

_Calyx_ 5-parted. _Corolla_ resupinate, tubular, 2-lipped; upper lip short, reflected, emarginate; the lower one trifid and unequal. _Filaments_ 4; the two longer forked and sterile. _Capsule_ 2-celled, 2-valved; disse-piment parallel with the valves. Gen. pl. 1031. _Nutt._ Gen. I. p. 9. _Juss._ p. 122. _Lam._ Ill. t. DXXII. Nat. Ord. _Scrophulariae Juss._ Didynamia angiospermia _Lin._


_Root_ annual. _Stem_ procumbent, quadrangular, smooth, a little branching, about 6 inches long. _Leaves_ oblong, obscurely 3—5 nerved. _Peduncles_ alternate, sometimes opposite above, quadrangular, at length spreading horizontally. Segments of the _calyx_ nearly equal, ciliate. _Corolla_ pale purple, 4-cleft; the upper segment broadest; the inferior segments (forming the lower lip) oval, obtuse. _Filaments_ 4; two of them as long as the corolla, sterile and forked; the shorter ones fertile. _Stigma_ 2-lipped. _Capsule_ ovate, acute. _Seeds_ numerous, oval.

_Hab._ In wet meadows, borders of ponds, &c. in the vicinity of New-York: much rarer than the next species. July—Sep-tember.


_Root_ annual. _Stem_ erect or procumbent, a little branched, thicker than in the preceding species, quadrangular, smooth. _Leaves_ subspatulate-obovate, serrate or dentate. _Peduncles_ at first shorter than the leaves, but at length equalling them. _Calyx_ nearly equal. _Corolla_ and _stamens_ as in _L. dilatata._

_Hab._ In similar situations with No. 1, but much more com- mon. July—September.

Root perennial. Stem erect, 4—6 inches high, quadrangular, smooth. Radical leaves exactly spatulate, obscurely toothed, rather fleshy, punctate; cauline ones very few. Peduncles an inch or more long; bracts subulate. *Calyx* one-fourth as long as the corolla, deeply 5-parted; segments, lanceolate, acute. *Corolla* pale blue, smooth; lower lip very large, segments round, very obtuse; upper lip emarginate. *Sterile* filaments as long as the tube of the corolla, glandular; *fertile* ones much shorter; *anthers* 2-lobed. *Style* as long as the fertile stamens; *stigma* 2-lipped. *Capsule* oblong, acute, longer than the calyx; dissepiment parallel with the valves. *Seeds* minute, round, compressed.

Hab. On the White Hills of New-Hampshire. *Nuttall*. The above description is taken from specimens collected in North-Carolina, and obligingly sent me by Mr. Schweinitz and Capt. Le Conte.

12. **HEMIANTHUS.** *Nutt.*


*H. micranthemoides* *Nutt.* l. c. *Herpestis micrantha* Pursh *Fl.* II. p. 418. (excl. syn.)

Root fibrous, annual. Stem dichotomous, creeping. Leaves opposite, crowded, sessile, oblong-elliptic, smooth, succulent, somewhat 3-nerved. Flowers axillary, solitary, pedicellate; pedicels at length reflected. *Calyx* somewhat compressed, attenuated towards the peduncle; teeth obtuse, very short. *Corolla* bilabiate; tube gibbous; upper lip very minute; lower lip rarely expanding, with 2 lateral segments resembling teeth; the middle segment incurved, and generally remaining within the tube. *Stamens* seated on the lower lip; *anthers* obcordate, 2-lobed, 2-celled. *Style* 1, declined, bifid half way down; *stigma* small, capitate. *Capsule* round, 1-celled; *seeds* ovate, shining, smooth, acute at the base. *Nutt.*

DIANDRIA. MONOGYNIA. HEMIANTHUS.

This genus, as Mr. Nuttall justly observes, is nearly allied to Micranthemum of Michaux, but is sufficiently distinguished by the very irregular corolla, bifid style, smooth seeds, &c. It differs from Lindernia in the same characters, and in having a 1-celled capsule.

13. CATALPA. Juss.


A large tree, 30 or more feet high, with few, large, irregular branches. Leaves round-cordate, 8 or 10 inches in diameter, verticillate in threes, smooth on the upper surface, pubescent beneath, particularly on the nerves; petioles long, swelled at the base. Flowers in large pyramidal terminal panicles; branches trichotomous. Segments of the calyx obovate, mucronate. Corolla divided into 5 unequal crenate lobes, elegantly variegated with yellow and purple; outside of the flower white. Fertile filaments incurred, as long as the tube of the corolla; sterile filaments generally wanting in this vicinity; anthers 2-lobed. Style as long as the stamens. Capsule a foot long, at first green, but becoming brown and a little curved, remaining on the tree during the winter. Seeds flat, winged, and tufted with hair at the summit.


The Catalpa has evidently been introduced into this vicinity, as well as into most parts of the United States where it is now found. Mr. Nuttall, who has travelled extensively in our country, remarks, that it appears to have been introduced by the aborigines in most of the habitats which he visited. He, however, states, on the authority of Gov. Harrison, that it exists in considerable quantities in the forests of the Wabash, Illinois Territory.


Calyx 5-parted, often with 3 bracts at the base. Corolla irregular, bilabiate; upper lip emarginate; the


Root perennial, creeping. Stem 2 or more feet in height, angular, and deeply sulcate. Leaves 6 inches long, narrow-lanceolate, opposite, smooth and entire, narrowed at the base into a short petiole. Flowers in oblong terminal heads. Peduncles 3—6 inches long, straight, angular. Bracts and segments of the calyx subulate. Corolla pale purple, about half an inch long, smooth; upper lip deeply emarginated; lower lip with 3 nearly equal rounded divisions. Filaments as long as the tube of the corolla; anthers 2, alternately inserted on the filament, large and oblong. Style filiform, exserted; stigma minute.

Hab. In slow-flowing streams, and along the margins of large rivers. In the Niagara River, near the Falls. Cooper. In bays and slow-flowing waters of the rivers St. Lawrence, Oswego, &c. Pursh. In Pennsylvania. Muhlenberg.

15. UTRICULARIA. L.


1. U. inflata Wall.: floating; scape many-flowered; radical leaves verticillate, inflated, pinnatifid at the extremi-

* "Antheræ bilocularæ, loculis insertione sæpe inequalibus." R. Brown.

Root perennial. Leaves (roots?) submerged, dichotomously branching, furnished at the divisions with numerous compressed air-vessels or utriculi;* radical leaves (involucrum) alternate, but so close as to appear verticillate, cylindrical, of a delicate spongy texture, dichotomously divided at the extremities into many capillary segments furnished with utriculi. Scape about 8 inches long, 5—8-flowered; lower peduncles elongated, so as to give the flowers a corymbose appearance. Bracts ovate, obtuse. Calyx persistent; leaves ovate, concave. Corolla about 3-fourths of an inch in diameter, yellow; upper lip broad-ovate, entire; lower lip 3-lobed, crenate; spur half the length of the lower lip, conic-lanceolate, compressed, bifid; tube of the corolla very short. Filaments inserted near each other at the base of the lower lip. Style as long as the stamens.


Perennial. Stems submerged, 1—3 feet long. Leaves somewhat pinnate, dichotomous, capillary. Scape 8 or 9 inches long, generally bearing 7 or 8 flowers. Peduncles about 3-fourths of an inch long, bracteate at the base, spreading, and at length reflected. Calyx persistent; leaves concave, without nerves; the lower one a little emarginate. Corolla yellow; as are all the succeeding, except No. 8; lower lip entire, crenate on the margin, striated with red; palate equal; spur rather obtuse, and entire at the apex. Style as long as the stamens; stigma 2-lipped, the upper lip truncate, the lower fringed.


* At first, these vesicles are filled with water; when the flowers are ready to expand, they become inflated with air, to raise the scape above water. After flowering, the air escapes and the plant sinks.


*Scape* rooting in the mud, very slender, 4—6 inches high. *Flowers* generally 2, the lower one on a short footstalk, about half an inch in diameter. *Calyx* persistent; leaves equal. Upper lip of the corolla half the size of the other; the lower divided into 3 nearly equal obtuse lobes. *Spur* straight, conical, rather obtuse.


The species here described differs from Mr. Elliott's *U. setacea*, in having fewer flowers, and the spur shorter than the lower lip; still, however, I think them not distinct. I have specimens of *Utricularia setacea* collected in Georgia by Capt. Le Conte, with but 2 or 3 flowers on each scape, and the nectary nearly the length of the under lip.


*Roots* dichotomous, sparingly furnished with utriculi. *Scape* 2—3 inches high. *Corolla* larger than in the preceding species; lips very obtuse, slightly lobed; spur swelling out in the middle, obtuse.


6. *U. cornuta Mich.*: scape rooting, erect, rigid; flowers 2—3, subsessile; inferior lip of the corolla very wide,

Scape rooting in the ground, about a foot high; sides furnished with minute appressed bracts. Flowers approximate, nearly sessile, as large as those of U. vulgaris. Calyx unequal. Upper lip of the corolla ovate, obtuse; lower broad, round; palate very prominent; spur projecting off from the corolla, longer than the lower lip. Filaments inserted very near together, short, hollow at the extremities.


7. U. striata Le Conte: floating; scape 2—3-flowered; upper lip of the corolla ovate-round, subemarginate, margin waved; lower lip 3-lobed, reflected at the sides; spur straight, obtuse, shorter than the lower lip. Torrey Cat. pl. N. York, p. 89.

Stems submerged. Leaves 2 few, capillary, sparingly furnished with utriculi. Scape about a foot high, slender. Flowers generally 2, sometimes 3. Calyx subequal, obtuse. Corolla much expanded, large and elegantly striated with red; spur nearly a third shorter than the lower lip, obtuse, slightly swelling in the middle.


This species is nearly allied to U. fibrosa of Walter and Elliott, but differs in having the spur shorter than the lower lip. It was first observed by J. Le Conte, Esq. who has described it in his Monograph of the N. American Uticulariae; which work we hope soon to see published.


Stems floating, 2—3 feet long; branches verticillate and pinnatifid, setaceous. Scales solitary and in pairs, 2—3 inches long, rarely 2-flowered. Calyx small; leaves round or emarginate. Corolla purple! upper lip nearly round; the lower with the lateral lobes formed into little sacks; middle lobe largest; palate large and prominent; spur subulate, appressed to the corolla.

Hab. In ponds on Schooley’s Mountain, New-Jersey. Le Conte. On the Blue Ridge, in the State of New-York; and
on the Broad Mountain, Pennsylvania. In a pond near Lewistown, Sussex Co. Delaware. *Nuttall.* August.

16. **LYCOPUS.** L.


**Water Horehound.**


**Root** perennial, creeping. **Stem** erect, 1—2 feet high, much branched, quadrangular, with the sides concave. **Leaves** opposite, narrowed into a petiole at the base, smooth, sprinkled with minute resinous dots; upper ones incisely toothed; the serratures growing deeper on the lower leaves. **Flowers** very minute, crowded into whorls. **Calyx** about the length of the corolla, scabrous, sprinkled with resinous dots; each segment with a strong midrib, which is continued beyond the point into a short spine. **Corolla** white, with a tinge of red, bearded within. **Filaments** a little shorter than the tube; **anthers** didymous. **Style** 2-cleft; divisions reflected. **Seeds** obovate, compressed, with an acute margin.

**Hab.** In wet meadows and in ditches. August.

This plant may yet prove a distinct species from the *L. europaeus* of the old world, though I shall for the present consider it merely as a variety. I have no hesitation in referring to the plant described above, the *L. angustifolius* of *Elliott,* as it agrees exactly with his description, and with specimens thus named sent me from N. Carolina by Mr. Schweinitz. The *L. exaltatus* of *Pursh* and *Elliott,* and *L. sinuatus* of the latter, do not appear to be distinct from this species.

DIANDRIA. MONOGYNYA. Lycopus.


*Root* perennial, creeping. *Stem* herbaceous, often throwing out suckers at the base, a foot or 18 inches high, quadrangular, with obtuse angles, pubescent, simple, or sparingly branched. *Leaves* subsessile, smooth, coarsely-serrate, often, as well as the stem, of a purplish colour. *Flowers* in whorls, but less crowded than in the preceding species. *Calyx* much shorter than the corolla, segments acute, but not terminating in spines. *Corolla* slightly punctate, white; tube a little ventricose. *Seed* projecting beyond the calyx when ripe.

*Hab.* In shady wet places: frequent in moist woods. August.

Called Bugle-weed, and of some reputation as a popular remedy in haemoptysis and other haemorrhages.


*Hab.* In Pennsylvania. August. *Muhlenberg.* A doubtful species, perhaps a dwarf variety of *L. virginicus*, as that plant is often very small, bearing only 2 or 3 flowers in each axil, and throwing out long stolons from the base of the stem. There is no specimen of this plant in *Muhlenberg’s* Herbarium.

17. CUNILA. *L.*


*Root* perennial. *Stem* a foot high, quadrangular, with numerous, opposite, spreading branches, nearly smooth, purple:
Leaves with numerous diaphanous dots, opposite, broad-ovate, acute, a little cordate at the base; upper surface smooth, slightly pubescent beneath. Flowers in small fastigiate corymbs, with the terminal divisions somewhat in threes. Calyx oblong; sprinkled with resinous dots; teeth prominent, acute, nearly equal; throat densely villose. Corolla pale pink, a little hairy; upper lip erect and emarginate; the under with rounded emarginate lobes. Stamens and style nearly twice as long as the corolla; anthers 2-lobed; stigma bilamellate. Seeds oval, smooth.


Root perennial, creeping. Stem 8 or 10 inches high, quadrangular, branched below, producing long suckers from the base bearing small obovate leaves. Stem leaves often linear, with diaphanous dots, smooth, without veins, sessile, margins revolute? Peduncles setaceous, shorter than the leaves, the upper ones somewhat verticillate in threes. Calyx oblong-cylindric, 10-striate, not gibbous at the base, indistinctly 2-lipped; teeth nearly equal, subulate, the 3 upper ones approximated; throat closed with hairs. Corolla violet, much longer than the calyx. Fertile stamens 4? two of them exserted.


This plant, though disagreeing a little with the generic character, is certainly much more nearly allied to *Cunila* than to *Hedeoma*, to which last genus it is referred by *Persoon* and *Nuttall*. I regret that my specimens are not sufficiently perfect to describe the flowers accurately. It appeared to me, however, that there were decidedly 4 stamens, all of which were antheriferous and perfect.

18. HEDEOMA. *Persoon.*


The genus Hedeoma was, with much propriety, separated from Cunila by Persoon. The present species was referred to the latter genus by Michaux, with a mark of doubt.

19. MONARDA. L.


Hab. Root perennial. Stem about a foot and a half high, quadrangular, with the sides concave, hairy about the joints. Leaves opposite, on hairy petioles, a little rugose, broad-ovate, more or less cordate at the base; serratures mucronate. Bracts large and purple, the interior ones gradually diminishing in breadth. Calyx striate, slightly curved, somewhat pubescent, with acute teeth. Corolla large, scarlet, pubescent; tube narrowed below;
middle lobe of the lower lip much the largest, the lateral ones reflexed; upper lip folded round the stamens, which project a little beyond it. Style bifid at the point.


After a careful examination of the Monarda Kalmiana of Pursh, I cannot discover sufficient characters to distinguish it as more than a variety of M. didyma of Linnæus. Specimens received from Prof. Hadley have the leaves a little cordate at the base, and the heads of flowers sometimes proliferous. In specimens collected by Mr. Cooper, the leaves are somewhat narrowed at the base, but not so much as in Pursh's figure. The M. didyma α. I have never found indigenous.


Root perennial. Stem 2—3 feet high, pubescent, especially on the upper part, much branched. Leaves 2—3 inches long, hairy, with unequal remote teeth; base more or less cordate; petioles about 3-fourths of an inch long, almost villous. Flowers in large terminal heads; bracts ovate, very acute, coloured. Calyx striate, bearded at the throat; teeth subulate, spreading. Corolla pubescent; tube moderately long, flesh-coloured; upper lip villous at the end.


Pursh, who appears to have examined the genus Monarda with considerable attention, separates the M. mollis of Linnæus (M. allophylla Mich.) from the present species. They are, however, united by Muhlenberg without any mark of doubt. (Cat. p. 5) The M. mollis of Pursh may be only a variety, occasioned by a difference of situation.

*Hab.* In dry gravelly soil, from Canada to Carolina, particularly on the mountains. July—September. Flowers yellow, with purple specks. *Pursh.*


*Root perennial.* Stem about 2 feet high, much branched, very smooth. Leaves smooth and membranaceous, standing on long, almost naked petioles; teeth large, and rather remote. Flowers in small but dense heads, which are occasionally proliferous. Calyx cylindrical; teeth short and subulate. Corolla not seen. Seeds oblong.

*Hab.* In similar situations with the preceding species. Banks of the Schuylkill, near Philadelphia. August. In hedges and woods, from Canada to Carolina. *Pursh.*


*Root perennial and biennial.* Stem 2—3 feet high, branched. Leaves varying from lanceolate to oblong, punctate, narrowed towards the point; teeth obscure. Calyx long, a little curved; teeth spreading, subulate. Corolla yellow, dotted with brown; upper lip villous at the point. Bracts large, coloured with yellow and red.

*Hab.* In the pine-barrens of New-Jersey; common. In Pennsylvania. *Muhlenberg.* September. Called *Horse-mint.* An essential oil is extracted from it, which is useful as a rubefacient. See *Medical Recorder,* vol. II. p. 494, with an accurate figure.
§ II. Calyx bilabiata. Blephilia. Raffinesque.


Root perennial. Stem 2—3 feet high, with numerous spreading branches, covered with woolly hair. Whorls 4 or 5 on the upper part of each branch. Leaves on petioles 1-third their length, acuminate, Bracts shorter than the flowers. Calyx very unequally 2-lipped, covered with resinous dots; the upper lip of 2 short acuminate teeth; the other terminated by 3 subulate, almost bristle-form teeth, each furnished with several long jointed hairs inserted horizontally. Corolla not half an inch long, pale blue, with dark purple spots; upper lip short, oblong, obtuse, scarcely involving the stamens, villous; lower lip 3-lobed; the lateral lobes round, the middle one oblong, obtuse, short.


This species differs so much from all the preceding in the structure of the calyx, &c. that it might properly be separated as a distinct genus, were it not connected with the Monarda by the M. ciliata of Pursh. The latter has also a bilabiate calyx, but the teeth are all subulate, the two superior ones forming the upper lip being merely lower than the others.

20. SALVIA. L.


Root perennial. Stem a little branched, obtusely quadrangular. Leaves unequally serrate, punctate beneath, acute, pubescent
DIANDRIA. MONOGYNIA. SALVIA.

on the veins. Spikes naked; whorls remote. Calyx pubescent, 3-cleft; segments short, ovate. Flowers blue, viscos, punctate; upper lip arched; lower lip 3-lobed.


Root perennial. Stem about a foot high, quadrangular, densely covered with reflected hairs, branched a little towards the summit. Leaves mostly crowded about the root, 6—8 inches long, hairy, more or less lyrate or pinnatifid, very obtuse; under surface strongly veined with red. Flowers in whorls of about six. Upper lip of the calyx broad, truncate, 3-toothed; the lower 2-cleft. Corolla about 3-fourths of an inch long, blue; tube twice as long as the calyx; upper lip oval, emarginate; the lower lip with obtuse lateral segments, spotted at the base; middle segment much larger, cordate. Filaments inserted into the upper part of the tube of the corolla, bearing a transverse footstalk, with a 1-celled anther at each extremity. Style filiform, longer than the corolla; stigma 2-cleft.


Root thick, almost tuberous, perennial. Stem herbaceous, erect, nearly a foot high. Leaves ovate and cordate, lanceolate and pinnatifid, the segments toothed, rugose, pubescent on the veins and margins. Flowers in 6-flowered whorls. Bracts 2 at the base of each whorl, cordate-ovate, acuminate, toothed, pubescent. Calyx somewhat campanulate, bilabiata, hispid along the veins and margins; upper lip 3-toothed, teeth connivent; the lower lip longer, 2-cleft; the segments acuminate, mucronate. Transverse filament bearing an anther at each extremity. Anthers nearly black. Ell.


21. COLLINSONIA. L.

Calyx bilabiata; upper lip 3-toothed. Corolla unequal, somewhat campanulate, unequally 5-lobed;


Root perennial. Stem 2—3 feet high, a little branched, obtusely quadrangular, smooth. Leaves opposite, 3—5 inches long, 2—3 broad, acuminate, serrate; the lower ones on long footstalks, the upper ones sub sessile. Flowers in a loose panicle, with opposite branches. Calyx ovate, much smaller than the corolla; teeth of the upper lip broader. Corolla dull yellow, half an inch or more long; tube narrowed; lower lip fringed. Stamens exerted. Style very long, bifid at the apex. Perfect seed round.

Hab. In woods in rich soil among rocks. August.

There are two varieties of this plant found in the Northern States; one with leaves on long petioles, the other with the lower leaves on short footstalks, and the upper ones sessile.

22. CIRCAEA. L.


Root perennial. Stem a foot and a half high, terete, very smooth, simple. Leaves on slender footstalks about 3 inches long, acuminate; margin with remote mucronate teeth, and slightly ciliate; base often cordate. Flowers in long terminal racemes, alternate and pedicellate. Leaves of the calyx ovate-oblong, equal, rather obtuse. Petals inversely cordate, reddish-white, rather shorter than the calyx. Stamens spreading; filaments
inserted at the base of the petals, and equalling them in length; anthers round. Style filiform; stigma capitate. Fruit covered with minute hooks, reflected with the footstalks when old. Seeds oblong.

Hab. In shady moist woods; common. July—August.


Root perennial. Stem 6—8 inches high, swelling at the joints, and somewhat diaphanous. Leaves on long petioles, spreading horizontally, very broad in proportion to their length, of a thin and delicate texture; teeth distinct and somewhat uncinate. Raceme filiform, branched below. Calyx membranaceous. Petals reddish white, narrowed at the base. Fruit pubescent, but not hispid.


23. LEMNA. L.


Annual, as are all of the genus, (perennial Muhl. !) Fronds about 3-fourths of an inch long, pellucid, flat, smooth: on each side of the margin is a cleft, from which a young plant is pro-

* R. Brown proposes to place the genus Lemna, together with Chara and Najas, among the Hydrocharideae. "A Jussieu intet Filices relat. tum." R. & S.
duced, which is again, and often repeatedly, proliferous. Flowers not seen. Root a single fibre, proceeding from the middle of the under surface of the frond, terminated at the extremity by a sheath-like appendage, resembling the calyptra of mosses. 


Fronds a line, or a line and a half long, thick and succulent, slightly convex beneath, multiplying prodigiously by gemmae; the young closely sessile, giving the plant a stellated appearance. Flowers not seen.

HAB. In stagnant waters: very common throughout the United States.


Fronds the size of L. minor, but distinguished by the gibbous, pellucid, reticulated under surface. Hook.

HAB. In stagnant waters near Liverpool, in the western parts of the State of New-York. (c. fl.) Pursh.


Fronds 3—4 lines in length, succulent, and of a firm texture; a little convex beneath, sparingly producing gemmae. Root a bundle of 8 or 10 simple fibres proceeding from the middle of the frond. Flowers not seen.

HAB. In stagnant waters; frequently in company with L. minor; but not so common.

A very singular genus, which was not accurately defined by any author until it was lately illustrated by Hooker. This deservedly celebrated botanist, to whom we are so largely indebted, more particularly for his labours in the Cryptogamia, has given a new description of the genus Lemna in his valuable Flora Scotica, which I shall here quote. "All the species are aquatics, floating on the surface, or sinking only when the seed is ripe, and the plant dying away. Fronds (for I cannot consider the whole plant, from which spring the flowers, as a leaf) minute, ovate or orbicular, compressed, foliaceous, or thick and succulent; from the centre beneath, throwing out one or more slender roots, which are terminated by sheath-like appendages
resembling the calyptra of a mess. The margins of the fronds at one extremity, on each side, have a cleft, in which sometimes are produced one or more flattened orbicular gemmae, (and this is their common mode of increase,) which there grow into perfect fronds, and then fall away, or a single flower, consisting of an urceolate, membranaceous, monophyllous perianth, from a small opening in the top of which the stigma is protruded, and which bursts irregularly as the stamens become developed. These are two in number (rarely wanting.) Anthers of two rounded lobes, opening nearly vertically, each into 2 valves. Germen roundish, compressed, carinate on one side, tapering into a style about its own length, and terminated by a flattish rather expanded stigma. Fruit a utricle, transversely oblong, compressed, emarginate at the top, on which is the short persistent style. Seed 1, very hard, oval, lying horizontally in the utricle, and fixed by its lower side. Embryo oblong, monocotyledonous, horizontal, central, surrounded by a whitish fleshy albumen.” Hook. l. c.

24. CRYPTO. Nuttall.


Root fibrous, annual? Stems prostrate, creeping and rooting; branches assurgent, half an inch or an inch high, succulent, (with 6 or 8 dissepiments diverging from a common axis. Nutt.) Leaves cuneate-obovate, opposite, entire, obtuse, 1-nerved. Flowers very minute, globular, axillary, with minute stipules at the base. Calyx leaves oval, concave, obtuse. Corolla 2-petalled (sometimes 3. Nutt.;) petals roundish, concave, obtuse, closely incumbent over each other and the germ, white. Stamens generally 2, rarely 3, seated on the base of the petals; filaments about as long as the germ; anthers roundish, 2-celled. Style very minute and short; stigma obtuse. (Style 0; stigmas 2 or 3, like so many minute points, which are only visible through a strong lens. Nutt.) Capsule globular, depressed, membranaceous; seeds 2—3 in each cell, large in proportion to the capsule, oblong-cylindrical, obtuse, a little incurved, striate longitudinally, and transversely corrugate. (Perisperm 0. Embryon erect, flat; radical cylindrical, large, descendent. Cotyledons 2, small, subovate. Nutt.)

HAB. On the sandy margins of ponds on the south side of Long-Island, particularly near Islip. Along the ponds and streams

A singular little plant, allied to *Montia;* very properly erected into a new genus by Nuttall, who has admirably illustrated it in the Journal above quoted. It is probably widely spread over the country, though not easily detected on account of its minuteness. I have specimens from *Mr. Nuttall,* which he collected more than a thousand miles up the Missouri. First discovered by *Prof. Ives,* of New-Haven, who called it *Dwightea,* but never published a description.
CLASS III.

TRIANDRIA.

ORDER I.

MONOGYNIA.

A. Flowers superior.

† complete.
25. FEDIA.

†† incomplete.
26. IRIS. 27. LACHNANTHES.

B. Flowers inferior.

† complete.
28. COMMELINA. 29. XYRIS.

†† incomplete.
30. SCHOLLERA. 31. HETERANTHERA.
32. SISYRINCHIUM.

C. Flowers glumaceous.

33. KYLLINGIA. 39. CYPERUS.
34. SCIRPUS. 40. ERIOPHORUM.
35. SCHEONUS. 41. FUIRENA.
36. RHYNCHOSPORA. 42. CENCHRUS.
37. MARISCUS. 43. LIMNETIS.
38. DULICHIIUM. 44. ORYZOPSIS.

25. FEDIA. Gaert.

Calyx 1-leafed, 3—6 toothed. Corolla monopetalous, unequally 5-cleft. Capsule (nut?) crowned with the persistent calyx, 3-celled; only one of the cells


Root annual. Stem mostly erect, about a foot high, dichotomous, nearly round, slightly pubescent. Leaves opposite, rather obtuse, finely ciliate on the margin. Flowers in fastigate corymb, with lanceolate bracts at the base, forming a kind of involucrum. Calyx minute, 3—4-toothed. Corolla pale blue, gibbous at the base; segments ovate, very obtuse. Stamens long, exserted. Stigma simple, obtuse.


26. Iris. L.


1. I. versicolor L.: flowers beardless; stem terete, more or less flexuous; germin somewhat triangular; leaves ensiform.

TRIANDRIA. MONOGYNIA.

\[ \beta, \text{communis}: \] stem erect, distinctly flexuous; leaves narrow-ensiform; interior petals a little shorter than the stigmas; angles of the germen not grooved when young; sides deeply concave; capsule cylindrical-oblung. I. versicolor Pursh Fl. I. p. 29. Curtis's Bot. Mag. t. 21. I. americana stylo non crenato Dill. l. c. f. 187.

Root large and fleshy, creeping. Stem 2—3 feet, rather taller than the sword-shaped leaves. Flowers 2—4, in a terminal raceme. Segments of the corolla spatulate, blue variegated with yellow; interior segments of a paler colour. Filaments inserted into the tube of the corolla; \textit{anthers} linear, very long, yellow. Stigmas very large and resembling petals, strap-shaped, 2-toothed at the base. Capsule, when ripe, obscurely triangular; seeds flat, triangular.

Hab. In wet meadows, ponds and rivulets: the variety \( \alpha \) is less common than \( \beta \) which is abundant throughout the United States. May—June. Common Flag.


Root large and fleshy, creeping. Stem round, smooth, slender, marked by a prominent line on opposite sides, but never ancipitous. Leaves seldom half an inch broad, and often much narrower, generally overtopping the stem. Flowers 3—6, in a terminal raceme; petals spatulate, the 3 exterior ones spreading, purple on the edges, yellow in the middle; the interior ones longer than the stigmas, slightly emarginate. Germen triangular, angles deeply grooved. Capsule distinctly triangular, sides flat.


There has been much confusion respecting the two species of Iris here described, the principal cause of which is the imperfect descriptions given of them by Linnaeus and Willdenow. The Iris virginica of Pursh and other botanists is not sufficiently distinct from I. versicolor. Our I. virginica is the true plant of Linnaeus, according to Muhlenberg's Herbarium, which I have lately had an opportunity of examining. Pursh quotes the fig. in Dillen. Hort. Eltham (188.) for his I. virginica, but the plant there represented is certainly only a variety of I. versicolor, to which it is referred by Willdenow. The character of the crenated stigma, represented by Dillenius, is not noticed by Pursh, and was probably
only an accidental variation. The I. versicolor of Curtis, Bot. Mag. t. 21, Dr. Bigelow supposes, and I think with much reason, to be only a luxuriant variety of our common species: the stem is represented much more flexuous than I have ever observed it.


Roots extensively creeping and forming dense tufts. Leaves 3—5 inches long, and about a quarter of an inch broad. Scape compressed, not an inch long, clothed with very short leaves, or rather sheaths. Petals obtuse and emarginate, pale blue, the exterior ones marked with a slight crest? the interior ones narrower, but about the length of the others. Stigmas shorter than the petals.

Hab. On the gravelly shores of the calcareous islands of Lake Huron, near Michilimacinaack. Nuttall. I have specimens from Presq-Isle in the same lake, collected by Capt. Douglass, who found it abundant among the pebbles on the shore. Found in flower June 5th.

The flowers of the species of Iris being of such delicate structure that they lose many of their characters in drying, I am unable to determine whether the plant above described is distinct from I. cristata of Aiton. It does not differ from the description in the Hort. Kewensis, except in having, according to Nuttall, flowers destitute of a bearded crest. It appeared to me, however, in the specimens collected by Capt. Douglass which I examined, that there was an indistinct crest on the outer petals, which might have been more elevated in the living plant. Mr. Nuttall himself remarks, that it appears allied to I. cristata, and that he had seen no perfect specimens.

27. LACHNANTHES. Elliott.


Assorted text from a text document.
CONMEMNA. TRIANDRIA. MONOGYNIA.


Root perennial, with fleshy fibres. Stem erect? branched a little below, about a foot high. Leaves lanceolate; border of the sheaths fringed with ferruginous hairs. Involucrum (bractea) cordate-falcate. Petals cordate, very entire, blue; the lower one much smaller, pedicellate. Abortive stamens (nectaries L.) 4, pedicellate, and supporting cruciform anthers; one of them much smaller. Fertile stamens 2. Style subulate; stig- ma simple. Capsule subglobose, indistinctly 3-sided. Seeds 2 in each cell, oval.


Root perennial. Stem generally erect, 2 feet high. Leaves oblong; sometimes ovate-lanceolate, finely serrulate, scabrous on the upper surface, paler and smooth on the under, sprinkled with a few hairs. Sheaths furrowed, rather smooth, the margin and throat ciliate, with a rufous beard. Flowers clustered at the summit of the stem, sometimes axillary in the upper leaves. Bracts nerved, scabrous; when extended, reniform; enclosing 2 pedicels, one fertile, the other sterile. Calyx 3-leaved; leaves membranaceous, ovate-lanceolate, the upper one very small. Corolla 3-petalled; petals nearly round, clawed, sky-blue; the inferior one smaller. Nectaries (abortive stamens) 3, ovate, yellow, emarginate at the summit, contracted and 2-cleft at the base; with 2 lateral glands on footstalks, coloured, subulate, shorter than the filaments, inserted into the upper side of the germin at its base. Filaments 3, white, longer than the corolla, inserted into the lower side of the germin at its base. Anthers incumbent, furrowed, somewhat sagittate, yellow. Style longer than the stamens. Elliott.


Not having examined this plant in a living state, I have adopted the detailed description of Elliott, though it does not exactly apply to Michaux's C. longifolia. The principal discrepancy, however, is in the breadth of the leaves, which is a variable character in the genus.
29. XYRIS. L.


Root somewhat bulbous, cespitose. Scape about a foot high, straight, or a little twisted, erect, very smooth. Leaves much shorter than the scape, a line or a line and a half wide, flat, or occasionally spirally twisted. Head round-ovate. Outer valve of the calyx (bract Ell.) nearly orbicular, rigid, concave, covering the lower part of the corolla, green in the centre, the margin yellowish; (inferior scales empty;) inner valves shorter, linear-lanceolate, ciliate on the upper part. Petals yellow, as long as the calyx; border flat, retuse; claws narrow. Filaments pubescent; anthers oblong. Style as long as the stamens; stigmas obtuse. Capsule oblong, membranaceous, obtusely triangular, opening at the angles. Seeds very numerous, minute, oblong, acute at each end.

Hab. In wet meadows and sandy swamps; not uncommon. July—August.


30. SCHOLLERA. Schreb.

31. HETERANTHERA. Ruiz & Pavon.


Root perennial, creeping. Stem prostrate or partly floating, branched at the base, about 3 inches long. Leaves on footstalks about 2 inches long, broad-reniform or cordate, with a short point, marked with semicircular nerves meeting at the apex. Spath closely enveloping the flowers, terminating in a cusp. Corolla white, very evanescent and only partly expanding; tube cylindrical; segments oblong. Stamens very unequal; filaments inserted into the limb of the corolla at the throat; anthers, 2 small and nearly round; the other oblong. Style as long as the tube of the corolla; stigma simple, obtuse. Capsule oblong, subtriangular, crowned with the persistent style. Seeds oval, marked with about 8 elevated longitudinal lines, and minutely striated transversely.
TRIANDRIA. MONOGYNIA. HETERANTHERAS.


32. SISYRINCHIUM. L.


Root perennial. Stem about a foot high, a little branched towards the top, remarkably acipitose, with the margins extended into wings. Leaves narrow-linear and grass-like. Spath consisting of 2 lanceolate acute valves nearly equal. Flowers on slender peduncles projecting beyond the spath, blue; petals mucronate, with a central cusp, narrowed at the base. Stamens at first connected by their filaments at the base into a tube; anthers linear. Style passing through the tube of the stamens, and equalling it in length; stigmas a little spreading. Capsule large, globose, obscurely triangular, 3-valved.

Hab. In wet meadows, among grass; common. Sometimes in sandy woods; as in the pine-barrens of New-Jersey. May—June.

Willdenow quotes the synonym of Dillenius, (ut supra) under his S. anceps, but the petals, in the figure, are oblong-lanceolate and acuminate, which is not the case in our plant.

Root perennial, fibrous. Stem cespitose at base, about a foot high, setaceous and rather dry; margin distinctly winged, as in the preceding species. Spath consisting of 2 very unequal valves; one of them about as long as the peduncles, the other continued half an inch or more beyond the flowers, and ending in a rigid point; both of them strongly coloured, generally of a violet colour. Flowers about 4 in each spath; peduncles very slender, each with a glumaceous bract at the base; petals obcuneate, emarginate and mucronate, blue. Stamens, capsule, &c. as in the preceding species.


This species is easily distinguished from Scirpus anceps by its large coloured spath.

33. KYLLINGIA. L.


Root perennial, creeping, stoloniferous. Culm 3—12 inches high. Leaves linear, shorter than the stem. Head always single, uniformly inclined to one side. Involucrum sometimes with a fourth leaf; one of the leaves always erect and twice or thrice the length of the horizontal ones. Elliott.


34. SCIRPUS. L.


Club-rush.
§ 1. Seed surrounded with bristles at the base.

†. Style articulated to the seed; base dilated and persistent. Seed often lenticular. (Spike solitary.)

††. Style filiform, not bearded, deciduous. 11—17. Scirpus L. R. Brown.


§ 2. Seed naked at the base.

†. Style simple at the base, not articulated to the seed, deciduous. 20—22. Isolepis R. Brown.

††. Style bulbous and compressed at the base, ciliate on the margin. 23—24. Fimbri3Tylis Vahl.


Root fibrous, perennial. Culm naked, 8 inches or a foot high, acutely quadrangular, with the sides sulcate; the lower part with one or two purple truncate sheaths. Spike at first rather obtuse; the 2 or 3 lower glumes larger and empty. Glumes very dark brown, with a whitish scarious margin. Seed roundish, obtusely triangular, brown, crowned with an orbicular tubercle. Bristles 2—3, sometimes wanting.

Hab. Swamps, and borders of ponds; generally in brackish water. June—July.

A very common plant, but not described by Pursh. It was probably confounded by him with the S. quadrangularis of Michaux, as it was by Muhlenberg in his Catalogue. The real S. quadrangularis is a very different plant, which probably only inhabits the Southern States. It is well described by Elliott, and also by Muhlenberg, who calls it S. marginatus.

2. S. glauces*: culm many-angled, glaucous; spike ovate, acute; glumes ovate, obtuse or emarginate. Stamens 3; style 2-cleft. Scirpus No. 7. (anonymos) Muhl. Gram.

Culm erect, a foot and a half or two feet high, slightly striate, leafless. Sheaths very long, embracing the lower part of the culm. Spike sometimes oblique; the lower glumes larger, and often empty. Seed crowned with a conical tubercle, yellowish, as long as the bristles. Stamens 3. Style 2-cleft.

Hab. In overflowed meadows, and on the borders of ponds. June.


Root fibrous, perennial. Culms cespitose, erect, attenuated below the spike. Spike sometimes almost globose; glumes ovate-round, brown, with membranaceous margins. Tubercle of the seed conical, acute. Bristles 6, a little longer than the seed. Stamens 3. Style bifid.

Hab. In similar situations with the preceding. July—August.


Culm 3—6 inches long, hair-like, cespitose. Spikes seldom more than 4-flowered; sometimes even single-flowered. Lowest glume large, empty, and obtuse. Seed white or yellowish, obscurely triangular, marked with 6 or 8 prominent longitudinal lines and finely striated transversely. Bristles 4, rarely wanting.
HAB. Borders of ponds; generally partly under water. June—July.

Differs a little from the S. acicularis of Europe, particularly in having much more slender culms and bristles at the base of the seed. In some specimens of S. acicularis from Europe, I have found, occasionally, one or two bristles at the base of the seed. S. trichoidea et exigua of Humboldt and Bonpland are not very distinct from this species.

6. S. pusillus Vahl: culm compressed and a little angular; spike ovate, compressed; seed obovate; stamens 3; style 2—3-cleft. Elliott Sk. I. p. 75. Vahl Enum. II. p. 246?

Culm erect, about an inch high, slightly furrowed on one side, rigid. Tubercle crowning the seed conic. Bristles about 6.

HAB. In salt marshes; growing in large patches like moss. July—August.

7. S. intermedium Muhl.: culms cespitose, quadrangular, sulcate; spike ovate-oblong, acute; glumes rather acute; stamens 3; style 2-cleft; seed broad-obovate, compressed; tubercle distinct. Muhl. Gram. p. 31.

Root creeping. Culm slender, ascending, 3 or 4 inches long. Spikes a little variable in length; sometimes appearing bifid by the divarication of the lower glumes on one side. Glumes dark brown, with green sides. Bristles 6, longer than the seed. Tubercle very minute, conic, distinct from the seed, which is generally of a greenish colour.


8. S. planifolius Muhl.: culm triquetrous; radical leaves linear, flat, nearly equalling the culm; spike terminal, oblong, compressed, shorter than the cuspidate bracts at the base. Muhl. Gram. p. 32.

Root a tuft of large fibres. Culms cespitose, about a span high, acutely triangular, scabrous on the angles. Leaves carinate, margins scabrous, the lower ones shorter and broader. Spike at first lanceolate, about 6-flowered; glumes ovate, mucronate, yellowish; the 2 lowest ones bracteiform, unequal; the exterior one longer than the spike. Stamens 3. Style deeply 3-cleft; stigmas long and glandular. Bristles 4, rather longer than the triangular seed.

9. S. subterminalis*: culm floating, sulcate, inflated, leafy below; spike solitary, somewhat terminal, lanceolate; style 2-cleft; seed triquetrous.

Root fibrous. Culm 3 feet or more long, of a spongy texture; when dried, much roughened by the irregularly-contracting medulla. Leaves very narrow, concave. Spike about as large as in S. palustris, shorter than the large bract (or rather continuation of the culm) at its base. Glumes ovate-lanceolate, mucronate. Stamens 3. Style a little cleft. Seed large, acutely triangular, surrounded by 6 bristles, which it nearly equals in length.

Hab. In ponds and streams of fresh water near Deerfield, Massachusetts. Dr. Cooley. August. The whole plant, except the spikes, is under water.


β. callosum Big. MS.: glumes thickened and cartilaginous at the tips.

Root fibrous, fasciculose. Culm about a span high, slender, finely striate; lower part densely covered with imbricated sheaths. Inferior sheaths marcescent, obtuse; the upper ones green, producing a very short, obtuse leaf. Spike 4−5-flowered, compressed. Glumes yellowish-brown, obtuse; the 2 lower ones resembling bracts; the exterior a little longer, and the other a little shorter, than the spike. Stamens 3. Style 3-cleft. Bristles 6, smooth, longer than the germin. Ripe seed not seen.


For specimens of this interesting plant I am indebted to Prof. Bigelow. Though it differs in some respects from the European species, it does not seem specifically distinct. To S. campestris it has much affinity.

**

Culm 3—5 feet high, slender, clothed at the base with one or two sheaths, which generally bear leaves 6—8 inches in length. Spikes bursting from the culm a few inches below the summit, which is erect and mucronate. Glumes ferruginous; margins scarious and sometimes a little pubescent. Stamens 3. Style 2-cleft. Seed compressed on the one side, convex on the two others. Bristles 6, longer than the seed.

Hab. In salt marshes and swamps, and on the banks of rivers; common. July—August. I have noticed 3 varieties of this plant. 1. The common one of our salt marshes in this vicinity; 4 or 5 feet high; spikes 2 or 3, growing out of the side of the culm from 3 to 6 inches below the extremity. 2. Culm 3—4 feet high, thick; spikes 3—5, nearly terminal. Grows near New-Haven, Connecticut. S. mucronatus Pursh 3. Culm very slender, 2 feet high; sheaths leafy; spike generally single, remote from the extremity of the culm. Collected near New-Haven by Mr. E. Leav enworth.


Culm from a span to a foot in height, with a few subulate leaves at the base. Spikes 1—3, turgid, short-ovate, rather acute, bursting out of the side of the culm 2 or 3 inches from its extremity. Glumes broad-ovate, smooth, carinate, sometimes acuminate; margins membranaceous. Stamens 3. Style 2-cleft. Seed obovate, flat on the inner side, convex on the other, shining, with obscure impressed dots. Bristles 4—5, a little longer than the seed.


I have specimens of S. debilis from Massachusetts, in which there are no bristles at the base of the seeds.


Culm 4—8 feet high, more than half an inch in diameter at the base, gradually diminishing towards the extremity. Sheaths at the base of the culm, bearing short leaves. Spikes in an unequal subdivided panicle or cyme, conglomerated in threes at the extremities of the branches. Glumes ovate, obtuse, and slightly mucronate, brown, pubescent under a lens; margins ciliate. Stamens 3 (sometimes more, Muhl.). Style deeply 2-cleft. Seed obovate, compressed, pointed with the remains of the style. Bristles 4—6, hispid, longer than the seed.
Hab. In ponds and marshes on the borders of lakes and rivers. June.

The plant here described differs from the S. lacustris of Europe, in having a 2-cleft instead of a 3-cleft style, and in its ciliate glumes. I have, however, seen specimens of S. lacustris from Connecticut, in which the style was 3-cleft. The panicle varies greatly in size; sometimes it is much decom- pond, frequently somewhat sessile.


Culm 4 feet high, of nearly uniform diameter throughout, covered with oblong brown spots. Panicle or cyme proliferous; peduncles compressed, bracteate at the divisions. Glumes brown, ovate, carinate, dilated. Stamens 3. Style 2-cleft. Seed as in the preceding species.


Culm obtusely triangular, about 2 feet high. Involucrum foliaceous, longer than the cyme. Spikes crowded into small heads of 10 or 12 each, about a line and a half long. Glumes dark green, becoming brownish, terminating in a distinct point. Stamens 3. Style 3-cleft. Seed white, smooth, plano-convex. Bristles 4, longer than the seed.

Hab. In wet meadows; common. June—July. Resembles the next species.


Culm 2—3 feet high, clothed with sheathing leaves nearly as tall as the cyme. Principal branches of the cyme about 5, compressed or angular, unequal, with truncate sheaths at the base. Spikes rather larger than in the preceding species. Glumes of a brown colour, carinate. Stamens 3. Style 3-cleft. Seed triquetrous, shining, shorter than the bristles which surround the base.


Culm acutely 3-angled, 3—4 feet high. Leaves smooth, carinate, taller than the culm. Involucrum resembling the leaves. Spikes in a kind of conglomerate corymb, 6—10 in number, nearly an inch long. Glumes brown, lacerately 3-cleft, pubescent. Stamens 3. Seed compressed-triangular, pointed with the remains of the style. Bristles 4, about as long as the seed.

Hab. In salt-marshes, and in ditches near salt-water. July—August.

Nearly allied to S. maritimus, but differs in the form and size of the spikes, &c.

* * *


Root perennial. Culm 4—5 feet high, very smooth. Leaves a foot or two feet long, linear, scabrous on the margin; sheaths very long, margin brown. Involucrum of 4 long leaves resembling those on the culm, with several intermediate shorter ones. Panicle terminal, much divided and proliferous, partly nodding; branches sheathed at the base. spikes all pedunculate, forming small umbels at the extremities of the branches, obtuse. Glumes ovate, obtuse, brown when old. Stamens 3. Style 3-cleft. Seed white, ovate, compressed. Bristles 6, crisped, brownish, projecting much beyond the glumes when the seeds are ripe, giving the spikes a woolly appearance.

Hab. Borders of swamps and in wet meadows; common. August.

Culm 2—3 feet high, very leafy. Leaves flat, smooth, two lines and a half wide, disposed in a somewhat distichous manner. Panicle or umbel with elongated branches, at first erect, but afterwards nodding. Involucrum a little longer than the leaves. Spikes all on peduncles, solitary. Glumes ferruginous, with the carina green. Stamens 3. Style 3-cleft. Seed triangular. Bristles capillary, somewhat interwoven, 6? as long as the glumes.


There is a little confusion respecting this plant. *Pursh* affirms that there are no bristles at the base of the seed. *Elliott,* also, remarks, that the seeds are naked. But *Muhlenberg,* who evidently describes the same plant, observes that the bristles are longer than the seed; and so I have found them in my specimens. Hence it appears that the bristles are occasionally wanting in this Scirpus, as they are in *S. tenius,* &c.


Root fibrous, perennial? Culms cespitose, almost capillary, about 2 inches high, purple below. Leaves nearly radical, setaceous. Involucrum of 2 leaves, one of the leaves much longer than the other and appearing to be a continuation of the culm. Spikes 2 or 3, sometimes 1, ovate, turgid, crowded. Glumes ovate, acute, purple and brown, carinate, striate; the extremities mucronate, a little recurved. Stamens 3. Style 2-cleft. Seed naked, oblong, white.

Nearly allied to S. minimus of Vahl, but probably distinct, as that species is a native of Africa. It also resembles S. setaceus, but is easily distinguished by the involucrum and sub-squarrose spikes.


Root fibrous, annual? Culm about a span high, very slender, cespitose. Leaves setaceous, mostly radical, much shorter than the culm, sheathing at the base, ciliate-serrulate; throat of the sheaths bearded. Spikes somewhat umbellate, generally 4, ovate-oblong, one, and sometimes two of them nearly sessile, the rest on peduncles half an inch or more long. Involucrum 1 or 2-leaved; one of the leaves a little longer than the umbel. Glumes oblong, the upper ones obtuse, ferruginous, with a green keel. Stamens 3. Style 3-cleft. Seed short, triquetrous, white, minutely corrugated transversely, naked at the base.


Root fibrous, perennial. Culm from 8 inches to a foot in height, cespitose, rough above on the margin, leafy at the base. Leaves flat, narrow-linear, nearly as long as the culm. Sheaths slightly bearded at the throat. Spikes sometimes conglomerate in threes at the extremity of the branches of the umbel. Involucrum unequal; one of the leaves shorter than the umbel. Glumes ovate-lanceolate, mucronate, keeled, a little squarrose at the tips when mature. Stamens 3. Style 3-cleft, not ciliate. Seed compressed-triangular, smooth, white, naked at the base.

Hab. In low boggy grounds, and in sandy swamps; common July—October.

Root fibrous, perennial. *Culm* varying from 2 inches to 2 feet in height, according to the soil in which the plant grows. *Leaves* a little concave, striate, nearly equalling the culm; *sheaths* somewhat distichous, pubescent on the margin. *Umbel* generally simple, consisting of from 3 to 4 rays each bearing a spike, and a sessile intermediate one. *Involucrum* 3-leaved, one of the leaves longer, and appearing like a continuation of the culm. *Glumes* ovate, acute, brown. *Stamens* 3. *Style* 2-cleft, fimbriate. *Seed* obovate, compressed, naked at the base.


Root a tuft of dense fibres. *Culms* cespitose, tenacious, about 2 feet high, nearly round below, but compressed above. *Leaves* radical, about half as high as the culm, somewhat channelled on the interior surface; *sheaths* dilated, beardless at the throat. *Umbel* consisting of several compressed peduncles, each bearing several spikes. *Spikes* very closely imbricate, when old cylindrical, brown. *Glumes* nearly orbicular, smooth. *Stamens* 3. *Style* 2-cleft, distinctly fimbriate. *Seed* compressed, striate, yellowish.

**Hab.** In salt marshes. I have found this plant only on the edge of the salt meadow at Hoboken, New-Jersey. In Pennsylvania. *Muhlenberg.* August.


*Glumes* fascicled into a spike, paleaceous, the inferior ones empty. *Corolla* 0. *Style* deciduous. *Seed*

S. mariscoides Mühl.: culm terete or a little sulcate, leafy; leaves channelled, semiterete; umbel terminal; fascicles of spikes 3 on each peduncle; seed naked, rounded at the base. Mühl. Gram. p. 5.

Root perennial. Culm about 2 feet high, smooth, or with rough dots. Leaves rounded on the back, channelled above, cylindrical or triquetrous at the extremity. Flowers somewhat umbelled, terminal; heads peduncled, consisting of 3 fascicles, each of about 12 spikes; peduncles erect, unequal, compressed. Spikes lanceolate, brown, with bracts at the base; bracts longer than the spikes. Glumes ovate, carinate. Stamens 3. Style 2—3-cleft. Seed crowned with the remains of the style, slightly striated longitudinally. Mühl.


I have not had an opportunity of examining this plant, but it appears to resemble S. mariscus, which is the type of the genus Cladium* of R. Brown. It differs, however, in having fewer spikelets in each fascicle, and in being triandrous.

36. RHYNCHOSPORA. Vahl.


Root creeping. Culm slender, a foot or 18 inches high, leafy, very smooth. Fascicles axillary and terminal, with setaceous

bracts at the base. **Spikes** lanceolate, acute at each end; **glumes** crowded, white, lanceolate. **Stamens** 3; sometimes 2, or 1. **Seed** somewhat stipitate, nearly lenticular, acuminate with the remains of the style, smooth. **Style** 2-cleft. **Bristles** about as long as the seed.

**Hab.** In swamps and bog-meadows; common. July—September.

2. **R. fusca** R. & S.? **culm** triquetrous; leaves linear, carinate; **fascicles** of spikes alternate, pedunculate; spikes ovate; **glumes** ovate, brown; **seed** ovate, with an acute black tubercle. **Schœnus** fusca *Muhl.* **Gram.** p. 6. **Rhyn. fusca** *Roe*m. & *Schult.* II. p. 38. **R. alba** *fusca* *Pursh Fl.* I. p. 49?

**Culm** 2 feet high. **Leaves** smooth. **Spikes** bracteate; bracts setaceous, longer than the spikes. **Glumes** mucronate. **Style** 2-cleft. **Seed** brown, rugose, as long as the hispid bristles.

**Hab.** In New-York. **Muhlenberg.** +.


**Culm** a foot or 18 inches high, slender, smooth and leafy. **Leaves** about a line and a half wide, carinate, rough on the margin. **Flowers** in glomerated heads or corymbs, of which there are generally three axillary pairs and one terminal one. **Spikes** lanceolate. **Glumes** brown, lanceolate, carinate, mucronate. **Stamens** 3. **Style** 2-cleft. **Seed** brownish, shining, compressed. **Tubercle** as broad as the seed at the base. **Bristles** 6, retrorsely scabrous, nearly as long as the tubercle.

**Hab.** In swamps and bog-meadows; common. July—September.

I am a little doubtful respecting the synonyms of *Michaux* and *Vahl* above quoted, but I have no hesitation in referring the R. capitellata of *Elliott* to this species, as his description agrees minutely with our plant, as do also specimens of R. capitellata sent to me from the Southern States by Mr. *Schweinitz*. The *Schœnus capitatus* of *Muhlenberg* is probably also not distinct from this species.

4. **R. capillacea***: **spikes** 3—5, nearly terminal; **culm** triquetrous, somewhat leafy; **leaves** setaceous; **seed** stipitate.
Willd. Spec. I. p. 268?

Culm about a span high, slender. Leaves setaceous. Spikes with a setaceous bract at the base. Glumes brown, lanceolate, mucronate, carinate. Stamens 3. Style 2-cleft, persistent. Seed crowned with the remains of the style, surrounded with 6 scabrous bristles at the base; bristles longer than the seed.


This plant is probably quite distinct from the Schœnus setaceus of Swartz and Vahl, as it certainly belongs to the genus Rhynchospora of the latter. The S. setaceus is diandrous, with the seed subrotund and bidentate; which characters do not exist in our plant.


Culm a foot and a half high. Leaves linear-lanceolate, smooth. Flowers in spreading panicles; the terminal panicle larger, with linear bracts. Spikes ovate, on slender peduncles. Glumes ovate, brown, mucronate. Style 2-cleft. Seed white; tubercle small, acute. Bristles twice as long as the seed.


Culm a foot or 18 inches high, smooth and slender, acutely triangular. Leaves linear, flat, carinate; the upper ones overtopping the culm. Flowers in fascicled cymes; peduncles unequal, with setaceous bracts at the divisions. Involucrum 2—3-leaved, setaceous, longer than the cymes. Spikes in little heads of about 5, ovate. Glumes broad-ovate, the lower ones mucronate. Stamens 3. Style 2—3-cleft. Seed pale brown, rugose transversely; finely striated longitudinally. Tubercle (or persistent base of the style) one third the length of the seed, white. Bristles shorter than the seed.


The R. cymosa of Elliott differs from the plant here described, and from Muhlenberg's, in having a terete
culm and smooth seeds. It will perhaps prove to be a distinct
ecies.

7. R. laxa Vahl: culm triquetrous; corymbs leafy,
decompound, loose; spikes subulate; seed obovate, pointed
with the long persistent style. Vahl Enum. II. p. 231.
Pursh Fl. I. p. 48. Roem. & Schult. II. p. 35. R.
longirostris Elliott Sk. I. p. 59. Schœnus longirostris

Culm 3—6 feet high, a little glaucous. Leaves a foot and a half
long, half an inch or more wide, flat, smooth, except on the
margin. Flowers in very large corymbs or umbels, axillary
and terminal. Spikes loosely fascicled in about fours on the
extremities of long triangular peduncles. Glumes about 5 in
each spike; the lower ones shorter. Base of the style per-
sistent, terminating in a long rigid point three times the length
of the seed. Seed compressed, margined, rugose. Bristles 6,
shorter than the seed.

Hab. In swamps on the borders of rivers. Delaware. Muh-
lenberg.

37. MARISCUS. Vahl.

Flowers distinct, in a somewhat imbricate spike.
Calyx 2-valved, unequal, 3-flowered. Corolla 1-valved.
Style 3-cleft. Seed triquetrous. Bristles 0. Vahl
Ord. Cyperoideæ Juss.

1. M. retrofractus Vahl: umbel simple; rays long;
spikes obovate, retrorsely imbricate; spikelets subulate, at
length bent backwards; involucrum 3-leaved. Vahl Enum.
Roem. & Schult. II. p. 245. Scirpus retrofractus
f. 4.

Culm a foot and a half high, naked, obtusely triangular,
pubescent; sometimes with reflected, laciniate scales on the angles.
Leaves situated at the base of the culm and about half its
length, linear-lanceolate, pubescent, carinate. Involutum
leaf-like, shorter than the umbel. Rays of the umbel 6—8,
unequal, compressed, 2—6 inches long. Spikelets terete, col-
lected into an obovate head, at length closely reflected back-
wards. Calyx of 2 membranaceous leaves, (sometimes
1-leaved,) much shorter than the flowers. Flowers closely
imbricate, (generally but one fertile;) corolla ovate and lance-
TRIANDRIA. MONOGYNIA. MARISCUS

HAB. In wet meadows; rarely in dry fields. August—September.


Root bulbous, with descending fibres. Culm from 6 inches to a foot and a half high, triangular, nearly naked. Leaves shorter than the culm and situated at its base, carinate, nearly smooth. Involucrum about 3-leaved; leaves unequal, the longest about three times the length of the rays of the umbel. Spikes 3—5; sometimes 1; the middle one sessile, the rest on spreading rays or peduncles 1—2 inches long. Spikelets in the lower part of the head reflected when old, terete; generally but one of the florets perfecting its seed. Corolla lanceolate; the lower valves ovate. Stamens 3. Style 3-cleft; a small part of the base persistent. Seed oblong, brown, puncticulate.

HAB. In low boggy grounds; not uncommon in the vicinity of New-York. July—August. In sterile soils it is frequently 1-spiked, without any rays.

β. tenellus*: culm acutely triangular, slender; involucrum 3—5-leaved; three of the leaves many times longer than the umbel.

Heads consisting of 10 or 12 spikelets. Culm about a foot high.

HAB. On the sea-coast of Long-Island. August.

38. DULICHIUM. Richard.


Hab. In swamps and along the borders of ponds; common. August—September. Near New-York it is generally found in the vicinity of salt water.

The D. canadense of Persoon (Syn. I. p. 65.) I suspect is only a variety of this species.

39. CYPERUS. L.


1. C. inflexus Muhl.: umbel 2—3-rayed, or conglomerated and simple; involucrum 3-leaved, very long; spikelets collected into ovate heads, oblong, 8-flowered; glumes squarrose at the tip. Muhl. Gram. p. 16. C. uncinitus Pursh Fl. I. p. 50. C. Purshii Roem. & Schult. II. p. 177.

Root fibrous, biennial? Culm 2—3 inches high, leafy at the base. Leaves linear, flat, equalling the culm. Umbel sessile, or on peduncles 3—5 lines long. Heads consisting of from 12 to 20 spikes densely conglomerated. Involucrum foliaceous; one of the leaves three times the length of the umbel, carinate. Spikelets linear-oblong, compressed, generally 8-flowered. Glumes ovate, acuminate, mucronate, with the points recurved, strongly 7-nerved, smooth, yellowish-green. Rachis quadrangular, compressed. Stamen 1. Style 3-cleft. Seed triquetrous, ovate-oblong.

Allied to Cyperus aristatus and squarrosus of the East-Indies.


Root perennial. Culm about a span high, triquetrous, leafy. Leaves few (2—3,) sheathing the base of the culm, narrow, smooth. Involucrum about 3-leaved, unequal, spreading. Spikelets 3—4, about 18-flowered (14—20) alternate on peduncles, which are sometimes elongated into distinct rays, but generally short, so that the spikelets appear sessile. Glumes ovate; sometimes with a short, abrupt point, shining; sides yellowish; carina green. Stamens 3. Style 2-cleft. Seed dark brown, oval, mucronate, a little wrinkled.


The North-American plant appears to resemble the European in every essential character.

3. C. Nuttallii*: culm acutely triangular; umbel radiated, or nearly sessile, loose; rays short; involucrum 4-leaved, two of the leaves very long; spikelets linear-lanceolate, compressed, acute; stamens 2; style 2-cleft; seed oblong-obtuse, compressed. *Torrey Cat. pl. N. York, p. 89. sub C. caespitoso. *Spreng. neue Entdeck. I. p. 240.

Root fibrous, perennial. Culms caespitose, 5—12 inches high. Leaves situated mostly at the base of the culm and nearly equalling it in height, narrow-linear. Umbel sometimes very distinctly rayed; the rays about 3 in number. Involucrum of 2 short and 2 very long leaves. Spikelets very acute, fasciculate on the rays. Glumes rather cartilaginous; the carina green and striated, the rest of a chesnut colour. Seed glabrous.

Hab. On the borders of salt-marshes. It appears to be confined to the vicinity of salt-water. August—September.

The name of this species is changed, because there is a Cyperus caespitosus described by *Poiret in the Encyc. Meth. There is a variety of this plant, of more humble growth, and with nearly filiform culms and leaves, and the spikes fewer flowered. It may be C. flavescens f. castaneus *Pursh Fl. I. p. 53, and probably *C. brizæus of the same author, though not of *Persoon.

4. C. diandrus*: culm slender, obtusely triangular; umbel sessile, or 1—2-rayed; involucrum 3-leaved, two of the leaves much longer than the umbel; spikelets lanceolate-oblong, much compressed, many-flowered (14—16;) glumes
GPERUS. TRIANDRIA. MONOGYBIA.

margined, rather acute, keeled; stamens 2; style 2-cleft; seed oval, compressed. Torrey Cat. pl. New-York, p. 90.

Root fibrous, perennial. Culm very slender, 8—12 inches high, reeling or decumbent; generally solitary. Leaves few, shorter than the culm, membranaceous, bright green. Umbel simple; sometimes without rays, the spikelets appearing fascicled into a loose head. Involucrum uneal; the longest leaves 6 or 7 inches long. Glumes membranaceous, much compressed, with a distinct, chestnut-coloured margin; carina green. Stamens always 2. Style very long. Seed grey, smooth.


5. C. dentatus*: umbel compound (6—10-rayed); involucrum 3-leaved, longer than the umbel; spikelets 3 on each ray, alternate, ovate, compressed, 8-flowered; glumes acute, nervose, spreading at the points; seed triquetrous. C. parviflorus Muhl. Gram. p. 19.

Root creeping, fibrous; the fibres terminated by little tubers. Culm about a foot high, triquetrous, leafy at base. Leaves linear, smooth. Rays of the umbel nearly erect, unequal, triangular, ochreate at the base. Spikes generally much compressed, appearing dentate or pectinate by the spreading of the points of the glumes when old, sometimes viviparous, and then nearly terete. Glumes ovate, brownish, margined. Stamens 3. Style 3-cleft.


I have changed the name Muhlenberg gave this species, because Vaht had previously called a different plant C. parviflorus.


Root fibrous, of a dark red colour. Culm triangular, about a foot high, leafy at the base. Leaves as long as the culm, 2—3 lines broad. Umbel of 3—4 primary rays, each divided into 2 or 3 others, which are without smaller involucra. Involucrum with 2 of the leaves several times longer than the umbel, rough. Spikelets narrow-linear, about an inch long, nearly terete when mature. Glumes ovate, acute, brown. Stamens 5. Seed ovate, white.


Root about half an inch in diameter, with descending fibres. **Culm** triquetrous, a foot or two feet high. **Leaves** broad-linear, nearly as tall as the culm, rough on the margin. **Umbel** generally simple, 3–4-rayed; **rays** about 2 inches long, unequal, sheathed at the base, triquetrous; sheaths bifid. **Involutcrum** 3–6. (3–9 *Mu h l.*) leaved; leaves alternate; the exterior ones 3 times the length of the rays. **Spikelets** 10–12-flowered, an inch or more long, of a yellowish colour. **Rac his flex ious. Stamens** 3. **Style** generally 3-cleft (rarely 2-cleft.) **Seed** oblong, triquetrous.

**Hab.** In low wet grounds; common. August—September.


**Culm** triquetrous, slender, about a span high. Radical leaves about a foot high. **Rays** of the *umbel* unequal. **Spikelets** yellowish, bracteate at the base. **Rac his** articulated. **Glumes** nerves. **Style** 3-cleft. *Mu h l.

**Hab.** In Pennsylvania. *Mu h len ber g.*

I am not certain that I have observed this species, and have therefore adopted *Mu h len ber g*'s description entire. The North-American plant will, probably, hereafter be found distinct from that of the West-Indies, which has crowded, subulate spikelets, a 6-leaved involucrum, and a filiform culm.


Root creeping; the fibres terminated by small tubers about the size of a pea. **Culm** triquetrous, a foot or more high. **Leaves** mostly situated at the base of the culm, a little recurved, very smooth, carinate, sheathing at the base; the radical ones broader. **Umbel** generally simple; of 4 or 5 unequal **rays** with bifid **ochrea** at the base. **Spikelets** elongated, opposite and alternate on the upper part of the rays, of a yellowish co-


Allied to C. Hydra of Michaux, which is such a scourge to the planters in the Southern States.


Culm 3—8 inches high, obtusely triangular. Leaves shorter than the culm, linear-lanceolate. Spikelets nearly sessile, somewhat capititate, oblong-lanceolate, many-flowered (16—27.) Glumes not mucronate, the carina green; sides membranaceous, nearly white. Stamens 3. Style 3-cleft. Elliott.


This species I insert on the authority above given, though, I believe, no other botanist has observed it in the Northern States. The C. compressus of Muhlenberg (Gram. p. 15.) differs from that described by Elliott, in having a compressed culm, a simple umbel, mucronate glumes, and a 2-cleft style.


Culm 1—2 feet high, most acutely triangular; the angles scabrous near the summit; sides concave. Leaves linear-lanceolate, somewhat compressed, the margins and midrib serrulate, 2—3 feet long, 4—6 lines wide. Spikelets commonly 16 flowered, laterally appressed into compact heads. Glumes lanceolate, acute. Stamens 1? Style 3-cleft. Seed oblong, triangular. Elliott.


This, like the preceding species, I insert on the authority of Pursh.


Root tuberous. Culm triquetrous, slender, 8—12 inches long, nearly naked. Leaves mostly radical, linear, carinate, rough on the margin. Involutrum 3—4-leaved, unequal; leaves longer than the umbel. Head of spikelets simple and sessile, or more commonly with 1 or 2 (rarely 3—5) lateral rays. Rays 2—3 inches long, spreading almost horizontally. Spikelets generally 7-flowered, at first nearly terete, but when old compressed. Rachis triangular. Glumes rather remote, ovate; the lower ones obtuse, the others rather acute, brown and green. Stamens 3. Style 3-cleft. Seed oblong, triangular, gray.


Much resembling a Mariscus in habit, but is still decidedly a Cyperus. It appears to have very little affinity to Scirpus.


This species I have never seen. It is not recorded as a native of North-America by any other botanist except Pursh, who, I strongly suspect, has confounded it with some other Cyperus described in this work.


Hab. In boggy woods. Pennsylvania to Carolina. Pursh. I think it doubtful whether this species has been found as far north as Virginia.

ERIOPHORUM. L.

Cotton-grass.

† Spike solitary.


Culm 8—10 inches high, slender, with very acute angles; sides concave and striate. Leaves about half an inch long, pungent, triangular, channelled above. *Sheaths* 3—4, radical, purplish; the lowest ones mucronate with the rudiments of leaves. Spike about 2 lines long, a little compressed. *Glumes* oblong-lanceolate, obtuse, carinate, pale yellowish-brown; the exterior bracteiform, 3-nerved, somewhat mucronate. *Stamens* — (1—2 in the European plant.) *Style* 3-cleft. *Seed* ovate, acuminate, much compressed, with an elevated ridge on one side, brown. *Hairs* 6, white, 3 times as long as the spike, flattened, more or less crisped.


I have carefully examined the specimens sent to me by Dr. Emmons, and compared them with those in my herbarium, from Norway and Germany, and find them to agree in almost every respect.


Root creeping? Culms densely cespitose, about a foot high. Leaves mostly radical, longer than the culm, acutely triangular and almost setaceous, scabrous towards the upper extremity. *Sheaths* on the culm, about 2, ventricose, mucronate; the radical ones lacerate into slender filaments. Spike about 3-fourths of an inch long. *Glumes* of a livid colour, membranaceous, ovate-lanceolate, acuminate; the exterior ones empty, and at length reflected. *Stamens* —. *Style* 3-cleft. *Seed* obovate, much compressed, very obtuse. *Wool* white, about twice the length of the glumes; *hairs* about 20 to each seed, flattened.
Hab. In a sphagnous swamp near Litchfield, Connecticut.


On high mountain meadows. Canada to Virginia. Pursh.

†† Spikes numerous.


Root fibrous. Culm a foot and a half or 2 feet high, a little compressed below, very smooth. Leaves 2—3 on the culm, 4—6 inches long, nearly 2 lines wide, with a prominent midrib, scabrous on the margin, distinctly triangular towards the point, which is of a brownish colour. Spikes 9—12, ovate, on filiform, unequal and retrorsely scabrous peduncles bursting from the terminal sheath. Involucrum 1-leaved, erect, about 2 inches long. Glumes ovate, acute, scarious; sides black or dark brown. Stamens 3. Style 2-cleft. Seed oblong-cuneiform, triangular, brown. Woolly hairs 30 or 40, white with a reddish tinge, silky, straight, a little flattened, about 3-fourths of an inch long.


Root creeping. Culm 2—4 feet high, leafy, smooth. Leaves a foot or 18 inches long; about 2 lines wide. Involucrum generally of 2 narrow leaves, 4—6 inches long. Peduncles 3—4, each bearing several conglomerated spikes and forming a kind of umbel. Spikes ovate, acute when young, sessile on the peduncles. Glumes ovate, acute, striate; inferior ones empty; sides brownish; carina green. Stamens 1. Style 3-cleft, scabrous. Wool of a reddish colour, at first not longer than the glumes, but becoming 3 times as long when mature. Seed ovate, plano-convex, slightly acuminate, brown.

Hab. In swamps and bog-meadows; common. July.

β. gracile*: culm very slender; leaves almost filiform.

Hab. In the Cedar Swamp near New-Durham, New-Jersey. August.
ERIOPHORUM. TRIANDRIA. MONOGYNIA. 67


Culm a foot or more high; sides convex. Leaves very narrow. Spikes 3—5, on short peduncles. Involucrum 1-leaved, linear-lanceolate. Wool white.


The plant I once considered as the Eriophorum angustifolium, I am now convinced is nothing more than a variety of E. virginicum. I have never seen an Eriophorum from this country resembling my European specimens of E. angustifolium. The plant which Bigelow has described under this name appears to be E. polystachyon.

41. FUIRENA. L.


Culm about a foot and a half high, angular, gradually becoming very slender towards the top. Leaves few, linear-lanceolate, flat, pubescent on each side. Sheaths distinctly striate; stipules membranaceous, brown, ciliate. Spikes aggregated into 2 heads; lateral head on a long peduncle proceeding from the sheath of the upper leaf; terminal head 3—6-spiked. Involucrum of 2—3 subulate leaves, shorter than the spikes. Glumes ovate, awned; awns squarrose, as long as the glume. Valves of the corolla distinctly pedicellate or clawed, cordate or rounded at the base, 3-nerved, awned at the tip. Stigmas 3. Style 3-cleft. Seed triquetrous, white. Bristles 4—5.


† Perianth, R. Brown,—seminal involucellum, Nuttall.
TRIANDRIA. MONOGYNYA. FUIRENA.

\( \beta \) ? *pumila*.: culm pubescent above; leaves smooth; throat of the sheaths hairy; spikes 1—3, terminal.


**Hab.** On the overflowed sandy margin of a creek near Babylon on Long-Island, in company with *Gratiola aurea*, *Xyris caroliniana*, &c.

This may be a variety of *F. squarrosa*; but if the characters above given are constant, it certainly must be a distinct species.

42. CENCHRUS. *L.*


**Hab.** In sandy arid soils. On the hills at Kingsbridge near


Culm a foot or a foot and a half high, compressed, smooth. Leaves linear-lanceolate, conduplicate, a little roughened above. Sheaths dilated, open. Racemes 10—14-flowered; rachis angular, hairy. Involutrum split on one side, hairy, including about 2 spikelets, each 1—2-flowered. Calyx, corolla, &c. as in the preceding.

In the sand on the sea-coast and near the mouths of rivers. August.

After a careful examination of the *Cenchrus* of our sea-coast (which is doubtless the *C. tribuloides*) with the common species of the pine-barrens of New-Jersey, and which all our botanists call *C. echinatus*, I can find no specific difference between them; the only discrepancy being the white pubescence on the spikes and margins of the sheaths.

43. **Spartina.** Schreb.


Root perennial. Culm 4—9 feet high, an inch in diameter at the base, erect, terete, fistulous. Leaves 2 feet long, 4—8
lines wide, somewhat glaucous, at first flat, but at length convolute on the edges. *Sheaths* shorter than the joints, smooth. *Stipule* bearded. *Spike* linear, about 3 inches long, scattered, generally alternate, on scabrous peduncles half an inch or an inch long, spreading when the flowers are perfected. *Flowers* arranged on 2 sides of a depressed triangular rachis. *Calyx* strongly serrulate on the keel; inferior glume about a third the length of the superior, linear, acute; superior glume linear-lanceolate, nerveless, very acute but scarcely awned. *Corolla* awnless, nearly equal, shorter than the superior glume of the calyx, lanceolate, without awns, serrulate on the keel. *Stamens* 3; *anthers* linear, yellow. *Style* a little cleft; (styles connate?) *stigmas* white. *Seed* linear-oblong, coated.


This species varies a little in the leaves and spikes. When it grows near the salt-water, the leaves are often convolute on the edges. In the specimens sent to me from Albany by Mr. Tracy, the spikes are of a yellowish colour, and the superior glume of the calyx is produced into a short awn.


*Root* extensively creeping. *Culm* about a foot and a half high, erect, terete, rigid, smooth, sometimes cespitose at the base. *Leaves* 8—12 inches long, almost setaceous. *Sheaths* remote, spreading; *Stipule* ciliate. *Spike* generally 3, rarely 5; the lower ones distinctly pedunculate, an inch and a half long, linear-lanceolate. *Rachis* compressed. *Calyx* very unequal; the superior glume 1-third the length of the other, and very narrow. *Corolla* with the inferior valve shorter, lanceolate, serrulate-ciliate on the keel; apex slightly cleft; superior valve lanceolate, nearly smooth on the back; apex entire. *Stamens* 3; *anthers* linear, purple. *Style* cleft nearly to the base; each *stigma* with a small feathered process growing from its side. *Seed* oblong.

**Hab.** On the gravelly banks of rivers near the salt-water, and on the sea-coast. Also in salt-marshes. July—August.

The *S. patens* of *Muhlenberg* (Gram. p. 55.) is probably only a variety of the plant described above.

3. *S. glabra* *Mu h l.*: leaves concave, erect; spikes alternate, sessile, erect, appressed; corolla nearly smooth on the keel; style cleft about half way down. *Mu h l*. Gram.
SPARTINA. TRIANDRIA. MONOGYNA. 71


Root perennial. Culm 3—5 feet high, terete, a little succulent, and very smooth. Leaves about 2 feet long, gradually tapering to a long point, about half an inch wide, at length convolute. Sheaths somewhat open. Spikes 8—14, closely appressed to a triangular rachis. Calyx appearing ciliate on the keel under a lens; inferior glume very narrow, half the length of the other; superior glume mucronate by a continuation of the callous keel beyond the tip. Corolla with unequal linear-lanceolate valves, a little rough on the keel near the apex, as long as the superior glume of the calyx; the inferior valve shorter. Stamens 3; anthers yellow. Style filiform; stigmas feathered. Seed oblong.

HAB. Common along the borders of salt-marshes, and on the muddy shores of salt-water rivers. August—September. Mr. Nuttall found this species as high up the Missouri as Fort Mandan, so that it is not confined to the vicinity of the sea.

44. ORYZOPSIS. Michaux.


Root perennial. Culm about a foot and a half high, purple at the base. Radical leaves nearly equalling the culm, acuminate, glaucous beneath, scabrous on the margin; culm-leaves about 2, seldom exceeding an inch in length, and generally much shorter. Sheath swelling, a little rough. Siphuke short, truncate, ciliate. Panicle very simple, flexuous; branches 1—2-flowered; flowers all pedicellate. Glumes of the calyx nearly equal in length; the superior broader, abruptly acuminate, a little larger than the corolla, 5—7-nerved. Corolla with a bearded ring at the base, white, hairy; inferior valve involute and surrounding the inner valve, abruptly awned at the apex; awn bent, about 3-fourths of an inch long; superior valve villose at the apex. Stamens 3; anthers linear. Style 2-cleft; stigmas 2. (Style 3-cleft; stigmas 2. Vahl.) Seed oblong, large, white.
TRIANDRIA. MONOGYNI.A. ORYZOPSIS.


Pursh thinks this grass is deserving the attention of agriculturists, on account of the fine flour yielded by its large seeds.

ORDER II.

DIGYNIA.

(Gramina.)

A. Flowers all perfect.

†. Spikelets (locustae, Beauv.) 1-flowered.

* Calyx 0.

1. LEERIA.

** Calyx 2-valved.

a. Corolla without abortive rudiments at the base.

1. Glumes and corolla of dissimilar texture; inferior valve involving the superior.

a. Corolla unarmed.

2. PASPALUM. 3. MILIUM.

β. Corolla awned or bristled at the tip.

4. PIPTATHERUM. 5. STIPA.

6. ARISTIDA.

2. Glumes and corolla of nearly similar texture, often carinate.

a. Panicle more or less spreading.

7. MUHLENBERGIA. 10. CINNA.

8. TRICHODIUM. 11. POLYPOGON.

9. AGROSTIS. 12. TRICHOCHLOA.

13. ARUNDO.

β. Panicle more or less contracted into a spike.

14. PSAMMA. 16. ALOPECURUS.

15. CRYPSIS. 17. PHLEUM.
b. Corolla with 1 or 2 abortive rudiments of florets at the base.

1. Glumes and corolla of dissimilar texture.

2. Glumes and corolla of nearly similar texture.

††. Spikelets many-flowered.

* Florets all perfect.

a. Panicled.

1. Corolla unarmed.
27. Poa.

2. Corolla more or less setigerous or mucronate.

γ. Seed free.
30. Tricuspis.

β. Seed adnate.
31. Festuca. 33. Diarrhena.
32. Ceratochloa. 34. Dactylis.

3. Corolla more or less bifid, armed between the divisions a little below the tip.
35. Danthonia. 36. Trisetum.
37. Bromus.

4. Inferior valve of the corolla awned on the back.

b. Spiked.

1. Calyx 1-valved.
40. Lolium.

2. Calyx 2-valved.
41. Eleusine. 43. Agropyrum.
42. Triticum. 44. Secale.
45. Elymus.

** Terminal florets abortive, or mere rudiments.
46. Melica. 47. Atheropogon.
TRIANDRIA. DIGYNIA.

B. Flowers polygamous.

†. Panicled.

48. PANICUM.

50. HOLCUS.

‡. Spiked.

* With an involucrem.

51. SETARIA.

** Without an involucrum.

52. DIGITARIA.

53. ANDROPOGON.

54. HORDEUM.

1. LEERSIA. SWARTZ.


Root fibrous, perennial. Culm 2—4 feet high, geniculate, branched, erect or decumbent, pubescent at the joints. Leaves linear-lanceolate, about 6 inches long, 2—3 lines wide, scabrous, slightly ciliate on the margin. Sheaths deeply striate, a little roughened by minute hooked prickles, rarely pubescent. Stigile short, truncate, membranaceous. Panicle terminal, much exsert; branches few and solitary. Florets on short, appressed, flexuous racemes, pedicellate; valves bent round and partly embracing the common peduncle, imbricate, covered with impressed dots; the inferior valve boat-shaped, acuminate, ciliate on the keel; the superior linear-lanceolate. Stamens 1. (Stamens 2. Muhl.) Styles 2; stigmas feathered, white. Seed oblong.

Hab. In wet woods and along the borders of swamps. August.

White-grass.

Root creeping, perennial. Culm 3—5 feet high, erect, or procumbent at the base, generally simple, pubescent at the joints. Leaves a foot long, 2—3 lines wide, nervous, very scabrous with minute hooked prickles, attenuated at the point; margin ciliate. Sheaths retrorsely very scabrous. Stipule short, retruse. Panicle much branched; branches spreading in every direction, sometimes pendulous, flexuous, the lower ones in fours, the upper ones in pairs. Flowers greenish-white, oval-oblong, nearly sessile, a little appressed to the branches when young, but spreading when mature; valves nearly equal, scabrous on the sides, puncticulate; the inferior 3-nerved, the other 1-nerved; keels ciliate with small spines. Stamens 3; anthers linear, yellow. Styles 2, very short; stigmas feathered, white. Seed oblong.

Hab. In ditches and swamps. August—September. Whitegrass or Cut-grass.

The upper flowers are generally abortive, those in the included part of the panicle only being fertile.

The two species here described have been confounded by Michaux and Pursh, though they are abundantly distinct. I have not the means of determining whether our L. oryzoides is identical with that of Europe, not having specimens of the latter for comparison. It, however, much resembles the figure of Swartz referred to above.

2. PASPALUM. L.


TRIANDRIA. DIGYNIA. PASPALUM.

Root perennial. Culm about a foot and a half long, slender, simple. Leaves 4—8 inches long, flat, distinctly ciliate on the margin. Spike generally solitary, terminal, on a long peduncle proceeding from the uppermost sheath; sometimes with another spike on a shorter peduncle proceeding from the same sheath. Flowers plano-convex, very obtuse, smooth, arranged on short, bifid, compressed pedicels, closely compressed to the rachis, and appearing as if arranged in three distinct rows. Rachis membranaceous, flexuous, rounded on the back. Glumes of the calyx equal; the inferior one 3-nerved. Corolla very smooth; inferior valve embracing the superior, which is flat and orbicular. Seed plano-convex.


Root perennial. Culm slender, 1—2 feet high, simple. Leaves hairy on both sides. Margin and upper part of the sheaths hairy. Spike on a very long terminal peduncle, generally with another on a short peduncle proceeding from the same sheath. Rachis convex on the back, hairy at the base. Flowers on short bifid pedicels. Calyx, corolla, &c. as in the preceding species.


Paspalus No. 8. (anonymous) Muhl. Gram. p. 97, seems to be a variety of this species.


Root perennial. Culm about 2 feet high. Leaves broad-linear, entirely smooth. Spikes about 5, distant, a little spreading, with a few long hairs at the base of each. Pedicels undivided, 1-flowered. Flowers subovate, as large again as those of P. ciliatfolium. Calyx, corolla, &c. as in No. 1.


Paspalum.  

**Triandria.**  

**Digynia.**  

Jacq. icon. rar. t. 302. **Paspalus stolonifer** Flugg.  

Roem. & Schult. II. p. 295.

Culm about 2 feet long, branched, geniculate, stoloniferous.  

Spikes very numerous (30—50.) Common rachis 4—5 inches long, angular, smooth; the partial ones 3—15 lines long.  

Flowers alternate, ovate...  

HAB. In the Cedar Swamps of Monmouth County. New-Jersey. July—August.  

I have never seen specimens of this species. Pursh remarks that it is exactly the same as the Peruvian plant, he having compared it with specimens of the latter in Lambert's Herbarium.

3. **Milium.** L.


Root creeping, perennial. Culm 5—8 feet high, erect, simple, smooth. Leaves 8 inches or a foot in length and half an inch or more broad, acute, flat, very smooth beneath, a little scabrous above. Sheaths smooth, striate. Spike oblong, obtuse, entire. Panicle oblong, attenuate, about 8 inches long; lower branches in fascicles of 3 or 4; upper ones opposite. Flowers few, scattered, ovate. Glumes of the calyx scabrous, obsolescently 3-nerved. Corolla nearly equal, rather acute. Stamens 3; anthers yellow. Stigmas plumose. Nectaries ovate-lanceolate, entire.

HAB. In woods; New-Hampshire. Collected by Dr. J. Locke, who found it growing as high as a man's head, and in sufficient quantity to be cut for hay. Dr. M. Paine has also found this grass in the vicinity of Montreal, Canada.

Root fibrous, perennial. Culms numerous, a little branched and geniculate at the base, assurgent, a foot and a half or two feet high, leafy. Leaves 2—3 inches long, 2—4 lines wide, acuminated, nervèd, covered with rigid hairs. Sheaths striate; the uppermost ones leafless. Sarticulate bearded. Panicle about two inches long; consisting of a few, erect, and somewhat appressed branches bearing the flowers in a racemose manner; pedicels clavate. Flowers oblong, purplish at the tip. Calyx smooth, acuminated; inferior glume a little shorter, emarginate or bifid, 3-nerved; superior glume 5-nerved. Valves of the corolla lanceolate, acute; the inferior involving the superior, 3-nerved. Staminens 3; anthers purple. Styles 2, short; stigmas compound, purple. Seed broad-ovate, brown. Nectaries very short, lanceolate. — Fertile flowers radical. Scape growing in fascicles from among the roots and from the lower part of the stem, 1—3 inches long, filiform, with 1 or 2 pubescent sheaths bearing rudiments of leaves. Flowers terminal, single. Glumes of the calyx at first lanceolate; as the seed ripens, becoming ovate, acuminated and coriaceous; inferior glume shorter, many-nerved; superior glume similar, a little shorter. Corolla remarkably ventricose when the seed is mature; valves unequal, acuminated; the inferior 7-nerved, under the microscope appearing covered with minute appressed hairs; superior valve 4-nerved (midrib wanting.) No traces of staminens. Styles 2, very short. Stigmas plumose. Seed large, ovate, brown.

Hab. In sandy swamps in the pine-barrens of New-Jersey; particularly abundant at a place called Quaker-Bridge. August—September.

Pursh, who appears to have first noticed this grass, describes the flowers of the panicle as antheriferous only; but in all the specimens which I examined I have found them to produce perfect seeds, though smaller than those of the radical flowers. This Milium will probably hereafter be the type of a new genus, as it differs so remarkably from every other known species.

3. M. pungens*: culm erect; leaves lanceolate, very short, pungent, at length involute; panicle contracted; branches generally in pairs, 2-flowered; flowers awhirled, ovate; corolla hairy.

Root perennial, soboliferous. Culm a foot or 18 inches high, simple, rigid. Radical leaves 6—8 inches long and about a line wide, erect, acute and pungent, a little concave, strongly nerved and scabrous above, smooth beneath; culm-leaves varying from an inch to scarcely a line in length, lanceolate, rigid. Sheaths swelling, striate, scabrous, membranaceous on the margin. Sarticulate ovate, lacerate, and bearded. Panicle oblong, seldom with more than a dozen flowers; branches a little flexuous, bearing 1 or 2 flowers on the extremities. Glumes of the calyx ovate, concave, obtuse or abruptly acu-
minate, loose, sometimes obliquely truncate, without nerves; inferior valve a little longer. *Corolla* as long as the calyx; valves equal, acute, nerveless, densely covered with white appressed hairs; the inferior emarginate; superior entire at the tip. *Stamens* 3; *anthers* forked, yellow, included? *Style* 1, deeply 2-parted; *stigmas* 2, plumose, exert, white. *Seed* oblong, acute. *Nectaries* lanceolate, shorter than the germen, ciliate.


Nearly allied to *Milium* No. 3. (anonymos.) *Muhl. Gram. p. 78*, but differs in having a hairy, not a smooth *corolla*. *Sprengel*, to whom I sent specimens, thinks it is *M. rigidifolium* *Roem. & Schult. II. p. 319*, a native of St. Domingo, but it appears to me to be a distinct species. It should, perhaps, be made a new genus between *Milium* and *Oryzopsis*.

4. *PIPTATHERUM. Beauv.*


**Root** perennial. *Culm* 2—3 feet high, erect, simple, leafy. *Leaves* 8—12 inches long, nearly half an inch wide, pubescent beneath, smooth above, finely attenuated. *Sheaths* striate, smooth, closed. *Stipule* a bearded ring. *Panicle* terminal, erect, flexuous, sparingly branched; lower branches in pairs, the upper ones simple. *Flowers* all pedicellate, disposed in a racemose manner on the branches; pedicels clavate. Glumes of the *calyx* acuminate, mucronate, membranaceous, smooth; the inferior 7-nerved; the superior 5-nerved. *Corolla* shining and of a deep brown or black colour when the seed is ripe; inferior valve embracing the superior, with a straight, scabrous awn at the tip nearly an inch in length; the other valve acute, and of equal length. *Stamens* 3; *anthers* linear, yellow. *Styles* 2; *stigmas* simply plumose. *Germen* bicuspidate. *Seed* oblong, black. *Nectaries* ovate-lanceolate, entire, very distinct.

**Hab.** In rocky mountainous situations. Williamstown, Massa-

It is a little remarkable that Muhlenberg should have confounded this plant with the Oryzosphis asperifolia of Michaux, as it is totally unlike in every respect. It is certainly a Piptatherum of P. de Beauvois, which genus includes most of the species of Milium having awns.

5. STIPA. L.


Root perennial. Culm about 2 feet high. Leaves principally radical, 6—8 inches long, very narrow, scabrous above. Panicle 4—6 inches long, few-flowered, at first sheathed at the base and nodding, becoming diffuse; branches capillary, in pairs and solitary. Glumes of the calyx nearly equal, mucronate. Corolla stipitate; the stipe clothed with a rufous distichous beard; inferior valve brownish, scabrous, linear-oblong, 3-nerved, terminated by a scabrous, twisted awn 2 or 3 inches long; superior valve nearly membranaceous, abruptly acuminate, mucronate, 1-nerved. Stamens 3. Styles short; stigma plumose, white. Nectaries 2, lanceolate. Seed oblong-cylindric, dark brown.


6. ARISTIDA. L.

Calyx 2-valved, membranaceous, unequal. Corolla 2-valved, pedicellate, subcylindric; inferior valve co-


Root annual or biennial, (perennial Ell.) Culms 8—12 inches high, very slender, producing a short branch at every joint. Leaves setaceous, erect, nearly smooth. Sheaths very short, open. Flowers in racemes, on clavate peduncles. Calyx shorter than the corolla; glumes unequal, linear, mucronate, serrulate on the keel. Corolla 1-valved, closely involute; lateral awn straight, not half the length of the valve; middle awn contorted or bent horizontally, (hygrometric.) Stamens 3. Styles 2. Seed linear, elongated.

Hab. In sandy fields and in dry gravelly situations; sometimes on hills; common. September.


Root perennial. Culms cespitose, 2—3 feet high, branching at the base. Leaves elongated, linear, convolute towards the extremity. Flowers of the panicle not crowded. Calyx unequal, very acute. Inferior valve of the corolla hairy at the base; awns scabrous, the intermediate one the longest, but all twice as long as the corolla. Elliott.

Hab. Near Philadelphia. Mr. Collins. (Barton.)


Root perennial. Culm 2—2½ feet high. Leaves about a foot long, erect, very narrow, filiform towards the extremity, scab-
TRIANDRIA. DIGYNA. ARISTIDA.

Brous on the upper surface. Sheaths short, open, smooth. Panicle elongated, loose. Flowers on short, appressed, clavate pedicels. Calyx a third longer than the corolla; glumes unequal. purple, lanceolate, mucronate, or terminated by a short cusp. Corolla cylindrical, often spotted with dark purple; inferior valve involute, hairy at the base; the middle awn a little longer than the lateral ones; superior valve very short, membranaceous. Seed cylindrical, slender.


Nearly allied to the preceding species, and perhaps not distinct.

7. MUHLENBERGIA. Schreber.


Root fibrous, perennial. Culm decumbent, about a foot and a half long, compressed, geniculate, branched; branches assurgent. Leaves scabrous, naked, about 3 inches long and 2 lines wide. Sheaths open, striate, smooth. Stipule very short, truncate, finely lacerate. Panicle terminal and lateral, very slender, consisting of interrupted appressed racemes; branches scabrous. Flowers pedicellate. Calyx persistent, exceedingly minute, (not a sixth part as long as the corolla;) glumes laciniate, resembling bracts. Valves of the corolla unequal; the inferior longer, linear-lanceolate and almost triangular, with 3 prominent scabrous nerves; bristle slender, scabrous, purple; superior valve indistinctly 3-nerved, awnless. Stamens 3; anthers pale yellow. Styles 2; stigmas feathered. Seed linear-oblong.

Hab. On dry and rocky hills, and in fields; common on the hills between Bergen and Weehawk, New-Jersey. August—September.

8. TRICHODIUM. Michaux.

Calyx 2-valved; valves nearly equal, serrulate on the keel. Corolla 1-valved, smaller than the calyx.


Root perennial. Culm about a foot and a half high, very slender, terete. Inferior leaves 4—6 inches long, becoming involute and almost filiform; the superior ones shorter and flat. Sheaths open. Stipule lanceolate, lacerate, white. Panicle, when the flowers are mature, very much spread and loose, pyramidal; the branches verticillate in threes, hispid, exceedingly slender. Flowers purplish, in terminal fascicles. Glumes of the calyx linear-lanceolate, acuminate; the inferior one a little shorter. Valve of the corolla lanceolate. Stamens 3; anthers pale yellow. Stigmas white, plumose. Nectaries minute, lanceolate, entire.

Hab. In dry fields and in exsiccated swamps; common. May—June.


Root perennial. Culm a foot or 18 inches high, often geniculate and branched at the base, terete, smooth. Leaves 6—8 inches long, a line or a line and a half wide, striate, pale green. Sheaths closed. Stipule elongated, lacerate, membranaceous. Panicle diffuse, much branched; the lower part generally concealed in the uppermost sheath; branches in whorls of 5 or 6, capitillary, scabrous, a little flexuous, incrassated beneath the calyces. Calyx strongly serrulata on the keel; margin scarious. Corolla smooth (sometimes awned on the back. Muhl.) Stamens 3; anthers oblong, yellow. Stigmas plumose. Seed oblong, acuminate.

Hab. In dry, open woods; common. August—September. Easily to be distinguished from the preceding species by its pale-green aspect, and by its broader, flat leaves.

3. T. elatum Pursh: culm erect, firm; leaves narrow-linear, flat, scabrous; sheaths smooth; panicle verticil-


**Hab.** In sandy swamps; New-Jersey; particularly at a place called Quaker-bridge, about 31 miles N. E. from Philadelphia. August.

*Pursh* quotes, as a synonym of this species, the *Agrostis dispar* of *Michaux*; but that plant appears to be a genuine *Agrostis*, as it has a corolla of two valves, though one of the valves is very small. In the *T. elatum* the corolla is certainly but 1-valved.

4. *T. montanum*:* Culm* cespitose, erect; leaves involute-filiform, and, as well as the sheaths, scabrous; *panicle* capillary, lax, a little spreading; glumes equal.


Nearly allied to *T. laxiflorum*, but distinguished by its cespitose habit, less spreading panicle, and equal glumes. It has much affinity to *T. elegans Roem. & Schult.* II. p. 283.

9. *Agrostis* L.


_Culm_ erect, smooth, with black nodes. _Leaves_ linear-lanceolate, scabrous on the margin. _Stifule_ acute or retuse, cleft, white. _Sheaths_ striate. Branches of the _panicle_ about 5; divisions flexuous, scabrous, erect. _Calyx_ equal; _glumes_ lanceolate, scabrous on the keel. _Corolla_ 2-valved, with a geniculate _awn_ at the base of the superior valve twice as long as the flower. _Stamens_ 3. _Muhl._

_Hab._ In New-England. _Muhlenberg._

I have never seen a specimen of this plant. The _A. stricta_ was introduced into the New-York Catalogue by mistake. It is remarkable that _Roemer & Schultes_ should have placed this grass in the genus _Trichodium_, although _Willdenow_ expressly mentions that the corolla has 2 valves: perhaps the mistake was made in consequence of _Willdenow_’s remark that it was allied to _Agrostis rubra_, which is a genuine species of _Trichodium_. They have, however, also referred to this genus the _A. setacea Lin., flavescens Host_, and _rufestris Willdenow_, all of which have 2 valves to the corolla. _Muhlenberg (l. c.)_ remarks that the _A. stricta_ is allied to the _A. canina_, and adds with a mark of doubt the _A. setacea of Curtis_ as a synonym.


_Root_ creeping. _Culm_ ascending, a foot or a foot and a half high. _Leaves_ flat, pale-green, scabrous. _Sheaths_ smooth and striate. Branches of the _panicle_ verticillate, capillary. _Flowers_ ovate, purplish. _Glumes_ of the _calyx_ nearly equal, smooth except on the back. _Corolla_ a little smaller than the _calyx_; _valves_ a little unequal, thin and membranaceous; the inferior one slightly 3-toothed.

_Hab._ In meadows and pastures. June—August. It is generally called _Red-top_. Introduced.


Root creeping. Culm assurgent, geniculate at the base and frequently throwing out runners. Leaves nervose, scabrous, about 2 lines wide. Stipule white and membranaceous, acuminate. Panicle with the branches at length horizontal, but not divericate. Glumes of the calyx equal, scabrous on the keel. Corolla shorter than the calyx. Stamens 3; anthers yellow.


The A. decumbens of Muhlenberg differs so little from A. alba, that I have concluded to refer it to this species. It appears to be nothing more than the A. stolonifera, or Fioringrass of the English botanists, which grass Hooker, with much propriety, considers only as a variety of A. alba.


Trichochloë? sp. Trin.

Root perennial, creeping. Culm 2 feet or more high, with numerous swelling nodes, frequently naked below; branches erect. Leaves broad-linear, flat, scabrous on the margin and upper surface. Sheaths compressed. Stipule short, obtuse and lacerate. Panicles terminating the branches, dense and spike-form, a little secund; the lateral ones partly sheathed at the base; branches alternate and fasciculate. Glumes of the calyx very acute, rough at the keel. Corolla generally as long again as the calyx, very acute; inferior valve 3-nerved, rarely with a short awn at the tip. Stamens 3; anthers pale purple. Stigmas purple. Seed oblong.


This grass differs from the A. mexicana L. in having a less branched culm, the corolla longer than the calyx, &c. The A. Cinna of Retz, which Willdenow places as a synonym of his A. mexicana, is monandrous.


Whole plant more slender than the preceding; leaves narrower. According to Muhlenberg, it varies with a pro-cumbent culm, and the glumes of the calyx unequal and somewhat awned.


Root perennial, creeping. *Culm* soboliforous and frequently decumbent at the base, about 2 feet high; branches erect and filiform; nodes not swelling. *Leaves* 4—6 inches long, about 2 lines wide, flat, pale-green, a little scabrous. *Sheaths* open, smooth; *stipule* obsolete. *Panicles* at the extremities of the branches, resembling very slender spikes; branches alternate or in pairs; flowers crowded. *Calyx* acute. *Corolla* nearly half as long again as the calyx; valves equal, scabrous on the keel, and with conspicuous hairs at the base; the inferior valve with a short point like the rudiment of an awn at the tip. *Stamens* 3. *Styles* 2; *stigmas* purple.


This species is not easily distinguished from *A. lateriflora* B., by the description, though specimens of each have but little resemblance when compared.


Root creeping, perennial. *Culm* 3 feet or more in height, generally simple, but sometimes a little branched, soboliforous at the base; nodes, and generally the *sheaths*, pubescent. *Leaves* few, spreading nearly horizontal, strongly nerved, about 6 inches long and 2½ lines wide, covered with subdiaphanous dots. *Panicles* filiform, a little sheathed at the base. *Calyx* unequal; *glumes* lanceolate, acuminate. *Corolla* a third or more longer than the calyx; inferior valve terminated by an awn 2—3 times the length of the flower. *Stamens* 3. *Styles* 2. *Seed* oblong.

Hab. In stony woods, in rocky shady situations; not uncommon. July—August.

7. *A. sylvatica*": culm erect, much branched, diffuse, smooth; stipule lacerate; panicle filiform; corolla longer than the calyx; awns three times as long as the flower. *A. diffuse* *Muhl. Gram.* p. 64. nec *Host.*
Root creeping, perennial. *Culm* 2—3 feet high; branches at first erect, but at length diffuse; nodes swelling. *Leaves* spreading, distinctly nerved, sprinkled with subdiaphanous dots, scabrous. *Sheaths* open and smooth. Branches of the *panicle* appressed and very slender. *Calyx* a little unequal; glumae lanceolate, acuminate, white with a green scabrous keel, 1-nerved. *Corolla* a third longer than the calyx, a little hairy at the base; valves lanceolate, acute; the inferior with a straight scabrous awn at the tip sometimes four times as long as the flower. * Stamens* 3; *anthers* white. *Seed* dark brown, oblong.

**HAB.** In rocky situations; common on the mountains of New-Jersey. August.

Nearly allied to the preceding, and perhaps not a distinct species. It is, however, easily distinguished by its branched, diffuse culm.


Root creeping, perennial. *Culm* a foot and a half high, sobo-liferous at the base, leafy. *Leaves* linear, very narrow, almost as long as the culm, compressed. *Sheaths* carinate, open. *Stipule* truncate, very short. *Panicle* terminal, purple, consisting of a few simple, erect and flexuous branches. *Glumae* of the calyx lanceolate; superior glume 1-nerved, serrulate on the keel, notched at the apex, (sometimes mucronate and rather obtuse, or denticulate.) *Corolla* ovate; valves often split down to the base. *Stamens* 1. *Style* 2; *stigmas* plumose, purple.

**HAB.** Sandy swamps in the pine-barrens of New-Jersey. Sept.

Collected in 1817 by Mr. J. Goldy, an English botanist, from whom I obtained specimens.

9. *A. serolina*:* culm filiform, much compressed; leaves very narrow, carinate, erect; panicle attenuate, capitillary, erect; branches alternate; calyx unequal, half as long as the awnless corolla.

Root perennial, fibrous. *Culm* a foot or 18 inches, very slender, smooth, simple, or with one or two short branches at the base. *Leaves* 2—3 inches long and half a line broad, finely attenuated at the extremity. *Sheaths* compressed, shorter than the joints, smooth. *Stipule* ovate. *Panicle* very slender, 4—10 inches long; branches alternate, solitary, flexuous. *Flowers* elliptical, on long pedicels, which are thickened below the calyx. *Glumae* of the calyx unequal, ovate, obtuse or acute, 1-nerved; the inferior shorter than the corolla. *Corolla* twice the length of the shorter valve of the calyx; valves equal, oblong, obtuse, smooth. *Stamens* 3. *Stigmas* plumose. *Seed* ovate, smooth, dark brown.

Allied to A. juncea, but differs in the compressed culm, ovate stipule, and the panicle with alternate not verticillate branches. It differs from A. compressa in its shorter leaves, more capillary panicle, and calyx half the length of the corolla. Perhaps Pursh confounded it with his A. juncea.


Root perennial. Culm 1—2 feet high, erect, slender, terete, smooth. Leaves 2—6 inches long, 1 line wide, smooth, concave, convolute when dry, a little glaucous on the upper surface; margins roughened. Sheaths much shorter than the joints. Stipule a membranaceous margin. Panicle verticillate; branches in each whorl about 6. Calyx purple; glumes lanceolate, acute, glabrous; the inferior only half as long as the superior glume. Valves of the corolla nearly equal, and as long as the superior glume of the calyx. Anthers and stigmas nearly white. Nectaries oborate. Ell.


This grass has not come under my observation. The detailed description I have taken from Elliott's Flora. Roemer & Schultes have followed Sprengel in referring the A. juncea of Michaux to the A. tremula of Willd., which appears to be quite a distinct species, and near to A. indica.


Root fibrous, perennial? Culms somewhat cespitose, sometimes procumbent, geniculate, simple, rigid; joints distant. Leaves 2—3 inches long, erect, hairy at the base, somewhat fusiiform at the point, but pungent. Sheaths swollen with the inclosed panicles, smooth. Stipule 0. Panicles oblong, compressed; branches simple, alternate or in pairs, 1—2-flowered. Glumes of the calyx nearly equal in length, smooth, acute, carinate; the inferior narrower, lanceolate; the superior ovate-lanceolate. Corolla a little unequal, pubescent, awnless, ovate, acute; the inferior valve shorter and the length of the calyx, carinate; the superior 1-nerved. Stamens 3 in the terminal panicles; in the lateral panicles 0; anthers purple. Styles 2, approxi-
mate; stigmas plumose. Seed ovate, semitransparent, striate, acuminate, with an oblong scar or adnate scale on one side of the base.

Hab. In sandy barren soils; New-York, New-Jersey, &c. September—October. Also a native of South-America, (Humboldt,) and of New-Holland, (R. Brown.)

Pursh and Persoon have confounded this grass with the A. pungens of Schreber, a species to which it bears scarcely any resemblance.

12. A. longifolia*: panicle contracted, spiked, generally concealed; corolla much longer than the calyx, subequal, smooth and spotless, without awns; leaves very long, filiform and recurved at the apex. A. involuta Muhl. Gram. p. 72. A. aspera Mich. Fl. i. p. 52?

Root perennial, consisting of large pubescent fibres. Culm erect, 2—4 feet high, simple, terete. Leaves sometimes more than 2 feet in length, gradually attenuated into a thread-like extremity, involute, a little scabrous. Sheaths smooth, closed. Stipule bearded. Panicle terminal and lateral; often partly exerted, but frequently entirely concealed and swelling out the sheaths; flowers much compressed. Glumes of the calyx ovate-lanceolate, white, (in the exposed part of the panicle purple,) membranaceous, nerveless, rough on the keel; the superior half as long again as the inferior glume. Corolla a little unequal, as long again as the inferior glume of the calyx; valves very smooth, oblong-lanceolate, rather obtuse, without nerves; the inferior a little longer, only slightly embracing the superior; keel a little scabrous. Stamens 3; filaments shorter than the germen; anthers small, oblong. Styles 2, very short, arising from each side of the beak of the seed; stigmas dec- compound, white or purple. Seed oval, brown, with an oblong adnate scale on one side of the base.


In this species Muhlenberg observed no stamens; yet, though minute, they occurred in all the specimens which I examined. He also observes, that there appears to be but one style; but what he supposed to be the style, appears to me to be only the acumination of the seed.


Root perennial. Culm about 2 feet high, erect, terete, smooth. Leaves very long, rigid, scabrous on the margin, glaucous. Stipule bearded. Panicle contracted, concealed, often sooty;
brances smooth. Calyx smooth; glumes carinate; one of them 3-nerved. Corolla twice as long as the calyx; one of the valves acuminated and somewhat awned. Seed oblong, brown, transparent, spotted or scaly at the base. Muhl.


The two last species are very nearly allied, and are by Muhlenberg thought to be scarcely distinct. It is probable that one of them is the Agrostis aspera of Michaux, but which, can only be determined by a comparison with the Herbarium of this botanist.

10. CINNA. L.


Root a little tuberous, perennial. Culm 2—5 feet high, erect, simple, terete, very smooth. Leaves a foot or more in length, 3—4 lines wide, smooth, pale green. Stipule elongated, lacereate. Panicle terminal, 6—10 inches long, attenuated, a little secund or nodding; flowers green. Glumes of the calyx linear-lanceolate, very acute, scarious on the margin; the superior 3-nerved, scabrous on the keel. Corolla about as long as the superior glume of the calyx, smooth; inferior valve with a short straight awn a little below the tip. Anther purple. Style 1; stigmas 2, plumose. Seed oblong, acute. Nectaries minute, ovate, collateral.

Hab. In swamps and wet shady woods; common. August—September. Pursh remarks that this plant grows on rivers and islands under tide water; which must be some mistake, as it is by no means an aquatic grass. It is stated by Muhlenberg to be good fodder. The height of the culm and size of the flowers vary considerably.

11. POLYPOGON. Desfontaines.

Calyx 2-valved, 1-flowered; valves nearly equal, terminating in a bristle. Corolla 2-valved, shorter than
the calyx; the inferior valve terminating in a bristle. 

Agrost. t. VI. f. 8. Trin. Agrost. 16? Species of 
Agrostis Lin. &c. Panicle spiked. 

P. racemosus Nutt.; panicle dense, conglomerated, 
interrupted; bristles of the calyx scabrous; corolla unarmed, 
p. 68. Trichochloa glomerata et calycina Trin. 

Root perennial. Culm erect, compressed, smooth, with appressed 
branches. Leaves subdistichous, 3—5 inches long, erect, ra-
ther rigid, flat, scabrous and somewhat glaucous. Sheaths 
smooth, striate, closed. Stigmas scarcely apparent. Panicle 
terminal, about 2 inches long, many-flowered, interrupted be-
low. Glumes of the calyx linear, terminating in scabrous 
bristles twice the length of the corolla. Corolla nearly equal; 
the inferior valve lanceolate, 3-nerved, hairy on the lower part 
and at the base, mucronate; superior valve 3-nerved, hairy only 
at the base. Stamens 3; anthers yellow. Styles 2; stigmas 
purple. Seed oblong-cylindrical. 

Hab. In bog-meadows August—September. Common in the 
Hackensack meadows, New-Jersey. A native also of the 
banks of the Mississippi and of the Missouri. 

The plant here described does not agree precisely with the 
generic character of Polygogon, the exterior valve of the cor-
olla being awnless; but, according to Nuttall, the awn is 
often wanting. I have retained the specific name of Michaux 
according to the established rule of Linnaeus. 

12. TRICHOCHLOA. De Candolle. 

Calyx 2-valved, 1-flowered; glumes very minute. 
Corolla much larger than the calyx, 2-valved, naked at 
the base; inferior valve convolute at the base, termi-
nating in a long awn not articulated.† De Cand. Cat. 

† The genus Trichochloa is very differently characterized by Trinius 
in his new Agrostographia. The following is his description:—"Panica 
contracta, angustata. Cal. longitudine varia, plurumque persistens. Cor. 
callo pilifero insidens ipsaque inferne pilis adspersa, acuminata l. rostrato-
setigera. Lod. (nect.) squamae collaterales. Stam. I—3. Semen oblongum, 
tectum" Trin. l. c 41. He divides it into two sections. 1. Gramis 
avatis, corollis mutato brevioribus. To this is referred the Agrostis tenui-
flora Willd., and A. sobolifera Muh. 2. Gramis angustatis acuminate, longi-
itudine varia; which contains A. mexicana L., A. filiformis Willd., and 
Polygogon glomeratus Willd.
TRICHOCLOGA. TRIANDRIA. DIGYNIA. 93


Root perennial. Culms cespitose, erect, about 2 feet high, very slender. Leaves a foot and a half long, erect, filiform towards the apex. Stipule membraneous. Panicle purple, 8—10 inches long; branches in pairs, much divided and nearly as fine as human hairs, a little flexuous. Calyx less than half the length of the corolla; glumes lanceolate, one of them with an awn at the extremity about its own length. Corolla with nearly equal valves; the inferior valve gradually produced into a capillary awn; superior valve acuminate, somewhat pilose at the base. Staminæ 3. Stigmas purple. Seed oblong.


An elegant and delicate grass, with large, glossy, purple panicles. It is very properly separated from Stipa by De Candolle and Beauvois. To Agrostis it is much more nearly related. Trichochloa inexpansa et polypogon of De Cand. and Roem. & Schult. l.c. appear to be only varieties of this species.

13. ARUNDO. L.


TRIANDRIA. DIGYNA. ARUNDO.


Root perennial, fibrous. Culm 3 feet or more in height, simple, or rarely branched below. Leaves a foot long, about 3 lines wide, flat, somewhat glaucous, strongly nerved, pubescent above, smooth beneath. Sheaths clasping; the lowest ones pubescent backwards. Stipule elongated, lacerate. Panicle erect, much divided, at first contracted, but at length a little expanding; branches aggregated in fours or fives, scabrous. Calyx rather longer than the corolla; glumes nearly equal, lanceolate, acute, 1-nerved, scabrous, particularly on the keel; sides tinged of a purplish colour. Corolla unequal; inferior valve longer, bifid at the apex, awned a little below the middle of the back; awn projecting beyond the flower; superior valve rather obtuse, entire. Pappus copious, white, partly stipitate, as if the rudiment of an abortive flower. Seed pubescent (Muhl.) Stamens 3; anthers yellow. Stigmas plumose.


Root perennial. Culm 3—5 feet high, erect, terete, somewhat glaucous. Leaves broad-linear, scabrous, and with the sheaths a little glaucous. Stipule oblong, obtuse. Panicle stiffly erect, never spreading; branches aggregated. Calyx nearly equal, lanceolate, acuminate; the inferior glume 1-nerved; the superior 3-nerved; keel scabrous. Valves of the corolla nearly equal; the inferior scabrous, 5-nerved, bifid at the apex; awn straight, not half the length of the valve; superior valve bicarinata, a little cleft at the apex. Pappus two-thirds the length of the flower, partly stipitate at the base of the superior valve. Seed villous, with a hairy tuft at the extremity.

† I have not adopted the specific name of Muhlenberg, as there is an Arundo glauca described by Horneman, which is probably distinct from the present species. The following are its characters:—“A. paniculata subpatente cernua, calyctibus acuminatis, pilis corollam excedentibus, aristae terminali recta, calycem excedente. Folia linearia, apice setacea, convoluta, cum culmo glauco. Hab. In Amer. Septentrional.” Roe m. & Schult. II. p. 503.
**Triandra.**

Nectaries lanceolate. Stamens 3; anthers yellow. Stigmas white.


Allied to *A. littorea* of Schrader. The synonym of *Sprengel* (l. c.) I have no doubt is correct, as his description was taken from specimens which I sent him. The *A. stricta* of Timm. differs from our plant in having the awn dorsal and near the base.

3. *A. brevipilis*:* panicle diffuse, capillary; calyx unequal, shorter than the corolla, bearded at the base; corolla equal, awnless, hairy; pappus very short. *A. Epigeios Muhl.*

**Gram.** p. 189?

Root perennial. *Culm* 3—4 feet high, terete. *Leaves* broad-linear, and with the sheaths very smooth. *Stipule* hairy. *Panicle* pyramidal, lax; branches single or in pairs. *Calyx* with 2 opposite tufts of hair at the base, scabrous towards the upper part, acute, 1-nerved; inferior glume much shorter than the other. *Corolla* with lanceolate, rather obtuse valves, the inferior without any traces of an awn. *Pappus* about a third as long as the flowers.

**Hab.** In sandy swamps in the pine-barrens of New-Jersey, near Quaker-Bridge. September.

Allied to *A. Epigeios*, but differs in its capillary panicle, much shorter pappus, the absence of the dorsal awn, &c.

14. **Psamma.** *P. de Beauv.*


**Ammophila Host.* Calamagrostis Roth. Phalaris Nutt.* Flowers in a dense spiked panicle.


6—10 inches long and about an inch in diameter. Rachis scabrous. Flowers much compressed. Glumes nearly equal, linear-lanceolate, scabrous on the keel; the inferior 1-nerved; the superior 3-nerved. Corolla resembling the calyx, surrounded at the base by hairs one third its length; inferior valve longer than the superior, obscurely 5-nerved. Stamens 3; anthers large, linear, yellow. Style very short, 3-cleft; stigmas pectinately plumose. Nectaries longer than the somewhat triangular seed.

Hab. On the sea-coast of New-Jersey and Long-Island, confining, by its long creeping roots, the loose sands of the shore. August. This grass is common to most parts of the world.

15. CRYPSIS. Aiton.


sis et Heleochloa P. de Beauv. t. VI. f. 12. et t. VII. f. 3. Flowers in a dense oblong or cylindrical spike.

C. virginica Nutt.: spike oblong-cylindrical, thick and lobed; culm procumbent and geniculate; leaves at length involute, rigid, pungent. Nutt. l. c. excl. syn.

Root annual. Culm 6—12 inches long; much branched from the base. Leaves at first flat, divaricate, striate, hairy on the upper surface. Stigmate very short, bearded. Spikes lateral and terminal, closely surrounded at the base by the inflated sheaths of the 2 uppermost leaves; the terminal spike an inch or more long; the lateral ones shorter. Calyx a little unequal; the inferior glume shorter; both of them rough on the keel. Valves of the corolla nearly equal, very acute, naked at the base, nerveless. Stamens 2? Styles approximated; stigmas exsert. Seed ovate, rather obtuse.

Hab. In the suburbs of Philadelphia, where it was first detected by Dr. W. P. C. Barton; the only locality of this plant yet known. I found it in flower as late as October. Intermediate between C. alopecuroides and aculeata.

16. ALOPECURUS. L.


Root perennial, creeping. Culm a foot and a half high, a little branching, geniculate and rooting below, terete, smooth. Leaves linear-lanceolate, 2—3 inches long, smooth, flat, very acute. Sheaths a little inflated, shorter than the joints. Stipule elongated, obtuse, entire. Spike an inch and a half or two inches long. Calyx ovate; glumes very villose on the margins, distinctly fringed on the keel. Corolla as long as the calyx, smooth, truncated a little obliquely. Awn arising from near the base of the valve, nearly as long again as the corolla, geniculate. Stamens 3; anthers oblong, pale yellow. Styles a little connate at the base; stigmas much exsert, simply plumose. Nectaries collateral, lanceolate, very minute.


I have not been able to discover any difference between the A. geniculatus and the A. aristulatus Mich., except that in the latter the awns are shorter, and the flowers a little less
hairy. *Linnaeus* remarks that the awn in the former is variable in length, being sometimes longer, sometimes shorter than the corolla. The A. *geniculatus* of this country differs from that of Europe in having the styles connate at the base. The specimens which I examined were, however, in a young state; perhaps when the plant is mature the styles become distinct. The American variety may be the A. *borealis* of *Triandria*, which species is thus characterized:—“*A panicula oblongo-cylindrica, glumis dentiformi-acutis, basi connatis, undique sericeis, corolla oblique truncata (barbata;) stylis infra connatis. Hab. in Asiâ et Americâ boreali.*” *Trin.* l. c. p. 58.

17. **PHLEUM.** *L.*


18. **CYNODON.** *Richard.*


Bermuda grass.

Root perennial, extensively creeping. Culm a foot or more long, stoloniferous at the base. Leaves somewhat distichous, narrow. Spikes about 2 inches long, appearing serrated on their edges by the projecting calyces of the flowers. Glumes lanceolate, acute; the superior one a little longer. Inferior valve of the corolla ovate, mucronate at the tip, scabrous on the keel; superior valve the length of the other, acute, with a deep groove on the back, in which is lodged the minute rudiment of an abortive flower with its footstalk. Nectaries 2, obovate.


I insert this plant on the authority of Muhlenberg, who has marked it as a native of Pennsylvania in his Catalogue. The above description was taken from specimens sent to me by Mr. Elliott from South-Carolina.

19. GYMNOPOGON. Beauv.


Root perennial. Culm a foot and a half or two feet high, assurgent, with numerous joints. Leaves ovate-lanceolate, 1—2 inches long, distichous, smooth, flat, rigidly spreading, finely striate. Sheaths smooth, except at the throat, where they are hairy and contracted. Stipule an obsolete ring. Panicle large, pyramidal, spreading, somewhat verticillate; branches simple, rigid, 4—6 inches long. Flowers appressed, sessile. Calyx a little unequal, very narrow, pungent, scabrous on the keel. Inferior valve of the corolla lanceolate, 3-nerved, with a bristle a little below the tip 2—3 times its length, villous at the base, slightly hairy on the margin and back; superior valve
nearly equaling the other, bifid at the tip. Stamens 3, exserted. Styles short; stigmas plumose. Seed oblong, sulcate. Rudiment on a pedicel 2-thirds the length of the perfect flower, sometimes a mere awn, but generally with a minute valve, rarely 2-valved.

Hab. Sandy fields in the pine-barrens of New-Jersey. August.

This genus is very properly separated from Andropogon by Beauvois and Nuttall. It is more nearly allied to Chloris than to Andropogon. I have adopted the name of the former of these eminent botanists, on account of its priority.

20. PHALARIS. L.


Root perennial. Culm 2—5 feet high, erect, a little branching, terete, smooth. Leaves broad-linear, carinate, smooth, except on the margin. Sheaths open, striate. Stipule membranaceous, ovate. Panicle or spike a little spreading when old, 2—4 inches long. Glumes of the calyx compressed towards the tip, rough on the keel, 3-nerved, finely fringed on the margin. Corolla a little shorter than the calyx, covered with appressed hairs; the inferior valve ovate, swelling; the superior lanceolate, bifid. Stamens 3; anthers linear, yellow. Styles 2; stigmas villose. Nectaries ovate, entire. Seed oblong, black.


2. P. canariensis L.: panicle subspired, ovate; calyx boat-shaped, entire at the apex; rudiments smooth. Willd.
TRIANDRIA. DIGYinia.


21. ANTHOXANTHUM. L.


Root fibrous, perennial. Culm about a foot high, erect. Leaves pubescent, flat, 2—3 lines broad. Stipule elongated, membranaceous. Flowers in a terminal spike, or spiked panicle, crowded, fascicled on short peduncles. Glumes of the calyx very unequal, membranaceous, pubescent; the inferior glume shorter, subovate; the superior lanceolate. Corolla of the perfect flower included, very short; one of the abortive florets with a geniculate awn at the base, of the length of the valve; the other with a shorter, straight awn a little below the tip. Stamens 2; anthers very large. Styles 2, short; stigmas much exserted, plumose, white. Seed oblong, black and shining.


What have usually been called the two valves of the corolla in this plant, are considered by Beauvois, and some of the best modern botanists, as abortive florets, and the two interior scales which surround the stamens and styles, as a perfect flower. This we think is the correct view of the genus. It is thus defined in the Agrostographia of Beauvois: — "Anthoxanthum. Cal. glumae membranaceae, triflorae, flosculis longiores. Flosculi laterales neutri uniglumes, alio basi infra medium arista tortili picata, alio versus apicem arista recta.
22. BRACHYELYTRUM. *Beauv.*


Root creeping, soboliferous. _Culm_ erect, simple, 2—3 feet high, with pubescent nodes. _Leaves_ pubescent, particularly on the upper surface and on the margin, 4—6 inches long and nearly half an inch wide, erect, acute, nervose. _Sheaths_ a little opening, pubescent. _Stipule_ membranaceous, obliquely truncate, ciliate at the extremity. _Panicle_ contracted, consisting of a few simple branches. _Flowers_ all pedicellate, three times as large as in the _Muhlenbergia diffusa_. _Calyx_ 2-valved, unequal; inferior glume scarcely perceptible; the other ten times shorter than the corolla, linear-lanceolate. _Corolla_ unequal, subulate; inferior valve 5-nerved, a little scabrous, terminating in a bristle twice as long as the flower; superior valve smaller, involute, bifid at the extremity, with a groove on the back, in which is lodged a slender scabrous pedicel somewhat clavate at the extremity. _Stamens_ 2; _anthers_ linear, bifurcate, pale yellow. _Stigmas_ 2, plumose. _Seed_ oblong, acute.

_Hab._ On mountains and rocky hills; not uncommon in the interior of the northern and middle States, from Canada to Pennsylvania. On the hills near Hoboken, New-Jersey; rare. June—July.

23. PHRAGMITES. *Trin._

_Calyx_ 5—7-flowered. _Florets_ on villose pedicels, except the lowest, which is sessile and naked at the base; inferior valve elongate, acuminate and involute; superior valve somewhat conduplicate. *Trin. Agrost._ 73. *Arundo Lin._ *P. de Beauv._ t. XIII.

Root perennial. *Culm* 6—12 feet high, an inch or more in diameter at the base, terete, with numerous joints. *Leaves* 12—18 inches long, about 2 inches broad, flat, very smooth and a little glaucous, finely attenuated at the tip. *Sheaths* clasping, smooth. *Stipule* a minute fringe. *Panicle* very large, loose, somewhat nodding. *Calyx* smooth; glumes lanceolate, acuminate, the inferior much longer than the superior. Lowest *floret* bearing stamens only; the inferior valve lanceolate, not one third the length of the other, ciliate on the margin; superior florets surrounded with long white hairs at the base, two thirds the length of the valves.

*Hab.* Borders of ponds and swamps, especially near the salt-water; common in the Newark meadows, New-Jersey. On Long-Island, near Brooklyn. Near Boston. *Bigelow.* In Pennsylvania and Delaware. *Muhlenberg.* August. The largest grass in the Northern States, appearing at a distance like *Indian corn.* It is common to almost every part of the world.

24. GLYCERIA. *R. Brown.*


Root perennial, creeping. *Culm* 3—5 feet high, compressed or ancipitous, oblique or procumbent. *Leaves* 8—12 inches long,
3—4 lines broad, nearly smooth, finely striate, and with the sheaths smooth. **Stipule** oblong, very thin. **Panicle** nearly a foot long, lower part concealed in the sheath from which it proceeds; branches semiterete, bearing the spikelets in a racemose manner. **Spikelets** nearly sessile, about an inch long; florets distinct, free. **Calyx** unequal, without nerves or keel; superior glume broad, often very obtuse or obliquely truncated; inferior glume shorter, rather acute. **Valves** of the corolla nearly equal, scabrous; the inferior very obdurate, scarious on the margin; apex eroded or many-toothed; superior valve lanceolate, often longer than the inferior one, slightly toothed at the point. **Stamens** 3; **anthers** large, yellow. **Styles** short; **stigmas** white. **Nectaries** fleshy, somewhat cordate. **Seed** linear-oblong, with a deep groove on one side.

**Hab.** In ditches and on the borders of ponds. June—July.


*Root* perennial, creeping. *Culm* about a foot and a half high, a little compressed. *Leaves* 3—6 inches long, 1—2 lines broad, attenuated, and sometimes involute at the point, nearly smooth. **Stipule** elongated, very thin, finely lacerate. **Panicle** long and slender, a little nodding; lower part concealed in the sheaths. **Spikelets** acute; florets distinct. **Calyx** very unequal, without nerves. **Corolla** linear-lanceolate, scabrous, attenuated to a sharp point; superior valve much longer than the other, bifid at the tip. **Stamens** 3; **anthers** yellow. **Stigmas** white. **Seed** oblong, sulcate. **Nectaries** connate, obcordate, very minute.


Resembles the preceding species in many respects, but is easily distinguished by the acute and almost nerveless florets.

25. **UNIOLA.** *L.*


Root perennial. Culm about 4 feet high, terete, smooth, a little branching. Leaves a foot or two long, nearly an inch broad, smooth. Sheaths longer than the joints, hairy at the throat. Stipule very short. Panicle often a foot long, loose; rachis triangular; branches solitary or geminata, unequal. Spikelets nearly an inch long, ovate, about 10-flowered; the lowest floret 1-valved, resembling a glume. Glumes unequal, lanceolate, striate, very acute, scabrous on the keel. Corolla resembling the calyx in texture; inferior valve very sharp on the keel, which is scabrous and hairy towards the base; apex rather obtuse and mucronate; superior valve folded in the inferior one, lanceolate, acute, entire, ciliate on the margin. Anther yellow. Styles 2, short; stigmas very long, simply plumose. Seed oval, compressed.


Root perennial. Culm 3—4 feet high, slender, a little compressed, leafy. Leaves a foot or more long, 2—3 lines broad, attenuated to a fine point, flat, nervetd, smooth. Sheaths shorter than the joints, hairy at the throat. Stipule very short, ciliate. Panicle with solitary, short, remote branches appressed to the rachis. Spikelets broad-cuneate, very acute at the base, 2—3 at the extremity of each branch. Glumes acute, rigid. Inferior valve of the corolla lanceolate, acuminate, minutely truncated at the tip; margin slightly ciliate; superior valve shorter, a little scabrous on the back. Anther and stigmas dark purple. Seed oblong, brown.


Root creeping extensively and throwing up suckers. **Culm** about a foot and a half high, erect, terete, glabrous, branched at the base. **Leaves** numerous, rigid, acute, alternate, 3—6 inches long, slightly glaucous. **Sheaths** closely embracing the culm, longer than the joints, sides and margins smooth; the upper ones hairy at the throat. **Stipule** scarcely apparent. **Panicle** contracted into a dense spike. **Spikelets** fasciculate, on short branches, sessile, ovate-oblong, of a yellowish-green colour, somewhat tumid; florets generally all fertile. **Calyx** unequal, acute, carinate. **Valves** of the corolla nearly equal; the inferior one acute and carinate; the other rather obtuse, the edges folded inwards and covering the germin. **Anthers** purple, much exserted. **Styles** and **stigmas** very long. **Nectaries** ob-ovate, minute. **Seed** brown, acuminate.

**Hab.** In salt-marshes and on the sea-shore; common. August—September. The number of florets in each spikelet varies according to the situation of the plant.

26. **BRIZA.** L.


Root perennial. **Culm** about a foot and a half high, raked above. **Leaves** flat, smooth. **Stipule** short, obtuse. **Panicle** few-flowered; branches capillary, spreading, purple. **Spikelets** tumid, green and purple, at first ovate, but at length becoming broader and cordate. **Corolla** nerveless, smooth.

**Hab.** In the vicinity of Boston, naturalized. Bigelow. In Pennsylvania. **Muhlenberg.** May.

27. **POA.** L.

**Spikelets** oblong or linear, compressed, many-flowered (3—20). **Calyx** shorter than the florets. **Corolla** herbaceous, awnless, often arachnoid at the base; inferior valve scarious on the margin. **Gen. pl.** 114. **Nutt. Gen. I.** p. 65. **Juss.** p. 32. **Roem. & Schult. Gen.**
Poa Eragrostis et Megastachya P. de Beauv.
Panicle branched and generally effuse. Meadow-grass.


Hab. In fields, pastures, road-sides, &c.; rare in woods. Flowers early in April and through the summer. Probably introduced from Europe.

2. P. fasciculata*: panicle expanding; branches straight, fasciculate, crowded; spikelets oblong, 3-flowered; florets free; calyx minute, unequal; culm oblique, terete; root fasciculate.

Root perennial, consisting of numerous thick fibres. Culm 1—2 feet high, firm, leafy, branched at the base. Leaves 6—10 inches long, flat, and with the sheaths very smooth. Stipule ovate, obtuse. Panicle at first appressed, 3—6 inches long; branches a little rigid, with short crowded ones in the axils. Spikelets somewhat racemose, sessile, crowded, oblong or lanceolate, generally 3-flowered. Calyx smooth; one of the glumes larger, 3-nerved, minutely truncated at the tip. Inferior valve of the corolla ovate, abruptly acuminate, indistinctly 5-nerved, very smooth; superior valve ciliate on the margin. Seed oblong, acute.

Hab. In salt-marshes around the city of New-York. August.

3. P. dentata*: panicle loose, somewhat spreading; branches capillary, virgate; spikelets lanceolate, 5-flowered; florets free; calyx unequal; inferior glume obtuse, 3-nerved; inferior valve of the corolla 5-nerved, 5-toothed at the apex when old. Windsoria pallida Cat. pl. New-York, p. 92. Triodia pallida Spreng. Neue Entdeck. b. i. p. 246.

Root perennial, creeping. Culm erect, 3 feet high, terete, very smooth. Leaves long, flat and membranaceous, pale green, somewhat glaucous beneath. Sheaths striate, smooth. Stipule elongated, ovate. Panicle large, weak, nodding when young, few-flowered. Spikelets all pedicellate, pale green. Calyx smooth, scarious on the margin; the inferior glume rather acute. Valves of the corolla nearly equal, lanceolate; the inferior valve distinctly 5-nerved; the superior one lanceolate,
deeply cleft, even when young. *Stamens 3; anthers pale yellow. Stigmas white.*


This plant I erroneously referred to *Nuttall's genus Windsorata* (*Tricuspis P. de B e a u v.*) in the Catalogue of the Plants of New-York; but I am now convinced it is a genuine species of *Poa.*

4. *P. aquatica B. americana*:* panicle erect, semiverticillate, diffuse; branches flexuose, smooth; spikelets linear, 6—8-flowered; florets ovate, obtuse, free; leaves broad-linear and, as well as the sheaths, smooth. *P. aquatica Pursh Fl.* 1. p. 80. *P. arundinacea M. a B i e b e r st.* *Ro o m & Sch u ll.* II. p. 599.

**Root perennial.** *Culm 4—5 feet high, thick and reed-like, very smooth, leafy. Leaves a foot or more in length, nearly half an inch broad, flat, smooth and membranaceous. Stigmate short, obtuse, abruptly acuminate. Panicle 8—12 inches long, at first contracted and a little nodding, but at length much expanded; branches about 4 at each joint, flexuose and much divided. Spikelets generally purple, 6—, rarely 9-flowered. Calyx unequal; glumes ovate, rather obtuse; the superior as long again as the inferior. Corolla oblong; inferior valve 7-nerved; the superior one as long again as the other. *Stamens 3; anthers yellow.*


**Root perennial.** *Culm about a foot high, somewhat geniculate, terete. Leaves involute, a little glaucous, scabrous on the margin. Stigmate ovate, rather obtuse. Panicle erect; branches in pairs, angular, scabrous, somewhat flexuous. Spikelets linear and nearly terete, purplish; florets at length spreading. Glumes unequal, acute; the inner one broader and 3-nerved. Corolla unequal; inferior valve ovate, obtuse, obscurely 3-toothed at the tip, woolly at the base; superior valve ciliate on the margin. *Stamens 3; anthers large, yellow. Stigmas white. Nectaries ovate, distinct.*

**Hab.** Cambridge, near Boston, Massachusetts. *June. B i g e l o w.* Resembles the European plant in every respect.

6. *P. brevifolia M u h l.*: panicle loose; branches in pairs, horizontal; calyx 3—4-flowered; corolla pubescent;

Root perennial, creeping. Culm 2 feet high, erect and oblique, somewhat angular. Leaves linear, smooth, carinate; the lowest ones very short. Branches of the panicle flexuose towards their extremities, sometimes ternate. Spikelets loose, florets distant. Glumes nearly equal. Inferior valve of the corolla carinate, 5-nerved, often purple; margin white; anthers violet. M u h l.

Hab. On mountains and in woods. Pennsylvania. April. M u h l e n b e r g.


Root perennial. Culm cespitose, about a foot and a half high, partly acipitale. Radical leaves erect, long and narrow; leaves on the culm generally 2, flat, oblong, lanceolate, scabrous only on the margin; the lower one about an inch long, the other just visible; all erect and carinate, with a coarctate, pungent point. Stipule truncate, lacerate, sometimes abruptly acuminate. Sheaths long, but a little shorter than the nodes. Panicle small, semiverticillate, alternate, horizontally spreading, terminating in an almost simple raceme; branches capillary, mostly by twos or threes; fasciculi 3 or 4. Spikelets crowded towards the extremities of the ramifications, cuneate-ovate, or lanceolate, before flowering somewhat acute, 3 or 4-flowered. Calyx smooth, superior glume acute. Corolla ovate-lanceolate, a little obtuse and scarios at the tip, villous at the base, indistinctly 5-nerved; 3 of the lesser nerves ciliately pubescent below. Stamens exserted. Styles sessile, complicately plumose, white. N u t t.

Hab. Around Philadelphia, in rocky situations, on the banks of the Schuylkill, &c. April. N u t t a l l.
This species I have not seen. The synonyms of E l l i o t t and M u h l e n b e r g are doubtful.


Root perennial. Culm erect, 2—3 feet high. Leaves a little scabrous on the margin; those on the culm 2—3 inches long; the radical ones much longer. Panicle pyramidal, expanding; branches scabrous, 3—4 at each joint. Spikelets ovate, acute,
3—4-flowered; florets connected together at the base by a web. 

Glumes unequal, lanceolate, acute, 3-nerved. Corolla acute; superior valve a little shorter. Anthers purple.

Hab. In meadows and pastures; very common. May—July. Introduced.


Root perennial. Culm 2—3 feet high, sometimes throwing off suckers at the base. Leaves very narrow, pale green. Stipules much elongated; the lower ones obtuse. Panicle large, pyramidal, verticillate; branches scabrous. Spikelets generally 3-, but frequently only 2-flowered. Glumes unequal, very acute. Corolla smooth on the sides and keel; inferior valve 3-nerved.


Root perennial, extensively creeping. Culm a foot or more in height, often procumbent at base or remarkably geniculate. Leaves short, linear, carinate, smooth and glaucous. Stipule truncate. Panicle at first almost spiked; branches geminate, short and flexuous, when old a little expanding. Glumes about 2-thirds the length of the lowest floret, very acute, 3-nerved, serrate on the keel; florets slightly connected at the base by a web. Corolla lanceolate; inferior valve indistinctly 5-nerved, slightly hairy on the sides and keel; superior valve very narrow, a little ciliate on the margin. Stamens 3. Styles very short. Seed oblong, obtuse, red.


♀. sylvestris*: panicle loose, spreading; spikelets 2—3-flowered; culm slender, nearly erect.


11. P. serotina Ehrh.: panicle elongated, diffuse, at length somewhat secund; spikelets ovate-lanceolate, 2—3-flowered; florets a little webbed at the base, yellow at the
TRIANDRIA. DIGYNIA.


Root perennial. *Culm* 2—3 feet high, erect. Leaves about a foot long, narrow, flat, smooth. *Stipule* elongated, lacerate. *Panicle* 8—10 inches long, much branched, appressed when young, a little nodding; semiverticillate. *Calyx* often 2-flowered, nearly as long as the lowest floret, very acute, compressed, scabrous on the keel. *Corolla* lanceolate, rather obtuse; valves entire on the margin; the superior one very narrow. *Stamens* 3; *anthers* yellow.

Hab. In wet meadows; common. June. Sometimes called *Red-top*.


Root perennial, creeping. *Culm* 2 feet high or more, slender. Leaves narrow, pale green, and with the sheaths smooth. *Panicle* 5—8 inches long, nodding? branches capillary, in pairs or terrate. *Spikelets* not numerous, all pedicellate and situated towards the extremities of the branches; florets much spread and at length distant on the *rachis*. *Glumes* linear-lanceolate, very acute, without nerves; one of them longer. *Corolla* lanceolate; inferior valve very indistinctly 5-nerved, smooth on the sides; superior valve one third shorter than the other, entire on the margin. *Stamens* 3; *anthers* yellow. *Stigmas* white.


Root perennial. *Culm* 3—4 feet high, very smooth. Leaves flat, narrow-linear, about a foot long, carinate, smooth. *Stipule* ovate, much lacerate. *Panicle* large and capillary, erect when young; branches 2 or 3 together, semiverticillate, angular. *Spikelets* ovate, compressed, 4—6-flowered; florets distinct, deciduous. *Calyx* very small; glumes lanceolate, acuminate,
without nerves; the inferior one much shorter. **Corolla** obtuse; inferior valve with 7 elevated nerves, purplish towards the tip; superior valve concave on the back, rather shorter than the other; margin thickened. **Stamens** generally 2, included. **Styles** short; **stigmas** plumose. **Seed** ovate.

**HAB.** In wet meadows and in ditches. June.

**Poa parviflora** Pursh Fl. I. p. 80. (excl. syn.) and **Elliott** Sk. I p. 57: appears to be only a variety of this species.

14. **P. elongata***: panicle elongated, racemose; branches solitary, appressed; spikelets ovate, obtuse, tumid, 3-flowered; florets free; stipule almost wanting.

**Root** perennial. **Culm** 3 feet high, leafy, terete. **Leaves** about a foot long, dark green, 2 lines broad, smooth. **Sheaths** prominently striate. **Stipule** exceedingly short. **Panicle** 8—10 inches long, nodding. **Spikelets** disposed in crowded racemes. **Calyx** nearly equal, 2-thirds the length of the lower floret, acute, 1-nerved. Inferior valve of the **corolla** distinctly 5-nerved; superior valve shorter, rounded at the tip; margin thickened, entire. **Stamens** 2? **Stigmas** white.

**HAB.** Near Deerfield, Massachusetts. **Cooly.** Plainfield. **Porter.** Williamstown. **Dewey.**

15. **P. obtusa** Muh. l.: panicle ovate, contracted; spikelets ovate, tumid, 5—7-flowered; florets free; glumes scarious; corolla ovate, smooth, obtuse; inferior valve indistinctly 7-nerved; leaves as long as the culm, and with the sheaths smooth. **Muh. l.** Gram. p. 147.

**Root** perennial. **Culm** 2—3 feet high, smooth, firm. **Leaves** frequently overtopping the culm, 2—3 lines broad, dark green. **Stipule** short, retuse. **Panicle** 3—4 inches long; **spikelets** much crowded, 2 lines long, thick and swelling. **Calyx** unequal; margins remarkably scarious. **Corolla** nearly equal; the inferior valve boat-shaped, generally very obtuse; superior valve margined, bifid at the tip. **Stamens** often 2. (**Muh. l.**) **Seed** obovate, black, corrugated. **Nectaries** ovate, bifid.


**Root** perennial. **Culm** 3—4 feet high, erect, terete, smooth, leafy. **Leaves** often longer than the culm, about 3 lines broad, scabrous and a little glaucous. **Sheaths** smooth. **Stipule** ovate;
obtuse, lacerate. *Panicle* 6—8 inches long, at first pyramidal; branches virgate, at length much spreading, pendulous at the extremities. *Spikelets* about 2 lines long; sides very convex. *Calyx* much shorter than the florets, lanceolate, acute, without nerves, scariosous on the margin; inferior glume smaller. Inferior valve of the *corolla* ovate, distinctly nerved, naked; margins scariosous; superior valve ovobovate, margined, not ciliate, bifid at the apex. *Stamens* always 2; *anthers* short, purple. *Styles* very short; *stigmas* purple. *Seed* oblong, brown.


*Rooth* annual. *Culm* a foot or more in height, a little compressed, cespitose at the base and much branched at the base. *Leaves* linear, flat, finely nerved. *Sheaths* with very long hairs on the margin and about the throat. *Stipule* very short, fringed with hairs. *Panicle* 8—12 inches long; much branched, pyramidal; branches 2—3 at each joint, not hairy at the base. *Spikelets* on long capillary peduncles. *Glumes* unequal, lanceolate, acute, scabrous on the keel. *Corolla* ovate, acuminate; inferior valve 3-nerved, scabrous on the keel; superior valve shorter, ciliate on the margin. *Seed* short-ovate, obtuse or emarginate.

**Hab.** In sandy fields and on dry rocky hills; not common. August.


*Rooth* perennial. *Culm* a foot and a half high, straight and erect, thick, cespitose at the base; joints few. *Leaves* longer than the culm, 2—3 lines broad, strongly nerved, with a few long hairs towards the base. *Sheaths* striate; the lower ones hairy, bearded at the throat. *Panicle* a foot long, very much branched, reflected and divaricate with age; the larger branches swelled at the base. *Spikelets* purplish; florets free. *Calyx* acute,
scabrous on the margin. *Stamens 5. Seed oblong, red, very small.


Very similar to the preceding species, but easily distinguished by its firmer culm and the villose axils of the panicle.

\[ \beta. \text{spectabilis}^\star: \text{spikelets linear, 10—15-flowered.} \]


*Megastachya spectabilis Roem. & Schult. II. p. 589.*

*Culm larger and firmer than in the preceding. Spikelets handsomely coloured with purple, sometimes half an inch long.

**Hab.** In sandy fields along the sea-shore of Long-Island; particularly abundant near Bath. *August.* In dry barren sandfields. New-York to Carolina. *Pursh.*

This variety certainly does not differ from the *P. hirsuta of Michaux,* except in size, and in having more florets in each spikelet.


**Root** annual. *Culm* from a span to a foot long, geniculate at the base, sometimes decumbent. *Leaves* 2—4 inches long, flat, smooth, except towards the base, 5-nerved. *Sheaths* striate, smooth, bearded at the throat. *Panicle* large, loose; branches a little flexuous, the lower ones subverticillate. *Spikelets* 2—3 lines long. *Glumes* very unequal, nerveless; the inferior one minute; the other scabrous on the back. *Corolla* smooth, purple, 3-nerved; superior valve slightly ciliate on the margin under a lens, recurved, persistent, giving the rachis a pectinate appearance when old. *Seed* oblong, brown.


This species should be compared with *P. pilosa of Linnaeus,* (Eragrostis pilosa P. de Beauv. and Roem. & Schult. II. p. 575) to which it appears to be nearly allied. It also resembles *P. tenella Retz. & Willd.,* and *P. plumosa Retz.,* but is probably distinct.


Triandria. Digynia.


Root fibrous, annual. Culm about a span long, rooting at the joints. Leaves subulate, flat, minutely pubescent on the upper surface. Sheaths open, striate, a little hairy on the margin and at the throat. Panicle an inch or two long; branches nearly simple, short, each terminated by several compressed, pedicellate spikelets. Glumes unequal, very acute, carinate, without nerves. Corolla very unequal; the inferior valve with three distinct, green nerves, smooth; superior valve much shorter than the other, acute, bifid at the apex. Seed ovate, brown.


b. caespitosa*: culm very short, cespitose; spikelets much crowded, obtlong.

Hab. On the banks of the Passaic river, New-Jersey.

I have followed Pursh and Humboldt, and Bonpland in considering Michaux's plant the same as the P. hypnoides of Lamarck, which does not appear to differ essentially; the P. reptans, according to Mr. Elliott, sometimes bearing as many as 40 florets in a spikelet.


Root annual. Culm geniculate and branching near the base, a foot or 18 inches long. Leaves 6—12 inches long, flat and smooth, rarely hairy. Sheaths a little open. Stipule bearded. Panicle pyramidal; branches simple or in pairs, flexuous, short. Spikelets of a leaden colour, varying from ovate-lanceolate to linear, sometimes bearing as many as 20 florets. Glumes acute, one of them broader, 3 nerved, often hairy, and, as well as the corolla, with several small warts on the keel. Corolla unequal; superior valve often rather acute, 3-nerved, smooth; the superior one persistent, much smaller than the other, hollowed on the back, ciliate on the margin. Stamens 3. Styles short; stigmas simply plumose. Seed short-ovate, brown.

28. **Kœleria.** § Persoon.


1. **_Kœleria pennsylvanica_** _De Cand._ : leaves flat, and with the sheaths softiy pubescent; panicle oblong, slender, rather loose; calyx 2-flowered; glumes nearly equal; the inferior one oblong, obtuse, and slightly mucronate; superior valve of the _corolla_ scabrous. _De Cand._ Cat. H. Monsp. (1813.) p. 117. _Roem. & Schult._ II. p. 261. _Aira mollis Muhl._ _Gram._ p. 83. **_A. pennsylvanica_** _Sprng._

Root perennial. _Culm_ erect, about 2 feet high, simple; nodes blacK and contracted. _Sheath_ an inch and a half long, very narrow. _Stipule_ short, retuse. _Panicle_ about 3 inches long; flowers shining. Superior glume of the _calyx_ 3-nerved, inferior glume much narrower, acute. Valves of the lower floret nearly equal; the inferior valve smooth, lanceolate; the superior membranaceous, much narrowed at the base, lacerate and obtuse at the tip. _Superior floret_ pedicellate; inferior valve very scabrous; superior valve shorter, with an abortive pedicel at the base, which is a continuation of the _rachis._ _Stamiua_ 3; _anther_ purple. _Stigmas_ plumose, purple.

_Hab._ In woods; particularly in rocky situations. May—June.

**_A. nitida Sprng._** _Mont._ I. p. 32. seems to be only a variety of this species.


_Holcus striatus L._ _Sp._ pl. 1486.

Root perennial. _Culm_ 2 feet high, slender. _Leaves_ 4—6 inches long, narrow and smooth. _Stipule_ oblong, membranaceous. _Flowers_ in a loose racemose _panicle_, 4—6 inches long. _Calyx_ very unequal; the inferior glume linear and very acute; the other oblong, 3-nerved, obliquely truncated, or a little acute at the tip, scabrous on the sides and keel. _Florets_ lanceolate;

---

† Omitted in the synopsis of the genera. It should take the place of _Aira_ (No. 28.) which should be placed after _Avena_ (No. 39.)
the superior one pedicellate, with a short footstalk at its base, which often bears a third floret; valves in all smooth, a little unequal, the superior one somewhat conduplicate, attenuated at the base, obtuse at the tip. Stamens 3; anthers yellow. Stigmas white. Seed oblong.

Hab. In dry woods. June.

**b. major***: panicle large, a little spreading; leaves broad-linear, very long.

*Culm* 3 feet high. *Leaves* nearly a foot long, 3—4 lines broad. *Panicle* 8—10 inches long.

Hab. Near Deerfield, Massachusetts. Cooley. This variety has the habit of Cinna arundinacea in a young state.

I refer the *Aira melicoides* of Michaux to our *K. truncata* with some doubt, as I have never found the florets in the latter hairy at the base. The *A. truncata* of Muhlenberg is generally considered as the *A. obtusata* of Michaux; but a careful examination of the latter, specimens of which I received from Mr. Elliott, has convinced me that they are quite distinct. In the *A. obtusata*, which is probably confined to the southern States, the panicle is much more dense, and the superior valve of the calyx very much rounded.

**29. URALEPIS. Nuttall.**

*Calyx* 2—3-flowered, much shorter than the florets, which are stipitate and distinct. *Corolla* 2-valved; valves very unequal, distinctly villose on the margins; the inferior one tricuspidate; the central cusp produced into a short bristle; superior valve concave on the back and incurved. *Seed* gibbous, coated. *Nutt. Gen. II. p. 62. Airæ sp. Walt. Panicle simple, racemose.*

*U. aristulata* Nutt.: lateral panicles concealed in the sheaths of the leaves; terminal ones partly exsert; calyx 3-flowered; bristle of the corolla as long as the lateral cusps. *Nutt. Gen. I. p. 63. and II. Supp.*

*Root* annual. *Culms* numerous, cespitose, procumbent at the base, about a foot high, with numerous bearded joints. *Leaves* subulate; the upper ones shorter than the sheaths, pungent, hairy on the upper surface, fringed towards the base with a few long hairs. *Stipule* a bearded ring. *Flowers* in racemes, or in a very simple panicle. *Spikelets* terete, many times shorter than the calyx; generally 3-flowered, sometimes with a fourth, abortive floret. *Glumes* lacerate at the tip. *Valves* of the *corolla* clothed on the margin with a very conspicuous villus; inferior valve truncate and 3-cleft, the intermediate segment mucronate, or terminated with a very short bristle; superior valve ovate, half the length of the inferior. *Stamens* 3;
anthers purple. Seed oblong, brown, acuminate at each extremity. Nectaries 0?

Hab. Along the sea-coast, in the sand-drifts; common in the harbour of New-York, above high-water mark. In sandy fields of New-York and New-Jersey. Near Philadelphia. Nuttall. August. Whole plant covered with a viscid acid secretion, of a powerful and peculiar taste. The acid is probably the malic. This species is very nearly allied to the U. purpurea of Nuttall, (Aina purpurea Walt. et Elliott;) but the latter is distinguished by the bristle of the corolla being as long as the flowers.

30. TRICUSPIS. Beauvois.


Root perennial. Culm 4—5 feet high, a little compressed below, erect, very smooth. Leaves a foot or 18 inches long, smooth, flat, nerve; the lowest ones somewhat distichous. Sheaths shorter than the joints, very smooth, except at the throat, which is bearded. Stiffule wanting. Panicle very large, at first erect, but, when old, spreading and pendulous; branches alternate or geminate, very long, a little hairy in the axils; the lower parts naked. Spikelets alternate, on short branches, 4—6-flowered, of a dark purple colour. Glumes unequal, scariosus, ovate, acuminate, mucronate, or almost awned by the projecting midrib; lateral nerves wanting. Inferior valve of the corolla very villous on the margins and back, near the base, with 3 very distinct green nerves, which are continued beyond the valve, forming cusps; the middle cusp longest; the intermediate parts between the points are elongated, making the valve 5-toothed
at the extremity; superior valve slightly ciliate on the margin. 
Stamens 3; anthers much exserted, purple. Seed oblong, 
compressed, a little gibbous, hollowed on one side, with a lateral 
oval scar near the base.

HAB. In sandy fields; common in New-Jersey, &c. In moun-
tain meadows of Pennsylvania, where it yields most excellent 

The genus *Tricuspis* resembles the *Triodia* of *R. Brown* 
in many respects, but the latter differs in having a simple con-
tracted panicle, the calyx as long as the florets, which are naked 
at the base, and the corolla without intermediate teeth between 
the cusps.

31. FESTUCA. *L.*

*Spikelets* often more or less terete, at length com-
pressed, many-flowered. *Calyx* unequal, carinate, shorter 
than the florets. *Corolla* somewhat terete; superior valve 
acute, mucronate, or with a short bristle at the tip; su-

*Schenodorus* et *Diplachne* *P. de Beauv.* et *Roem. & Schult.* Panicle generally compound.

*Fescue-grass.*

1. *F. Myurus* *L.*? panicle slender, crowded, equal; 
spikelets about 4-flowered; florets subulate, awned, hairy, 

*Root* annual, (biennial *Muhl.*) *Culm* 6—12 inches long, erect, 
geniculate near the root, smooth. *Leaves* 2—3 inches long, 
subulate, concave, not carinate, scabrous above. *Stipule* (bifid 
or retuse *Muhl.*) *Spikelets* 4—7-flowered, nearly sessile. 
*Glumes* equal, very small, linear-lanceolate. Inferior valve of the 
corolla concave, hairy, particularly towards the summit, 
terminating in an *awn* (bristle) twice as long as the valve; su-
perior valve membranaceous, lanceolate. *Styles* very short; 

HAB. In sandy soils of New-Jersey; growing with *Aira pire-
cox.* *Barton.* June.

I have not examined a North-American specimen of this 
plant. *Pursh* and *Michaux* suspect it to be a distinct 
species from the European *F. Myurus.* *Humboldt* and 
*Bonpland* observe that the flowers are monandrous in 
South-America, and they are so in my European specimens. 
The characters in which our plant differs, are the hairiness of the 
corolla and the panicle not being secund.

Root annual, consisting of woolly fibres. *Culms* numerous; from a span to a foot or more in height, erect, very slender, pubescent and somewhat quadrangular above. *Leaves* an inch long, erect, involute. *Sheaths* slightly pubescent. *Siptule* short, truncate, often toothed. *Panicle* about 2 inches long, racemose or spiked; branches simple; the lower ones geminate, sometimes a little expanding. *Calyx* deciduous; *glumes* acute. Inferior valve of the *corolla* very narrow, without nerves, rounded on the back, (not carinate;) sides margined, involute towards the extremity, and produced into a bristle two-thirds the length of the valve; superior valve very acute, shorter than the other; strongly margined, punculate. *Seed* linear, with a deep groove on one side the whole length.

Hab. In dry sandy soils, and on stony hills; common. June.

I have observed a *Festuca* growing in abundance on the sea-coast of Long-Island, which may be a variety of the last. It is, however, much taller, the panicle somewhat spreading, the leaves narrow, but flat, and the stipule nearly obsolete. I have also found the same plant on the side of a sand-hill near Flushing, Long-Island, and Dr. *Bigelow* has sent me specimens collected near Boston, Massachusetts.


Root perennial. *Culm* a foot or 18 inches high. *Leaves* narrow, very acute; somewhat scabrous. *Siptule* membranaceous, lacerate. *Panicle* 3—4 inches long; branches geminate. Inferior glume of the *calyx* lanceolate, acute; the other broader, 3-nerved. *Corolla* unequal; inferior valve produced into a short straight bristle, smooth, or a little pubescent, 3-nerved; superior valve shorter, acuminate, bifid. *Stamens* 3; *anthers* yellow.

Hab. In fields and pastures; rare. June. Introduced from Europe.

4. *F. rubra L.*? panicle secund, erect, spreading; spikelets somewhat terete; florets longer than the bristle at their tips; leaves pubescent above; root creeping. *Willd. Spec.*
The branches of Smith common, root stigmas leaves anthers superior leaves branches one superior when simple mens ceolate 5-nerved valves plumose, very acute or mucronate, obscurely 5-nerved; superior valve acute, scabrous on the margin Sti/mens 3; anthers large, yellow. Styles very short; stigmas simply plumose, white. Nectaries ovate, white. Seed obovate.

Hab. In wet meadows; common. June.


Root perennial. Culm 3—4 feet high, terete, smooth. Leaves a foot or more long, deeply striate, carinate. Sheaths loose. Stipule almost wanting. Panicle 6—8 inches long, nodding when old; branches in pairs, scabrous. Calyx unequal; inferior glume linear-lanceolate, carinate; superior glume lanceolate, very scarious on the margin, obscurely 3-nerved. Inferior valve of the corolla very acute or mucronate, obscurely 5-nerved; superior valve acute, scabrous on the margin Sti/mens 3; anthers large, yellow. Styles very short; stigmas simply plumose, white. Nectaries ovate, white. Seed obovate.

Hab. In wet meadows; common. June.


Root perennial. Culm 1—2 feet high, erect, terete, smooth. Leaves and sheaths very smooth. Stipule obsolete. Panicle 2—6 inches long, subsecond; branches short, nearly simple; spikelets 7—8-flowered, terete. Calyx very unequal; the superior glume much larger, scarious on the margin, obscurely nerved. Inferior valve of the corolla more or less acute, (never
mucronate,) scarios on the margin, obscurely 5-nerved; superior valve as long as the inferior, slightly bifid at the apex; scabrous on the margin. *Stamens 3; anthers yellow. Stigmas white.

**Hab.** In meadows and fields. June—July. Introduced.

This species has been confounded with the preceding by many botanists; and they do not, indeed, appear to differ much. The *F. elatior* may be distinguished by its more divided panicle and its acute mucronate florets.


**Root** perennial, fibrous. *Culm* about 3 feet high, erect, simple, terete; nodes black. *Leaves* a foot long, dark green, about 2 lines broad; strongly nerved, somewhat scabrous. *Stifule* very short, obtuse. *Panicle* few-flowered, loose. *Spikelets* situated principally towards the extremity of the angular and very scabrous branches, generally about 3-flowered, though frequently bearing as many as 5 florets. *Glumes* lanceolate, acuminate, not scarios, scabrous on the keel; superior glume 3-nerved. *Corolla* coriaceous; inferior valve ovate-lanceolate, rather obtuse, or abruptly acuminate, naked, very obscurely 5-nerved, margin not scarios; superior valve lanceolate, as long as the inferior, strongly margined, bifid at the tip. *Stamens 3; anthers narrow, yellow.*

**Hab.** In woods, and in rocky secluded situations; common on the hills near Hoboken, &c. June.

This species is nearly allied to *Poa*, but wants the scarios margin to the corolla.


lanceolate, acuminate, 1-nerved, scabrous on the keel; the superior one three times as long as the other. Inferior valve of the corolla lanceolate, acuminate, villous on the lower part of the margin, carinate, terminated by a scabrous bristle as long as the floret; superior valve much shorter, very acute, ciliate on the margin near the base. Stamens 2? anthers minute. Styles very short; stigmas plumose, purple. Seed oval, compressed, not sulcate, 2-horned. Nectaries oblong, entire.

Hab. In brackish meadows, and in sandy soils near the salt-water. Hackinsack meadows, New-Jersey. At Kingsbridge, on the Island of New-York, and along the sea-coast of Long-Island. August.

The F. polystachya of Michaux is described as being erect, but in every other respect it resembles our plant. I have restored the name of Lamark on account of its priority. This species is nearly allied to F. fusca, a native of Palestine, and with that plant constitutes the genus Diplachne of Beauv.


The specimen of this plant in Muhlenberg's Herbarium is very imperfect, and appears to be a species of Bromus.

32. CERATOCHLOA. Beauv.


C. unioloides P. de B.: panicle nodding, spreading; spikelets oblong-lanceolate, compressed, 6—8-flowered; flo-

TRIANDRIA. DIGYNIA. CERATOCHLOA.


I have never seen a specimen of this plant: by the figure in the *Hort. Berol.* it resembles a *Bromus* in habit very much. Allied to *Festuca stricta Poir.* of the Island of Bourbon.

33. DIARRHENA. *Rafinesque.*


*Root* perennial. *Culm* erect, almost naked, slender, slightly compressed, scabrous on the upper part. *Leaves* few, nearly radical, broad, flat, and, as well as the *sheaths,* a little pubescent. *Panicle* racemose; branches few-flowered, appressed. *Spikelets* (in my specimens) about 2-flowered; *florets* diverging. Inferior *glume* lanceolate, carinate, ciliate on the margin, not half the length of the superior glume, which is broader and 5-nerved. *Corolla* smooth; inferior valve 5-nerved, prolonged at the tip into a very sharp point; superior valve impressed on the back and bicarinate; keels scabrous and green; margin a little ciliate. *Seed* oblong-cylindrical, obtuse, not sulcate. *Nectaries* very conspicuous, obtuse and ciliate. *Stamens* 2—3.

*Hab.* On the banks of the Ohio; nearly within the limits of this work. *Rafinesque.*

This remarkable grass, which was referred to *Festuca* by *Michaux,* with a mark of doubt, was first proposed as a
distinct genus by Rafinesque, though he never, as far as I can learn, defined its characters. It strongly resembles some species of Uniola, particularly U. gracilis, which species appears to connect it with Ceratochloa.

34. DACTYLIS. L.


Root perennial. Culm 2—3 feet high. Leaves broadly-linear, and, as well as the sheaths, rather scabrous. Stipule elongated, lacerate. Panicle contracted both before and after flowering. Spikelets in thick ovate clusters on the extremity of each branch. Glumes very unequal; the inferior one narrower; the other lanceolate, strongly ciliate on the keel. Inferior valve of the corolla carinate, ciliate on the keel and margin, scabrous on the sides; apex produced into a short cusp; superior valve with ciliate margins. Anthers very large, yellow.


35. DANTHONIA. De Cand.


**TRIANDRIA. DIGYNA. DANTHONIA.**

*Root perennial.* **Culm** somewhat cespitose at the base, a foot and a half or 2 feet high, slender, erect. Lower **leaves** numerous, flat or involute, 6—8 inches long, hairy on the upper surface; those on the culm much shorter, erect. **Sheaths** very short. **Stipule** almost wanting, ciliate. **Panicle** about 2 inches long, spiked; lower branches a little divided. **Spikelets** at first terete, but at length spreading. **Calyx** a third longer than the florets; glumes nearly equal, lanceolate, very smooth, with 5 confluent nerves; point much attenuated. Inferior valve of the **corolla** obscurely 7-nerved, clothed with long hairs; margins produced into 2 subulate teeth; **awn** about twice the length of the valve, flat, carinate, twisted on the lower part; superior valve closely appressed, ciliate. **Stamens** 3; **anhers** yellow. **Stigmas** white. **Nectaries** oval, obtuse. **Seed** oblong, compressed, a little corrugate; apex slightly 2-horned.

**Hab.** In dry open woods and in sandy fields. June—July.

The *Avena glumosa* of *Michaux* and *Muhlenberg* (*D. sericea* *Nutt.*) appears to be only a variety of this species. It is chiefly distinguished by its shining, very villous corolla, and the long staccate points of the superior valve. The genus *Danthonia* is nearly allied to *Triセットum*, but differs much in habit.

36. **TRISETUM. Persoon.**

**Calyx** 3—5-flowered, membranaceous, as long as the florets. Inferior valve of the **corolla** with 2 bristle-form teeth at the tip, awned below the division of the teeth. **Pers. Syn.** I. p. 97. **Roem. & Schult. Gen.** 327. **P. de Beauv.** t. XVIII. f. 1. **Avenæ spp. L., Trin., &c. Panicle compound.**


*Root perennial.* **Culm** 1—2 feet high, erect; nodes contracted. **Leaves** flat, 2—3 inches long, and, with the sheaths, smooth. **Stipule** short, retruse. **Panicle** with the lower branches in fives. **Spikelets** all on long peduncles, much compressed, generally 2-flowered, with an abortive pedicel. **Calyx** unequal, acuminate and mucronate; glumes 3-nerved, scabrous on the keel; the superior one a little longer. **Superior floret** on a short hairy pedicel; inferior valve lanceolate, acuminate, terminated by 2 short bristles, a little below which is inserted a twisted **awn** the length of the valve; superior valve half the length of
the inferior, membranaceous, lacerate at the tip. Stamens 3.
Stigmas white, plumose. Nectaries lanceolate.

HAB. In wet meadows. June—July.

This grass is, perhaps, not properly a Triquetum, but it cer-
tainly is nearer that genus than to Aira. In the awn it resem-
bles Avena; but the corolla having 2 distinct, though short,
bristles at the extremity, I have referred it to the genus Tri-
setum of Persoon.

2. T. purpurascens*; panicle very simple, somewhat ra-
cemose, few-flowered; calyx 3-flowered; glumes very un-
equal, entire; culm and leaves smooth; stipule very short,
truncate.

Root perennial. Culm about 2 feet high, leafy. Leaves narrow-
linear, 4—6 inches long, carinate. Sheaths smooth. Panicle
4—6 inches long, almost a simple raceme of pedunculate
spikelets; lower branches elongated. Spikelets lanceolate,
terete. Calyx of a reddish-purple colour, smooth; glumes
lanceolate; the inferior one indistinctly 3-nerved; the other
5-nerved, sometimes lacerate at the tip when old. Inferior
valve of the corolla scabrous, 7-nerved, attenuated and 2-cleft
at the extremity; awn bent obliquely; superior valve slightly
cleft, scabrous on the margin.

HAB. In mountain-meadows. Williamstown, Massachusetts.
Dewey. Near Boston. Bigelow. On the Catskill moun-

37. BROMUS. L.

Spikelets oblong, distichous, many-flowered. Calyx
shorter than the florets. Inferior valve of the corolla
bifid, with a bristle between the teeth, a little below the
tip; superior valve subconduplicate, ciliate. Gen. pl.
& Schult. Gen. 325. P. de Beauv. t. XVII.
f. 9. Trin. Agrost. 103. Panicle compound, gene-
really loose.

Brome-grass.

1. B. secalinus L.: panicle spreading, a little branched;
spikelets oblong-ovate, compressed; florets about 10, distinct,
rather remote, longer than the flexuous bristles; leaves some-
Roem. & Schult. II. p. 633.

Root annual. Culm 2—3 feet high, erect, terete; nodes swelled
and pubescent. Leaves broad-linear, dark green, hairy above.
Sheaths smooth. Stipule oblong and retuse. Panicle ovate,
about 4 inches long; branches fasciculate, nearly simple, sca-
brous and pubescent. Spikelets at length a little nodding, thick; when old, broad and flat by the expanding of the florets. Calyx unequal; glumes ovate-lanceolate, acuminate, mucronate; the inferior 5-nerved; the superior 7-nerved. Inferior valve of the corolla ovate, 7-nerved, a little hairy towards the summit; bristle generally a little shorter than the floret; superior valve narrow, very distinctly ciliate on the margin. Stamens 3; anthers yellow. Styles short; stigmas plumose. Seed oblong, nearly as long as the corolla.

Hab. In cultivated grounds, particularly among grain; common. June. A very noxious grass to farmers. Called Chess or Cheat. Doubtless introduced from Europe.


Root biennial, (annual Muhl.) Culm about 2 feet high, erect, mostly pubescent. Leaves pale green, and as well as the sheaths covered with a soft down or pubescence. Stipule very short, obtuse. Panicle 3—4 inches long. Spikelets 5—10-flowered. Glumes rather acute. Inferior valve of the corolla oblong-lanceolate, with 7 scabrous nerves; awn rather straight.


Root perennial, fibrous. Culm about 4 feet high, terete, smooth. Leaves broad-linear, smooth and glaucous. Sheaths retrorsely hairy. Stipule pilose. Panicle with the branches scabrous and flexuous. Spikelets 6—8-flowered. Glumes unequal, lanceolate, hairy; the inferior very acute; the other terminated by a short point or cusp. Inferior valve of the corolla 3-nerved, villose.

Hab. In wet meadows, along rivers, &c.; rare. August.

Allied to B. catharticus, a native of Lima, but has narrower spikes.

4. B. ciliatus L.: panicle nodding; spikelets oblong, terete, 8—10-flowered; glumes acute, (not mucronate,) ciliate; corolla hairy, margin villosely-ciliate; bristles short.
**Bromus.**  
**Triandra.** Digyna.  

_Sp. pl._ 113. _Will d. Spec._ I. p. 433  
_Pursh Fl._ I. p. 35.  
_Elliott Sk._ I. p. 173.  
_B. canadensis._ Mich. _Fl._ I. p. 65?  
_Roem. _&_ Schult. II.  

*Root* perennial.  
_Culm* 3 feet high, pubescent at the joints, the rest smooth.  
_Leaves* lanceolate, pale green, (not glaucous,) hairy on both sides; nervose and carinate; the upper ones scarcely pubescent; margins scabrous and ciliate.  
_Stipule* obtuse, not hairy, short.  
_Sheaths* pubescent backwards, hairy at the throat.  
_Panicle* nodding, with 2 bracts at the base; branches aggregated 2—4 together, pubescent and scabrous.  
_Spikelets* oblong, terete, acuminate, 5—13-flowered.  
_Glumes* 3-nerved, ciliate, unarmed.  
_Valves* of the _corolla* lanceolate, hairy on every part, ciliate on the margin; _bristle* short and straight.  
_Mu hl._  

*Hab.* On the banks of rivers in Pennsylvania.  
_June._ _Muhlenberg._  

5. _B. pubesceis._ _Mu hl._ : _panicle* at length nodding; _spikelets* lanceolate, terete; _florets* pubescent; _leaves* and _lower sheaths* pubescent.  
_W ill d._ _Enum._ h. _Berol._ I. p. 120.  
_Roem. _&_ Schult. II.  

*Root* perennial.  
_Culm* erect, 4 feet high, hairy below; joints black.  
_Leaves* lanceolate, smooth beneath, pubescent above.  
_Stipule* very short.  
_Lower sheaths* pubescent backwards; upper ones smooth.  
_Branches* of the _panicle* 2—5, scabrous.  
_Calyx* 8—12-flowered, acute, sometimes with a short bristle at the tip, smooth or pubescent, 3-nerved.  
_Corolla* pubescent on every part; inferior valve 5-nerved.  
_Seed* oblong.  
_Mu hl._  

*Hab.* In woods. Pennsylvania.  
_June._ _Muhlenberg._  

The two last species of _Bromus* appear to be in much confusion.  
The _B. ciliatus* of _Muhlenberg* differs from that of _Linnaeus* in having the _corolla* hairy on every part.  
_Linnaeus* remarks that the back of the _corolla* is not hairy, and that this mark is very characteristic.  
But specimens of _B. ciliatus* sent to Sir J. E. Smith by _Muhlenberg,* were pronounced identical with those in the _Linnaean Herbarium._  
There are two species of _Bromus* growing in this vicinity, and not uncommon throughout the northern States, one of which appears to be exactly _B. ciliatus* of _Linnaeus*; the other may be the _B. canadensis* of _Michaux._ A short description of each is added.  

1. _B. ciliatus.*  
_Culm* about 4 feet high.  
_Leaves* a foot long or more, 4—5 lines broad, hairy on the upper surface, smooth beneath.  
_Panicle* nodding and expanding; branches in pairs.  
_Spikelets* oblong-lanceolate, compressed, 8—10-flowered; _florets* distinct, at length expanding.  
_Glumes* linear-lanceolate, mucronate, smooth; the superior a third longer than the inferior one, 3-nerved.  
_Inferior valve of the _corolla* linear-lanceolate, ciliate on the margin, smooth on
the back; bristle half the length of the floret; superior valve shorter, slightly ciliate on the margin, entire at the tip?

_Hab._ On rocky hills, in woods, &c. _June._

2. _B. canadensis_ _Mich.?_ _Culm_ erect, 3—4 feet high. _Leaves_ glaucous, long, about 3 lines broad, hairy on the upper surface. _Panicle_ at length nodding, loose, capillary; branches in pairs; the lowest ones with a sheathing bract at the base. _Spikelets_ oblong, closely imbricate even when old, 10—12-flowered. _Calyx_ hairy; _glumes_ acute, (not mucronate.) _Inferior valve_ of the _corolla_ lanceolate, very hairy on every part, 7-nerved; _bristle_ not half the length of the floret; _superior valve_ hairy, distinctly ciliate on the margin.

_Hab._ In moist meadows, and in woods; rarer than the preceding. _June—July.

The latter species agrees with _Muhlenberg's_ description of _B. ciliatus._

33. _ARRHENATHERUM._ _Beauv._

_Calyx_ membranaceous, 2-flowered, rather shorter than the florets. _Inferior floret_ antheriferous; _inferior valve_ 2-cleft, awned below the middle. _Superior floret_ perfect; _inferior valve_ cleft, unarmed, or with a short awn a little below the tip. _Roem. & Schult._ _Gen._ 275. _P. de Beauv._ t. XI. f. 5. _Trin._ _Agrost._ 115. _Avenæ_ spp. _L._ _Holci_ spp. _Smith, &c._ _Panicle_ compound.


_Root_ perennial, creeping. _Culm_ about 3 feet high. _Panicle_ loose; branches in pairs, or ternate. _Spikelets_ brownish; _florets_ hairy at the base. _Glumes_ unequal, acuminate, shorter than the florets, without nerves, pubescent on the keel. _Inferior valve_ of the _lower floret_ with a very contorted _awn_ near the base. _Superior floret_ sometimes with a short _awn._ _Stamens_ 3; _anthers_ yellow. _Stigmas_ white.

_Hab._ In fields and cultivated grounds; rare. _June._ Introduced from Europe.

2. _A. pennsylvanicum:* _panicle_ attenuated; _awns_ twice as long as the florets; _seeds_ villous. _Avena pennsylvanica_ _L._ _Sp._ _pl._ 117. _Willd._ _Spec._ _I._ p. 445. _Muhl._ _Gram._ p. 185. _Pursh_ _Fl._ _I._ p. 89. _Elliott_ _Sk._ _I._ p. 174. _Tri-
ARRHENATHERUM. TRIANDRIA. DIGYNIA.


Culm erect, smooth. Leaves linear-lanceolate. Branches of the panicle short, alternate; pedicels scabrous. Calyx unequal, white, shorter than the florets. Florets bearded at the base, one of them awnless, the other with a geniculate awn at the base of the inferior valve. Muhl.


What I formerly considered as the Avena pennisylvanica of Linnaeus is my Trisetum purpurascens. This species I have never seen. By Muhlenberg’s description it so strongly resembles the preceding, that I am unable to point out any very distinguishing characters. There can be no doubt that it belongs to the genus Arrhenatherum, though Beauvois has referred it to Trisetum, where Persoon long since conjectured it to belong.†

39. AVENA. L.


Oat-grass.


Root annual. Culm 3—4 inches high, cespitose, erect. Leaves half an inch or more in length, scabrous. Sheaths many-angled, smooth. Stipule oblong, obtuse, clasping. Panicle oblong, about an inch long; branches in pairs, appressed. Spikelets ovate, 2-flowered. Calyx rather longer than the florets; glumes nearly equal, lanceolate, acute, smooth, except on the upper part of the keel. Inferior valve of the corolla lanceolate; apex scabrous, attenuated and bifid; awn inserted into the

† I have another species of Arrhenatherum sent to me from Kentucky by Prof. Rafinesque, which agrees pretty well with the description of Muhlenberg’s Avena pennisylvanica, except that the branches of the panicle are not alternate, but fascicled, and the upper floret has the superior valve furnished with a short awn a little below the tip. I call it A. kentuckensis. It may possibly be the A. americana of P. de Beauv., of which species the author has given no description.
lower part of the back, as long again as the valve, geniculate about the middle; superior valve shorter, scabrous. Seed linear-oblong.


39 a. AIRA. L.


Root perennial. Culm a foot and a half or two feet high. Leaves 6—10 inches long, situated principally about the root. Panicle capillary, lax; lower branches somewhat verticillate; the upper ones in pairs. Glumes membranaceous, white, oblong-lanceolate, very acute, scabrous on the keel. Corolla hairy at the base, unequal; inferior valve shorter, 2-nerved, awned from near the base, covered with short appressed hairs; awn nearly as long again as the valve, geniculate; superior valve bifid at the apex. Stamens 3.

Hab. On rocky hills and in mountainous situations throughout the northern States. June.


Root perennial. Culm cespitose, a foot and a half high. Leaves very narrow, but flat, scabrous. Panicle capillary; branches somewhat verticillate, scabrous. Calyx smooth, of a bluish colour, rarely 3-flowered; inferior glume shorter and rather obtuse. Corolla hairy at the base, with an awn at the base of the inferior valve.


3. A. aristulata*: panicle capillary, spreading; branches verticillate and flexuous; calyx 2-flowered, shorter than the
florets; superior floret pedicellate; inferior valve of the corolla truncate, laciniate, with an awn a little below the middle scarcely exserted.

**Root** perennial. **Culm** 2 feet high, erect, with few leaves. **Leaves** erect, flat, striate, scabrous on the margin. **Sheaths** smooth. **Stipule** elongated, membranaceous. **Panicle** oblong or pyramidal; lower branches about 5; the upper ones in threes. **Calyx** unequal, somewhat membranaceous; the inferior glume longer, ovate, acute, 1-nerved, scabrous on the keel; superior valve linear. **Florets** hairy at the base; the superior one on a hairy pedicel. **Inferior** valve of the corolla obtuse and lacerate at the tip; superior valve shorter, bifid. **Stamens** 3; **anthers** linear, yellow. **Styles** very short; **stigmas** plumose, white.

**Hab.** On the shores of lakes Owasco and Onondaga, New York. August. **Cooper.**

4. *A. pumila* Purshː panicle small, fastigiate, few-flowered; pedicels short; florets awnless, obtuse, twice the length of the calyx; valves with membranaceous margins; leaves flat, smooth; culm erect, scarcely longer than the leaves. **Pursh Fl. I.** p. 76. **Catabrosa pumila** Roem. & Schult. III. p. 696.

**Root** perennial. **Culm** scarce an inch high, growing in close tufts.

**Hab.** In barren clayey soil, near brick-yards. Pennsylvania. June. **Pursh.**

This grass, as far as I can learn, has not been found by any other botanist except Pursh. It is placed in the genus *Catabrosa* of *Beauvois* by Roemer & Schultes, but it does not appear to be a congener with *C. aquatica*, (Poa aquatica L.)

**40. LOLIUM. L.**


1. *L. perenne* L.: florets much longer than the calyx, unarmed, linear-oblong, compressed; root perennial. **Will d.**
TRIANDRIA, DIGYNIA.

LOLIUM.


Root fibrous. Culm about 2 feet high. Leaves broad-linear, scabrous on the margin. Sheaths smooth. Stifule very short, truncate. Spikelets much compressed, 5—7-flowered. Calyx generally longer than the florets. Inferior valve of the corolla 5-nerved; bristle twice the length of the valve.


41. ELEUSINE. Gaertner.


Root annual, (perennial Ellis.) Culm 8 inches to a foot long, declined or prostrate, branched at the base. Leaves distichous, linear, expanding, hairy above, smooth beneath. Sheaths loose, hairy at the throat. Stifule very short, dentate. Spike generally in pairs; rachis compressed, bearded at the base. Spike.
lets closely imbricate. Superior glume of the calyx 5-nerved, broader than the inferior. Corolla smooth; the inferior valve a third longer than the other, and rather obtuse. Stamens 3; anthers yellow. Seed arillate, conspicuously corrugate transversely.

Hab. Very common in cultivated grounds and about houses; even between the stones of the pavements in the city of New York. July—November. A native also of India, Egypt, Japan, and South-America. Wire-grass, Yard-grass, &c.

42. TRITICUM. L.


Hab. In neglected fields; scarcely naturalized. June.

43. AGROPYRON. Gaertner.


Hab. In fields and cultivated grounds; common. July. Introduced?


Root perennial. Culm 2—3 feet high, erect or oblique. Leaves flat, smooth. Stipule almost wanting. Spikelets sometimes 6-flowered. Glumes and the exterior valve of the corolla terminating in a straight scabrous bristle longer than the flowers.


44. SECALE. L.


Hab. In neglected fields; scarcely naturalized. June.

45. ELYMUS. L.

Flowers spiked. Spikelets 2 or more at each joint of the rachis, 3—9-flowered. Glumes (involucrum L. &c.) geminate, subulate. Inferior valve of the corolla entire, mucronate, or with a short bristle at the tip.
ELYMUS.  TRIANDRIA. DIGNYA. 137


HAB. On the banks of rivers; rarer than the preceding species. August.


HAB. On the rocky shore at Hoboken, New-Jersey, &c. August.

*Spike* fibrous, perennial. *Culm* 2—3 feet high. *Leaves* 8—10 inches long, 4—5 lines broad, smooth. Lower *sheaths* strigose-birsute; the upper ones often smooth. *Spike* 3 inches long, at first erect, but at length incurved at the extremity, loose. *Spikelets* generally 3-flowered. *Glumes* very narrow, ciliate and pilose, rarely naked. Inferior valve of the *corolla* strigose, with a straight scabrous bristle longer than that of the glumes.


*Spike* fibrous, perennial. *Culm* about 3 feet high. *Leaves* broad-linear, flat, often glaucous. *Stipule* very short. *Spike* 6 inches long. *Spikelets* generally 3 at each joint of the flexuous rachis, 3-flowered, at length spreading almost horizontally. *Calyx* generally wanting; rarely of 1 or 2 subulate glumes; sometimes its place is supplied by 2 callous rudiments. Inferior valve of the *corolla* hairy, (sometimes naked,) terminating in a scabrous bristle 2—4 times its length; superior valve ciliate on the margin.


This species, from its wanting the calyx, constitutes the genus *Asprella* of Cavanilles, (*Gymnostichum Schreb.*); but *Muhlenberg* remarks that there is sometimes a 1- or 2-leaved calyx as long as the florets, and this I have observed in specimens collected by Dr. E. James on the Ohio. The callous rudiments, in the place of the glumes, are not at all uncommon.

46. MELICA. *L.*


*Melic-grass.*


Root perennial. Culm 3—4 feet high. Leaves linear, flat, pubescent beneath. Stipule membranaceous, lacerate. Panicle a little second; branches few and solitary. Spikelets half an inch in length, 3—5 on each branch. Glumes ovate-lanceolate; the inferior shorter, very smooth, without nerves. Corolla many-nerved; the superior valve pubescent on the margin. Abortive floret on a pedicel, between the other florets, consisting of 3 hemispherical valves enveloped one within the other.


My specimens are from North-Carolina.

47. *ATHEROPOGON.* Mühl.


Root perennial. Culm about a foot and a half high, geniculate at the base, assurgent, terete. Leaves linear, at first flat, but becoming involute, smooth, except a few hairs on the margin near the base. Lower sheaths somewhat pubescent, hairy at the throat. Stipule a very narrow fringe. *Spikes* 20—40,
oblong, sessile, arranged on 2 opposite sides of the common rachis, but secund, reflected downwards, each containing 6—8 spikelets. Partial rachis compressed, terminating in a sharp naked point. Inferior glume of the calyx adhering to the rachis, very narrow, and resembling a bristle; superior valve oblong-lanceolate, acuminate and mucronate, with a hispid keel. Perfect floret lanceolate, somewhat scabrous; the inferior valve terminating in 3 equal points, one of which proceeds from the midrib, the other 2 from the margins; superior valve as long as the inferior, bicuspidate at the tip. Stamens 3; anthers bright-red. Seed oblong, not sulcate. Inferior valve of the abortive floret ovate, a little bifid at the tip, with a straight bristle as long as the valve between the teeth; lateral bristles proceeding from the margin of the valve about half way down; superior valve minute, ovate, obtuse, 2-cleft. Sometimes there are two perfect florets, besides the abortive one, in each spikelet.

Hab. On rocky hills near Poughkeepsie, New-York. August. Dudgeon. In the western parts of Pennsylvania. It is also found in Ohio, Illinois, and up the Missouri as far as its sources. Nuttall. I have specimens collected by Dr. James during Maj. Long's Expedition, as far west as the base of the Rocky Mountains.

This species is nearly allied to A. racemosus R. & S., (Bouteloua racemosa Lagasc.) a native of Peru. Four other South-American species are described by Humb. & Bonpl. under the generic name of Dinebra.

46. PANICUM. L.


Root annual. Culm 2—4 feet high, terete. Leaves broad and flat. Panicle dense, at length spreading. Inferior glumes smaller, acuminate; the superior 5-nerved, terminating in a bristle several times its length. Abortive floret 2-valved; the inferior valve with a long bristle at the tip; superior half the length of the other, acute, membranaceous. Perfect floret smooth and coriaceous.

Hab. In moist meadows, along ditches, and in cultivated grounds; common. August—September. It varies with unarmèd glumes. Introduced.

Cock's-foot grass.


Root annual. Culm 3—4 feet high, erect, thick and succulent. Leaves broad, flat. Panicle dense, 4—6 inches long. Flowers as in the preceding species, but never unarmèd.

Hab. Along ditches near the salt-water, and in salt-marshes. September—October. It much resembles P. Crus galli, and may be only a variety of that species; but it is easily distinguished by its hispid sheaths.


Root perennial, fibrous. Culm 2—3 feet high, erect and rigid, leafy; branches appressed. Leaves 3—4 inches long, 1 inch broad, expanding, strongly nervèd, scabrous on the margin, cilié at the base. Sheaths hispid, with horizontal hairs arising from little papillae situated in the furrows between the striæ. Panicles terminal and lateral, concealed in the sheaths of the leaves, simple, few-flowered. Spikelets ovate, obtuse, pubescent. Glumes ovate, acute, loose; the superior obscurely 7-nerved. Abortive floret 2-valved; inferior valve resembling the glumes; superior valve membranaceous, oblong. Perfect floret shorter than the calyx, shining. Stamens 3; anthers purple. Styles 2; stigmas large, plumose, exserted, purple. Seed white, ovate, shining.

Hab. In shady, moist thickets and woods. July—August.

A very distinct species from P. latifolium, of which it was considered a variety by Pursh.

4. P. pedunculatum*: culm dichotomous; leaves broad-lanceolate, slightly hairy above, attenuate; sheaths hispid and papillose; panicle long-pedunculate, compound, smooth;
spikelets ovate, smooth; abortive floret 2-valved; superior valve half the length of the inferior.

Root perennial. Culm 3—4 feet high, erect, terete, much branched above. Leaves 6 inches long, and about 3-fourths of an inch broad, tapering to a sharp point, very scabrous on the margin. Sheaths hispid, as in P. clandestinum. Stipule 0. Panicle terminal, on a peduncle 4—6 inches long, spreading; branches geminate, virgate; branchlets 1-flowered. Spikelets ovate, obtuse. Inferior valve of the calyx obtuse or emarginate, appressed; superior valve with 7 prominent nerves. Neutral floret with the superior valve obtuse and entire. Valves of the perfect floret shining. Stamens 3. Styles 2; stigmas purple.


Root perennial, fibrous. Culm about a foot high, simple, (or branched Muhl.) Leaves 3—4 inches long, 1 inch broad, cordate and clasping at the base, generally smooth, spreading. Sheaths half the length of the joints, ciliate along the margin, sometimes pubescent. Panicle about 2 inches long, seldom more than about 15-flowered; branches downy-pubescent, a little divided. Spikelets rather more than a line in length, pubescent. Inferior glume ovate, loose; superior valve strongly nervied. Abortive floret with 3 perfect stamens. Perfect floret acute. Stamens 3. Seed white.


Root perennial. Culm erect, about 2 feet high, sometimes branched, terete, almost hispid. Leaves 3—6 inches long, an inch or an inch and a half broad, serrulate, slightly waved,
pubescent and soft beneath, smooth, though sometimes sprinkled with hairs, on the upper surface. *Flowers* larger than in any other of our species. *Calyx* 2-flowered, perfect and neutral; pubescent; inferior valve ovate, acute, small; superior valve obovate. Superior valve of the *abortive floret* half the length of the inferior. *Perfect floret* with dark-purple *anthers* and *stigmas*. *Nectaries* collateral, obovate, unequally 2-cleft.

**Hab.** In New-Jersey. *Muhlenberg*. This species I insert on the authority of *Muhlenberg*, not having seen a northern specimen myself. The specific character is from *Michaux*, and the detailed description from *Elliott*. It does not appear to differ much from *P. latifolium*, except in being more pubescent.

7. *P. nervosum* *Muhl.*: culm simple; nodes smooth; leaves broad-lanceolate, smooth, a little ciliate on the margin; panicle much branched, smooth, many-flowered; spikelets oblong; abortive floret antheriferous, with the superior valve suberhaceous, shorter than the inferior. *Muhl. Gram.* p. 116. *Elliott* Sk. l. p. 122.

*Root* perennial. *Culm* 3—4 feet high, smooth. *Leaves* about 6 or 7 inches long, and an inch broad, cordate at the base; texture firm; lower leaves ciliate on the margin, the upper ones naked. *Sheaths* much shorter than the joints. *Stipule* 0. *Panicle* pedunculate or sessile, 4—5 inches long, decompound; branches flexuous and a little spreading. *Spikelets* nearly as large as in *P. latifolium*. Inferior *glume* half as long as the superior, acute, a little spreading; superior glume obtuse, slightly pubescent, with 7 prominent nerves. *Abortive floret* triandrous; superior valve acute. *Valves* of the *perfect floret* obtuse, shining, nearly as long as the abortive floret. *Stamens* 3; *anthers* and *stigmas* purple.

**Hab.** In moist boggy meadows in the vicinity of New-York. July.

Nearly allied to *P. latifolium*, but differs in being much taller, the joints smooth, and the panicle decompound and smooth.

3. *P. macrocarpon*:* culm* erect, simple; leaves linear-lanceolate, erect, a little hairy beneath; joints naked; sheaths hispid; panicle rather compound, smooth; spikelets ovate-globose; abortive floret neutral.

*Root* perennial. *Culm* about 3 feet high, straight. *Leaves* 4 inches long, generally erect, hairy above; the lower ones ciliate on the margin. *Sheaths* hispid, villous on the margin. *Stipule* 0. *Panicle* with few, spreading, flexuous branches, not much divided. *Spikelets* almost globose, strongly nerved. Inferior *glume* very broad, carinate. *Abortive floret* with the superior valve not half the length of the inferior.
TRIANDRIA. DIGYNIA. PANICUM.

Hab. On the banks of the Connecticut River, near Deerfield, Massachusetts. Sent to me by Dr. Cooley.


Root perennial. Culm a foot and a half high, erect, simple and branched; branches alternate; nodes retrorsely hairy. Leaves linear-lanceolate, nervose, hairy on every part. Stipule bearded, elongated. Sheaths with the hairs pointing downwards. Panicle terminal, distant; branches horizontal, flexuous, solitary, alternate, hairy, divided. Spikelets pyriform, nervose, pubescent. Inferior glume of the calyx small. Muhl.


Among my specimens of Panicum, I find none that will agree very well with the description of Michaux's P. pubescens. The plant described under this name in the Descrip. Uber. Gram. differs in some respects, though not sufficiently to form a distinct species. It is not uncommon along borders of woods in the vicinity of New-York.

10. P. involutum*: culm cespitose, simple, or a little branched at the base; leaves erect, somewhat rigid, very narrow, at length involute; panicle simple, few-flowered; florets acuminate; superior valve of the neutral floret very small.

Root perennial. Culm about a foot high. Leaves shorter than the culm, a little hairy. Panicle terminal, (rarely also lateral at the base of the culm), consisting of a few flexuous branches, bearing from 10 to 20 spikelets as large as those of P. latifolium. Inferior glume spreading, rather large, acuminate. Superior valve of the abortive floret membranaceous, entire, half the length of the inferior valve.


11. P. depauperatum Muhl.: culm cespitose, hairy at the joints; leaves linear-lanceolate, smooth or hairy; sheaths pubescent; panicle few-flowered; branches in pairs, one of them 2-flowered, the other 1-flowered. Muhl. Gram. p. 112.

Root perennial. Culm about a foot high. Lower leaves short; upper ones elongated. Panicle terminal, erect; branches tortuous. Inferior glume appressed, 3-nerved, short, obtuse; the superior acute, lanceolate, nervose, smooth. Perfect floret white, obtuse, a little shorter than the calyx. Stamens 3; anthers dark purple. Muhl. I. c.
HAB. In barren sandy soils near New-York, and in New-Jersey. May—June.

The specific character given above, of this species, is drawn from the detailed description of Muhlenberg, as I am uncertain whether the plant I consider as the P. defauiperaturn, is the same as his. It is not a very distinct species.


Root perennial. Culm erect, (procumbent Ell.), from 8 inches to a foot or more in height, with numerous crowded branches; joints hairy. Leaves spreading, about an inch long, and a line and a half broad, bright green and membranaceous, a little cordate and ciliate with long hairs at the base. Sheaths distinctly ciliate on the margin, almost villous at the throat. Panicles lateral and terminal; branches nearly simple and much spreading. Spikelets minute, ovate, obtuse, smooth. Inferior glume short, obtuse; the other nerved, acute. Abortive floret 2-valved; the superior glume minute and membranaceous, a little cleft at the point. Fertile floret the length of the calyx, shining, rather obtuse. Stamens 3. Stigmas purple.

HAB. In dry woods; common. July—September.

α. curvatum: culm very tall, rather rigid; branches few and a little curved.

β. fasciculatum: culm low, erect or decumbent; branches and leaves densely fasciculate; panicles very small, concealed among the leaves.

γ. gracile: culm tall, slender; leaves membranaceous.

HAB. α. in moist meadows among shrubbery. β. in sandy fields, New-Jersey. γ. common in swamps, New-York.


Root perennial, fibrous. Culm 18 inches or 2 feet high, generally simple, or with a few short, erect, axillary branches above, slender, and often reclining on other plants; nodes surrounded
by a villous ring. *Leaves* few, lanceolate-linear, about 3 inches long, and 2-3 lines broad, smooth, (the lower ones, often pubescent, membranaceous and a little shining, acute, ciliate at the base. *Sheaths* half the length of the joints, smooth, except along the margin, which is villous. *Stipule* 0. *Panicle* exsert, compound. *Spikelets* rather numerous, at the extremities of the almost verticillate branches, oblong, nearly smooth, obtuse. Inferior *glume* very minute, scarious on the margin, obtuse; superior *glume* obscurely 5-nerved, subcarinate. *Abortive floret* 2-valved, neutral; superior valve less than half the length of the inferior, bifid. *Corolla* of the *fertile floret* shining, as long as the calyx. *Stamens* 3. *Stigmas* 2, purple.

**Hab.** In meadows and woods. June—July. Of this grass there are many varieties, the principal of which are the following:—

α. *cilium*um: *culm* hairy; leaves linear-lanceolate, (the lower ones broader,) sparingly hirsute, ciliate on the margin; panicle with the branches and flowers pubescent.

β. *ramulosum*: *culm* more branched; panicle contracted, branches smooth.

γ. *gracile*: *culm* very slender, smooth; leaves very narrow, and with the sheaths smooth; panicle nearly simple; few-flowered, smooth; superior valve of the abortive floret minute, entire?

δ. *pilosum*: *culm* simple, very hairy; lower leaves approximate and broad, lanceolate; upper ones linear, rather rigid, somewhat hairy on the upper surface, ciliate at the base; sheaths villose and minutely papillose; panicle subcontracted; branches virgate, and with the flowers, pubescent.

ε. *glaenum*: smooth on every part except the base of the leaves, nearly simple; lower leaves short, approximate, sub-cartilaginous; panicle branched, almost verticillate, spikelets large; superior valve of the abortive floret entire. *P. nitidum* *Schweinitz*.


14. *P. agrostoides* *Muhl.*: *culm* compressed, smooth

**Root** perennial, creeping? **Culm** 2-3 feet high, smooth at the joints. **Leaves** forming a large tuft about the root, varying in length, linear and smooth; those on the culm about a foot long and nearly 2 lines broad. **Sheath** shorter than the joints. **Spikelets** very short, obliquely truncate. **Panicles** lateral and terminal, generally dark purple; the lateral ones on long compressed peduncles proceeding from the sheaths of the leaves; branches slightly flexuous and at length horizontal. **Spikelets** subsecund, crowded, on short peduncles, smooth, acute. Inferior glume half the length of the superior, very acute, carinate; superior valve longer than the abortive floret, marked with 5 prominent nerves. **Abortive floret** 2-valved; superior valve subherbaceous, acute, 1-nerved. **Perfect floret** nearly a third shorter than the other, smooth and shining.

**Hab.** In wet meadows; common near New-York. July—September.


**Root** perennial. **Culm** 3-4 feet high. **Leaves** very long, flat. **Panicle** virgate, at length spreading. **Spikelets** large; florets a little diverging. **Glumes** acuminate; the inferior two-thirds the length of the superior, and resembling it in structure. **Abortive floret** antheriferous, with the superior valve subherbaceous and very distinct, enveloping the stamens. **Perfect floret** smooth. **Nectaries** very short, lacerate.

**Hab.** Along the margin of salt water, but not confined to such a situation. July—August. Allied to *P. coloratum*.


**Root** perennial. **Culm** 3 feet high. **Leaves** very long. **Panicle
pyramidal, often subsecund; spikelets appressed to the branches. Abortive floret 2-valved; inferior valve and the glumes so much acuminate as to appear rostrate.


17. P. rectum R. & S.: panicle solitary, shorter than the terminal leaf; branches simple, flexuous; spikelets alternate, peduncled, obovate, turgid; glumes striate, acute; leaves linear straight, tapering to a sharp point, striate and scabrous above, hairy beneath; sheaths with very long hairs. Roem. & Schult. II. p. 457. P. strictum Pursh Fl. 1. p. 69.


With this species I am unacquainted. The name has been changed by R. & S. because R. Brown had previously described a P. strictum from New Holland.


Root perennial, fibrous. Culm about a foot and a half long; very slender, much branched from the base; nodes smooth. Leaves linear, bright green, about 3 inches long, spreading. Sheaths much shorter than the joints, smooth. Panicles lateral and terminal, loose, capillary; branches a little flexuous, 2-flowered at the extremities. Spikelets appressed, ovate. Inferior glume very short, rather acute; superior glume roughened by little warts, not pubescent, dark green. Abortive floret neuter, resembling the superior glume. Perfect floret finely striate, opake. Stamens 3. Styles 2.


A remarkable species, and easily distinguished by its verrucose flowers. It is allied to P. ramulosum of Michaux, but distinct.


Root annual. Whole plant very smooth. Culm 2-4 feet long, thick and succulent. Leaves a foot or more long, and about half an inch broad, flat. Sheaths swelling, hairy at the throat. Panicles large and pyramidal; branches straight, scabrous.
Inferior glume very broad, amplexicaul, rather obtuse; superior glume acute, 7-nerved. Abortive floret without any traces of a superior valve. Perfect floret shorter than the calyx, acute, smooth. Anthers orange. Nectaries oblong, entire.

Hab. In wet meadows, particularly those which are a little brackish. September.


Root annual. Culm erect, 1-2 feet high, sometimes branched at the base. Leaves 4-6 inches long, 2-4 lines broad, hairy. Sheaths covered with hispid hairs. Panicle large and pyramidal; branches straight, reflexed with a cld. Spikelets acute. Glumes acuminate purple; the interior carinate. Abortive floret without a superior valve. Perfect floret much shorter than the calyx, ovate, smooth and shining.

Hab. In cultivated grounds; along road sides, &c. August—September.

2. sylvaticum*: culm branched at the base, very slender; leaves linear.


21. P. longifolium*: whole plant very smooth; culm compressed, erect; simple, slender; leaves very long and narrow; panicle simple, elongated, racemose; spikelets acuminate; abortive floret, neuter 2-valved.

Root perennial. Culm about 2 feet high, with short branches at the base. Leaves a foot or more in length, very narrow, and at length involute. Sheaths clasping, somewhat hairy at the throat. Panicle with few appressed branches. Inferior glume acuminate, half the length of the superior, which is obscurely 3-nerved. Abortive floret 2-valved; superior valve shorter than the inferior, lanceolate, acuminate, subciliate on the margin; inferior valve 5-nerved, smooth. Perfect floret much shorter than the calyx.

Hab. In the pine barrens of New-Jersey. September—October.

For specimens of this very distant species of Panicum, I am indebted to Mr. James Goldy, a Scotch botanist who visited this country in 1819.


Calyx 2-valved, 3-flowered; glumes scariosum. Lat-


_root_ perennial, creeping extensively. _Culm_ a foot and a half high, erect, simple. _Leaves_ smooth and shining; the radical ones very long; those on the culm short, lanceolate, mucronate. _Stamen_ membranaceous, lanceolate. _Panicle_ few-flowered, 2-3 inches long; pyramidal, spreading when the flowers are ripe; primary branches single or in pairs; branchlets flexuous. _Spikelets_ very broad, somewhat cordate, tumid, yellowish brown and purple. _Calyx_ generally a little longer than the florets; glumes ovate, acuminate, smooth, 3-nerved, purplish towards the base; the superior one longer. Inferior valve of the antheriferous floret ovate-oblong, hairy, very villous on the margin, 5-nerved; the middle nerve produced into a point or short bristle, apex eroded; superior valve a little longer, lanceolate, bifid at the tip. _Perfect floret_ resembling the lateral ones in texture; inferior valve oblong, 5-nerved, sides and margin smooth, apex villous; superior valve as long as the inferior, lanceolate, scabrous on the keel.

_Hab._ In bog-meadows; plentiful near Hackensack, Newark, &c. New-Jersey. On the island of New-York. May.

A handsome grass, with a very agreeable odour, resembling that of Anthoxanthum odoratum. It is generally called _Seneca_ grass. After a careful comparison of the North-American plant with specimens of _H. borealis_ from Norway and Germany, I cannot discover any characters that will distinguish them.

2. H. alpina R. & S.: panicle ovate, contracted; spikelets compressed, longer than the branches; glumes lanceolate, almost nerveless; lateral florets triandrous; one of them with an awn about as long as the valves; sides almost smooth; margins ciliate. Roem. & Schult. I. p. 515. Holcus alpinus Wahl. Fl. Lapp. p. 31. t. 2. H. monticola Bigelow.
Hierochloa.  Triandria.  Digynia.

151

Root perennial.  Culm about a span high, erect, smooth, firm.  Leaves linear-lanceolate, smooth, acute.  Sheaths longer than the joints, a little swelling.  Panicle about 2 inches long, branches in pairs, thick, smooth, each bearing 2 or 3 spikelets, which are twice the size of those of H. borealis, not tumid, shining and coloured with purple.  Calyx with very obscure lateral nerves, semitransparent, rather obtuse.  Antheriferous florets slightly hairy under a lens, laciniate at the apex; superior valve folded within the inferior, linear-lanceolate, 2-nerved, bifid, with the segments hairy.  Awn of the lower floret one third the length of the valves; in the superior one longer than the valves, straight and scabrous.  Anthers linear.  Nectaries minute, laciniate.  Perfect floret with nearly equal valves; the inferior hairy towards the extremity, which is entire and mucronate; superior valve lanceolate, entire.  Stamens—Styles filiform, as long as the plumose stigmas.  Nectaries lanceolate, laciniate.

Hab.  On the summit of the White Hills of New-Hampshire, 7000 feet above the level of the ocean.  June.  Bigelow.

This interesting grass, a native of the most northern parts of Europe, has hitherto been found in this country, only in the locality above given, where it was discovered by Prof. Bigelow and Mr. Francis Booth.  To the former of these gentlemen I am indebted for the specimens from which my description was drawn.  It appears to differ a little from the H. alpinus of Wahlenberg, particularly in the lateral florets being triandrous, (not diandrous.)

50. Holcus.  L.


Root perennial.  Culm a foot and a half high, and with the leaves, covered with a soft hoary pubescence.  Leaves flat, broad-linear, acuminate.  Stipule short, truncate.  Panicle oblong, contracted, partly concealed at the base by the sheath from which it proceeds.  Flowers of a whitish appearance.  Glumes
hairy and ciliate; the superior narrower and shorter than the inferior, 3-nerved. Valves of the *perfect floret* nearly equal, smooth; the inferior one broader. *Antheriferous floret* with the superior valve shorter; the inferior armed on the back about a third of the way down.

**Hab.** In wet meadows. June. Doubtless introduced from Europe.

51. SETARIA *P. de Beauv.*


**Root** annual. **Culm** a foot and a half or two feet high, simple. **Leaves** flat, smooth. **Rachis** sulcate below the spike. Bristles of the *involucrum* longer than the flowers. *Inferior glume* 3-nerved; *superior 5-nerved*, smooth. *Abortive floret* 2-valved, neuter; *superior valve* very minute, bifid. Valves of the *perfect floret* puncticulate, not rugose.

**Hab.** In cultivated grounds; rare. July—August. Introduced from Europe, as are all the following. *Wild Timothy.* *Bottle Grass.*


**Root** annual. **Culm** about 2 feet high. **Leaves** somewhat hairy. **Spike** 3-4 inches long. **Involucrum** of from 6 to 10 scabrous bristles, much longer than the spikelets, becoming yellowish when old. *Abortive floret* 2-valved; superior valve very minute, bifid. Valves of the *perfect floret* crossed by undulate wrinkles.

SETARIA.  TRIANDRIA.  DIGYNA.  153


purpurascens Humb. & Bonp. et Roe m. & Sc hult. II. p. 491.

**HAB.** In Pennsylvania. *Muhlenberg.*


**Root** annual. Culm a foot and a half high, and with the sheaths, smooth. Spike (or rather spiked panicle,) about two inches long, erect; rachis triquetrous, hispid. Spikelets clustered on short divided branches. Bristles of the involucrum generally purple, about twice the length of the flowers. Calyx smooth; inferior glume ovate, obtuse. *Abortive floret* neuter; superior valve distinct, entire.


**Root** annual, (perennial. *Ell.*) Culm about 4 feet high, erect; somewhat compressed. Leaves 1—2 feet long, about an inch broad, scabrous above. Sheaths a little scabrous, hairy at the throat. Panicle 6—8 inches long, with the fasciculi of flowers at the base a little remote. Involucrum of 2 bristles 4—6 times longer than the flowers. Glumes unequal, the inferior ovate, very acute; superior 5-nerved. *Abortive floret* 1-valved, as long as the calyx. *Perfect floret* ovate, obtuse, smooth.

**HAB.** Along ditches near Hoboken, New-Jersey. July—August.

52. DIGITARIA. Haller.


*Crop-grass.*


*Root annual.* Culm 1—2 feet long, decumbent or assurgent, rooting at the lower joints. Leaves hairy, often undulate on the margin. *Spikes* 4—6, rarely more. Rachis flexuous. Spikelets in pairs, arranged in two rows, on short peduncles, closely appressed to the rachis; inferior floret almost sessile. Inferior glume almost wanting; superior glume lanceolate, acute, scarcely half the length of the flowers. Abortive floret without any traces of a superior valve; margin distinctly hairy. Perfect floret smooth.

*Hab.* In cultivated grounds, sandy fields &c.; very common. August—October.


*Root annual.* Culm generally decumbent, rarely rooting at the joints, about a foot long; joints smooth. Leaves short, flat, sometimes with a few scattered hairs on the upper surface. Spikes seldom more than 3, about two inches long, much spreading. Calyx of one glume, (inferior glume wholly wanting,) villose. Valve of the abortive floret 5-nerved, hairy, but less so than the calyx. Perfect floret acute, smooth, finely striate.


This species very much resembles the preceding, but is easily distinguished by the characters given above. I have compared the North-American plant with specimens from Sweden and Germany, and find them to agree in every respect. Mr. *Elliott* refers the *D. paspalodes* of *Michaux,* to his *Milium paspalodes,* which is the *M. distichum* of *Muhlenberg.*

*Root* perennial, creeping. *Culm* 12—13 inches long, terete, hairy at the joints, covering with a thick carpet the ground which it occupies. *Leaves* linear-lanceolate, thin, and, with the sheaths, very villous. *Spikes* 2—3 inches long. *Inferior glume* scarcely one fourth the size of the superior, hairy along the margin. *Elliott.*


*Root* annual. *Culm* erect, simple, a foot or 18 inches high; joints smooth. *Leaves* short, narrow-lanceolate, smooth beneath, a little hairy above. *Lower sheaths* hairy. *Spikes* generally 2, rarely 3 or 4; rachis flexuous and very narrow. *Pedicel* bearing 2 or 3 spikelets, divided to the base. *Glume* acute, 3-nerved. *Abortive floret*, 1-valved, 5-nerved, as long as the *perfect floret*, which is smooth and finely striate.

*Hab.* In dry gravelly soils, and in sandy woods. *August.* It frequently occurs only with a single spike.

53. **ANDROPOGON.** L.


*Beard-grass.*

Root perennial. Culm about 3 feet high, erect, with lateral scattered branches the whole length. Leaves linear, flat, a little hairy, and somewhat glaucous. Lower sheaths hairy. Spikes 2 or 3 proceeding from each sheath, simple, consisting of a flexuous, articulate, compressed rachis, on which the flowers are arranged in a distichous manner. Spikelets alternate; abortive one terminating a compressed villous pedicel. Calyx unequal, scabrous on the keel; inferior glumelets distinctively awned. Corolla 2-valved, membranaceous Glumes of the perfect flower very much acuminate, serrulate on the keel; the inferior one bifid. Corolla nearly equal; valves purple; the inferior deeply parted, with a twisted awn three or four times its length between the divisions; margin hairy. Stamens 3. Stigmas 2, plumose. Seed linear-oblong.


Root perennial. Culm 3 feet high, somewhat cespitose at the base, with remote short branches towards the top. Leaves a foot or more in length; the lower ones very hairy on the margins and upper surface. Fascicles of spikes partly concealed in a proper sheath; rachis pilose. Peduncle of the abortive floret as long as the perfect flower. Valves of the perfect flower very acute; the inferior with an awn nearly an inch in length. Anther linear, yellow. Seed oblong.

Hab. In exsiccated swamps, &c. September.


Root perennial. Culm 3 feet high, much branched towards the top. Leaves scabrous on the margin. Sheaths hairy. Spikes in large clustered panicles, mostly on the upper part of the
culm, generally 3 or 4 proceeding out of each lanceolate compressed sheath, in which they are partly concealed; rachis filiform, very hairy. *Abortive flower* a mere pedicel or continuation of the rachis. Glumes of the *perfect flower* serrulate on the keel and margins. *Corolla* hairy, membranaceous; awn never twisted. *Anther* yellow.

**Hab.** In swamps; particularly those which are brackish. Abundant in the pine barrens of New-Jersey, and in the Hackensack meadows. September—October.


**Root** perennial. **Culm** about 4 feet high. **Leaves** flat; those about the root very long. **Sheaths** smooth. **Spikes** terminal, 3—4, about three inches long; *rachis* thick. *Abortive flower* compressed, on a short thick pedicel half the length of the valves. **Calyx** with nearly equal glumes, scabrous, brownish. **Corolla** 2-valved, membranaceous, hairy. **Glumes** of the *perfect flower* unequal, mucronate. **Corolla** 2-valved with a rudiment of a 1-valved abortive floret; inferior valve bifid, with an awn three times its length between the divisions; superior valve minute, ciliate; valves of the abortive floret lanceolate, awnless, shorter than the calyx. **Stamens** 3; **anthers** yellow. **Style** short. **Seed** oblong, brown, with a lateral adnate scale near the base.

**Hab.** In rocky situations; particularly along rivers. August—September.

This species belongs to the genus *Pollinia* of Sprengel, which has been separated from *Andropogon* by this learned botanist. In the structure of its flowers it strongly resembles the *A. purpurascens*.


**Root** perennial. **Culm** 3—6 feet high, simple. **Leaves** a foot or more long, half an inch broad, naked, glaucous. **Stipule** membranaceous. **Panicle** at first erect, but at length nodding.

Abortive flower a mere rudiment without valves. Glumes of the perfect flower equal, almost cartilaginous, clothed with long hairs, thickened at the summit. Corolla much shorter than the calyx, hairy; inferior valve bifid, awned below the division; awn much contorted and bent obliquely. Stamens 3; anthers yellow, (opening at the summit. Ell.) Seed oblong.

Hab. In dry sandy fields, and on rocky hills. September—October.

54. HORDEUM. L.


Root biennial. Culm two feet high, slender, simple. Leaves 4—6 inches long, 3 lines broad, and, as well as the sheaths, smooth. Stipule short, ovate. Spikes about 2 inches long; rachis slender; joints short, compressed, ciliate, deciduous. Spikelets aggregated in threes. Abortive flowers shortly stipitate. Calyx consisting of 2 slender bristles two inches in length. Corolla 1-valved, with a short bristle at the tip. Glumes of the perfect flower approximate at the base, a little longer than those of the lateral flowers. Corolla (calyx Tri.) 2-valved; inferior valve lanceolate, obscurely 3-nerved, terminating in a very long bristle; superior valve shorter, entire, with a groove on the back, in which is lodged a short slender bristle, perhaps the rudiment of an abortive floret. Stamens 3; anthers oblong, yellow. Germen villous; styles very short; stigmas compound.

Hab. In marshes near Boston, Massachusetts. Bigelow. Resembles H. murinum, which has shorter bristles, and the glumes of the perfect flower ciliate. It is a species of Zeocriton, according to the system of P. de Beauvois.
HOLOSTEUM. TRIANDRIA. TRIGYNIA.

ORDER III.

TRIGYNIA.

99. HOLOSTEUM. 101. LECEA.
100. MOLLUGO. 102. PROSERPINACA.

99. HOLOSTEUM. L.


This is an exceedingly doubtful plant. It is supposed by Nutt all to be the Arenaria peploides of our sea-coast; but this cannot be the case if the synonym of Colden is correct, as the detailed description below will prove. I have always been of opinion, that this long-lost species is nothing more than the Stellaria media, in which the flowers are frequently triandrous, and the leaves a little fleshy. In the Mühlbergian Herbarium there is a specimen labelled Holosteum, without a specific name, which is certainly S. media. Walter's Poly carpon unijlorum, which Pursh refers to Holosteum succulentum, appears to be quite a different plant; perhaps Sesuvium pedunculatum.

100. MOLLUGO. L.


Root annual. Stem branching, appressed to the earth, and extending in a circular manner from 6 to 18 inches in diameter; branches dichotomous. Leaves in about sixes, varying from cuneate to spatulate. Peduncles axillary, much shorter than the leaves. Calyx with oblong 3-nerved leaves, shorter than the capsule, white within. Stamens 3, larger than the ger- men; anthers subglobose. Capsule ovate, somewhat 3-lobed, roughened by little eminences from the protrusion of the enclosed seeds.

Hab. In cultivated grounds and in sandy fields; very common. July—September.

101. **LECHEA.** L.


Hab. In sandy woods and on dry hills; common. August.

2. *L. minor* L.: whole plant nearly glabrous; stem as- surgent; leaves linear-lanceolate, acute; panicle leafy;
branches elongated; flowers on short pedicels. *Amoen. acad.*


*Root perennial. Stem* very slender, branched, about 8 inches high, covered with minute adpressed hairs. *Leaves* slightly ciliate. *Flowers* twice as large as in the preceding species.

_Hab._ In dry woods, &c. August—September.


_Hab._ In sandy fields; New-Jersey to Carolina. *Pursh.* +

I suspect this plant is not distinct from the preceding species.


*Root perennial. Stem* firm and erect, with numerous, somewhat spreading, branches, which are sometimes subverticillate. *Leaves* linear, or linear-lanceolate, sessile, with a villous tuft at their insertion; margin revolute. *Flowers* about as large as in *L. major*.

_Hab._ On the sandy sea-coast of Long-Island. August.

102. **PROSERPINACA. L.**

_Calyx_ superior, 3-parted, persistent. *Corolla* 0.


*Root perennial, creeping. Stem* generally partly submerged, about a foot high, of dark reddish colour, a little branched.
Leaves alternate, sessile, about 2 inches long, very acutely serrate, attenuated at the base, smooth; the lower or submerged ones pinnatifid, with linear divisions. Flowers axillary, solitary or aggregated, (2—4,) oblong, triangular. Calyx with 3 lanceolate spreading segments. Stamens included. Styles 0; stigmas 3; pubescent, spreading. Nut very acutely triangular, with the sides broadly cordate.

Hab. In ditches and on the borders of ponds, &c. July—August.

2. P. pectinacea Lam. : leaves all pectinately pinnatifid.


Root perennial. Stem about as high as in the preceding species. Leaves handsomely pectinated, with very narrow divisions. Capsules with the angles rather obtuse, rugose when mature.


The P. pectinacea is made a variety of palustris by Mühlenberg, but I think, with Pursh, that it is a distinct species.
CLASS IV.

TETRAN DRIA.

ORDER I.

MONOGY NIA.

A. Flowers superior.

†. Monopetalous.

106. Spermaco ce. 111. Linnaea.

††. Polypetalous.


†††. Apetalous.

115. Isnardia.

B. Flowers inferior.

†. Monopetalous.

117. Bartonia. 120. Frasea.
118. Exacum.- 121. Obolaria.

††. 4-petalled.


†††. Apetalous.

126. Symlocarpus.

103. Cephalanthus. L.

Common calyx 0; proper minute, angular, 4-cleft. Corolla tubular, slender, 4-cleft. Style much exserted; stigma globose. Capsule 2-celled; 2-seeded, (mostly


A shrub 4 or 5 feet high, considerably branched, with light spongy wood and smooth bark. Leaves ovate-oblong, acuminate, petiolate, generally opposite, smooth. Heads of flowers about an inch in diameter, standing on long peduncles at the extremity of the branches. Calyx very minute; segments ovate, obtuse. Corolla white, about half an inch long, dilated towards the extremity so as to be a little infundibuliform, hairy within, smooth externally; segments obtuse. Filaments inserted into the tube of the corolla near the middle; anthers oblong, acute. Style filiform, nearly as long again as the corolla. Capsule anguilar, 2-celled; (4-celled, not opening. Willd. Pericarp o; seed solitary. Linn. &c.) "cells semibivative; exterior valve angular, indurated; interior flat and flexile. Seed solitary, sheathed at the top with a suberose callus." Nutt.

Hab. In swamps, and in thickets on the borders of ponds and rivers. July—August.

104. DIPSACUS. L.


Root biennial. Stem 3—4 feet high, angular and prickly. Leaves oblong-lanceolate, opposite, sinunately serrate. Heads of flowers
oval, pedunculate, generally terminal, pale blue, or nearly white. *Scales* of the receptacle longer than the flowers.


105. **GALIUM. L.**


* Fruit smooth.*


**Hab.** In dry open pastures, near Boston. *Bigelow.* June—July. Introduced.


*Root* perennial. *Stem* procumbent and assurgent, quadrangular, much branched; the angles roughened by minute, reflexed prickles. *Leaves* generally about 4 in a whorl; sometimes those on the stem are in fives; broadly linear. *Flowers* in threes, white, minute; pedicels slender, spreading. *Calyx* very minute; teeth obtuse. Segments of the *corolla* 3, (rarely 4,) obtuse. *Stamens* shorter than the *corolla*; *anthers* didymous, oblong. *Style* as long as the *stamens*, bifid; *stigmas* globose.

**Hab.** In low wet places; very common. June—August.

*β. latifolium*: leaves obovate-concave.

**Hab.** In similar situations with the preceding.

This species is also a native of Denmark and Sweden. It strongly resembles G. *palustre.*

Root perennial. Stem about a foot high, weak, generally erect; branches short. Leaves about three fourths of an inch long; and about a line broad. Flowers as in the preceding species, but the corolla is generally 4-cleft.

**Hab.** In low grounds, among thickets. July.

I believe this is nothing more than a variety of **G. trifidum**. The caudine leaves, with us, seldom occur more than five in a whorl. According to *Kalm* the roots are used by the Indians for dying a red colour.


Root perennial. Stem a foot and a half or two feet in height, covered with conspicuous prickles, slender, generally supported by the plants around it, very leafy. Stem leaves in fives and sixes; those on the branches often in fours, about half an inch long, much acuminate. Flowers mostly situated on the upper part of the stem, ternate, or in pairs. *Corolla* white.

**Hab.** In shady swampy places; more rare than No. 2. June—July.

* * * Fruit hispid.


Root annual. Stem 3 or 4 feet long, procumbent or supported by other plants; branches short. Whorls remote. Leaves about an inch long, mucronate, tapering towards the base. Flowers on axillary and terminal elongated pedicels. *Corolla* white. Fruit covered with white hooked bristles, by which it adheres to the coats of animals, and is thus dispersed.

**Hab.** In moist thickets; common. May—June.

6. **G. brachiatum** Ph.: stem flaccid, elongated, brachiate-ramose, hispid; branches short; leaves in sixes, oblong-lanceolate, acuminate, smooth; margin and keel setaceous ciliate; floriferous branches larger than the whorls, divaricate and


This species I have never seen, unless I have mistaken it for a variety of *G. Aptarine*, from which, by the description, it appears to differ but little.


Root perennial. Flowers white, very numerous and exceedingly small. It produces generally but one seed. Ph.


Root perennial. Stem weak, generally procumbent, 3—5 feet long, with few short branches; angles a little aculeate. Leaves membranaceous, attenuated at the base, with a sharp abrupt point; smooth, except on the margin and keel, which are a little roughened by minute prickles. *Flowering branches axillary and terminal, trichotomous. Corolla* white; segments semi-ovate, acuminate. *Fruit* clothed with hooked bristles.


Root perennial. Stem about a foot high, acutely quadrangular, sparingly branched, almost hispidly pilose; branches rather short, expanding. Leaves subovate or oval, obtuse, about an inch
long, with pellucid dots, covered on every part, like the stem, with short, rather stiff hairs, indistinctly mucronate at the tip; under side marked with the prominent midrib, and with 2 obscure lateral nerves. Peduncles axillary, forked; each division bearing 3-flowers on short footstalks. Corolla purple; segments acute. Fruit covered with uncinate bristles.

Hab. In dry woods; rarely in meadows; not common. July—August. Remembles the G. rotundifolium of Europe.

Muhlenberg and Elliott refer to this species the G. punctagonum* of Michaux, while Pursh makes it a variety of his G. bermudianum. It is also considered by Elliott as synonymous with G. purpureum Walt. which is described with the leaves smooth. I have not the means of removing this confusion.


Root perennial. Stem a foot high, branched at the base, acutely quadrangular, smooth or slightly pubescent on the angles. Leaves an inch and a half long and half an inch broad, almost exactly oval, obtuse, with a few appressed hairs on the upper surface, distinctly 3-nerved. Peduncles nearly simple, geniculate when the fruit is ripe; the flowers almost sessile and alternate. Corolla dark purple; segments cuspidate.


I have, from Connecticut, what appears to be a variety of this species. The whole plant is very hairy, and the leaves are covered with pellucid dots; in every other respect it resembles G. circzezans. Can it possibly be Pursh's G. bermudianum?

11. G. lanceolatum*: stem erect, very smooth; leaves in fours, lanceolate, generally acute, smooth, 3-nerved; margin subellate; peduncles divaricate; fruit sessile, nodding, covered with hooked bristles. G. circzezans β. lanceolatum Cat. pl. New-York, p. 23.

Root perennial. Stem a foot or more in height, branched and a little spreading from the base; joints distant. Leaves about 2

---


Root perennial, creeping. Stem erect, quadrangular, smooth. Young leaves nearly linear; old ones ovate, 3-nerved, rather obtuse. Peduncles towards the extremities of the branches, opposite, and so much compounded as to give the flowers the appearance of a crowded panicle. Segments of the corolla lanceolate. Fruit hispid, with hooked hairs. *Elliott.*


This is an obscure species to me. Among all my specimens of *Galium* I cannot find one that will accord with *Pursh's* description. It may be doubted, however, whether the *G. bermudianum* of this author is the same as that of *Linnaeus*, which is thus described in the *Species Plantarum.* “G. foliis quaternis linearibus obtusis, ramis ramosissimis.” The detailed description given above is from *Elliott*, who remarks that his specimens are from Pennsylvania, and were sent him by *Muhlenberg*. The *G. bermudianum* of the Muhlenbergian Herbarium I could not distinguish from our *G. pilosum*.


Root perennial. Stem a foot and a half, and sometimes more than two feet, in height, branched above, but nearly naked below, smooth and a little shining; joints somewhat swollen. Leaves an inch or more in length, varying from almost linear to lanceolate, very distinctly 3-nerved; smooth, except on the margin and nerves. Panicle terminal, subpyramidal, crowded.
Flowers white. Segments of the corolla ovate, obtuse. Fruit small, densely covered with short hooked hairs.


The North-American plant exactly resembles specimens in my Herbarium from Sweden.

106. SPERMACOCE. L.


Root annual. Stem procumbent, branched at the base, about a span long. Leaves opposite, sessile, acute; keel and margin roughened with minute teeth. Stipules surrounding the base of the leaves, crowned with several brownish bristles. Flowers in the axils of the leaves, generally solitary. Segments of the calyx short, obtuse. Corolla white or pale purple, hairy. Filaments included; anthers oblong, Style shorter than the corolla; stigma capitate. Capsule 2-parted? hispid; cells 1-seeded.

HAB. In sandy fields and on barren hills. New-Jersey; particularly abundant about Passaic Falls. August.

107. DIODIA. Gronovius.

DIODIA. TETRANDRIA. MONOGYNGA.


Root perennial. Stem obscurely angular, of a purplish colour, branched at the base. Leaves opposite, lanceolate, acute, scabrous on the margin. Flowers solitary, opposite. Stipules ciliate. Corolla white; tube nearly half an inch long; segments lanceolate. Calyx divided to the base into 2 subulate segments. Fruit a little angular, 2-parted?

HAB. In Maryland. Muhlenberg. September. My specimens are from Carolina.

The genus DIODIA, as characterized in the books, appears to differ but little from Spermacoce, except in the calyx being 2-parted instead of 4-toothed. Michaux remarks of Spermacoce dioina, "Diodia esset, nisi calyx 4-fidus obtusae."

108. HEDYOTIS. L.


Root fibrous, annual, (perennial, somewhat stoloniferous. Ell.) Stem from three-fourths of an inch to three inches in height, erect, (when large it is branched and procumbent at the base,) quadrangular, strigosely pubescent. Leaves elliptic-spathulate, opposite, narrowed at the base into a short petiole, but a little connate by the adnate stipules, which generally bear two or three subulate processes; those at the extremities of the branches are crowded and almost sessile. Flowers axillary and terminal, (the former are pedicellate); in the smallest plants solitary and terminal. Calyx deeply 4-parted; the divisions ovate, acuminate, scabrous, ciliate on the margin. Corolla white; tube very short; segments ovate, generally obtuse, spinulose, one-third the length of the calyx. Stamens 4; filaments opposite the segments of the corolla, short, incurved; anthers subrotund, dark brown. Germen compressed, nearly round, hairy; style extremely short, but distinct; stigma capitate, undivided. Capsule large for the size of the plant, globose-didymous, crowned with the persistent calyx,
compressed at the top, emarginate so as to appear a little 2-
horned, opening in a direction across the dissepiment. *Seed* many in each cell, angular.

HAB. In a small wood about a mile from Brooklyn, on the Ja-
mica road, growing in a wet clayey soil. On the Island of New-York near Greenwich, and in the borders of a shady swamp near the Elgin Botanic Garden. August. In New-
Jersey, *Muhlenberg*. In the Southern States this plant attains the height of 12 or 18 inches.

This plant, though more nearly allied to HEDYOTIS than to
OLDENLANDIA, differs from the latter, as described in the Ge-
nera plantarum, in the corolla being almost rotate, the stigma simple, &c. *Lamark* has united the two genera; which I am inclined to think is correct. *Pursh* suspects that the synonyms of *Lamark* and *Wildd.* (ut sup.) belong to
*ISNARDIA falustris*.

109. HOUSTONIA. *L.*

BIAE.)

1. *H. coerulea* L.: stem erect, setaceous, dichotomous; radical leaves spathulate-ovate; peduncles elongated, 1-

Root perennial. *Stem* numerous, 4—8 inches high, erect, slen-
der, quadrangular, dichotomous; branches erect. *Radical leaves* spathulate, obtuse, smooth; margin appearing slightly ciliate under a lens; *stem-leaves* narrower. *Flowers* on long slender peduncles. Teeth of the *calyx* subulate, many times shorter than the corolla. *Corolla* purple, sometimes almost white; segments obovate, acute. *Stamens* included; *filaments* inserted into the tube of the corolla; *anthers* oblong, didymous, yellow. *Capsule* broadly obcordate, opening at the

† Annal. du Mus. X. p. 328.
top in the direction of its longest diameter, but across the dissepiment. Seeds about 15 in each cell, round, compressed, with a deep cavity on one side.

Hab. In moist rocky situations; common in New-Jersey. April—May.


Root perennial. Stems numerous, moderately branched, (somewhat fastigiate above,) acutely quadrangular. Leaves very smooth, about an inch long, rather obtuse. Stipules short-ovate, acuminate. Flowers generally by threes, on very short footstalks. Calyx much shorter than the tube of the corolla; segments linear. Corolla purple; segments ovate, acute.


Root perennial. Stem with the angles and joints hairy. Leaves ovate, broad, and in general abruptly rounded at the base, 3-nerved; nerves and margins pubescent. Flowers in terminal corymbs. Calyx slightly pubescent; segments subulate, ciliate. Corolla purple. *Elliot.*


My specimens are from the Southern States. This species is easily distinguished by its broad, sessile leaves.

4. *H. ciliolata*:* radical leaves ovate, obtuse, attenuated at the base; margin ciliate; stem-leaves ovate-spathulate, sessile; flowers in terminal corymbs, pedicellate; peduncles trichotomous; segments of the calyx linear-lanceolate; stem smooth, branched above.

Root perennial. Stem ascending? quadrangular, very smooth on every part; joints remote. Radical leaves numerous, nearly an inch long, with a few scattered hairs on the upper surface; margin distinctly ciliate, scabrous; stem leaves obovate; the uppermost ones spathulate, nearly naked on the
margin. **Stipules** membranaceous, broad, obtuse. **Flowers** all terminal; peduncles generally two or three, trichotomous at the extremity, each division bearing a flower. **Calyx** nearly one-third the length of the corolla; segments rather obtuse. **Corolla** pale purple; tube dilated upwards; segments ovate-lanceolate.

**Hab.** On Goat-Island, Falls of Niagara. Sent to me by **Prof. Hadley** of Fairfield Medical Institution, New-York; an assiduous Botanist to whom I am indebted for numerous valuable contributions to this work.


**Hab.** In Pennsylvania and Ohio. **Rafinesque.**

110. MITCHELLA. L.

Flowers by pairs upon the same germin.—**Calyx** 4-toothed. **Corolla** infundibuliform; tube cylindric; limb 4-parted, spreading, villous on the inner side. **Stamens** scarcely exserted. **Stigma** 4-cleft. **Berry,** by the union of 2 germs, didymous, 4-seeded. **Gen. pl.** 74. **Nutt. Gen. I.** p. 96. **Juss.** p. 208. **Lam. Ill.** t. 63. **Roem. & Schult. Gen.** 467. **Nat. Ord. R ubiaceae Juss.**


A creeping herbaceous evergreen. **Stem** branched, very smooth, 6 inches to a foot or more in length. **Leaves** opposite, petioled, about half an inch long, nearly round or ovate, cordate at the base, smooth, very entire. **Flowers** terminal, in pairs on each germin, very fragrant. **Calyx** minute, persistent; teeth acute. **Corolla** about half an inch long; tube slender; border 4-parted, very villous on the inner surface; segments ovate, acute. **Stamens** a little longer than the tube of the corolla; **anthers** oblong, acute. **Style** filiform, about as long as the stamens; **stigmas** oblong. **Berries** red when ripe, subglobose, crowned with the persistent calyces, eatable, but insipid. **Seeds** compressed, hard.
Hab. In woods, about the roots of trees, creeping among the dried leaves; very common. June—July. Inhabits almost every part of North-America. The berries remain on the plant during the winter. Partridge-berry.

The genus Mitchella, though belonging to the Rubiaceae, yet resembles in some respects Symphoria and Linnaea of the Nat. Ord. Caprifolia.

111. LINNÆA. Gronovius.


Stem creeping, herbaceous, evergreen, a little branched, sometimes nearly a yard in length. Leaves on short petioles, opposite, distant, ovate-rotund, crenate, slightly hairy. Peduncles erect, 2—4 inches long, pubescent, bearing 2 drooping pedicellate flowers, with 2 small bracts at the forking of the pedicels. Inferior calyx (involucrum) subulate, closely appressed to the germen, below which are 2 minute bracts; calyx of the fruit with 5 linear, equal segments. Corolla subcampanulate, white, or pale rose-coloured, hairy within; segments obtuse. Stamens unequal, (subdidynamous) included; filaments slender; anthers oblong. Germen glandularly pubescent; style a little declined; stigma globose. Berry small, dry; cells 1-seeded, (2-seeded. Nutt.)


The North-American plant resembles in every respect the European. Nuttall remarks that Linnaea stands alone, without distinct affinity to any other genus; we think, however, with Rafinesque, that in many respects it resembles Mitchella.

112. SANGUISORBA. L.

Calyx 2-leaved. Corolla 4-cleft, rotate. Capsule quadrangular, between the calyx and the corolla, 1—2-

Great Burnet.


Root perennial. Stem 2 feet or more in height, terete, very smooth, with a few erect branches. Leaves alternate, pinnate, with a terminal leaflet; leaflets ovate or oblong, cordate, obtuse, petiolate, strongly and unequally serrate, smooth; upper ones opposite; lower ones with the petioles approximate. Stigmas variable in size, dentate, (sometimes wanting.) Spikes terminating long naked branches, 2—6 inches long. Flowers very numerous, crowded, sessile. Calyx (bracts or scales, Juss., Hook., &c.) 2? at the base of each germin, linear, ciliate. Corolla (calyx, Juss.) white, superior; segments round-ovate, with a callous tip. Stamens 4; filaments 4 or 5 times as long as the corolla, flattened, dilated upward; anthers didymous, yellow, seated on the extremity of the filament. Style 1, longer than the segments of the corolla; extremity dilated and divided into many capillary segments; (stigma capitate, very obscurely, if at all, divided. Ell. !) Capsule 2-celled; cells 1-seeded.

Hab. In bog meadows; not uncommon. August—October. Said to be also a native of Siberia.

This plant disagrees with the generic character of Sanguisorba in several respects; particularly in its fimбриate stigma. It appears to be intermediate between Sanguisorba† and Poterium.


† The generic character of Sanguisorba varies considerably as stated by different authors; by Jussieu it is "Calyx 4-fidus, basi 2-squamosus. Petala 0. Stamina 4. Germina 2; styli 2; stigmatum 2 simplicia. Semina 2 intrà calycem capsularem;"—by Hooker, "Perianth. 4-lobed, superior, coloured, having 4 scales or bracts at the base. Fruit 1—2-seeded, surrounded by the persistent base only of the perianth." Fl. Scot. p. 48. In the Gen. pl. of Schreber the style is described as filiform and very short, and the stigma obtuse.
SANGUISORBA. TETRANDRIA. MONOGYNIA.


Stem smooth, substriate, (not angular,) about 2 feet high. Leaflets ovate-lanceolate, obtuse, smooth, hoary beneath. Spike an inch long, red. Poiret, I. c.

A doubtful species. The plant described by Willdenow and Poiret, is probably only a garden variety of S. canadensis.

113. CORNUS. L.

Small trees or shrubs, generally with opposite leaves.

Dog-wood.—Cornel.*

* Flowers capitata, surrounded by an involucrem.


Root creeping. Stem simple, ascending, about 6 inches high, surrounded at the top by a whorl of about 6 oval acuminate leaves, which stand on very short petioles; a little below this whorl is a single pair of leaves, or, in their place, two oval bracts. Common peduncle terminal, about an inch long, inclined, supporting the dense umbel of flowers, which are surrounded by an expanded white involucrum an inch in diameter. Leaves of the involucrem broad-ovate, resembling petals. Flowers numerous, very small. Calyx with very minute obtuse teeth. Segments of the corolla ovate. Stamens a little exserted; anthers oblong, yellow. Germen subturbinate, hairy; style longer than the stamens; stigma simple. Berry small, red.

A handsome little plant, nearly allied to C. suecica of Eu-
rope. I have a variety found near Ogdensburg, New-York, by J. A. Vand en Heu vel, Esq. in which the leaves of the involucrem are narrowed at the base, and the flowers indistinctly corymbose.


A tree 15—30 feet high, with expanding branches; trunk 4—8 inches in diameter; wood hard and close grained; bark gray. Leaves opposite, entire, prominently ribbed, whitish beneath; the younger ones pubescent. Flowers in terminal heads. Involucrem 2 or 3 inches in diameter, white, sometimes with a tinge of red, at first folded round the flowers; leaflets callose and inflected at the tip, appearing notched. Proper calyx small, tubular, pubescent, with the segments obtuse. Corolla greenish-yellow; petals lanceolate, rather obtuse. Stamens nearly as long as the corolla; anthers incumbent, oblong. Style shorter than the stamen; stigma capitate. Drupe oval, scarlet.

Hab. In woods; common. May—June. The bark is a valuable bitter and tonic. See the works of Barton and Bigelow above quoted.

** Flowers naked, in cymes.


A shrub 8—12 feet high; branches spreading, dark brown, smooth, except the young ones, which are pubescent. Leaves opposite, on petioles one third their length, generally a little cordate at the base; nerves beneath covered with a brownish shining pubescence. Cyme on a villose peduncle about 2 inches long. Flowers crowded. Calyx minute. Corolla white; petals linear. Drupe ovate, bright blue.

Hab. On the banks of rivers and in shady moist thickets. June.

4. C. sanguinea L.: branches straight; leaves ovate,


A shrub 6—8 feet high, with spotted or verrucose branches. Leaves on short petioles, nearly as broad as long, abruptly acuminate; under surface remarkably downy. Cyme crowded, nearly smooth. Teeth of the calyx almost obsolete. Corolla white; petals ovate, obtuse. *Drupe* blue.

**Hab.** On the banks of rivers and in woods; not common. June.


A shrub or small tree; branches slender, much spreading, or recurved. Leaves acuminate, acute at the base, white beneath. Cymes small, slightly pubescent. Calyx inconspicuous. Corolla with lanceolate petals. *Drupe* white.

**Hab.** In wet woods and on river banks; rare. Said to be also a native of Siberia. *Osier rouge* of the Canadians. *Michaux.*


A shrub 8—12 feet high, with straight, punctate, slender, branches. Leaves on short petioles, ovate, sometimes lanceolate-ovate, hoary, but hardly pubescent, beneath. Cymes loose,
distinctly panicled, especially when in fruit. *Corolla* white; *Petals* ovate. *Drupe* nearly globose, white.

**Hab.** In swamps and wet woods. Abundant near Bloomingdale, on the Island of New-York, &c. June.


This species has not come under my observation, unless I have taken it for a variety of *C. paniculata*. According to *Elliott*, the cymes are sometimes regular, sometimes irregular.


A small tree, with spreading branches, which are generally dotted or verrucose. *Leaves* irregularly alternate, ovate, acute, hoary beneath. *Cyme* depressed. *Petals* oblong. *Drupe* purple, globose.

**Hab.** In shady woods and in swamps. June.

114. *LUDWIGIA*. L.


LUDWIGIA. TETRANORIA. MONOGYNIA.


Root perennial. Stem about 2 feet high, much branched, of a purplish colour, a little pubescent, somewhat angular by the decurrent petioles. Leaves 2—3 inches long, acute, entire, narrowed at the base into a petiole. Flowers on short peduncles. Segments of the calyx much longer than the germin, ovate, much acuminate, ciliate. Corolla yellow; petals caduceous, round, nearly as long as the calyx. Capsule nearly quadrangular, with 2 subulate bracts at the base; angles conspicuously winged, ciliate, opening through a central pore.


Root perennial. Stem generally but little branched, slender, 2 feet high, strigously hairy. Leaves an inch or more in length, closely sessile, obtuse at each end. Flowers on peduncles not half the length of the leaves. Segments of the calyx lanceolate, nearly twice as long as the germin. Petals yellow, obovate, about as long as the calyx. Capsule hairy, as large as in L. macrocarpa, slightly winged.


I have seen no specimens of this plant from the Northern States; mine, from which the above description was taken, are from South-Carolina.


115. ISNARDIA. L.

116. PLANTAGO. L.


Roots perennial. Leaves about 6 inches long, 3—4 broad, very smooth, membranaceous, generally cordate at the base, obtuse; margin obscurely toothed; petioles longer than the leaves. Scape often a foot and a half high, smooth; flowers occupying the upper half, rather conglomerate than imbricate. Bracts generally obtuse, shorter than the flowers. Segments of the calyx ovate, very obtuse. Segments of the corolla obovate. Stamens with long slender filaments; anthers didymous, compressed. Style short, straight; stigma pubescent.

† Annal. du Mus. II. p. 473.
sule ovate, a third longer than the calyx. Seeds 2 in each cell, oblong, compressed, brown.


Root large, perennial. Leaves spreading on the ground 2—4 inches long, more or less ovate, about 5-nerved, with coarse, obscure teeth, acute at the base; petiole channelled above. Scape 8—12 inches long, pubescent. Spike 2—6 inches long. Bracts lanceolate, acute or obtuse, shorter than the calyx. Calyx oblong; segments ovate, acute, carinate. Stamens twice as long as the corolla. Style exserted, pubescent. Capsule oblong, acute; dissepiment plane.

Hab. In fields, waste grounds, &c.; very common. May—August. Introduced.


Root large, perennial. Leaves 2 inches long, spreading on the ground, hairy, on very short petioles, 5-nerved, obscurely toothed. Scape longer than the leaves. Spike 1—2 inches long. Flowers closely imbricated.


The plant I have taken for P. media may be only a variety of major. I have not yet had an opportunity of examining the capsule, which, according to Hooker, contains but a single seed in each cell.


Root biennial. Whole plant covered with a gray hairy pubescence. Leaves 1—2 inches long, sometimes obovate-lanceolate, obtuse, 3-nerved, attenuated at the base into a short petiole. Scape longer than the leaves. Spike at first short, but at length
49. FOLLOW. 

Flowers scarcely imbricated, not conglomerate. Calyx as long as the lanceolate bract at its base; segments broad-ovate, carinate, acuminate. Corolla yellowish; segments connivent, linear-lanceolate, very acute. Stamens included. Style short, filiform; stigma simple, pubescent. Capsule ovate; dissepiment plane. Seed single in each cell, oblong, flat or concave on the side next to the dissepiment.


Root perennial. Leaves 4—6 inches long, 3—5-nerved, very acute, tapering at the base into a petiole, remotely denticulate. Scape much longer than the leaves, hairy, angular and sulcate. Spike about an inch long, dense. Bracts ovate, acuminate, brownish, as long as the calyx. Stamens very long. Capsule 2-seeded.

HAB. In fields, pastures, and cultivated grounds; very common. May—September. Introduced. Pursh suspects the North-American plant may be a new species, but there can be no doubt that it was introduced from Europe, and merely altered by climate.


Root perennial, large and woody. Leaves 6—10 inches long, a line, or a line and a half, broad, very fleshy, rounded on the back, with a deep groove on the inner side; margin entire, or with a very few remote teeth. Scape about as long as the leaves. Flowers scarcely imbricate, at length a little remote. Bracts about as large as the calyx, ovate, generally acute, but often somewhat obtuse. Segments of the calyx obtuse. Capsule 2-seeded.

HAB. In salt marshes; common on the sea-coast. August—September.

7. P. pusilla Nutt. minutely pubescent; leaves linear-subulate, flat, entire, acute; spike terete, slender, longer than the leaves; spike cylindrical, loose; lower
flowers distant; bracts ovate, acute, as long as the calyx; stamens included. *Nutt.* Gen. I. p. 100? P. *hybrida Bart.* Fl. Philad. II. p. 214. P. *linearifolia Muhl.* Cat. p. 15?


Hab. On a hill near the new water-works, Philadelphia. In the exsiccated annual on the road to Lemon-Hill. Barton. Is it a variety of *P. interrufa* of *Lamark* and *Elliott*?


117. BARTONIA. *Muhlenberg*.


Root annual. Stem 3—8 inches high, very slender, quadrangular, glabrous. Leaves very minute, resembling bracts, the lower ones alternate; upper ones opposite. Flowers terminal. Calyx deeply 4-parted; segments linear-lanceolate, acute. Corolla white, smooth. Stamens included; anthers 2-celled, cordate. Stigma obtuse. Capsule oblong. Seeds numerous.
TETRANDRIA. MONOGYNIA. BARTONIA.

Hab. In swamps and wet woods; generally among sphagnum. August—September. Sometimes very minute, and 1-flowered. I have restored the name originally given to this plant by Muhlenberg, on account of its priority.

113. EXACUM. L.

E. pulchellum Ph.: calyx 4-parted; segments subulate; panicle corymbose; peduncles filiform. Pursh Fl. I. p. 100. Roem. & Schult. Ill. p. 159.


119. SWERTIA. L.


Root biennial. Stem a foot and a half, or 2 feet, high, quadrangular, nearly simple, or with a few short axillary branches. Leaves opposite, sessile, ovate, 5-nerved. Flowers greenish-yellow, in terminal fascicles. Segments of the calyx linear-lanceolate. Corolla persistent; segments ovate, acute, longer than the calyx; horns subulate, bent downward, but spreading as the fruit ripens. Stamens 4; filaments alternating with the segments of the corolla; anthers oblong, incumbent. Style very short. Capsule terete, acuminate, a little oblique toward the extremity. Seeds numerous, oblong-cylindrical, obtuse, yellow.

Hab. On the borders of lakes, near Fairfield, New-York: Prof. Hadley.

Whole plant scarcely above an inch high, with one or two pair of small leaves, and a considerable sized blue flower. Divisions of the corolla oblong, acuminate; of the calyx obtuse. *Ph.* 

**Hab.** On the alpine regions of the White-hills of New-Hampshire. June. *Pursh.* It is also a native of Labrador.

120. FRASERA. *Walter.*


**Root** biennial. Stem 3—5 feet high, erect, subquadrangular, smooth. Leaves opposite and verticillate, oblong-lanceolate; the lower ones a foot long, and more than 3 inches broad. Flowers verticillate; peduncles 1-flowered, unequal. Segments of the calyx linear-lanceolate, acute. Corolla greenish-yellow, speckled with purple; segments acuminate, with an oval or orbicular fringed gland in the centre of each. Stamens shorter than the corolla, alternating with its segments; filaments subulate; anthers large, oblong, yellow. Germs oblong, attenuated into a short style; stigma bifid. Capsule much compressed, oval, acuminate with the persistent style. Seeds 6—8.


The root of this plant is in considerable repute as a tonic, but its virtues have, perhaps, been overrated. See Ives’s ed. of Paris’s *Pharmacologia.* The genus *Fraseria* is very nearly related to the species of *Swertia* which are not corniculate.

121. OBOLARIA. *L.*

Calyx 2-parted, bracteiform. Corolla campanulate, 4-cleft; segments entire, (or crenulate.) Stamens subdidynamous, (equal, *Nutt.*) proceeding from the
188 TETRANDRIA. MONOGYNIA. OBOLARIA.


*Root* apparently perennial. *Stem* 3—4 inches high, growing in tufts, smooth, nearly simple. *Leaves* few, opposite, obovate, sessile, a little glaucous. *Flowers* towards the extremity of the stem, white or pale red, marcescent, *Calyx*, or rather foliaceous bracts, cleft nearly to the base, (5-cleft, *Pers.*) *Segments* of the corolla ovate, entire, (sometimes crenately torn, *Nutt.*); tube ventricose. *Stamens* shorter than the corolla; two of them a little longer; *anthers* oblong. *Style* short; divisions of the stigma spreading. *Capsule* obtuse.


The genus *Obolaria* has, I think, been very properly removed to the *Gentianae* by *Nuttall*.

122. AMMANNIA. L.


*Root* annual. *Stem* 4—8 inches high, obscurely quadrangular, smooth, simple, or with a few spreading branches near the base. *Leaves* opposite, a little contracted below, but dilated, and somewhat amplexicaul at the base. *Flowers* axillary, with 2 subulate bracts at the base, sessile; the upper ones solitary; lower ones verticillate. *Calyx* enveloping the germs, truncate, quadrangular, 4-plaited, giving it the appearance of 8 minute teeth at the top. *Petals* caducous, very minute, obovate, pale-purple, inserted into the calyx, near the top. *Stamens* alternating with the petals; *anthers* globose. *Style* very short; *stigma* obtuse. *Capsule* very obtuse. *Seeds* numerous, minute, flat on one side.
Hab. In brackish meadows between Hackinsack and New-Durham, New-Jersey. August—September. Often with the stem quite simple, and the flowers solitary.


Root annual and biennial, fibrous. Stem very seldom entirely simple, often very much branched, 4—7 inches, red, smooth, nearly terete below, subquadrangular above, much more slender than in *A. ramosior*. Leaves narrow-lanceolate, with a prominent midrib, narrowed at the base, rather acute. Flowers sessile, solitary, with two very small subulate bracts at the base. Calyx quadrangular, 8-toothed, the 4 exterior teeth shorter, thick, and spreading, the others acute. Petals 4, white or pale purple, orbicular, inserted into the calyx opposite the shorter teeth, near the summit, caducous. Stamens 4; filaments inserted into the calyx about half way down; anthers round, brownish. Germin turbinate; style very short, but distinct; stigma capitate. Capsule short and thick, quadrangular, 4-celled; each cell containing 20 or 30 smooth, somewhat angular, seeds, attached to the central receptacle.


Mr. *Elliott* remarks, that the petals in this species are inserted into the summit of the germin; a character which I did not observe in any of the specimens I examined.

123. *PTELEA. L.*


A shrub 6—8 feet high, with slender spreading branches. Leaves on long petioles, ternate; leaflets oblong, 2—3 inches long, acuminate, sessile, pubescent beneath; the terminal one at
tenuated at the base; margin crenulate, or obscurely denticulate. Flowers in terminal spreading panicles. Calyx minute, hairy; segments subulate. Corolla greenish-white; petals ovate-oblong, obtuse, subcoriaceous. Stamens 4—5; filaments subulate, shorter than the corolla, dilated and tomentose at the base; anthers oblong. Style very short. Samara with a broad orbicular membranaceous margin, swelling in the centre; one of the seeds abortive.


Pursh describes a variety with pubescent leaves growing in Pennsylvania, which, he says, appears to be a new species. In all my specimens the leaves are decidedly pubescent beneath; and they are thus described by Elliott, in the southern plant. By Walter they are said to be tomentose.

124. RIVINA. L.


A shrub possessing very much the habit of Phytolacca decandra. Leaves alternate, entire, on long petioles. Flowers in axillary racemes. Calyx red externally.

Hab. In Pennsylvania? + Nuttall remarks that he saw in the Herbarium of Z. Collins, Esq. a specimen of this plant, communicated by Muhlenberg, and said to have been collected in Pennsylvania. I doubt, however, if it was not a garden specimen. In Muhlenberg's Catalogue its habitat is stated to be "Washita, Penn. H." (Hortis.) I have specimens from Florida, collected by Capt. Leconte.

125. ALCHEMILLA. L.

AtchEMillA. TETRANDRIA. MONOGYNIA.


I have seen no North-American specimens.

126. SYMPLOCARPUS. Salisbury.t


Root verticillately fibrous, truncate; fibres very thick and fleshy. Leaves appearing as the spathe decays, very large, ovate-cordate, smooth. Spath ovate, 3—4 inches long, oblique, cucullate, auriculate at the base, purple, spotted with green and yellow. Spadix pedunculate, oval or subglobose, more than half an inch in diameter. Flowers compact, and appearing tesselated. Calyx (corolla?) 4-leaved, (deeply 4-parted, Nutt.) succulent, subcuneate. Stamens 4, opposite the leaves of the calyx; filaments subulate, flat; anthers exserted, oblong, 2-celled. Style distinct, tapering to a point. Seed larger than a pea, naked, enclosed in the spongy receptacle.

† I have not been able to find any other authority for this name except an anonymous, but useful work in its day, entitled, “A Synopsis of the Genera of North-American Plants,” published at Georgetown in 1814; the author of which is understood to be O. Rich, Esq. As, however, the name is good, and is adopted by Nuttall, I shall continue to use it.
"Corculum small, involute, erect, umbilicately attached to a large carneous perisperm."† Nutt.

**Hab.** In swamps, wet meadows, and along brooks. The coloured spath appears above ground, in this vicinity, about the last of February. Towards the latter end of March, the involuted stipules and leaves appear, soon after which the latter expand, and grow to a very large size. The whole plant possesses a remarkable fetid odour, somewhat resembling that of asafetida.

**ORDER II.**

**DIGYNIA.**

**127. HAMAMELIS. L.**


† "The seed of the *Symlocarpus* does not appear to possess any thing like a proper cotyledon; the embryo formed in the exact posture of the growing plant (with the radical downwards) differs not from it in any particular but that of size. In place of a cotyledon, there is a sheathing stipule similar to that which is ever afterward produced; in fact, it is viva-parous. The embryo is seated in a small umbilical or hemispherical depression, in the upper end of what may be called a *ritellus* rather than a perisperm, judging from its functions; the callus or seminal tubercle is roundish and tubinate, nearly as large as a filbert nut, very solid and carneous, possessing in a high degree the alliaceous fetor of the grown plant. The mutual point of attachment between this body and the embryo is at first a minute and nearly central funiculus, which enlarges and becomes more distinct during the process of germination; but what appears to be most singular in it, is the length of time which it continues attached to the growing plant, apparently inert at the base of the *canex* for twelve or even eighteen months." Nuttall.
A shrub 6—12 feet high; trunks several, with numerous flexuous branches. Leaves 3—4 inches long, alternate, petiolate, strongly veined, slightly scabrous; margin crenate or obscurely toothed. Flowers clustered by threes on axillary peduncles. Calyx foliaceous, persistent, with 3 small ovate bracts at the base, pubescent. Petals yellow, equal, about 4 times as long as the calyx, and not a line broad, a little crispid. Stamens very short; filaments alternating with the petals; anthers adnate to the extremity of the filament, 2-celled, each cell with a vertical valve; at the base of each petal is a short flat abortive filament about as long as the fertile stamens. Germin villosus; styles very short; stigmas simple, obtuse. Nut (capsule?) coriaceous, subglobose, with two short recurved horns, opening elastically; cells polished internally. Seeds coated, black and shining; "corculum flat, enclosed in a carneous perisperm; radicle descendent, opposite the hilum." Nuttall.

Hab. In moist woods; common. October—November. The flowers begin to appear while the leaves are turning yellow and decaying; rarely in the spring.

β. parvifolia Nutt.: leaves oblong-ovate; upper part undulately and coarsely crenate; under surface pubescent, somewhat hirsute; segments of the calyx oblong; stamens and perigynous filaments often nearly equal. Nutt. Gen. 1. c.

A shrub every way smaller than the common H. virginica, with the branches nearly erect. Calyx somewhat coloured and diaphanous. Petals bright yellow.


The genus Hamamelis differs in several important characters from the Nat. Ord. Berberides. Nuttall suggests, that it may be united with Fothergilla and Pachysandra, and form a distinct Order, allied to the Amentaceae, to which the name Fothergillae may be given.†

ORDER III.

TETRAGYNA

128. ILEX.
129. SAGINA.
130. POTAMOGETON.
131. RUPPIA.

128. ILEX. L.

Calyx minute, 4—5-toothed. Corolla rotate, 4-parted, or 4-petalled. Style 0; stigmas 4. Berry 4-seed-
TETRANDRIA. TETRAGYNYRIA. Ilex.


Flowers often dioecious or polygamous. Holly.


An evergreen tree, 30 or 40 feet high, though often only a large shrub, with smoothish bark; branches spreading. Leaves coriaceous, smooth and a little shining, about 2 inches long, greenish-yellow beneath; margin armed with sharp spreading spines. Flowers in small loose fascicles or peduncles, which are scattered along the lower part of the young branches; pedicels with minute bracts at the base. Calyx smooth, with ovate, acuminate, ciliate, segments. Corolla yellowish-white; segments ovate, obtuse. Stamens shorter than the corolla, and alternating with its segments; filaments dilated at the base; anthers oblong. Stigmas 4, minute, obtuse. Berries red, ovate, very smooth, remaining on the tree during part of the winter.


A shrub 3—5 feet high, with smooth branches. Leaves alternate oval, or ovate oblong, an inch and a half or two inches long, mucronate, on petioles one-third their length. Peduncles generally fasciculate, very slender, rarely forked. Flowers dioecious, rarely polygamous, very minute. Calyx inconspicuous, almost obsolete. Petals 4, lanceolate, somewhat acute, alternating with the stamens, white. Stamens 3—5, as long again as the corolla; filaments slender, smooth; anthers ovate, 2-celled. Stigmas 3—5. Berry dry, red, containing 4 1-seeded unconnected nuts.

This species differs in some respects from the rest of the genus with which I am acquainted, but perhaps not sufficiently to constitute a new genus. The corolla appears to me to be 4-petalled, and not 4-cleft, as Ilex is stated to be. *Jussieiu*, however, says, "Corolla 4-partita, seu 4-petala, petalis ungue lato cohaerentibus." I have never seen the leaves toothed, as they are represented in Michaux's figure.

129. SAGINA. L.


The *habitat* of this plant differs from the European species, which occurs in dry soils. In every other respect they agree precisely.


130. POTAMOGETON. L.

*Calyx* 4-leaved. *Corolla* 0. *Anthers* sessile, alternating with the divisions of the *calyx*. *Nuts* 4, 1-seed-
ed, sessile. *Upper leaves floating.*


Root perennial. Stem varying in length, according to the depth of the water in which it grows. Upper leaves 2—3 inches long, an inch and a half, or 2 inches, broad, nerved, often cordate at the base; lower leaves very narrow. Spike (spadix, *Hooker*) emerged, an inch or more in length, on a long axillary peduncle, proceeding from a sheathing stipule. Leaves of the calyx roundish. Filaments 0; anthers 2-celled, oblong. Nut ovate, acute, compressed.

Hab. In lakes and slow-flowing waters. July—August.


Stem as in the preceding species. Upper leaves about 3 inches long, nearly an inch broad, tapering at the base into a long petiole, of an olive-green colour; lower ones very long and narrow. Peduncles axillary, about as long as the leaves, thick.

Hab. In ponds and gentle streams. July—August. Perhaps only a variety of *P. natans*.


Resembles *P. fluviatilis*, but is not half the size. Submerged
leaves about a line broad, membranaceous, approximate, and appearing somewhat distichous.

Hab. In similar situations with the preceding. August.


Stems numerous, branched, filiform. Upper leaves about three-fourths of an inch long, and a line and a half broad, obtuse or a little acute, distinctly 5-nerved; base attenuated into a very slender petiole about as long as the leaves. Spikes 4-6-flowered, on very short peduncles.


A very delicate and handsome species, quite distinct from the P. setaceum of Europe.

* * Leaves all submersed.


Stem dichotomous. Leaves an inch or more in length, subpellucid, closely embracing the stem at the base, and thus appearing perfoliate. Spike on a short peduncle, oblong, few-flowered.

Hab. In rivers and lakes; common. Abundant in the Hudson above the Highlands. August.


Stem long, branched, terete. Leaves 2-3 inches long, 1 inch broad, acuminate, abruptly contracted at the base into a short petiole, pellucid and reticulated. Peduncle elongated, (sometimes 6 inches long.) Spike cylindrical, many-flowered, greenish-brown.

Hab. In rivers and lakes; rarer than the preceding species. August.

The North-American plant, Michaux remarks, is four times smaller than the European, and the leaves not acuminate; but I have not been able to find any difference between them, having specimens of the latter from England and Germany.

Stem branched, subcompressed. *Leaves* an inch and a half long, 2—3 lines broad, membranaceous, acute. *Spikes* on pretty long peduncles, 8—10-flowered.

**HAB.** In Lake George, New-York. *Mr. J. H. Eddy.*


**HAB.** In slow-flowing streams. *July—August.*


Stem almost filiform, much branched. *Leaves* 2—3 inches long, not more than half a line broad, acute. *Spikes* on short peduncles, seldom perfecting more than 4 flowers. *Seeds* large.

**HAB.** In ponds and rivers; very common. *July—August.*


Stem filiform, much branched, dichotomous. *Leaves* very numerous, 4—6 inches long, attenuated to a fine point. *Peduncle* generally elongated. *Spike* about an inch long, with the flowers arranged in a subverticillate manner. *Seeds* large in proportion to the size of the plant.

**HAB.** In ponds in the pine barrens of New-Jersey, &c. *June.*

131. RUPPIA. L.

arising from the sheathing base of the leaves, which performs the office of a spath.


The North-American plant resembles, in every respect, the European.
CLASS V.

PENTANDRIA.

ORDER I.

MONOGYNIAS.

A. Seeds 4, naked. (Asperifolii.)

* Seeds fixed to the bottom of the calyx.

134. Onosmodium. 137. Lycopsis.

** Seeds fixed to a central column.


B. Flowers 4-petalled, inferior. Seeds in a pericarp.

* Fruit a capsule.

a. Capsule 1-celled.

141. Lysimachia. 146. Hottonia.
142. Primula. 147. Samolus.
144. Menyanthes. 149. Hydrophyllum.

b. Capsule 2-(3-)celled.

156. Ipomoea.

γ. Capsule 3—5-celled.

161. Azalea.

** Fruit a berry.

162. Physalis. 163. Solanum.
C. Flowers 1-petalled, superior.
* Fruit a capsule.
** Fruit a berry.

D. Flowers 5-petalled, inferior.
* Fruit a capsule.
** Fruit a berry.

E. Flowers 5-petalled, superior.
181. Ribes.

F. Flowers incomplete.

132. PULMONARIA. L.


Root perennial. Stem angular, a little branched towards the top. Lower leaves about 3 inches long, more or less obovate, very obscure, smooth and a little glaucous. Flowers in terminal racemes or fascicles. Calyx with lanceolate acute segments. Corolla large, bright blue; tube straight, 5—6 times longer than the calyx; border obscurely 5-lobed. Stamens rather shorter than the corolla; filaments very slender; anthers oblong. Style filiform, exserted; stigma simple.


This species is referred by Lehmann to the genus Lithospermum, with which it agrees in many respects, though I think it is more nearly allied to Pulmonaria. All the North-American species belong to Roth’s genus Mertensia.

133. LITHOSPERMUM. L. Lehmann.


Hab. In corn fields and waste places; common. April—July. Introduced.

Root perennial. Stem 2 feet high, much branched, scabrous. Leaves 2—3 inches long, with very prominent veins beneath. Flowers axillary, solitary, on pedicels which are at length clavate. Calyx thrice as long as the ripe seeds; segments linear, very hairy. Corolla pale yellow. Seeds white and shining, ovate, acute, but one or two ripening in each calyx.


P. latifolium of Michaux, I think, is a distinct species, having ovate, acuminate leaves, and deeply punctate seeds. Muhlenberg and Lehmann have united it to L. officinale.

3. L. maritimum Lehm.: very smooth; stem procumbent, branched; leaves oval-spathulate, fleshy; corolla scarcely twice the length of the calyx. Lehm. Asperif. p. 291.


4. L. denticulatum Lehm.: stem erect; leaves nervose, subglabrous, acute; margin scabrous with minute teeth; radical ones ovate; those on the stem oblong; segments of the calyx denticulate on the margin. Lehm. Asperif. p. 294.


Root perennial. Stems numerous, 6—12 inches high. Leaves punctate above; the radical ones on long petioles; those on the stem sessile, attenuated at each extremity. Peduncles many-flowered. Calyx very short, 5-parted; segments oblong. Corolla purple. Style exserted; stigma very minute. Lehm.


PENTANDRIA. MONOGYNIA. LITHOSPERMUM.

Root perennial, large, creeping? red. Stems 8—12 inches high, several from the same root, sometimes trichotomous near the summit. Leaves an inch and a half, or 2 inches, long, sessile, slightly mucronate; upper surface covered with a silky appressed pubescence, pale green beneath. Flowers axillary; crowded near the summit of the stem, so as to resemble a raceme. Calyx scarcely half as long as the corolla; segments linear, acute. Corolla bright orange; segments rounded. Stamens included. Style as long as the stamens; stigmas slightly bifid. Seeds ovate, shining, hard.


The root of this plant is the Puccoon of the Indians, and is used by them for painting a beautiful red. L. scircea Lehm. l. c. p. 506., I have little doubt, is nothing more than a luxuriant variety of this species. He says it is from Virginia, and was sent to him by Muhlenberg.


Root perennial. Stems 8—12 inches high, simple, several from the same root. Stem leaves linear-oblong, obtuse; those near the flowers broader and rounded. Flowers crowded in a terminal raceme. Calyx nearly as long as the tube of the corolla, deeply 5-parted. Corolla orange, with rounded segments. Stamens included; stigma minute, 2-lobed. Seeds ovate, polished.

HAB. In Pennsylvania. Muhlenberg.

134. ONOSMODIUM. Michaux.


Root perennial. Stem 1—2 feet high, branched. Leaves 2—3 inches long, varying from oblong-lanceolate to ovate-lanceolate, sessile, somewhat triply-nerved, hairy, the hairs proceeding from minute papillae. Flowers in terminal leafy racemes, at first recurved and nodding, but erect when in fruit. Calyx cleft to the base; segments subulate, acute. Corolla yellowish white, pubescent, longer than the calyx. Filaments very short; anthers sagittate. Style filiform, about twice as long as the corolla; stigma simple. Seeds ovate, gray, shining with numerous depressions on the surface, angular on the inner side.


Hab. In the western countries, from Pennsylvania to Tennesee. Pursh.

Resembles the preceding species very much, but is distinguished by its soft white pubescence, broader segments of the corolla, &c. O. scabrum R. & S. l. c., appears to be nothing more than O. hispidum.

I have adopted Michaux's name of this genus, although objectionable; Purshia being applied by De Candolle to the Tigarea tridentata Ph.

135. ECHIUM. L.


PENTANDRIA. MONOGYNIA. ECHIUM.

Boot biennial. Stem 2—3 feet high, branched towards the top. Leaves sessile, obuse, entire, hispid and papillose; radical ones petiolate. Spike numerous, secund, recurved. Flowers sessile, with leafy bracts at the base. Corolla brilliant blue, when first expanded reddish-purple. Stamens exserted; anthers minute. Style filiform, 2-cleft at the apex.


Blue-tueed.

136. MYOSOTIS. L.


Scorpion-grass.


Root perennial, creeping. Stem a foot high, slender, very smooth, a little branched towards the top. Leaves lanceolate, nar-rowed at the base, obtuse, covered with short appressed hairs, which are scarcely seen in the fresh plant. Racemes without bracts, very long, secund, at first recurved; pedicels filiform, lengthening as the fruit forms. Teeth of the calyx acute. Corolla very small, bright blue, with a yellow spot in the cen- tre. Seed ovate, shining.

Hab. In ditches and small streams; very common. May—July.

The North-American plant differs from P. palustris of some European authors, in having very minute flowers, but almost exactly resembles specimens from England, sent to me by A. Haworth, Esq. Lehmann has made it a new species, which he calls M. laxa.†

2. M. arvensis Sibth.: leaves oblong-lanceolate, hairy; racemes long; pedicels short, spreading when in fruit; calyx 5-cleft, closed; limb of the corolla erect-spreading, about as


**LYCOPSIS virginica Pursh Fl.** l. p. 133? excl. syn.


137. **LYCOPSIS.** *L.*


**ANCHUSA arvensis Lehm. Asperif.** p. 225.

*Root* annual. Whole plant hispid, almost bristly. *Leaves* about 2 inches long, the lower ones tapering into a petiole. *Calyx* as long as the tube of the corolla; segments lanceolate, erect when in fruit. *Corolla* blue; border a little unequal. *Seeds* reticulated with elevated veins, with a lateral ring near the base.


138. **CYNOGLOSSUM.** *L.*


Root biennial. Whole plant of a dull green colour. Stem a foot and a half or 2 feet high, branched. Lower leaves attenuated at the base; upper ones sessile. Flowers in terminal paniculate racemes. Segments of the calyx horizontal in fruit, ovate-lanceolate. *Corolla* dull purplish-red, about as long as the calyx; segments rounded. *Seeds* large, covered with short rigid prickles.

**Hab.** On road sides and in waste places; very common, June—July. Introduced from Europe.


Root perennial. Stem 2—3 feet high, erect, simple, retrorsely hairy. Radical leaves 3—6 inches high, petiolate; those on the stem contracted towards the base; upper ones sessile. *Corymb*, or panicle, few-flowered, on a long almost naked peduncle; flowers on pedicels 3 or 4 times their length. Segments of the calyx oblong, rather obtuse. *Corolla* blue and white; border erect-spread; segments ovate-lanceolate. *Seeds* rough.


139. ROCHELIA. *Roem. & Schult.*


Hab. On road sides; generally in damp soils; very common in the northern and western parts of the State of New-York. July—August.


Root biennial. Stem 2 feet high, hairy, divaricately branched at the summit. Leaves 5 inches long, acute at each extremity. Racemes, or flowering branches, dichotomous. Pedicels at length reflexed, longer than the flower. Segments of the calyx lanceolate. Corolla white, very small.


140. AñAGALLIS. L.


Root annual. Stem quadrangular, 4–6 inches long. Leaves opposite, sessile, often cordate, very entire. Flowers on axillary footstalks. Segments of the calyx subulate, carinate, scarios on the margin. Corolla scarlet, longer than the calyx.


141. LYSIMACHIA. L.


Root perennial. Whole plant very smooth. Stem erect, a foot and a half high. Leaves tapering at each extremity, punctate, frequently with small bulbs in the axils. Flowers in a terminal raceme 8—3 inches long. Pedicels slender, nearly an inch long, spreading almost horizontally, with subulate bracts at the base. Segments of the calyx lanceolate, acute. Corolla twice as large as the calyx, yellow, spotted with red. Stamens unequal. Capsule globose, 5-valved, 5-seeded.


Root perennial. Stem a foot or more high, more or less hairy, simple. Leaves generally in fours, but sometimes in fives or even sixes, spreading, punctate; margin and under surface a little hairy. Peduncles shorter than the leaves. Segments of the calyx linear-lanceolate, punctate with black. Corolla twice the length of the calyx; segments, ovate, obtuse. Stamens unequal; filaments glandular-pubescent, dilated and united into a short tube at the base; anthers oblong, incumbent. Style as long as the stamens, persistent; stigma simple. Capsule 5-valved, 5-seeded.


Root perennial. Stem 2—3 feet high, very smooth, with a few axillary branches near the middle. Leaves on petioles one-
fourth their length, about 3 inches long, an inch and a half broad, not dotted; upper ones in fours. Flowers nearly as large again as in L. quadrifolia. Peduncles 1-flowered. Segments of the calyx lanceolate, acuminate, longer than the ripe capsule. Corolla deeply 5-cleft; segments sometimes short-acuminate, crenulate. Stamens nearly equal; filaments short, glandular, not dilated at the base, inserted into a ring at the orifice of the corolla, with intermediate teeth; anthers linear, at length recurved. Capsule 5-celled, many-seeded.

Hab. In wet thickets, and on the margins of rivers. July.


Root perennial. Stem a foot and a half high, angular. Lower leaves ovate-lanceolate, upper linear-lanceolate, in threes or fours, narrowed at the base into a petiole which is distinctly ciliate. Peduncles axillary, shorter than the leaves. Segments of the calyx ovate-lanceolate, acuminate. Corolla longer than the calyx; divisions abruptly acuminate, crenulate. Stamens nearly equal, with intermediate short processes; anthers linear, at length recurved. Capsule 5-valved, many-seeded.


I think this species is scarcely more than a variety of the preceding; the principal mark of distinction being its narrower leaves, which are never cordate at the base.


Root perennial. Stem 2—3 feet high, slender, angular. Leaves of the stem about 2 lines broad, flat, very acute, tapering at the base, not dotted; floral leaves verticillate. Flowers mostly on the extremity of the branches, at length nodding. Segments of the calyx linear-lanceolate, acuminate. Corolla a third longer than the calyx, abruptly acuminate, crenate. Stamens subequal, with intermediate teeth; anthers oblong. Capsule 5-valved, many-seeded.

I have seen no northern specimens of this plant. *Muhlenberg* considers it a variety of *L. quadrifolia*, yet it appears to me very distinct.


*Root perennial.* Stem a foot and a half high, sometimes a little branched about the middle, smooth or pubvillose, terete. *Leaves* opposite, lanceolate, becoming broader with age, narrowed at each extremity, when young slightly pubescent beneath, covered with minute black dots. *Flowers* in roundish or ovate heads on peduncles about one third the length of the leaves. *Calyx* 6 or 7 (rarely 5-) parted; segments linear-lanceolate. *Corolla* nearly as long again as the calyx 5–6-cleft; segments lanceolate, not dotted. *Stamens* 6–7, much exerted, dilated and united into a short tube at the base; *anthers* minute, *Germen* nearly round, dotted with red, woolly at the top; *style* rather shorter than the stamens; *stigma* capitate. *Capsule* 5-valved, 5-seeded. *Seeds* angular.

*Hab.* In the cedar swamp at New-Durham, New-Jersey. Cambridge, New-York. *Stevenson*. Fairfield, N. Y. *Hadley.* In Pennsylvania. *Muhlenberg*. June. This species strongly resembles *L. thyrsifolia* of Europe. In all the specimens which I have examined the calyx and corolla were mostly 6-cleft.


*Root perennial.* Plant very smooth. Stem a foot or eighteen inches high. Radical *leaves* spatulate, on long petioles; those on the stem about 3 inches long and 2 lines broad, with several shorter ones in the axils, rather obtuse, narrowed at the base, very entire, not punctate. *Flowers* mostly on the summit of the stem, and on the extremity of the branches. *Peduncles* slender, at length elongated. *Segments of the calyx* ovate-lanceolate, acuminate. *Segments of the corolla* round-ovate, abruptly acuminate, undulate. *Stamens* subequal, with intermediate teeth; *anthers* linear-oblong, very large. *Capsule* 5-valved, many-seeded.


142. *PRIMULA.* *L.*

*Flowers* in an involucreate umbel. *Calyx* tubular,


Root perennial, fibrous. Leaves an inch or more in length, crowded, very obtuse, covered beneath with a yellowish green powder, sometimes nearly entire. Scaphe 6—10 inches long, smooth. Umbel 8—10-flowered, fastigate. Leaves of the involucrum numerous, subulate, pulverulent. Pedicels spreading, filiform. Segments of the calyx lanceolate, acute, or rather obtuse, shorter than the tube of the corolla, pulverulent on the inner side. Corolla pale purple or lilac, with a yellow centre; segments so deeply emarginate as to appear obcordate; orifice slightly glandular. Filaments very short, inserted into the tube of the corolla, near its orifice; anthers oblong, included. Style short; stigma subglobose.

Hab. On the shores of Lake Huron, Lake Michigan, &c. Douglass and Nuttall.

I have carefully compared numerous and very perfect specimens of this plant, collected by Capt. Douglass, with those of P. farinosa in my herbarium from England, Sweden, and other parts of Europe, without being able to discover characters that will distinguish it as a species. The mark of the crenate-dentate leaves is not of great importance, for some of my European specimens have the leaves quite entire, while in others they are distinctly crenate. Professor Hooker, however, thinks the P. pusilla of Goldie to be very distinct from P. farinosa; though there can be no doubt that it is the plant described above. The figure in the Edinburgh Philosophical Journal, I. c. t. XI. f. 2. was taken from a garden specimen, and represents the plant with fewer flowers than it bears in its native situation.

143. DODECATHEON. L.

214. PENTANDRIA. MONOGYNIA. DODECATHEON.


Root perennial. Leaves about 4 inches long, and an inch broad, very smooth, spreading, tapering at the base. Scape 8—10 inches long, erect, simple, smooth. Umbel 12—14-flowered; peduncles unequal; flowers nodding. Leaves of the involucrum (bracts) numerous. Segments of the calyx much shorter than the corolla, ovate-lanceolate, reflected. Corolla purple, segments linear, about three-fourths of an inch long. Filaments inserted into the tube of the corolla; anthers very large, convinent into a rostrum. Style filiform, longer than the stamens; stigma simple.


Flowers pale blue, smaller than in the preceding species. Ph.

Hab. On the Allegany Mountains, in shady woods, near rivers. Pursh.

144. MENYANTHES. L.


Root perennial, thick, long. Stem about a span high. Leaves petiolate; leaflets obovate, obscurely toothed; petiole sheathing at the base. Raceme subpyramidal, many-flowered, on a long naked peduncle. Pedicels thick, with a short ovate bract.
at the base. *Calyx* about a third as long as the corolla; segments oblong, obtuse. *Corolla* reddish-white, hairy on the upper side; segments lanceolate, acute. *Stamens* about as long as the corolla; *anthers* oblong, brown. *Style* elongated; *stigma* large, thick.

**HAB.** In shady swamps; common in New-Jersey. May.

145. **VILLARSIA. Gmelin.**


Among the flowers there are frequently produced a number of callous spur-shaped bodies, an inch or two in length, which are reflected upon the petiole. With the nature of these I am unacquainted.

146. **HOTTONIA. L.**

*Calyx* 5-parted. *Corolla* hypocrateriform, 5-lobed. *Stamens* seated upon the tube of the corolla. *Stigma*
FENTANDRIA. MONOGYNYA. HOTTONIA.


Root perennial. Stem thick, spongy, generally submersed. Leaves long, irregularly crowded, beautifully pectinate. From the summit of the stem arise several (6—10) naked flower-stalks or scapes. Scapes jointed towards the summit, the space between the joints, but particularly the space below the flowers, inflated. Flowers verticillate, generally four in each whorl. Peduncles nearly half an inch long. Calyx 5-parted. Corolla white, apparently shorter than the calyx. Capsule globose. Elliott.


147. SAMOLUS. L.


Root perennial. Stem about a span high, terete, smooth, slender. Leaves somewhat fleshy, an inch long, smooth, very obtuse, entire, tapering at the base into a petiole. Pedicels with a minute bract near the middle. Flowers minute, white. Segments of the calyx ovate, acute. Corolla as long again as the

† According to R. Brown, Samolus differs from Primulae (Lysimachia Juss.) in having the capsule with its base, at least, inferior, in the seeds umbilicated near each extremity, and in the 5 sterile stamens.
calyx; lobes obtuse or emarginate. **Capsule** obovate, opening at the top with 5 spreading teeth, or short valves. **Seeds** angular.

**Hab.** In bogs and low wet grounds; generally near the salt water. June—October.

148. **SABBATIA. A d a n s o n.**


"**Stem** a foot high, terete; branches long. **Leaves** lanceolate-linear, smooth. **Flowers** terminal, subsolitary, purple, seated on long peduncles. **Leaves** of the calyx subulate, as long as the corolla. **Anthers** spiral." **Linn.**

**Hab.** In wet pastures. Pennsylvania to Carolina. **Pursh.** In Maryland. **Muhlenberg.**

It is somewhat doubtful whether the **C. gracilis** of **Michaux** is the same as the **C. campanulata** which **Kalm** found in Canada. They are considered synonymous by **Pursh** and **Muhlenberg**, but **Le Conte** thinks they are quite distinct.

2. **S. stellaris Ph.**: stem terete; branches dichotomous, elongated, 1-flowered; leaves lanceolate, acute; segments of the calyx subulate, half as long as the corolla; segments of the corolla ovate. **Pursh Fl. I.** p. 137. **Roem. & Schult. IV.** p. 174. **S. gracilis Elliott Sk. I.** p. 284. **Chironia stellata M u h l. Cat. p. 23?**

**Root** biennial. **Stem** about a foot high, dichotomously branched almost to the root, a little angular. **Leaves** sessile, about an inch long, somewhat succulent. **Flowers** solitary at the extremity of the branches, forming a sort of loose corymb. **Calyx** turbinate, 5-cleft. **Corolla** bright rose-colour, with a yellow star in the centre surrounded by a deep red border. **Filaments** short, naked; **anthers** linear, sagittate, terminal, at length revolute. **Stigmas** very long, spirally twisted.

† **C. gracilis**: debilis; ramis laxis, setaceo-elongatis, 1-floris; foliis lineari-setaceis; calyce setaceo, corolâ subâquali. **Mich. I. c.**
PENTANDRIA. MONOGYNYA. SABBATA.

Hab. In salt marshes; common near New-York, and on the sea-coast of Long-Island and New-Jersey. August.


Root annual and biennial. Stem straight, erect, about a foot high, branched; branches opposite. Leaves ovate or ovate-oblong, closely embracing the stem, obtuse, indistinctly 5-nerved. Calyx 5-cleft, less than half the length of the corolla; segments somewhat carinate. Corolla rose-coloured; segments obovate, obtuse.

Hab. In moist meadows, among high grass; common. August.

American Centaury.


Root biennial? Stem a foot high, very leafy, with few spreading branches. Leaves an inch and a half long, sessile, rather acute, distinctly 5-nerved. Flowers terminating the branches. Calyx generally 7-parted, a little longer than the corolla; segments lanceolate, very acute. Corolla rose-coloured; segments subspathulate.


I suspect this plant has not been found so far north as stated by Pursh. My specimens are from Georgia.


Root biennial. Stem erect, 2—3 feet high, slightly angular. Leaves closely sessile, and a little clasping at the base, acute, without nerves. Flowers solitary, terminal. Calyx generally about 9-parted; segments linear, very acute, half the length of the corolla. Corolla bright rose-coloured, about 2 inches in diameter; segments obovate-lanceolate.

Hab. In brackish bog-meadows. Common about Newark and


**HYDROPHYLLUM.**


**HAB.** In shady rocky woods. May—June.

**Root** perennial. **Stem** a foot and a half high, slightly hairy. **Leaves** on very long petioles, cordate at the base, with about 5 angular lobes; upper surface sparsely hirsute. **Flowers** in rather crowded fascicles, on slender peduncles, which are shorter than the leaves. Segments of the calyx linear-subulate, a little hairy. **Corolla** white, variegated with purple. **Stamens**, &c. as in the preceding species. **Hab.** In woods and on mountains. Williamstown, Massachusetts. Dewey. Fairfield, New-York. Hadley. Pennsylvania. Muhlenberg. June.


**Root** biennial, (Muhl.) **Stem** about a foot high, almost hispid. **Radical leaves** subpinnatifid and lobed, coarsely serrate; cauline ones somewhat 5-lobed, toothed, cordate at the base. **Flowers** subpaniculate, on peduncles much shorter than the leaves. **Calyx** nearly as long as the corolla, ciliate with long hairs; appendages minute, reflected. **Corolla** blue, smaller than in *H. virginicum*. **Hab.** On shady rocks, near springs. In the western parts of Pennsylvania. Rafinesque. May.

150. PHACELIA. Jussieu.


**Root** perennial? **Plant** hairy. **Stem** about a foot high, terete,
Phacelia, Pentandra, Monogynia.

branched. *Leaves* alternate, on long petioles, pinnatifid, with the two lower leaflets remote. *Flowers* in terminal subsecund racemes. Segments of the *calyx* shorter than the corolla, linear-lanceolate. *Corolla* blue; segments round. *Stamens* nearly as long again as the corolla; *filaments* bearded in the middle. *Style* filiform, persistent; *stigma* very long. *Capsule* subrotund.

*Hab.* In the western countries; principally on the Allegany Mountains. Pennsylvania to Virginia. May—June. *Purs h.*


*Hab.* In alluvial soils, throughout the western parts of Pennsylvania and Ohio. *Nuttall.*


*Hab.* In Pennsylvania. May. *Muhlen berg.* Scarcely of this genus, and probably, as *Nuttall* thinks, an *Ellisia*; it, however, differs in the number of seeds. My specimens are from the Southern States. *Phacelia* scarcely differs in any important character from *Hydrophyllum*, to which, I think, it should be united.

151. SPIGELIA. L.

*Corolla* 5-parted. *Corolla* infundibuliform; border


Root fibrous, perennial. Stem a foot or more high, smooth. Leaves 3—4 inches long, spreading, acuminate, very entire; veins slightly pubescent. Flowers in a second terminal raceme. Calyx about one-fifth the length of the corolla; segments subulate-filiform. Corolla somewhat fusiform, an inch and a half long; crimson externally, greenish-yellow internally; tube angular; segments acute, somewhat expanding. Stamens shorter than the corolla; anthers oblong. Style exerted; stigma simple.


152. VERBASCUM. L.


Root biennial. Stem simple, straight, 3—6 feet high. Leaves large, ovate or oblong, pale green, densely covered with soft wool. Flowers crowded in a long terminal cylindrical spike, bracteate at the base. Segments of the calyx lanceolate, acute. Corolla bright yellow; segments erect-spreading. Stamens unequal; three of them shorter, with woolly filaments; the others smooth.

Hab. In old fields, on road sides, &c.; very common. June—August. Introduced?

This is one of those plants which appear in great abundance
in newly cleared lands, especially after the woods have been
destroyed by fire.


Root biennial. Stem about 2 feet high, many-angled, smooth. Leaves oblong, acute, coarsely and irregularly serrate. Raceme terminal, very long, leafy, glandular-pubescent. Pedicels an inch long. Segments of the calyx linear-lanceolate. Corolla twice as long as the calyx. Stamens unequal; filaments all woolly; anthers reniform.

Hab. In old fields, and on road sides. June—July.

Of this plant there are two remarkable varieties:

a. *alba*: leaves toothed; flowers white.


Leaves very woolly beneath. Flowers pale yellow.


153. **NICOTIANA. L.**


Root annual. Plant viscoso-pubescent. Stem a foot and a half high, a little branched below. Leaves 2—3 inches long; radical ones much longer. Flowers in a terminal paniculate raceme; pedicels bracteate. *Calyx* tubular-campanulate, one-third the length of the corolla; segments ovate, very short. *Corolla* somewhat cyathiform, dull greenish-yellow; tube in-
PENTANDRIA. MONOGYNIA. NICOTIANA.

flated. Stamens included; filaments bearded at the base. Capsule subglobose, many-seeded.

Hab. Near the borders of some of the smaller lakes in the western parts of the State of New-York. Introduced by the Indians. Nuttal.

154. HYOSCYAMUS. L.


155. CONVOLVULUS. L.


Root perennial, creeping, very long. Stem a little hairy, often prostrate. Leaves obtuse, about an inch and a half long, rather hastate. Peduncles axillary, longer than the leaves, bracteate about half an inch below the flower. Calyx short, with very
obtuse teeth. Corolla white, an inch long. Stamens much shorter than the corolla; anthers oblong. Stigmas long-linear.


According to Linnaeus and Michaux, the North-American plant is a distinct species from the European; but they are united by Pursh, R. Brown, and most modern Botanists. Muhlenberg has both C. Sepium and repens in his Catalogue.


Root very large and thick. Stems numerous, generally trailing to a great distance on the ground, pubescent when young. Leaves often somewhat 2-lobed, entire, pubescent. Peduncles 1—4-flowered, with 2 small stipules. Corolla large, with a purple tube. Stigmas very short. Capsule 2-celled.


226 PENTANDRIA. MONOGYNIA. CONVOLVULUS.


I cannot distinguish any essential difference between C. spithamæus and stans. The leaves vary from acuminate to obtuse, and the length and insertion of the peduncles are by no means constant. Muhlenberg, however, has not united them.

156. IPOMEA. L.


Root annual. Flowers white, with a purple rim.


Root annual. Stem twining, hairy, twining over small shrubs. Leaves cordate, acuminate, the old ones 3-lobed. Peduncles shorter than the petiole, 1—3-flowered. Segments of the calyx subulate, long. Corolla infundibuliform, white at the base, blue towards the margin; border obscurely 5-angled. Stigma undivided, globose. Capsule smooth. Elliott.

Hab. In Pennsylvania. August. Mu hlen berg. I have never seen this plant except in gardens. It does not appear to differ from I. hederacea of Lin. and R. Brown, nor from I. barbata, Roth.

157. PHLOX. L.


Root perennial. Stem two and a half feet high, simple, scabrous, particularly above, and dotted with purple. Upper leaves ovate, or oblong-lanceolate, acuminate, scabrous on the margin; lower ones gradually becoming narrower till they are quite linear; all of them opposite. Flowers in an oblong rather crowded panicle. Calyx with spreading lanceolate acuminate teeth. Corolla pale purple; segments rounded.


Nuttall remarks, that the P. suaveolens is no where to be found wild, and that it appears to be only a white flowered variety of P. maculata, raised from seed. I have never seen it except in gardens.


Root perennial. Stem a foot and a half high, villose-pubescent, simple. Leaves opposite, almost linear, an inch and a half in length, subpubescent. Teeth of the calyx aristate, with the points recurved. Corolla pale purple or white; segments obovate, entire.

Hab. In wet meadows in the pine barrens of New-Jersey. In Pennsylvania. Muhlenberg. June. This is supposed by Nuttall to be only a smoother variety of P. filosa; and, indeed, it does not appear to be very distinct.

Root perennial. Stems numerous, diffuse? 9—12 inches high. Leaves oval-lanceolate, spreading; closely sessile, rather acute, a little pubescent; upper ones often alternate. Flowers in terminal spreading panicles; 4—5 flowers in each fascicle. Segments of the *calyx* erect. *Corolla* blue; tube nearly straight, smooth; segments cordate-cuneiform.


Root perennial. Stem 6—8 inches high, erect, with creeping suckers at the base, bearing obovate leaves. *Corymb* 4—6-flowered. *Calyx* pubescent, with the teeth spreading or reflexed. *Corolla* blue, with a purple centre.


Root perennial, creeping. Stem procumbent, assurgent, branching, 3—4 inches high. Leaves about three-fourths of an inch long, opposite, very acute and pungent; lower ones fasciculate. *Corymb* 3—4-flowered. *Calyx* very hairy, a little shorter than the tube of the corolla. *Corolla* pink, with a purple centre; tube a little curved, smooth.


8. *P. setacea* L.: cespitose, pubescent; leaves fasciculate, subulate, ciliate, rigid; flowers few, terminal, somewhat

*Root* perennial. *Stem* procumbent, assurgent. *Leaves* longer, and, for the most part, finer and more hairy than in *P. subulata*. *Flowers* generally solitary, forming small terminal corymbbs. *Corolla* large, “pale rose-coloured, with a purple star in the centre.” *Eit., Ph.*


Resembles very much the preceding species.

158. **POLEMONIUM.** *L.*


*Leaves* alternately pinnate, with a terminal leaflet. *Jacob’s-ladder.*


**Hab.** In the vicinity of Philadelphia. *Barton*. May.

159. **DIAPENSIA.** *L.*

*Calyx* deeply 5-parted, with 3 bracts at the base. *Corolla* hypocrateriform; border 5-cleft. *Filaments*


Plant densely cespitose, evergreen. Leaves much crowded, about three-fourths of an inch long, obtuse, a little recurved, very entire. Flowers terminal, solitary, on short peduncles. Calyx cleft almost to the base; segments broad-ovate, very obtuse. Bracts foliaceous, shorter than the calyx. Corolla white; segments short, rounded. Stamens about as long as the corolla; filaments flattened, short; anthers 2-celled; cells distinct, roundish, opening transversely? Style persistent; stigma obtuse, simple.


Plant evergreen, creeping, and forming dense mats. Leaves about one-fourth of an inch long, very acute; upper ones crowded about the flower. Flowers solitary, terminal. Calyx pubescent; segments oblong-spathulate. Bracts resembling the segments of the calyx. Corolla white, nearly campanulate; border spreading; segments spathulate. Stamens shorter than the corolla; filaments very broad; anthers 2-celled; cells subglobose, with a short spur or rostrum at the base, opening transversely. Style about as long as the stamens, thick; stigma obtuse, 3-lobed. Capsule 3-celled, 3-valved, many-seeded.


160. **DATURA.** *L.*

Calyx tubular, angular, deciduous; base orbicular,


Root annual. Stem 2—7 feet high, dichotomously branching, green, somewhat fistulous. Leaves alternate, from the forks of the branches, large; base somewhat cordate, and unequal. Flowers solitary, axillary, on peduncles about half an inch in length. Calyx acutely 5-angled, 5-cleft at the summit. Corolla white; border 5-toothed. Stamens shorter than the corolla; filaments slender, pubescent; anthers oblong, yellow. Germen ovate, sulcate; style as long as the stamen, filiform; stigma obtuse, bilamellate. Capsule about an inch and a half long, armed with sharp, spreading spines, 2-celled. Seeds very numerous, somewhat reniform, black, attached to a central receptacle.


Hab. With the preceding. Stem fistulous, spotted with purple.

Dr. Tully, in Silliman’s Journal, above quoted, has given an excellent paper on these two species or varieties of Datura. He is of opinion that they are distinct species, though he acknowledges there are no distinguishing characters except colour. It is remarkable, that though they grow indiscriminately together, no intermediate varieties are ever observed.

161. AZALEA. L. D. Don.


A small evergreen shrub. Stems cespitose, 3—4 inches long; branched, procumbent, rigid. Leaves opposite, elliptical, very smooth and entire, coriaceous; margin revolute. Flowers in small terminal umbels, or coryumbs; pedicels short. Calyx red; segments lanceolate. Corolla bright rose-coloured; segments a little unequal, oblong. Stamens inserted into the base of the corolla; filaments flat, smooth; anthers 2-celled, subrotund, opening internally their whole length. Style rather shorter than the stamens, persistent; stigma capitate. Capsule ovate; margin of the valves inflexed. Seeds numerous, minute, smooth.


I have followed Mr. Don, who, at the suggestion of Pursh, has separated all the species of Azalea, except procumbens, and united them to Rhododendron, from which they differ in no respect except in the number of stamens.

162. PHYSALIS. L.


Root annual. Stem spreading on the ground, generally with 2 principal branches. Leaves on long petioles, often with much smaller ones in the axis, acute, with coarse subreptand teeth; base unequal. Flowers on peduncles much shorter than the petioles. Calyx almost hispid; segments ovate, acute. Corolla dull yellow, with 5 oblong purple spots at the base. Stamens hairy, purple; anthers oblong. Berry globose, viscosous, enclosed in the persistent calyx.


PKNTANDRIA, peduncles the calyx leaves peduticks the stem 234
Holt 1021. Roem.

nearly Roem. tary, 1021.
baceous, late, Pursh
Hab. Root Hab. Schult.

baceous, late, hast

Corolla campanulate, twice as long as the calyx, pubescent, yellow, marked at the base with 5 obscure villous spots. Filaments as long as the corolla, inserted into its base; anthers erect, pale blue. Stigma capitate. Berry globose, enclosed in the inflated, 5-angled, persistent calyx. Seeds reniform, immersed in the pulp of the berry. Ett.

Hab. On road sides, among rubbish. Pennsylvania to Carolina. Pursh. I insert this plant on the authority of Pursh alone; perhaps Elliott's is a distinct species.


Root perennial. Stem erect or procumbent, about a foot high, somewhat angular and tomentose. Leaves alternate, serrate-repand, obscurely tomentose beneath. Peduncles axillary, a little longer than the pediolo. Calyx subcylindrical, slightly angular, retuse at the base. Corolla yellow, not spotted at the base. Stamens yellow. Berry globose, small, red. Lin.


Root perennial, creeping. Stem 1—2 feet high, densely pubescent. Leaves generally in pairs, about 3 inches long; very entire, on pediolo one-third their length. Flowers solitary, nodding, generally towards the upper part of the stem. Calyx inflated; the base truncate. Corolla pale yellow, with 5 obscure purple spots at the base.


I have seen no northern specimens of this plant. Mine are from Georgia.
163. SOLANUM. L.


Stem climbing, smooth, or pubescent. Lower leaves cordate, entire; upper ones hastate or auriculate. Flowers in lateral clusters. Calyx with short acute segments. Corolla violet; segments reflected, each with two green tubercles at the base. Anthers large, yellow, slightly connected into a cone. Berries oval, bright red.

Hab. In low grounds, and along brooks. July—August.


Root annual. Stem much branched, often spreading on the ground, angular, or slightly winged, often denticulate. Leaves attenuate at the base, with very obtuse, somewhat repand teeth. Umbels lateral, few-flowered, nodding. Corolla white; segments acute, somewhat reflected. Berries spherical, black, 2-celled.

Hab. In old fields and waste places. July—August. Introduced?

This is certainly not a distinct species from S. nigrum, if, indeed, it be even a variety.

164. CAMPAANULA. L.


_Root_ perennial, creeping. _Stem_ erect; slender, a foot or more high, terete, branched at the base. _Radical leaves_ on long petioles, cordate and oblong; cauline leaves 2—3 inches long, very narrow. _Flowers_ few, drooping, in a loose terminal panicle or raceme. _Pedicels_ 1-flowered, elongated. Segments of the _calyx_ subulate, spreading. _Corolla_ blue; segments broad-ovate, acute. _Stamens_ included; _filaments_ dilated at the base, and closing the base of the _corolla_; _anthers_ linear, marcescent. _Style_ longer than the stamens; _stigma_ 3-lobed. _Hab._ On rocks along the banks of rivers. Passaic Falls, New-Jersey. Fishkill, New-York, &c. June. This plant is seldom found with radical leaves, as they wither very early.


_Root_ annual. _Stem_ 8—12 inches high, angular; angles retrorsely hispid. _Leaves_ broad-cordate, amplexicaul, and thus appearing perfoliate, dentate-crenate, with prominent veins be-
Campanula. Pentandria. Monogynia. 237

neath. Flowers closely sessile, 1—4 in the axil of each leaf. Calyx deeply 3—5-parted; segments lanceolate, very acute, spreading. Corolla purple, somewhat hypocrateriform; segments ovate, acute. Stamens about half the length of the corolla; filaments dilated at the base; anthers blue. Stigma 3-cleft. Capsule oblong, angular, 3-celled, crowned with the calyx, opening by 3 lateral orifices. Seeds numerous, minute.

Hab. In fields, and on dry hills; common. May—July.

Sometimes this plant occurs very low and slender, producing apetalous flowers, with the calyx uniformly 3-cleft.

3. C. americana L.? leaves ovate-lanceolate, much acuminate, membranaceous, uncinately serrate; lower ones subcordate, with the petioles ciliate; flowers subsolitary, nearly sessile, in a terminal leafy raceme; corolla subrotate; style exserted. Willd. Spec. I. p. 348?

Root perennial. Stem 2 feet high, simple, terete, smooth. Lower leaves ovate, more or less cordate; caulin ones attenuate at the base; upper surface sparingly hirsute. Raceme long, leafy below; pedicels short, clavate, 1—2 in the axil of each leaf or bract. Calyx with spreading subulate segments. Corolla blue, flat; segments oblong, acute. Style one third longer than the corolla; stigma 3-lobed.

Hab. On rocks about the Falls of Niagara. Cooper.

This plant agrees nearly as well with C. americana as with C. acuminata, which two species, I strongly suspect, are not distinct.


PENTANDRIA. MONOGYNIA. CAMPANULA.

Donn Cat. (tide Muhl.)

Root annual. Stem erect or diffuse, weak, about a foot high, supported by the surrounding plants, branched towards the top, with almost winged angles. Leaves sessile, an inch in length, remotely denticulate. Peduncles spreading. Flowers small, nodding. Calyx with ovate acute segments. Corolla campanulate, white, with blue veins; segments ovate. Filaments hairy. Style 3-cleft. Capsule globose, 3-celled. Seeds minute, numerous.


This species, as Elliott observes, is very nearly allied to C. erinoides of Lin. Mint. 44, which is said to be a native of Africa. Muhlenberg, and others, refer to this species also, C. flexuosa of Michaux, which is described as being smooth, with the flowers on short peduncles!

165. DIERVILLA. Tournefort.


A shrub 2—3 feet high; branches smooth; the lower ones somewhat quadrangular. Leaves opposite, ovate, on short petioles, serrate, acuminate, smooth, about 3 inches in length. Peduncles in the axils of the superior leaves, 2—3-flowered. Segments of the calyx less than one half the length of the corolla, subulate, smooth; bracts 2, minute. Corolla yellow, with the segments oblong, unequal. Capsule contracted above. Seeds minute.

Hab. In rocky woods. June.

166. LOBELIA. L.

Calyx 5-cleft. Corolla irregular, 5-parted, cleft on
the upper side nearly to the base. Anthers united into a tube. Stigma 2-lobed. Capsule inferior, or semi-
superior, 2—3-celled, 2-valved at the apex. Gen. pl.
II. p. 75. Juss. p. 165. Lam. Ill. t. DCCXXIV.
Roem. & Schult. Gen. 873. Nat. Ord. Lobel-
liaceae Juss.† olim Campanulaceae.

1. L. Dortmannn L.: leaves linear, 2-celled, fleshy, ob-
tuse; scape nearly naked; flowers racemed, remote. Willd.
Gen. II. p. 75. R. & S. l. c.

Root perennial, consisting of numerous matted fibres. Leaves im-
mersed, 1—2 inches long; growing in a tuft about the root, ob-
tuse, spreading and recurved, consisting of 2 united tubes, with a
longitudinal dissepiment. Scape a foot and a half high, emerged,
bearing 3—4 very remote pedicellate nodding flowers. Pedic-
cels half an inch long, with a small bract at the base. Calyx
smooth, with 5 oblong teeth. Corolla pale blue, half an inch
long; segments of the lower lip pubescent at the base. Style
persistent. Capsule erect, 2-celled. Seeds oblong, numerous,
scabrous. Water Gladiolus.

Hab. In fresh water ponds and deep swamps. Near Boston.
Bigelow. Chester, Massachusetts. Emmons. In New-
Jersey. Muhlenberg. In deep sphagnous swamps, from
The North-American plant is scarcely a distinct species.
On comparing it with my European specimens, I could per-
ceive no important difference. In the latter, the inferior seg-
ments of the corolla are distinctly bearded at the base.

2. L. Kalmii L.: whole plant smooth; stem slender,
erect, branched; leaves linear, remotely denticulate; radical
ones spathulate; raceme lax, few-flowered, leafy; pedicules
longer than the fruit, with 2 minute bracts near the flower;
V. p. 38.

Root biennial? Stem a foot or 18 inches high, very slender.
Leaves 1—2 inches long, and about a line and a half broad,
with a few remote minute teeth. Peduncles nearly an inch in
length. Calyx smooth; segments lanceolate, shorter than the

† Annal. du Mus. XVIII. p. 1. et seq.
PENTANDRIA. MONOGYNIA. 

Leaves simple, or with filiform branches; leaves oblong-linear, dentate; flowers in slender racemes, distant; peduncles coloured, shorter than the flower, with minute bracts near the base; capsule obtuse below. Root biennial, (apparently perennial, Nutt. t.) Stem erect, slender, often flexuous, 2 feet high. Peduncles one-fourth of an inch long, with 2 opposite very minute bracts near the base. Segments of the calyx longer than the capsule. Corolla pale blue, smaller than in the preceding species.

HAB. On the dry margin of sandy swamps in the pine barrens of New-Jersey. August.

There is a variety of this species, which is smooth and somewhat glaucous, growing abundantly in swamps in the pine barrens of New-Jersey. It was pointed out to me by Mr. Nuttall.

4. L. Claytoniana Mich.: stems erect, simple, pubescent; leaves oblong, pubescent, obtuse, nearly entire; radical ones spathulate; raceme virgate, naked; segments of the calyx subulate, nearly as long as the tube of the corolla. Root perennial. Stem erect, a foot and a half, or 2 feet high, almost always simple. Radical leaves spathulate, or obovate, 2 inches or more in length, nearly entire; stem leaves generally obtuse, obscurely crenate-dentate, often densely pubescent. Raceme 6—10 inches long, 10—30-flowered. Pedicels one-fourth of an inch long, erect. Calyx pubescent at the base. Corolla pale blue, as large as in L. Kalmii; superior segments linear-oblong.

HAB. In dry open woods, fields, &c.; common.

I am unable to discover any marks of discrimination between L. Claytoniana of Michaux, and L. pallida of Muhlenberg.

5. L. puberula Mich.: pubescent; stem erect, simple; leaves oblong-oval, obtuse, repand-serrulate; spike second,

Root perennial. Stem 2 feet high, somewhat angular. Radical leaves ovate-lanceolate, unequally repand-serrulate. Raceme secund, with a small denticulate leaf at the base of each nearly sessile flower. Calyx with the sinuses reflexed; segments linear-lanceolate, distinctly ciliate. Corolla bright blue, nearly an inch long; segments of the upper lip linear-oblong, pubescent beneath; those of the lower lip ovate. Stamens a little longer than the tube of the corolla; filaments flattened; anthers blue, a little incurved, and villous at the extremity. Style shorter than the stamens; stigma compressed, concave at the summit.


Root perennial. Stem simple, angular, a foot and a half or 2 feet high, hairy on the angles. Leaves closely sessile, acute or acuminate, with scattered appressed hairs on the upper surface, very unequally repand-serrate, or rather toothed. Raceme 8—12 inches long, with the leaves at the base of the flowers, gradually diminishing in size upwards. Flowers on short pedicels. Calyx shorter than the tube of the corolla; segments lanceolate, acuminate, ciliate. Corolla large, bright blue.

Hab. In low boggy meadows, and on the banks of rivers; common. September.

There is a variety of this species with white flowers.


Root annual. Stem a foot or more in height, erect, often very hairy, with paniculate branches. Leaves more or less ovate, sessile, unequally crenate. Flowers on peduncles one-fourth of an inch long. Segments of the calyx subulate, smooth. Corolla small, pale blue. Capsule ovate, smooth, nervet and reticulate.

Hab. In fields and pastures. August. Indian tobacco

Plant acrid, resembling tobacco in taste.

Root perennial. Stem 2 feet high, very smooth, simple. Leaves smooth, acute at each extremity, erosely serrate; lower ones tapering to a petiole at the base. Raceme 8—12 inches long, many-flowered. Flowers very large, on angular pubescent pedicels half an inch in length. Superior foliaceous bracts glandular denticulate. Tube of the calyx short, obtusely turbinate, smooth, with 5 prominent nerves; segments linear-subsulate. Corolla bright scarlet, tube an inch long, slender; segments of the lower lip oblong-lanceolate; those of the upper lip linear-oblong. Stamens projecting one-third of their length beyond the tube of the corolla; anthers cucullate, smooth, blue; filaments scarlet, flat. Style filiform; stigma with 2 spreading lobes, at length projecting beyond the stamens, covered with a membranaceous involucrum or indusium.


167. Lonicera. L.


Stem frutescent, climbing from left to right, 20—30 feet long. Leaves nearly sessile, or narrowed at the base into a short petiole, sometimes only slightly pubescent, but always distinctly ciliate; uppermost pairs rarely pubescent or ciliate. Peduncles generally in threes, 6—8-flowered. Calyx very minute. Corolla yellow, an inch long, pubescent; tube a little gibbous on one side near the base, villous within; lower lip deflected, entire; upper one with 4 oblong obtuse lobes. Stamens exserted; filaments a little oblong; anthers linear-oblong. Style
as long as the stamens; stigma capitate. Berries orange, sessile, crowded, crowned with the persistent calyx, covered with a glandular pubescence.


I strongly suspect this is only a variety of L. flava Bot. Mag. t. 1318, (Caprifolium Fraseri Ph.) which scarcely differs except in the leaves being smooth. The leaves are variable in breadth, pubescence, &c. In the specimens sent me by Prof. Hadley, they are only slightly pubescent; the upper pair perfectly smooth, abruptly acuminate, with the superior surface shining. In Mr. Crawe's specimens, the two uppermost pairs of leaves are connate and mucronate; the lower ones ovate, on short petioles, and almost villous.


Stem twining over shrubs. Leaves oval, deciduous, slightly cordate, obtuse, sometimes emarginate, glabrous, glaucous beneath, with whitish veins, contracted, but connate at the base; upper leaves large and less contracted at the base. Flowers in 1—3 terminal heads. Corolla at first bright yellow, afterwards orange, deeply bilabiate; upper lip broader, 4-cleft, reflexed; the lower entire, reflexed; tube hairy within, very slightly enlarged at the base. Elliott.


Stem twining, 10—15 feet long, terete, glaucous. Leaves ovate or oblong, obtuse, remarkably glaucous beneath; the upper pair (bracts) very large. Flowers generally in single terminal heads of about 3 whorls. Corolla yellow, about three-fourths of an inch in length; tube very gibbous on the lower side of the base, hairy within; lower lip linear-oblong, entire, reflexed; upper lip with 4 oblong obtuse segments. Stamens exserted; filaments bearded at the base. Berries small, red.
HAB. In rocky shady situations; particularly on the banks of rivers; not rare. June.


A shrub 4—8 feet high, climbing, or erect. Leaves obovate or oblong, a little connate at the base, revolute on the margin. "Flowers inclining to scarlet. Corolla ringent, with the tube elongated," *Ph.* Berries red.


I have not seen this plant in flower.


Stem climbing. Leaves perennial, oval, on the upper surface very smooth, on the under glaucous and a little hairy; the lower ones petiolate; the upper connate, obtuse. Flowers in verticillate spikes; the terminal verticils remote, 6-flowered; 1 or 2 glands between each germen. Corolla infundibuliform, crimson externally, brighter red within; segments acute, one division generally deeper than the others. Berries scarlet. Seeds 4 in each cell, attached to a fibrous central receptacle. *Elliott.*


168. **XYLOSTEUM.** Tournefort.


A shrub 3—4 feet high, with spreading, somewhat angular branches. *Leaves* opposite, deciduous, on short petioles, ovate, generally acute, more or less cordate at the base; margin ciliate, with hairs. *Pedicels* solitary, axillary near the extremity of the branches, opposite, at first about half an inch long, elongated when in fruit. *Involucrum* 2-leaved; leaves oblong, shorter than the connate germens. *Bracts* connate. *Calyx* very minute. *Corolla* yellow, about three fourths of an inch long, bilabiate; segments ovate, acute; tube remarkably gibbous, but scarcely calcarate, at the base. *Filaments* included, smooth, inserted into the tube of the corolla; *anthers* oblong, sulcate. *Style* angular; *stigma* capitate, dilated. *Berries* distinct, ovate, spreading, red, dry? 6-seeded. *Seeds* compressed.


This shrub so much resembles *X. tartaricum*, that it has been considered the same by *Michaux*. It, however, appears to differ in the leaves being ciliate even when old, in the exerted style, ovate berries, &c.


A shrub 2—4 feet high; young branches villous. *Leaves* opposite, very entire, on short petioles, very villous when young, but at length much smoother. *Pedicels* axillary in the upper part of the branches. *Involucrum* subulate, longer than the germens. *Corolla* yellow, about half an inch long; segments oblong, rather obtuse; tube not gibbous at the base. *Filaments* a little exerted, bearded; *anthers* linear-oblong, yellow. *Style* longer than the stamens; *stigma* small. *Berries* red or purple, 6—8-seeded.


I think there can be little doubt that this is the *Xylosteum villosum* of *Michaux*, though it is remarkable that this Bo-
tanist should have omitted in his description the remarkable character of the united berries. *Pursh*, who acknowledges he had never seen the plant, has very improperly interpolated the character “baccis distinctis.”

169. SYMPHORIA. *Peterson.*—*Pursh.*

Calyx minute, 4-toothed, with 2 small bracts at the base. Corolla subcampanulate, short, 5-cleft, nearly equal. Stamen scarcely exserted. Stigma globose. Berry, crowned with the persistent calyx, 4-celled, 4-seeded, 2 of the cells sometimes abortive. *Peters.*


A shrub 3—4 feet high, with erect terete pubescent branches. Leaves opposite, ovate, on short petioles, very entire; pubescent and somewhat glaucous beneath. Racemes 3—4 in the axils of the leaves; peduncles very short. Bracts 3-leaved. Corolla tubular-campanulate, about a line and a half in length, greenish red; segments, ovate, acute. Filaments and style bearded. Berries purple, small.


A shrub 2—3 feet high, with slender opposite branches. Leaves opposite, elliptical-ovate, on short petioles, obtuse, slightly ciliate. Racemes terminating the branches, short, rather crowded. Pedicels short, spreading, and at length recurved, with a minute bract at the base. Corolla pale red, twice as large as in the preceding species, very hairy within; segments ovate, obtuse. Filaments very short, a little bearded, alternating with the segments of the corolla; anthers large, oblong. Style shorter than the stamens; stigma capitate; germin with 2 connate bracts at the base. Berries large, ovate, beautiful white.

Hab. On rocks about the Falls of Niagara. *D. Douglass.*

Snow-berry.
170. **TRIOSTEUM.** *L.*


*Root* perennial, thick and fleshy. *Stem* 2—3 feet high, when young viscosely pubescent. *Leaves* 6—7 inches long, somewhat spatulate, tomentose beneath, scabrous above; base sometimes very narrow, but always connate. *Flowers* sessile, 1—3 in the axil of each leaf. Segments of the *calyx* acute, pubescent, often longer than the corolla. *Corolla* dull purple, about half an inch long, viscosely pubescent, tube very gibbous at the base; segments of the border subrotund. *Filaments* bearded; *anthers* oblong, incumbent. *Style* nearly as long as the corolla; *stigma* incrassated, somewhat 5-lobed. *Berry* ovate, dry, orange, (purple, *Pursh*), crowned with the spreading persistent calyx. *Seeds* elliptic, hard, with 3 striae externally.


A mild emetic and cathartic. I have never observed the berries of this plant dark purple, as they are described by *Pursh*, and as they are represented by *Barton*.

171. **ITEA.** *L.*

SAXIFRAGEÆ Juss. (Mich.)

Roem. & Schult. V. p. 498.

A shrub 4—8 feet high. Leaves alternate, about 2 inches long; petiolate, lanceolate, acuminate, serrulate, pubescent beneath. Flowers in terminal simple racemes. Calyx persistent; teeth erect, subulate. Petals white, pubescent within, inserted into the summit of the calyx between the teeth. Stamens shorter than the petals, with the filaments inserted between them; anthers oblong, opening internally the whole length. Style as long as the stamens; stigma somewhat 2-lobed. Capsule ovate, acuminate with the remains of the style. Seeds small, subrotund, smooth.


172. IMPATIENS. L.


Root annual. Stem about 2 feet high, tender and succulent, at first diaphanous, much branched; joints tumid. Leaves uniformly green, alternate, on petioles one third their length, coarsely serrate. Peduncles axillary, longer than the leaves, 3—5-flowered, filiform; pedicels bracteate about the middle. Calyx small, with 2 dilated roundish leaves. Petals 4, including the nectary; the 2 lateral petals unequally bilobed; larger lobe dilated, retuse, sparingly spotted with brownish red towards the base. Nectary broader than long, spotted; spur of the galea shorter than the calyx. Seeds elliptic, compressed.

Hab. In wet shady places. August.


Hab. In wet shady places. August.

I have followed Mr. \textit{Nuttall} in considering these two species of \textit{Impatiens} as distinct, but, must acknowledge that they frequently appear to border on each other. They are both nearly allied to \textit{I. nolitangere} of Europe.

173. \textit{VIOLA.} L.


* Stemless.
‡ Flowers blue.


Root thick, descending. Leaves exactly pedate; segments obtuse, sometimes 2—3-toothed at the apex. Stipules radical, subulate, conspicuously ciliate. Scape generally longer than the leaves, angular, smooth; bracts opposite, nearly radical, linear, very narrow. Flower very large, pale blue. Segments of the calyx lanceolate, acute. Petals beardless, rounded at the extremity, entire. Filaments very short; anthers united at the top by a membrane. Style short; stigma compressed, angular, projecting beyond the stamens. Capsule oblong, sub-
PENTANDRIA. MONOGYNYA. VIOLE.

triangular, smooth. Seeds small, globular, attached to the valves along the middle.
Hab. On rocky hills and in dry woods. May.


Root thick, fleshy. Primary leaves somewhat reniform-cordate, often undivided, more or less pubescent, never smooth, sometimes almost woolly; secondary ones more or less divided in a palmate manner; the exterior lobes 2—3-cleft; petioles slightly margined, smooth or hairy. Stipules lanceolate, subciliate. Scape about as long as the leaves, with 2 minute bracts about the middle. Flower middle-sized, blue; lateral petals obovate, conspicuously bearded towards the base; the others smooth; inferior petal carinate, veined with purple. Segments of the calyx lanceolate, acute, smooth, slightly ciliate on the margin. Stigma recurved, rostrate.
Hab. In swamps and low grounds; common. May.

A very variable species. The leaves are frequently coloured with purple beneath.


Root short, thick. Leaves somewhat pubescent on the upper surface, crenate-dentate, incised, and often hastate at the base; petioles about as long as the leaves. Stipules linear, smooth. Scape generally longer than the leaves; bracts subulate, opposite or alternate. Flower middle-sized, purplish-blue; petals oblong-obovate, all of them, except the inferior one, bearded with white; spur short, very obtuse. Stigma rostrate, depressed, margined.
Hab. On hills and in fields. April—May.

β. emarginata Nutt.: leaves almost triangular, lacerately toothed near the base; petals emarginate or bidentate. Schw. Viol. l. c.

Leaves decurrent in a narrow margin on the petiole, always smooth beneath, often pubescent above. Scape longer than the leaf. Petals obovate; the lowest ciliate; the 3 lower,
and sometimes the 2 upper, pubescent. Segments of the calyx glabrous, lanceolate, acute. Stigma rostrate, depressed horizontally, distinctly margined around. N. u tt.

Hab. In sandy fields of New-Jersey; also on the banks of the Schuylkill. N. u ttl all.


Leaves generally very pubescent, rarely smooth, ciliate, rather acute, abruptly decurrent on the petiole, which is generally shorter than the leaves. Stipules ovate-lanceolate, ciliate. Scafe longer or shorter than the leaves, hairy; bracts linear, opposite. Flower nodding, middle-sized, bright blue; petals obvate, lateral ones bearded with white, inferior one nearly naked. Stigma recurved, somewhat rostrate.

Hab. On dry hills; common. April—May.


Leaves somewhat reniform-cordate, sometimes acute, dentate-serrate, generally longer than the petioles. Scafe terete; bracts subopposite, subulate. Flowers bright blue or violet, oblique; superior petals smooth, the rest bearded; beard rigid, cylindrical. Stigma short, rounded.

Hab. In wet meadows. April—May.

This is the most constantly glabrous species of any with which I am acquainted. It strongly resembles the following.


Leaves slightly cucullate at the base; petioles long, smooth. Stipules acuminated, ciliate. Scafe quadrangular, longer than the leaves; bracts minute, situated a little below the flower. Flower bright blue; petals narrower than in the preceding
species; filaments of the beard very short, globose-clavate. Segments of the calyx oblong, acute, smooth.

Hab. In wet meadows. May.

This species and the preceding very much resemble each other; and are perhaps not distinct.


Leaves appressed to the earth, crenate, nearly smooth, and purplish beneath; sinus small, but open. Stipules minute. Scape longer than the leaves. Angular, smooth; bracts minute, opposite. Flowers blue; petals oblong; the inferior and lateral ones bearded.

Hab. On the sides of rocky hills. May.


Leaves pressed to the earth, thickish, pubescent above, smooth beneath; sinus small, nearly closed. Stipules small, subulate. Scape longer than the leaves; bracts very minute. Flowers blue; petals obvate; the 3 inferior ones bearded. Segments of the calyx linear-oblong. Stigma rostrate, depressed.

Hab. On hill sides and in dry woods; common. April—May.

† † Flowers yellow.


Leaves appressed to the earth, at first broad-ovate, but at length nearly orbicular, slightly pubescent on the veins beneath; petioles generally much shorter than the leaves, frequently villous. Stipules lanceolate. Scape about as long as the leaves, smooth, with 2 subulate bracts about the middle. Flowers mediumsized; petals broad-ovate, very obtuse or slightly emarginate; the 2 lateral ones bearded, marked with 3 brown striae; lowest petal short, with many striae, naked; spur exceedingly short. Segments of the calyx linear-oblong, obtuse. Stigma recurved at the apex.

Hab. In shady rocky woods, generally under the shade of ever-
greens. Common in New-England, and in the interior of the country from Canada to Carolina, but not yet found, to my knowledge, on the Hudson below the Highlands. May.

This species is confounded by *Pursch* with his *V. clandestina*, from which it is entirely distinct.

† † † *Flowers somewhat regular, small, white.*


*Leaves* generally narrow-lanceolate, with rather remote obscure teeth, remarkably attenuate at the base. *Stipules* linear-lanceolate, entire. *Scape* about as long as the leaves, very smooth; *bracts* minute. *Flowers* small, white, somewhat regular, nodding, inodorous; *petals* obovate, rounded; the lower one veined with purple. *Spur* very short. Segments of the *calyx* lanceolate, acute. *Stigma* recurved, rostrate.

*Hab.* In wet meadows and in swamps. April—May. It sometimes flowers a second time in November.

The *V. lanceolata* described by *Gmelin* in his *Flora Siberica*, is now considered as a distinct species.

10. *V. acuta Big.*: leaves ovate-lanceolate, smooth, abruptly decurrent at the base; *bracts* lanceolate-linear; petals acute, of nearly equal length, beardless. *Big. Fl.* Bost. ed. 2. *MS.*

*Root* short, rather thick, fibrous. *Leaves* smooth, obscurely crenate, rarely subcordate, rather obtuse; petiole winged, often pubescent. *Stipules* large, ciliate. *Scape* smooth, angular; *bracts* subopposite, very near the flower. *Flower* white, rather larger than in the preceding species; *petals* ovate, only the lowest one veined; *spur* very short. Segments of the *calyx* lanceolate, acute, smooth, distinctly produced at the base. *Stigma* depressed, acutely marginated, with the apex a little incurved.

*Hab.* In moist grounds near Cambridge, Massachusetts. *Bigelow.*

For excellent specimens of this new *Viola* I am indebted to its discoverer, Prof. *Bigelow*, who informs me that its characters are very constant.

Leaves mostly oblong, but often ovate or cordate, more or less obtuse, obscurely crenate; petioles winged by the decurrent base of the leaves; nerves disposed in a pinnate manner. Stipules linear, subciliate. Scapе as long as the leaves, with 2 linear bracts about the middle. Flower small, white, odorous; petals unequal, obovate, obtuse; the 2 lateral ones a little bearded and striate. Segments of the calyx linear, obtuse, Stigma rostrate, capitate.

Hab. In wet meadows. April—May.


Leaves nearly flat, membranaceous, nearly quite smooth, often reeniform-cordate, sometimes rather acute, remotely crenate-toothed; petiole slightly margined, longer than the leaves. Stipules subulate, small. Scapе slender, smooth, oblique or decumbent; bracts near the middle, lanceolate, opposite. Flower small, white, odorous; the inferior and 2 lateral petals veined with purple. Segments of the calyx oblong-linear, obtuse. Stigma capitate, depressed, acutely margined, recurved.

Hab. In swamps, wet meadows, and on grassy brook-sides. April—May.


Cespitose. Leaves large, thin, sprinkled with hair on the upper surface. Stipules ovate, short. Scapе very short, a little hairy, with subulate bracts near the summit. Flower generally concealed in the earth, or among decaying leaves and wood, of a chocolate-brown colour. Stigma straight, capitate. Sch w.


I strongly suspect this plant is only a variety of V. blandа, though this opinion is opposed to that of so accurate a Botanist as Mr. Schweinitz. There is no character in the above description, which does not apply to V. blandа when it begins to produce apetalous flowers, except the colour of the petals. Did not Pursh intend by the "flowers," the fruit,
which is very conspicuous, and of the brown colour he mentions? The floriciferous stolons are not unfrequent in this tribe of the Viola, and the short linear petals I have observed in several species. Indeed, in all the apetalous flowers of this genus, the rudiments of petals can generally be detected; and the anthers are also present, but they are small and not united.

* * Caulescent.


Stem from a span to a foot and a half in height, erect, simple, terete. Leaves large, alternate, slightly pubescent on both sides, pale beneath; the radical ones on very long petioles. Stipules in pairs, axillary, membranaceous. Peduncles axillary, generally shorter than the leaves, with 2 subulate bracts below the middle. Flower rather large, blue externally, pale within. Petals oblong or ovate, the lateral ones a little bearded; spur very short. Segments of the calyx linear-lanceolate, smooth, slightly produced at the base. Style short, compressed; stigma pubescent, capitate, not rostrate. Capsule globose-ovate, pubescent.


Stem a little angular, 6—8 inches long. Leaves small, crenate-serrate, slightly pubescent above, and on the veins beneath. Stipules remotely ciliate. Peduncles longer than the leaves, with 2 large linear bracts above the middle. Flowers yellowish white, large, on peduncles longer than the leaves; bracts long, linear. Petals obtuse; the lateral ones, and often the lowest one, conspicuously bearded; spur produced, obtuse. Segments of the calyx linear, elongated, a little ciliate on the margin.

Hab. In swamps and wet meadows. May.

Muhlenberg, in his Catalogue; refers to this species,
(which he calls V. striata,) the V. debilis of Michaux, which is described as having white flowers. It is difficult to determine the species called striata by Aiton, and I have therefore adopted the name given by Schweinitz to the plant described above.


Stem 6—10 inches long, branched from the base, very smooth, when old decumbent and geniculate. Lower leaves exactly reniform-cordate; the upper ones with a short abrupt point, sometimes a little pubescent on the veins beneath; petioles variable in length, generally about as long as the leaves. Stipules acuminate; the lower ones lacerately ciliate. Peduncles longer than the leaves, with 2 alternate subulate bracts above the middle. Flowers middle-sized, blue. Petals obovate, obtuse; the lateral ones bearded; spur nearly one-third the length of the corolla, sometimes shorter. Segments of the calyx linear, narrow, slightly ciliate. Stigma recurved at the tip.


It is with reluctance that I change the name of this species, which has already received so many appellations. V. uliginosa of Schrader, and Roem. & Schult. V. p. 357, is a distinct plant from the one so named by Muhlenberg and Schweinitz; and the V. asarifolia of Pursch is a stemless species. V. debilis of Schweinitz, I cannot distinguish from the plant described above, the character of the elongated spur being not very constant. V. debilis of Michaux appears to be a distinct species, perhaps V. ochroleuca.


Stem about 6 inches high, smooth, angular. Leaves cordate, flat, with the sinus open; lower ones on long petioles, generally obtuse. Peduncles filiform, longer than the leaves; bracts subulate. Flowers large, pale blue. Petals obovate, all of them beardless; spur very long, a little curved, acute. Segments
of the calyx acuminate, smooth. Stigma erect, subclavate, not rostrate.

Hab. In wet rocky situations. April—May. This species is common in the interior of the country, but is rarely found near the sea-board. It resembles, in many respects, the preceding.


Stem simple, 6—8 inches high, with 1 or 2 oblong amplexicaul bracts towards the base. Leaves large, 2—3 on the upper part of the stem, soft, pubescent on both sides, more or less acuminate; petioles short. Stipules ovate-oblong, discoloured, a little toothed, particularly towards the summit. Peduncles shorter than the leaves; bracts subulate, very minute. Flower middle-sized, yellow; lateral petals bearded with white, and, as well as the lower one, handsomely striate; spur short, gibbous, acuminate. Segments of the calyx lanceolate. Stigma globose, pubescent. Capsule smooth.

Hab. In dry stony woods. April—May.


Hab. with the preceding.

Mr. Schweinitz thinks it is doubtful whether the northern plant, which I consider a variety of V. pubescens, is the same as his V. eriocarpa. The latter differs principally in the following particulars:—Stem decumbent, branched, leafy from the base; leaves smaller, somewhat scabrous, nearly naked; stipules green, large, semiamplexicaul, conspicuously ciliate; spur short, scarcely produced, obtuse.


Stem erect, simple, 6—8 inches high. Leaves exactly hastate, acuminate; lobes obtuse, dentate. Peduncles shorter than the leaves; bracts very minute, alternate. Flower yellow; inferior petal dilated, sub-3-lobed; lateral petals slightly bearded; spur short. Segments of the calyx linear-lanceolate, ciliate. Stigma truncate, hairy on the sides. Capsule smooth.


20. V. tenella Muhl.: stem triquetrous; leaves rotund-

**Root** annual. Stem acutely triquetrous, nearly smooth, erect, 2—3 inches high. Radical leaves on distinct petioles, often a little cordate at the base; cauline leaves lanceolate or oblong. Stipules very large in proportion to the plant, pectinately pinnatifid; the terminal segments longer. Peduncles quadrangular, longer than the leaves. Flower small, bluish-white, (sometimes apetalous); lateral petals bearded; lowest one dilated, with 5 blue striae. Segments of the calyx ovate-lanceolate, ciliate, auriculate at the base. Stigma turbinate, urceolate, pubescent at the sides. Capsule subglobose, smooth.


This species, though rare, appears to be widely dispersed over this country. It occurs in the Atlantic States from New-York to South-Carolina. I have also received specimens collected on the Missouri, near St. Louis. As *Pursh* remarks, it is nearly allied to *V. tricolor*, but it is nearer, I think, to *V. arvensis*. There appears to be little doubt of its being native.


**Root** perennial, fibrous. Stem simple, angular, leafy, a foot or more high. Leaves erect, sessile, attenuate at each extremity, irregularly toothed above; nerves prominent. Stipules subulate. Flowers small, greenish; lower petal 2-lobed. Calyx nearly as long as the petals; segments not produced at the base, divergent. Stigma rostrate, recurved, perforate, longer than the anthers. Capsule large, smooth.

**Hab.** On wet shady rocks. In the vicinity of Philadelphia. *Barton*. April—May.

The habit of this species is quite distinct from that of all the preceding *Viol.* and indicates the propriety of removing it to the genus *Ionidium* of *Ventenat*. It greatly resembles *I. strictum*.


Calyx 2-leaved. Petals 5, emarginate. Stigma


Root large, tuberous, fleshy. Stem erect or procumbent, very smooth, and a little succulent. Leaves on the stem about 2, opposite, thick, at first almost linear, but becoming broader with age, about 4 inches long. Flowers (6—12) in a loose simple raceme; peduncles gradually diminishing in length upwards; the lowest ones more than an inch long. Leaves of the calyx oblong; persistent. Petals twice as long as the calyx, pale rose-colour, with darker veins. Stamens shorter than the petals, and inserted at their claws; filaments dilated at the base; anthers oblong, 2-celled. Style longer than the stamens; stigmas linear, spreading. Capsule ovate-globose. Seeds compressed, black, shining.

Hab. In moist shady woods; common. April—May.


Hab. In moist woods, generally in mountainous situations; common in New-England, and in the northern parts of the State of New-York. This variety does not, to my knowledge, grow nearer the sea-coast than the Highlands of the Hudson, where it was found by my friend, Dr. Barra t t. It differs in no respect from C. virginica, except in the broader leaves, and in the greater obtuseness of the calyx. It is probably the plant which Mr. Nutt all considers as the C. spathulafolia, and which, he observes, is abundant round Pittsburgh, where it appears to take the place of C. virginica. In many parts of New-England, likewise, it supersedes the common variety.

175. CEANOTHUS. L.

**PENTANDRIA. MONOGYNIA. Ceanothus.**


**New-Jersey tea. Red-root.**


Root very large, descending, dark red. **Stem** shrubby, 2—4 feet high; branches terete; the younger ones pubescent. **Leaves** alternate, on short petioles, about 2 inches long; acutely serrate, acuminate, sometimes subcordate at the base; petioles and under surface very pubescent. **Panicles** on long peduncles, or rather naked branches, oblong; pedicels fasciculate, about one-third of an inch long. **Flowers** minute. Segments of the calyx short, acute. **Petals** white, deciduous, compressed, curiously vaulted, and enclosing the stamens. Filaments short, incurved; **anthers** subglobose, didymous. **Germen** surrounded with a 10-toothed glandular ring; **style** persistent. **Capsule** (dry berry, *Lin.*) turbinate, depressed, sometimes 4-celled. **Seed** one in each cell, oval, corrugated.

**Hab.** In woods and copses; common. July.

The leaves of this shrub are said to have been used as a substitute for Tea during the American Revolution.


**Leaves** nearly as large as in *C. americanus*, but smooth. The stems scarcely ever remain over winter, but die down to the root. **Pursh.**

**Hab.** In Pennsylvania, and near the Falls of the Patomac, *Rafinesque.*

I have adopted Mr. Rafinesque's name of this plant on account of its priority.

176. **EUONYMUS. L.**

**Calyx** 5-parted, or 5-cleft, its base internally bearing a peltate disk. **Petals** 5, spreading, inserted on the outside margin of the glandular disk. **Stamens** 5. **Capsule** 5-angled, 5-celled, 5-valved, coloured; cells 2-lobed. **Seeds** arillate. **Gen. pl. 373. Nutt.**


β. sarmentosus Nutt.: stem sarmentose. Nutt. l. c.

Sub sempervirent. Stem often radicant, about 2 feet high, acutely quadrangular. Leaves subsessile, opake, somewhat shining, ovate-lanceolate, acute, obtusely serrate; serratures for the most part undulate. Peduncles about 3-flowered. Flowers 5-petalled. Fruit scabrous, bright scarlet. Nutt.


Stem 4—5 feet high, with smooth opposite quadrangular branches. Leaves 3—4 inches long, acutely serrate, smooth above, pubescent beneath; petioles half an inch long. Peduncles opposite, axillary, trichotomous, each division bearing from 3 to 6 flowers. Calyx with short acute segments. Petals dark purple, roundish. Stigma quadrangular, truncate. Fruit bright red.


3. E. obovatus Nutt.: stem prostrate, rooting; surculi
erect, obtusely quadrangular, with 4 elevated lines; leaves broad-ovate, obtuse, acute at the base, subsessile, acutely serrulate; peduncles 3-flowered; stamens 4—5. *Nutt.*


Stem nearly simple, or with a few short and opposite branches, which appear truncate at their extremities by the inflation of the bark. Leaves nearly opaque, cuneate-ovate, often dilated, so as to appear nearly as broad as long; margin finely and acutely serrulate; serratures and nerves on the upper side minutely hispid (seen through a lens); marginal nerves of the petiole decurrent on the stem, forming the sole ligatures of attachment between the inflated bark and the wood. Calyx inflated, nearly entire and crenate, membranaceous. Petals 4 and 5, roundish, green with a tinge of purple. Anthers sessile. Fruit not seen. *Nutt.*


Nearly allied to *E. americanus*, but distinct.

177. CELASTRUS. *L.*


Stem climbing to a great height. Leaves broad-oval or oblong, smooth, 2—3 inches long, abruptly acuminate, with subglandular serratures, a little decurrent on the petiole at the base; petiole nearly an inch long. Stipules very minute, setaceous 3—5 cleft. Racemes terminal, few-flowered; pedicels articulate. Calyx subcampanulate. Petals greenish-yellow, ovate, obtuse. Stamens alternating with the petals; anthers oblong. Style short, thick, perforate, persistent; stigmas 3, reniform. Capsule nearly round, 3—5-valved; valves with an elevated
ridge on the inside, 2-seeded. *Arillus* pulpy, open at the top, scarlet when mature.


178. RHAMNUS. L.


Buck-thorn.


A small shrub, with smooth grayish-brown branches. *Leaves* alternate, about an inch and a half long, on short petioles, nervet and reticulate. Flowers small, greenish, in short axillary fascicles. *Berries* black.

Hab. On rocky hills; rare; near the sea-coast. May.


A small tree or large shrub, with spreading branches and grayish bark. *Leaves* fasciculate and opposite, on petioles one-third their length, nervet, an inch and a half long; margin erosely denticulate. *Flowers* clustered, on short axillary pedicels. Segments of the *calyx* lanceolate, recurved. *Petals* very small, yellowish-green. *Stamens* 4, a little longer than the flowers; *anthers* didymous, oblong. *Stigma* 4-cleft. *Berries* black, nauseous and cathartic.


I suspect this plant has been introduced into this country at an early period, and that it is not really indigenous. Dr. Barratt informs me, that the old inhabitants of the Highlands remember to have seen it in gardens before it appeared in the woods.
179. Vitis. L.


Stem climbing the highest trees. Leaves very large, sometimes a foot in diameter, dentate, more or less distinctly 3-lobed, at first ferruginous-tomentose, but much paler when mature. Tendrils long, dichotomous. Flowers in dense oblong panicles. Calyx very minute. Petals greenish, cohering at the tip in the manner of a calyptra, deciduous at the base, and then supported by the stamens. Stamens inserted opposite the petals; filaments slender; anthers oblong. Berries large, very dark purple, glaucous, collected into a dense oblong cluster; peduncle long, fragile.

Hab. In woods and hedges; very common. June—July. Fox-grape.

This grape, though of a strong disagreeable flavour in its wild state, becomes, when cultivated, as pleasant as many of the varieties of V. vinifera. What is called Blaund's grape, is a variety of this species; as is also the valuable Isabella grape, introduced by Wm. Prince, Esq. of Flushing. The latter is by far the most prolific vine with which I am acquainted.


Stem climbing trees, and spreading along hedges. Leaves 3—4 inches in diameter, abruptly acuminate; teeth large, acute, irregular; veins a little pubescent beneath. Panicles opposite the leaves, large. Flowers very sweet scented, greenish-white. Berries small, amber-coloured, acid; ripening late.

Pursch has placed the V. vulgaris as a synonym of *astivalis*, which has the leaves tomentose beneath, while, in the former, they are described by *Linnaeus* as being smooth on both sides.


*Stem* very long, slender. *Leaves*, when young, covered beneath with a reddish tomentum; when old nearly smooth, except on the larger veins, coarsely toothed; sinuses very obtuse. *Racemes* opposite the leaves, rather crowded. *Berries* small, globose, deep blue or purple, when fully ripe very pleasant to eat.


β. *sinuata* Ph.: leaves sinuate-palmate. *Pursch Fl.* l. c.

This variety is not uncommon. Sometimes the leaves are very much divided, in which state it is probably V. *laciniosa* L., and V. *palmata* *Vaill.*


*Flowers* of an exquisitely fine smell, somewhat resembling *Reseda odorata*. Ph.


According to *Pursch*, fertile plants of this species are seldom found north of the Potomac river, though barren ones extend far beyond it. I have followed this author in placing V. *odoratissima* of *Donn* as a synonym. *Muhlenberg* retains it as a distinct species, to which he annexes the name of *Bermudian grafe*.

180. CISSUS. L.

PENTANDRIA. MONOGYNIA. CISSUS.


Stem climbing to a great height, supporting itself against walls and trees by its rooting tendrils, brittle at the joints. Leaves on long naked petioles; leaflets generally in fives, attenuate at the base into short petioles; the middle one largest; teeth mucronate. Panicle or cyme compound; flowers all pedicellate. Calyx 4—5-toothed, purple. Petals 5, green, cuculate, with the margins inflected. Glandular disk wanting. Stamens 5, inserted at the base of the petals; anthers oblong, horizontal. Germen conic; style 0; stigma minute, glandular. Berries about the size of peas, dark blue, 4-seeded, acid and disagreeable to the taste.

Hab. In woods; common. July.

With Nuttall, I doubt whether this species can with propriety be referred to Cissus, nor even to the Ampelopsis of Michaux, if that genus include the A. cordata. It perhaps should be made a distinct genus, to which would belong V. heptaphylla.


This variety, Pursh thinks, may be a distinct species, but not having seen the flowers, he could not establish its characters.


Stem climbing; branches slender, smooth. Leaves petiolate,
2—3 inches long, truncate and cordate at the base, sometimes obscurely 3-lobed towards the extremity; teeth unequal, mucronate. **Panicles or racemes** dichotomous, few-flowered. **Berries** larger than in the preceding species, pale red, 2-celled; one of the cells 2-seeded, the other, by abortion, but 1-seeded. **Seeds** subosseous, turbinate.

**Hab.** On river sides, and among hedges. In the Alleghany Mountains. Pennsylvania to Carolina. 

---

### 181. RIBES. **L.**


* Stems without thorns. **Ribesia.**


A shrub 3—4 feet high; branches smooth, recurved, covered with a grayish bark. **Leaves** on long petioles, with 3 spreading lobes, sprinkled on both sides with yellow resinous dots; under surface pubescent, particularly on the veins; **petioles** as long as the leaves, membranaceous and ciliate towards the base. **Racemes** 3—4 inches long, 12—16-flowered, retrorsely tomentose-pubescent; **bracts** linear. *Calyx* coloured, tubular-campanulate, about 4 lines long, half 5-cleft; segments ovate-lanceolate. **Petals** greenish-white, lanceolate, shorter than the calyx. **Filaments** inserted opposite the segments of the calyx; **anthers** oblong. **Style** angular and sulcate, not exserted; **stigma** minutely bifid. **Berries** ovate-globose, black.

**Hab.** In woods and hedges. **April—May.**

This species strongly resembles **R. nigrum**, of which Mr. **Nuttall** suspects it to be only a permanent variety. In the latter, however, the leaves are only punctate beneath, the bracts are shorter than the pedicels, &c.

Flowers small, greenish yellow. Berries red. Ph.


A shrub 2—3 feet high; branches smooth. Leaves 5-lobed, nearly smooth, with acute toothed lobes; margin slightly ciliate. Racemes erect, loose, 8—10-flowered; pedicels glandularly hispid; bracts very short. Calyx flat; segments broad, rounded. Stigma deeply 2-parted. Berries red, hispid.


I am doubtful whether the plant above described is the R. prostratum of l'Heritier and Pursh. The North-American species of this genus are far from being accurately determined, and I regret not having the means of making them better known.


**Shrub 2—3 feet high, erect.** Spines generally solitary, rarely in pairs. Leaves moderately 3-lobed; lobes incisely toothed, softly pubescent, particularly on the upper surface, which is of a paler color. Racemes 2—3-flowered; pedicels long, filiform; bracts short, ovate, very obtuse. Calyx with lanceolate acute ciliate segments. Petals short, white. Style hairy, included; stigmas simple? Berries ovate, often armed with several straight spines, often ripe when of a green color, but generally turning purplish or brown.


I have often received from Massachusetts, and other parts of New-England, a Ribes, which appears to be a variety of the preceding. The following are its characters:

Subaxillary spines solitary. Leaves on slender villous petioles, canescent-villous or pubescent, somewhat 5-lobed, with the lobes rather obtuse and incisely toothed. Racemes loose, 3—5-flowered; pedicels long, flexuous; bracts short, dentate-ciliate. Segments of the calyx erect, lanceolate, acute. Petals short, ovate. Style hairy at the base, a little exerted, 2—3-cleft. Berries ovate, purplish-brown, aculeate-hispid.

This may possibly be *R. Cynosbati*, but the subaxillary spikes are solitary.


**Shrub 3—4 feet high, with spreading curved branches; spines**
short, sometimes waiting. Leaves about an inch long, with rounded toothed lobes; petioles shorter than the leaves. Peduncles 2–3-flowered, smooth; bracts ovate, amplexicaul. Calyx tubular-campanulate, green, tinged with purple; segments erect-spreading, obtuse. Petals white. Stamens exserted. Style deeply divided into 2 filiform segments. Berries small, pale red.


About 3 feet high; branches slender. Leaves 2 inches long, sub-3-lobed; lobes incisely serrate, at length smooth; petiole sometimes spinulous. Flowers axillary, solitary, or in pairs, nodding, pale yellow; pedicels short. Berries globose, smooth, purplish-blue, subacid. Lam.


Stem 3–4 feet high, of a reddish colour, thickly set with prickles. Subaxillary spines a little larger than those on the stem, 4–5, united at the base. Leaves deeply cut into 5 acute unequal lobes; segments cut and toothed. Racemes pendulous, loose, 5–6-flowered; bracts shorter than the glandular pedicels. Calyx rather flat; segments rounded, greenish-yellow. Petals short, minute, white. Style 2-cleft. Berries round-oblong, hispid, dark brown.


Flowers green. Berries dark brown, and full of thorns. Ph.

182. HAMILTONIA. Muhlenberg.


A shrub 4—6 feet high, very pubescent. Root surculose, penetrating very deep, fetid. Leaves alternate, oblong-ovate, entire, acuminate, 2—3 inches long, 1 to 1½ wide, petioled, strongly veined on the under side, silky when young. Flowers small, in a terminal raceme, greenish-yellow; pedicels articulate at the base. Calyx of the staminiferous flower shortly campanulate; glandular disk penetrating and filling the tubular base of the calyx. Perfect flower, with the segments of the calyx ovate and reflected; glandular disk more conspicuous. Stamens opposite the divisions of the calyx, and alternating with the dentures of the disk. Nut depressed, globular, 1-celled, 1-seeded, enclosed in the carneous base of the calyx, appearing inferior from its immersion in the disk; adhering calyx conspicuously veined; shell of the nut whitish, thin, a little verrucose, sharply acuminate by the persistent base of the style, as in the capsule of Celastrus scandens. Perisperm large, very oily, acrid to the taste, (probably cathartic) its substance somewhat lamellated; corculum at the base, minute. The germin has probably more than one seed. Nutt.


The whole plant is more or less oily, in consequence of which deer and domestic cattle devour it with avidity.

183. THESIUM. L.

Calyx 1-leaved, tubular-campanulate, 4—5-cleft.


Root perennial, somewhat ligneous. Stem about a foot high, a little branched, squamose towards the base. Leaves alternate, about an inch long, numerous, smooth, acute, attenuated to a short petiole at the base. Corymb many-flowered; pedicels in fours or fives, with involucrate bracts at the base. Calyx with an internal glandulosferous disk; segments ovate, acute, white. Stamens seated at the base of the segments of the calyx; filaments subulate, short; anthers oval, 2-celled, attached to the calyx on the inner side by a tuft of yellow filaments. Style filiform; stigma round, simple. "Germen about 3-seeded; embryos pendulous, attached to the apex of a filiform contractile funiculus arising from the base of the capsule." Nutt. Nut coated by the base of the calyx, perfecting but one seed. "Seed consisting almost entirely of a large carnose and oily perisperm; embryo inverted, small, flat, nearly in the axis of the perisperm; radicle superior, thick and obtuse; cotyledons linear and acute." Nutt.

Hab. On dry rocky hills and in woods; common. July—August.

Nuttall has constituted a new genus of the North-American species of Thesium, principally on account of the anthers being connected to the calyx by a tuft of filaments. This character exists, more or less, in many of the species of this genus as now characterized by R. Brown. I have, therefore, for the present, restored T. umbellatum to its former situation, though it may yet be separated when accurately compared with some of the foreign species of the genus. The glandular disk, I believe, is peculiar to the North-American plants.

184. ANYCHIA. Michaux.

Calyx 5-parted; segments oblong, connivent, callous and subsaccate at the apex. Corolla 0. Filaments


Root annual, fibrous, (perennial, L., Muil., Ell., &c.) Stem about a span high, terete, filiform, much divided in a dichotomous manner, pubescent, especially towards the summit. Leaves opposite, with 4 minute scarious stipules at the base, attenuate below into a short petiole, slightly ciliate under a lens. Flowers solitary, terminal and axillary, erect, scarcely as large as a pin’s head, on very short pedicels. Calyx green. Stamens 3, rarely 5, shorter than the calyx. Stigma entire? Utriculus not opening.

Hab. In dry woods and on hills; common. June—August. Forked Chick-weed.

G. capillacea*: very smooth; flowers spreading, longer than the stipules at their base. Queria capillacea Nutt. I. c.

About a span high, dichotomously branched like the preceding. Leaves smaller, and often obtuse.

Hab. In the pine barrens of New-Jersey. August. Collected in company with Mr. NuttaU.

I am unable to discover any characters in my specimens of this plant sufficient to distinguish it as a species from A. dichotoma.

185. GLAUX. L.


Pentandria. Monogynia. Glaux:


Root perennial. Stem erect, 4—5 inches high, very leafy. Leaves opposite, ovate, smooth, fleshy, entire. Flowers small, solitary, axillary, pale rose-coloured. Segments of the calyx obuse, spreading.

Hab. On the sea-coast; every where in the northern hemisphere, within the temperate regions. Nuttall. I have sought for this plant in vain.

---

ORDER II.

DIGYNIA.

A. Flowers monopetalous, inferior.
* Follicles 2.
186. Apocynum. 188. Gonolobus.

** Fruit capsular.

B. Corolla 5-petalled, inferior.
192. Heuchera.

C. Corolla 5-petalled, superior.
193. Panax.

D. Flowers incomplete.
198. Celtis.

E. UMBELLIFERÆ.

According to the System of Sprengel.

a. Umbels subcapitote.

b. Umbels imperfect. Involucrum obsolete or 0. (Leaves confluent with the petiole, subsimple.)
201. Hydrocotyle.
c. Umbels perfect. Universal involucrem, and sometimes the partial, wanting. Fruit ovate, solid, 5-costate. (Leaves decompound.)


d. Umbels perfect. Involucra generally wanting. Fruit corticate, solid, or compressed, utriculate.

204. Smyrnium. 205. Cicuta.

e. Fruit hispid.

206. Daucus.

f. Fruit pyramidal, rostrate. Involucrum 0.

207. Myrrhis.

g. Fruit subovate, costate, sulcate. Universal and partial involucra various.


210. Ligusticum.

h. Fruit compressed, flat, often winged. Involucra various.

211. Heracleum. 213. Angelica.

212. Pastinaca. 214. Thapsia.

186. APOCYNUM. L.


Dog's-bane.—Indian-hemp.


Root perennial. Stem 2—3 feet high, erect, with spreading branches. Leaves opposite, on short petioles, ovate, acute, a little pubescent on the midrib beneath. Cymes few-flowered. Flowers about one-fourth of an inch long. Calyx with oblong acute segments, much shorter than the corolla. Corolla campanulate, pink or purplish-white; border spreading, with the lobes ovate, acute and reflexed. Nectary of 5 distinct purple teeth, surrounding the germen. Anthers connected into a cone, surrounding the stigma, very acute, scarcely half as long as the corolla. Follicles about 4 inches long, terete, tapering to a point, opening laterally the whole length. Seeds numerous, imbricated in the follicle, crowned with a long silky pappus.

Hab. In fields and along hedges; not uncommon. June—July.


Stem 2—3 feet high, with a few erect branches. Leaves on short villous petioles, obtuse, but not cordate at the base, mucronate, more or less pubescent beneath. Cymes short. Flowers few, not more than half as large as in the preceding species. Segments of the calyx lanceolate. Corolla greenish-white.


Stem about 2 feet high. Leaves subsessile, oblong, a little cordate at the base, very acute. Cymes smooth. Flowers small, greenish-white. Corolla erect, longer than the lanceolate segments of the calyx.

Hab. In fields and along the borders of woods. June—July.


Stem erect, slender, branched, purple, a little glaucous. Leaves
2—3 inches long, and three-fourths of an inch broad, on short petioles, attenuate at the base, very smooth. *Cymes* many-flowered, paniculate, smooth. Segments of the *calyx* subulate, about as long as the tube of the corolla. *Corolla* small, campanulate, green; border erect. *Follicles* long, very slender.

**Hab.** In fields and along the borders of woods; rare. On the Island of New-York. Cambridge, New-York. *Steven-*

son.

I have followed *R. Brown* in characterizing the species of this genus. There is some confusion respecting the synonymy of the three last species, which I am unable to remove.

### 187. PERIPLOCA. L.


A climbing shrub 10—15 feet high. *Leaves* opposite, 3—4 inches long, on short petioles, ovate, acuminate, smooth. *Flowers* in axillary corymbs, on long peduncles. *Calyx* minute; segments lanceolate, acute. *Corolla* dark brownish-purple; segments linear, obtuse, very hairy on the inner side. *Follicles* about 2 inches long, a little ventricose.

**Hab.** In the western parts of the State of New-York, either indigenous or naturalized. *Nuttall.* In Pennsylvania. *Muh-

*lenberg.*

I have never seen this plant except in gardens, and suspect it is only naturalized in North-America. It is not described in *Pursh's Flora.*

### 188. GONOLOBUS. L.

*Corolla* rotate, deeply 5-parted. *Staminal* crown

† A name given by *Mr. Nuttall* to the "pollinis massa" of *R. Brown.*


Stem 4—5 feet long, terete, branched. Leaves veined on both sides, softly pubescent. Umbels axillary, simple, much shorter than the leaves. Flowers foetid, about an inch in diameter, (dark purple.) Calyx small, green; segments much spreading, linear-lanceolate, acute. Jacq.


Pursh never found this plant growing spontaneously in North-America, and doubts whether it be a native; but I am assured by Z. Collins, Esq. that it is certainly indigenous near the Falls of the Schuylkill, about 5 miles from Philadelphia.


Stem trailing on the ground, or climbing over shrubs, 3—4 feet long, pubescent; the younger branches and petioles almost hispidly pilose. Leaves opposite, slightly auriculate at the base; sinus small, rounded. Umbels axillary, 4—6-flowered, shorter than the leaves; pedicels about an inch long. Segments of the calyx lanceolate, very acute. Petals dark-purple, oblong-oval or elliptical. Follicles about 4 inches long, (resembling those of Asclepias) armed with soft spines. Seeds crowned with a long silky tuft.


The North-American species of this genus are involved in much confusion. Cynanchum carolinense is, by R. Brown, re-
ferred to his Gon. carolinense; by Pursh to G. lance Mich., and by Elliott to G. hirsutus. Brown's G. carolinense also includes G. macrophyllus of Michaux. Cynanchum discolor, Bot. Mag. t. 1273, does not appear to differ from Gon. macrophyllus of Michaux and Elliott.

189. ASCLEPIAS. L.—R. Brown.


* Leaves opposite.


Root perennial, long. Stem 2—4 feet high. Leaves opposite, 4—6 inches long, the upper ones gradually acuminate, whitish-tomentose beneath. Umbels 2—3, subterminal, 15—20-flowered; pedicels an inch, or an inch and a half long, tomentose, bracteate at the base. Flowers large, sweet-scented. Segments of the calyx lanceolate, acute, reflected. Corolla pale purple; segments oblong, obtuse, reflected, 3 times as long as the calyx. Nectary or stamineal crown of 5 white fleshy obtuse cuculate leaflets; apex 2-toothed; horn acute, incurved, exserted. Antheridium† oblong, sessile, divided into 5 lobes by the corpuscles of the stigma; lobes 2-celled, with reflexed margins. Pollinia clavate, compressed, waxy and smooth, (not separable into grains,) united in pairs by a small black tubercle, and alternating in the cells of the antheridium, each pair of the masses of pollen being thus suspended in the

† A term proposed by Mr. Nuttall for the antheroid cells, or anthers, of most authors.
cells of 2 adjoining lobes or anthers. *Germens* 2, distinct; *styles* 2, short; *stigma* discoid, pentangular. *Follicles* about 3 inches long, armed with sharp soft spines. *Seeds* imbricated, roundish, flat, pendulous, crowned with a tuft of long silky fibres.

**Hab.** In sandy fields and on road sides; very common. July—August.


**Stem** 3—4 feet high, slender. *Leaves* 6—8 inches long, 2—3 broad, acute at each extremity, a little pubescent beneath. *Umbels* on peduncles 2—3 inches long. *Flowers* 6—10; *pedicels* about an inch and a half long. *Flowers* as large as in the preceding species, sweet scented. Segments of the *calyx* one-third the length of the corolla, lanceolate, acute. *Corolla* greenish-white, often with a tinge of purple; segments elliptical, acute. Leaflets of the *nectary* whitish, truncate, with minute intermediate processes; margins inflected, with the upper angle on each side terminating in a cusp or sharp tooth; horn distinctly exserted; *tube* conspicuous. *Follicles* not seen.


**Root** horizontal. *Stem* 3—4 feet high, a little pubescent towards the top. *Leaves* slightly acuminate, often a little undulate, paler beneath, a little pubescent on the midrib and margin; base acute; *petiole* about half an inch long. *Umbels* generally 2; near the summit of the stem, 20—30-flowered; *peduncles* about as long as the petioles; *pedicels* less than an inch in length. *Calyx* hairy; segments lanceolate. *Corolla* white, sometimes with a tinge of purple. Leaflets of the *nectary* white, slightly cuneulate, not toothed; *horn* or central process very hard, awned, subexserted; *tube* short, purplish. *Follicles* smooth.


Root very long. Stem 2—3 feet high, erect, simple, very smooth, purplish. Leaves 3 inches long, remarkably undulate on the margin, generally very obtuse, or even emarginate; the lowest pairs sometimes closely approximate. Umbel generally solitary, on a long naked peduncle, many-flowered; pedicels nearly smooth, about an inch long. Flowers longer than in the preceding species. Calyx smooth. Corolla pale purple, with a tinge of green. Leaflets of the nectary longer than the antheridium, a little cucullate, with a short central cusp; horn subulate-falcate. Follicles large, unarmed.


Stem 2 feet high, generally erect, near the summit pubescent, lower down marked by a decurrent hairy line. Leaves obtuse at the base, sessile; margin somewhat rough and slightly cili ate. Umbels few, near the summit; common peduncle 2—3 inches long. Corolla 3—4 times as long as the calyx, green on the outer surface, bright purple within. Leaflets of the nectary acute, as long as the corolla, and twice as long as the antheridium, of a bright purple approaching to orange; horn rather shorter than the leaflets. Ell.


Stem 2—3 feet high, tomentose-pubescent, with a few upright, opposite, or alternate branches towards the summit. Leaves about 3 inches long; acute, cordate at the base; petiole one-fourth of an inch long. Umbels terminal, numerous, crowded; pedicels three-fourths of an inch long. Corolla pale purple. Leaflets of the nectary as long as the antheridium, obliquely truncate, not dentate; horn subulate. Follicles smooth.

Hab. In swamps and on the banks of rivers. August.


Hab. With the preceding; from which, as Pursh remarks, it does not differ, except in the degree of pubescence.


Stem about 3 feet high, erect, branched above, nearly smooth, with 2 conspicuous pubescent lines. Leaves 3—4 inches long, acute or acuminate, smooth above, a little pubescent beneath; petiole very short. Umbels numerous, many-flowered; pedicels pubescent. Corolla purple. Nectary rose-coloured; leaflets ovate, obtuse, entire, longer than the antheridium; horn subulate, flattened towards the base. Follicles slightly ventricose, smooth.

Hab. In swamps and overflowed meadows. July—August.


Stem erect, about a foot and a half long, somewhat hairy towards the top. Leaves on short petioles, a little pubescent above, whitish beneath; midrib broad, purple. Flowers purple. Dill.


I have never seen a North-American Asclepias in which the nectary was resupinate. Perhaps the plant of Dille-nius is only a variety of A. amana or incarnata.

Leaves large. Flowers white.


Elliott considers the A. debilis of Michaux as his parviflora, but they are not united by Pursh or Muhlenberg.


Root a large round tuber. Stem a foot and a half high, very smooth. Leaves ovate-lanceolate, smooth on both sides; the lower ones on very short petioles; the upper ones sessile. Umbels generally about 2, crowded. Corolla purple within, greenish on the outside. Leaflets of the nectary oblong, purple, longer than the antheridium; horn simply subulate. Follicles smooth.

Hab. In sandy swamps in the pine barrens of New-Jersey; rare. August.

Nutt all cites, as synonyms of this species, A. laurifolia Mich. and Pluk. Alm. t. 358 f. 5; and, indeed, the A. laurifolia, as described by Elliott, differs in scarcely any respect from the A. acuminata, as I have observed it in New-Jersey.


Stem a foot and a half high, slightly pubescent. Leaves generally 8, of which the 4 middle ones are approximated in a cruciate manner; sometimes the lowest pair is wanting. Umbels on long peduncles, about 20-flowered; pedicels an inch long, very slender. Flowers small, sweet scented. Corolla white. Leaflets of the nectary oblong, as long again as the antheridium, acute, slightly cucullate, with 2 acute teeth below the middle; horn falcate, about half as long the leaflet. Follicles smooth.

Hab. In dry stony woods. June.

*Stem* about 2 feet high, densely pubescent. *Leaves* 3 inches long, very obtuse, slightly mucronate, thick. *Umbels* generally about 3, subglobose, on very short thick peduncles; *pedicels* tomentose. *Corolla* green. Leaflets of the nectary sessile, linear, erect, a little shorter than the *antheridium*, not culminate; margin with a minute tooth on each side near the base; *horn* entirely wanting; margins of the corpuscles sub-triangularly produced at the middle. *Follicles* smooth.


This is undoubtedly a species of *Acerates* of *Elliott*, though, as the author himself thinks, it is doubtful whether that genus be sufficiently distinct from *Asclepias*. It differs from the latter principally in the sessile straight nectary leaves, and in the absence of their horn-like processes. *Om* the *Gomphocarpus*† of *R. Brown*, it only differs in the smooth follicles.

*β. lanceolata*†: leaves lanceolate, acute.

*Ives in Sill. Jour.* IV. t.


This variety resembles a specimen of *A. longifolia* from Kentucky, which I have in my Herbarium. The only differs in the leaves being a little narrower.

*γ. obovata*†: leaves obovate. *A. obovata* *Elliot* I. p. 321.

**Hab.** Near New-Haven, Connecticut. *Ives*.

I have received southern specimens of this plant from *Mr. Schweinitz*, which cannot be distinguished from those sent me by *Dr. Ives*. *Mr. Elliott* remarks, that his specimens were too much injured to determine whether the horn-like appendages were present; otherwise he would undoubtedly have referred it to his genus *Acerates*.

13. *A. verticillata* L.: stem simple, marked with pubes

† See *Nuttall*’s remarks on this genus. *Gen. I.* p. 168.
Stem about 3 feet high, very slender, marked with 6 or 8 parallel pubescent lines. Leaves generally in whorls of 5 or 6, about 3 inches long, scarcely more than a line wide, distinctly revolute on the margin. Umbels terminal, axillary, erect, numerous, often verticillate towards the upper part of the stem; peduncles and pedicels slender. Flowers small. Corolla grayish-white. Leaflets of the nectary ovate, obtuse, spreading, rather shorter than the antheridium, with an acute tooth on each side; tube distinct, much constricted; horns as long again as the leaflets, incurved over the stigma. Corpses triangularly produced at the base. Follicles long, slender, smooth.

Hab. On dry hills; particularly in limy regions. Abundant at Kingsbridge, New-York, &c.

* * Leaflets alter


At very large, tuberous. Stem about 3 feet high, generally very hairy, with spreading branches towards the top. Leaves sessile, on very short petioles, sometimes opposite on the lower part of the stem, hairy on both sides. Umbels numerous, erect, terminating the branches. Flowers large, bright-orange. Leaflets of the nectary erect, oblong, as large again as the antheridium, entire, not cucullate; tube short; horn subulate, shorter than the leaflets. Corpses greenish, triangularly produced at the base. Follicles smooth.


The root of this plant is in great repute for its medicinal virtues in pleurisy and other pulmonic affections.

190. GENTIANA. L.

Calyx 4—5-parted, or cleft. Corolla tubular at the base, campanulate; border 4—5-cleft; segments ci-
Pentandria.

Pentandria. interior stigmas flowers interior Gentian. segments flowers exterior exterior lateral Roem. leaves receptacles stem


Root perennial. Stem a foot and a half high, erect, simple, smooth. Leaves opposite, closely sessile, very smooth, with a large, principally in a terminal verticillate fascicle; the distinct nerve on each side near the margin. Flowers very lateral flowers axillary and solitary. Calyx 5-cleft, with the segments broad-ovate or oblong, acute, shorter than the tube. Corolla bright-blue, ventricose-campanulate, marcescent; segments connivent; exterior ones very obtuse, entire; interior ones plicate, lacerately 2—3-toothed. Stamens 5; filaments inserted into the tube of the corolla, broad; anthers erect, sagittate. Stigmas reflexed. Capsule oblong, acuminate, attenuate at the base, covered with the marcescent corolla. Seeds very numerous, with winged margins.

Hab. In wet grassy meadows, and in moist woods. September—October.


Root perennial. Stem about a foot high, a little scabrous. Leaves acute, indistinctly 3-nerved, scabrous on the margin. Terminal flowers crowded; lateral ones solitary, axillary. Calyx 5-cleft; segments longer than the tube, acute. Corolla as large as in G. Saponaria, yellowish-white, streaked with green and purple; exterior segments ovate; interior ones nearly entire, acute. Capsule ovate-oblong, acute.
GENTIANA. PENTANDRIA. DIGYinia.


This species strongly resembles the preceding, and has evidently been confounded with it by several authors. It, however, is easily distinguished by the characters given above. In habit it much resembles *G. cruciata* of Europe.


Root perennial. Stem about a foot high, erect, simple, very smooth, purple. Leaves an inch and a half long, almost linear, generally obtuse. Flowers large, 2–3 in a terminal fascicle, with one or two solitary ones near the summit of the stem. Segments of the calyx shorter than the tube. Corolla bright blue; segments ovate, a little acuminate; interior plait short, acute, confluent on one side with the exterior segments; anthers connate. Capsule fusiform.


The North-American plant, which has been made a distinct species by *Roemer & Schultes,* differs in no respect from numerous European specimens in my Herbarium. It was obligingly communicated to me by Dr. *Bigelow.*


Root perennial. Stem about a foot high, terete, very smooth. Leaves long-linear, smooth, rather obtuse. Flowers nearly 2 inches long, generally solitary at the extremity of the stem. Tube of the calyx pentangular; segments subulate, longer than the tube. Corolla azure-blue; exterior segments ovate, very acute; interior lacerately divided, much shorter; anthers distinct. Capsule fusiform, on a long pedicel.


This is one of the most beautiful plants of North-America.

5. *G. linearis Fr. & L.* : stem somewhat scabrous; leaves linear-lanceolate, undulate, ciliate, as are also the segments of

Leaves minutely ciliate. Flowers middle-sized, blue. Segments of the calyx cuneate, lanceolate, scarcely as long as the tube. Segments of the corolla very short, obtuse; interior folds denticulate. Mich.


I have seen no specimens of this plant. Michaux remarks that it resembles G. Pneumonanthe.


Root biennial. Stem a foot high, with 4 prominent angles, rarely simple, smooth. Leaves semiamplexicaul, acute, smooth 3—5-nerved. Flowers terminal, and also from the axils of the upper leaves; pedicels quadrangular, 4—6 lines long. Calyx about one-fifth as long as the corolla; segments subulate. Corolla small, pale obscure blue, a little ventricose; segments ovate, produced into a subulate point; plaits simple. Capsule fusiform.


G. autumnalis secunda Cold. Noveb. 50.

Root biennial. Stem a foot and a half high, very smooth, terete below, quadrangular above, branched towards the summit. Leaves ovate-lanceolate, obscurely 3-nerved. Flowers very large, terminating the branches, which are naked towards the top. Calyx quadrangular, 4-cleft, more than half as long as
the corolla; 2 of the segments large, ovate, acute; the others linear-lanceolate. Corolla blue; segments ovate, erect, beautifully fringed at the top and upper part of the sides; interior folds wanting; tube with 4 brown glandular spots at the base. Anthers distinct, oblong, incumbent, yellow. Gernmen attenuated into a short style; stigmas large, suborbicular, compressed, erect? Capsule oblong, on a short pedicel; valves membranaceous. Seeds oblong, brown, very hispid.

Hab. In wet open meadows. October—November.

This species differs remarkably, in several respects, from the preceding. It belongs to the genus Gentianella† of Borkhausen. Linnaeus considered it a variety of G. ciliata.

191. CUSCUTA. L.


Dodder.


Annual. Stems filiform, orange-coloured, twining round the stem of herbs and small shrubs, or loosely hanging from one plant to another. Flowers in dense umbellate clusters. Calyx with very obtuse segments. Petals small, nearly white. Stamens 5, with 5 fringed scales at the base; filaments subulate; anthers roundish, 2-celled. Styles 2, erect, subulate. Capsule ovate, 2—3-seeded. Seeds roundish, hollowed on one side; embryo spiral.


A common parasite on Lycopus europaeus. Like the rest of its genus, it first springs from the earth, but afterwards attaches itself to other plants, and becomes parasitic, drawing its substance from them alone, by means of its lateral roots.


---

192. *HEUCHERA. L.*


Alum-root.


Root perennial. Leaves all radical, on very long pubescent petioles, round-cordate, about 3 inches in diameter, somewhat hispidly pilose, about 7-lobed; the lobes with dilated mucronate teeth. Scape naked, 2—3 feet long. Panicle or *thrysus* elongated; branches and pedicels at length much divaricate, bracteate at the divisions. Capsule subcuneiform, 10-striate; segments ovate, very obtuse. Petals minute, spatulate, purple, inserted into the inner margin of the calyx, between its segments. Filaments as long again as the petals, inserted opposite the segments of the calyx, persistent; anthers saffron-coloured, cordate, 2-celled. Styles 2, filiform, persistent; stigmas simple. Capsule 1-celled, ovate, acuminate, opening between the beaks. Seeds minute, oblong, black, very hispid.


2. *H. pubescens* Ph.: pulverulent-pubescent; scape smooth below; leaves somewhat acutely lobed, smooth beneath, toothed; teeth rounded, mucronate; peduncles short.
HEUCHERA.  PENTANDRIA.  DIGYNIA.  291

with crowded flowers; calyx large, campanulate; petals longer than the calyx; stamens scarcely exserted.  Pursh Fl. 1. p. 187.  Roem. & Schult. VI. p. 216.  H. grandiflora Raf.  MS.

Leaves on long, nearly smooth petioles, about 7-lobed, pilose-ciliolate on the margin; lobes rounded, with broad mucronate teeth.  Scape about 2 feet long, with one or two small leaves, scabrous-pulverulent above; branches few-flowered, with subulate bracts at the base.  Calyx ovate-campanulate; segments oblong, rather acute.  Petals spatulate, attenuate at the base, (pale red, with yellow, Ph.) Stamens about as long as the petals.  Styles exserted.


In the specimen sent me by Mr. Rafinesque, there were two small leaves on the scape, but I know not whether this character be constant.

193.  PANAX.  L.


Root a round tuber, about as large as a hazel-nut.  Stem 4—8 inches high, simple, smooth, divided at the top into 3 petioles about an inch in length.  Leaflets oblong-lanceolate, acutely serrate, very smooth and shining.  Peduncle longer than the leaves.  Umbel of the perfect flowers 4—8-rayed; rays about one-fourth of an inch long.  Involucrum 3—4-leaved; leaves subulate, shorter than the rays.  Calyx minute, with 5 rather acute teeth.  Petals 0?  Styles 3, diverging; stigmas simple.  Berry green, obtusely triangular, 3-celled, 3-seeded.  Seeds cordate, acute, compressed on one side.  Staminiferous.  Peduncle longer.  Umbel many-flowered (15—20); pedicels about 4 lines long, filiform.  Calyx turbinate, obtusely triangular, 5-toothed.  Petals minute, oblong, obtuse, white.  Stamens 5, a little longer than the corolla; filaments inserted into the calyx; anthers roundish, 2-celled.  Styles obsolete.
PENTANDRIA. DIGYNIA.

PANAX.

Hab. In moist shady woods, among decaying leaves. April—May.


Root 3—6 inches long, whitish, transversely wrinkled. Stem a foot high, angular and sulcate. Common petioles about 4 inches long, spreading; partial ones unequal; those of the terminal leaflets nearly an inch in length; leaflets obovate-lanceolate, 3—6 inches long, acuminate, of a thin and membranaceous texture; margin acutely serrate. Peduncle erect, scarcely more than half as long as the leaves. Umbel 8—16-flowered; middle flowers frequently abortive; pedicels half an inch long. Leaves of the involucrum short, subulate. Perfect. Calyx with 5 ovate rather acute teeth. Petals greenish, oblong, very obuse, deciduous. Stamens a little exserted. Styles 2, recurved. Berry reniform, compressed, bright scarlet. Seeds 2, semicircular.

Hab. On mountains; rare. Canada to Carolina. July. I have not found this plant nearer New-York than the Highlands. It occurs on the Fishkill Mountains, sparingly.

This is the celebrated Ginseng of the Chinese. It is also a native of Tartary.

194. ATRIPLEX. L.


Root annual. Stem 3—4 feet high, smooth, branched, green, obtusely angular. Leaves alternate, 2—3 inches long, of a uniform colour on both sides. Flowers green, in terminal interrupted racemes or spikes.

Root annual. Stem about a foot high, very much branched, and often procumbent, covered with a silvery mealliness. Leaves about an inch long, pale green above, silvery white beneath; the lower ones very obtuse or retuse. Perfect flowers mostly in terminal glomerate spikes. Pistilliferous flowers crowded, axillary. Calyx very broad, rugose, retuse, 3-lobed; the middle lobe acute, entire; lateral ones 2—3-toothed. Seed lenticular, vertical, crowned with the persistent styles.


Root annual. Stem sometimes erect, but generally procumbent, much branched, subangular and sulcate. Leaves about 2 inches long, petiolate, of a gray colour, and somewhat mealy on both surfaces, acute at the base, with the lowest tooth on each side produced into lobes; upper leaves lanceolate and entire, or simply hastate, without teeth. Perfect and pistilliferous flowers intermixed, in terminal and axillary glomerate racemes. Stamens 4. Fructiferous calyx broad-rhomboid, sometimes denticulate towards the base, pulverulent.

Hab. In salt marshes, and on the sea-coast; common. August. This species is nearly allied to A. hastata, particularly as represented in Fl. Danica t. 1286. The latter, however, has the calyx of the fruit sinuately toothed, and is, I believe, not a maritime species.


I insert this plant on the authority of Muhlenberg, though I suspect it to be the same as the preceding.

5. A. Halimus L.: stem frutescent; leaves alternate and
PENTANDRIA. DIGYNIA. ATRIFLEX.


Pursh remarks that he never saw this plant growing wild in North-America.

195. CHENOPODIUM. L.


Root perennial. Stem about a foot high, branched below, striate, a little pulverulent. Leaves alternate, large, dark green, somewhat sagittate. Spikes pedunculate. Flowers green, polygamous; perfect and pistilliferous intermixed. Style 2—3-cleft.


I have never seen North-American specimens of this plant. It is common in Europe.


Root annual. Leaves acutely toothed; upper ones lanceolate, toothed, cuneate at the base. Racemes simple, shorter than the pedioles. Will d.


Resembles C. murale, but differs in the inflorescence and form of the leaves.

Root annual. Stem erect, 2—4 feet high, green, angular. Leaves covered with a whitish mealiness, unequally toothed. Racemes with few branches, conglomerate. Seed very smooth.

HAB. In cultivated grounds, waste places, &c. July—September. A very common weed, which has been introduced from Europe.

\( \text{b. viride Ph.} \): leaves greener and more entire; racemes more branched, a little leafy. \( C. \text{viride Willd. Spec. I. p. 1303.} \)

HAB. With the preceding, of which it is certainly a mere variety.


Root annual. Stem 2—3 feet high, angular and striate. Leaves large, nearly smooth, bright green, with large unequal teeth. Racemes much branched, subcymose.


Root annual. Stem 2—3 feet high, erect, reddish. Leaves large, dark green, a little shining, with large unequal teeth, acute at the base. Racemes longer than the petioles, much compound, interspersed with small leaves; glomerules minute. Seeds very small.


Root annual. Stem 1—2 feet high, much branched, often diffuse, green, a little pubescent. Leaves an inch and a half long, on short petioles, acute at the base, with rather distant teeth;
upper ones almost linear. **Spikes** 2 inches long, erect. **Flowers** green.

**Hab.** In waste places, along road sides. Very abundant in the suburbs of New-York. August—October.

This plant has a strong and rather pleasant scent.


**Root** annual. **Stem** about a foot high, branched, pubescent, and a little viscid. **Leaves** petiolate, 2 inches long, deeply sinuate, with the segments toothed. **Racemes** paniculate, very large, branches somewhat secund. **Flowers** distinct on very short pedicels. **Seeds** minute, smooth, not shining.

**Hab.** In sandy waste places; very common. August—September. Sweet scented. **Jerusalem Oak.**


**Stem** a foot and a half, or 2 feet high, erect, much branched, often of a reddish colour, sulcate. **Leaves** nearly sessile, sprinkled with resinous atoms beneath, toothed, and somewhat sinuate. **Racemes** long, slender, axillary and terminal.


A much rarer species than the preceding, with which it is often confounded. The **Worm-seed** has a very strong and disagreeable smell. It is a celebrated vermifuge.


**Root** annual. **Stems** diffuse, thick. **Leaves** oblong, and ovate-oblong, rather obscure, sinuate-repand, nearly uniform, green above, glaucous beneath. **Racemes** short, glomerate, lobed, leafless. **Seeds** with excavated punctures. **Smith.**

**Hab.** In New-York. **Muhlenberg.**

I have seen no North-American specimens of this plant. Perhaps, like most of our species of this genus, it is merely naturalized.

10. **C. maritimum** L.: leaves linear, fleshy, semicylindrical-
CHENOPODIUM. PENTANDRIA. DIGYNIA.

297


*Hab.* In salt marshes; common. August—September.

The North-American plant scarcely differs in any respect from the European, with which I have carefully compared it. I suspect this is the *C. tenuifolium* of Muhlenberg's Catalogue, p. 28.

196. SALSOLA. *L.*


*Root* annual. *Stem* much branched, very diffuse, pubescent. *Leaves* alternate, spreading, terminating in a sharp spine. *Flowers* succulent, sessile, with 3 bracts at the base. Segments of the *calyx* unequal, ovate, acuminate, with a dilated membranaceous base, which is horizontally extended over the seed. *Stamens* 5; *filaments* longer than the calyx; *anthers* roundish, purple. *Styles* 2, as long as the stamens, pubescent; *stigmas* simple. *Seed* enclosed in a membranaceous covering. *Embryo* spiral.


*β. caroliniana Nutt.*: leaves dilated; calyx with a broader margin; stem smooth. *Nutt. Gen.* I. p. 199. *S.*
298. PENTANDRIA. DIGYNIA.

**PENTANDRIA. DIGYNIA.**

**SALSA.**


*Stem* generally smooth. *Leaves* terete; those near the flowers much dilated at the base, and amplexicaul. *Calyx* much depressed; margin membranaceous, reddish and veined.

*Hab.* In sandy fields and waste places in the suburbs of New-York; also on the sea-coast.

The *S. caroliniana* of *Walter* is doubtless only a variety of *S. Kali*. The latter, as it occurs on the sea-coast, cannot be distinguished from the European plant. The variety 3. resembles *S. rosacea*.


I insert this species with some hesitation, as I suspect *Muhlenberg's* plant is only *S. Kali*.


**197. ULMUS.**


A large tree, with long recurved branches. *Leaves* alternate;
ovate, petiolate, acuminate, scabrous above, pubescent beneath. Flowers appearing before the leaves, in loose lateral fascicles. Calyx purplish-red; segments rounded, villous. Stamens 5—8, exserted; filaments subulate; anthers purple. Style 2, short, reflexed. Samara oval, half an inch long, reticulate; margin with a dense villous fringe.


A tree 20—25 feet high; buds covered with a dense fulvous wool. Leaves sometimes a little cordate at the base; nerves beneath tomentose along the midrib. Flowers conglomerate, 10—15 in each head, on very short pedicels. Segments of the calyx very obtuse, ciliate with brown hairs. Stamens generally 7; filaments twice as long as the calyx; anthers 2-celled, dark purple. Styles 2; stigmas glandular-pubescent, purple. Samara suborbicular, pubescent.


This species is referred, by Roemer & Schultes, on the authority of Smith, to Planera Richardi of Michaux. As, however, the plant is not well known, I have concluded to let it remain in the genus where it was placed by Aiton. I have specimens of an Ulmus from North-Carolina, sent to me by Mr. Schweinitz, under the name of U. nemoralis, which agree very well with Aiton's description, but not with that of Michaux. The fruit being wanting, I cannot determine satisfactorily whether it be a species of Ulmus or of Planera.

198. CELTIS. L.

PENTANDRIA. DIGYNIA. CELTIS.

_ULMACEÆ Mir bel? Nettle-tree. Hack-berry._


A middle-sized tree. _Leaves alternate, 3—4 inches long, petiolate, much acuminate, very unequal, and a little cordate at the base; serratures acuminate and uncinate. Flowers small, appearing before the leaves are expanded, axillary; lower ones often in threes; upper ones solitary; _pedicels_ longer than the petioles. _Calyx_ greenish-white; segments ovate, obtuse. _Stamens_ rather shorter than the _calyx_. _Anthers_ oblong, 2-celled. _Styles_ (stigmas!) much exserted, thick, spreading and incurved, glandular. _Drupe_ nearly globular, obscure-purple; pulp thin, sweet. _Nut_ hard, 1-seeded.

_Hab._ In woods, particularly in rocky situations on the banks of rivers. _May._ _Beaver-wood._ _Hoop-ash._

_Michaux_ the younger, thinks this tree is not found north of the Connecticut River.


A smaller tree than the preceding.

_Hab._ On the banks of the Delaware, above Philadelphia, which appears to be its north-eastern limit. _Mich._ _Hack-berry._

Scarcey distinct from _C. occidentalis._

3. _C. pumila Ph._ : leaves ovate, acuminate, equally serrate, unequal at the base, smoothish on both sides; the younger ones only pubescent; _pedicules_ mostly 3-flowered; fruit solitary. _Pursh Fl. I. p. 200._ _Ro em. & Schult. VI. p. 307._ _C. occidentalis β. pumila Mu h l. Cat. p. 100._

A low bush, flowering at the height of 2 feet. _Leaves_ nearly as broad as long, occasionally without serratures, often cordinate-ovate, very little acuminate, and almost perfectly smooth on both sides. _Berries_ solitary, brown and glaucous. _Nut._

_Hab._ On the banks of rivers. _Maryland and Virginia._ _Pursh._

199. ERYNGIUM. L.

Flowers capitate. _Receptacle_ palaceous. _Invo-
leaves many-leaved, subspinous. Petals inflexed. 
Spreng. in Roem. & Schult. Gen. 1156.


Root perennial, tuberous, abrupt. Stem 2—3 feet high, fistulous, sulcate, trichotomous at the summit. Leaves a foot and a half long, and one inch broad, with a long sharp point; nerves parallel; margin armed with slender soft spines at the distance of about every half inch. Heads of flowers terminating the branches, ovate, nearly an inch in diameter. Follicaceous bracts or universal involucrum ovate, acuminate, connate, dentate. Calyx minute, 5-toothed. Corolla white or pale blue; petals inflexed. Styles long, diverging, smooth; stigmas simple.

Hab. In New-Jersey?


Root perennial. (biennial, Muhl.) tuberous, abrupt. Stem 3—4 feet high, branched above, smooth, striate. Leaves about 6 inches long, tapering at each end, with the nerves branched; margin acutely serrate. Heads numerous, in large terminal umbels or corymb. Leaflets of the involucrum pale beneath, laciniate; segments cuspiedate. Chaff 3-cleft. Corolla nearly white or pale blue. Fruit paleaceous-hispid.


Root perennial? Stem 2—3 feet high, subtrichotomous towards the summit. Leaves 2 inches long, acutely dentate, sometimes a little cordate, the base abruptly narrowed into a short petiole, which embraces the stem. Involucrum about 8-leav-
ed; leaflets with a few subulate teeth. Heads small. Teeth of the calyx ovate, acute. Petals pale blue, inflexed.


I have seen no northern specimens of this species.

200. SANICULA. L.


Root perennial, fibrous. Stem erect, 2 feet high, branched above, smooth. Leaves 3-parted to the base; segments 2—3-parted; lobes oblong-lanceolate; serratures cuspidate. Flowers in small capitulate umbels; perfect ones 3—5, sessile; staminiferous ones more numerous, on distinct pedicels. Involucrum many-parted. Corolla white; petals obcordate, inflexed. Fruit armed with hooked bristles.


I think there can be little doubt that the S. canadensis is only a variety of S. marilandica. It differs merely in its broader and less divided leaflets. The abortive flowers are pedicellate in both.

201. HYDROCOTYLE. L.

Umbel simple. Fruit with the back and commissure narrow, laterally compressed, subrotund, 3-ribbed, generally with reticulate veins. Roem. & Schult. Gen. 1164. Hydrocotyle, Crantzia, and Eri-genia, Nutt. Petals oval, acute, equal. Fruit not toothed at the summit, subglobose or lenticular,


Root perennial, creeping. Stems terete, glabrous, branching. Leaves alternate, strictly peltate, glabrous, slightly crenate; petioles 2—3 inches. Spikes axillary and opposite the leaves. Flowers in spikes, sessile, forming whorls 2—3 lines apart. Calyx a mere elevated line or margin round the summit of the germen. Corolla nearly white; petals lanceolate. Ell.

Hab. In swamps and overflowed places. Canada to Georgia.

Pursh.

I suspect this species has not been found so far north as indicated by Pursh.


Root perennial, creeping. Stem rooting at the joints. Leaves subreniform-peltate, obtusely crenate. Umbel on a peduncle longer than the leaves, 20—30-flowered; pedicels about one third of an inch long. Leaflets of the involucrum minute. Corolla white; petals ovate. Fruit reniform.


Root perennial. Stem procumbent, filiform, with long creeping suckers. Leaves nearly orbicular, 9-nerved, divided to the petiole at the base, thin and membranaceous. Umbels or glomerules 4—6-flowered, axillary. Calyx obsolete. Petals greenish-white, acute. Fruit orbicular.

Hab. In wet shady places and in woods. June—August.

Creeping, perennial, glabrous. Leaves nearly circular, rather deeply 3 lobed, crenate; under surface slightly glaucous; lateral lobes sometimes notched. Peduncle about an inch long; Umbel 7—10-flowered; pedicels very short. Ell.


Root perennial. Stem creeping. Leaves about 2 at each joint, an inch and a half long, and 1—2 lines broad, erect, succulent, obtuse, marked with 5 transverse nerves or bands, approximating upwards; longitudinal nerves obsolete. Umbels on peduncles longer than the leaves, 8—10-flowered; pedicels 3—4 lines long. Involucrum 5—6-leaved; leaflets lanceolate. Calyx nearly obsolete. Petals roundish-oval, white, with a tinge of red. Styles very short, recurved. Fruit suborbicular; commisure oblong, depressed.


Sprung, in Roemer & Schultes Syst. Veg. VI. p. 555. refers this plant to H. sinensis (chinensis), and they are also considered as synonymous by Smith. As, however, the Asiatic species is not well known, I shall retain Michaux's name for our plant until future investigation shall prove it to be not distinct.


Root a round tuber. Stem ascending, about an inch high. Leaf solitary, emitting 2, and sometimes 3 scapes from its sheath, bitermately divided; partitions subternate; segments rhomboidal, cleft; ultimate lobes bifid, obtuse, with minute points. Scapes terete, 4—5 inches high, terminating in an ir-
HYDROCOTYLE. PENTANDRIA. DIGYNIA.

regular umbel of 3 or 4 rays, subtended at the base by a sessile ternate leaf divided similarly to that of the root. Leaflets of the involucrum simple, entire, linear-oblong. Flowers white, stellately expanding. Petals obovate-oblong, or attenuate downwards, so as to appear unguiculate. Calyx obsolete, marginal. Stamens longer than the petals; filaments erect; anthers oval, deep brown. Styles subulate, persistent, twice the length of the germen; stigmas obsolete. Germen turbinate, laterally compressed, truncated above. Seed gibbously convex, marked with 3 curved lines, 2 lateral and 1 dorsal; the margin of the commissure being inconspicuous, and forming a straight line. Nutt.


Nuttall refers to this species the Hydracotyle composita of Pursh Fl. II. p. 732.

202. SISON. L.—Sprengel.


Root perennial. Stem a foot and a half, or 2 feet high, smooth, angular and sulcate. Leaves binate; lateral divisions sometimes simple; or 2—3-parted. Umbel compound; primary rays unequal, 1—2 inches long, deeply sulcate. Partial involucrum 2—3-leaved, minute. Calyx 5-toothed. Corolla bright yellow. Fruit elliptic, with 3 winged ribs on the back.


Root perennial. Stem a foot and a half high, very smooth. Leaflets very entire, mucronate. Rays of the umbel spreading,
almost filiform, slightly angular. Universal involucrum wanting; partial ones 3-toothed. Calyx with 5 minute acute teeth. Petals yellow, acuminate, with the apex inflexed. Styles recurved, longer than the germen. Fruit suborbicular, blackish; ribs not winged.

Hab. In meadows and on mountains. June.


Root annual. Stem much branched, deeply sulcate, erect or decumbent, about one foot long. Leaves decmpound, with setaceous dichotomous segments, very smooth; petiole short. Umbels axillary, pedunculate, with spreading rays. Universal involucrum about 3-leaved, 3—5-cleft, setaceous; partial ones of 2—3 filiform leaves. Calyx minute, 5-toothed. Petals white, ovate, with acute inflexed points. Stamens as long as the corolla; anthers purple. Styles minute, recurved. Fruit ovate, convex; ribs rather acute; intervals convex.


As I have followed Sprenge entirely in the distribution of the Umbelliferae, the Ammi capillaceum is referred, on his authority, to the genus Sison; but there is not the least resemblance in habit between this plant and the preceding species. Sprenge also cites, as a synonym of this plant, his own, as well as Nuttall's Æthusa leftophylla. The latter, however, Mr. Nuttall remarks, is entirely destitute of both universal and partial involucra.

203. CNIDIUM. Cussan.

Involucrum 1-leaved or 0. Fruit ovate, solid; ribs 5, acute, somewhat winged; intervals sulcate, striate.

Roem. & Schult. Gen. 1179.


Hab. Near the mouths of large rivers, from Canada to Carolina.
Cnidium.  Pentandria.  Digyna.  307

This is an obscure plant to me.  Is it a Ligusticum?

2. C. atropurpureum Spr en g.: radical leaves subcor
date, simple, serrate; cauline ones ternate; leaflets ovate, acute, subcordate; middle one petiolate; partial involucrum
dimidiate, 3-leaved.  Roem. & Schult. VI. p. 418.  Smyr

Root perennial.  Stem 2—3 feet high, smooth, sulcate, dichoto-
mously branched.  Radical leaves mostly entire, subcordate;
stem leaves ternate, obusely serrate, with the middle leaflet
3-lobed or ternate.  Umbels opposite the leaves.  Universal
Petals dark purple, oblong, acuminate, inflexed at the point.
Styles divaricate, as long as the germen.  Fruit small, ellipti-
cal, with 5 somewhat winged ridges.


204. Smyrnium.  L.—Spr en gel.

Involucrum few-leaved or 0.  Fruit solid, ovate; cort-
ex black, 3-ribbed; sides contracted from the com-
1183.

S. cordatum Walt.: radical leaves simple, cordate, cre-
ate; stem leaves ternate, serrate; umbels terminal.  Walt.
infinis cordato, Cold. Nov. 56.

Root perennial.  Stem 2—3 feet high, sulcate.  Radical leaves
round-cordate, on long petioles; stem leaves 3-parted, tri-
foliate.  Umbels axillary, on long peduncles, 8—10-rayed.
Partial involucrum 2—3-leaved.  Calyx 5-toothed.  Corolla
yellow.  Fruit small, black, 3-ribbed; margins turgid.

June.

205. Cicut a.  L.

Involucrum almost wanting.  Fruit ovate, solid, 5-ribbed; intervals prominent.  Roem. & Schult.
Gen. 1188.

Root perennial, large. Stem 3—6 feet high, very smooth, glaucous, terete, green streaked with purple. Lower leaves triternate and quinate; upper leaves biternate; leaflets with very acute serratures. *Umbels* large, spreading; rays almost filiform. Universal *involucrum* wanting, or rarely of 1—2 minute leaves; partial involucra 5—6-leaved. *Calyx* with 5 acute conspicuous teeth. *Petals* white, obcordate. *Styles* long, spreading; *stigmas* simple. *Fruit* flat, subelliptical; *commissure* oblong, flat.

**Hab.** In swamps and wet meadows; common. July—August.


Root perennial. Stem 2—3 feet high, erect, branched, smooth. *Leaves* in the infertile bulbiferous stems more compound, with narrower divisions, lacerately toothed; in the fertile and bulbiferous stems simply ternate; leaflets linear-lanceolate, remotely toothed; bulbs axillary, aggregate. *Umbels* small, few-flowered. Universal *involucrum* wanting; partial involucra 3—5-leaved, subulate, acuminate. *Fruit* as in the preceding species.

**Hab.** In swamps; rare. Borders of the salt marshes near Hoboken, &c. New-Jersey. August.

206. **DAUCUS.** L.


Root biennial. Stem 2 feet high, erect, sulcate. Leaves pale green; segments linear or linear-lanceolate, cuspidate. Universal and partial involucre pinnatifid, with linear divisions. Umbel concave when in fruit. Flowers white.


207. MYRRHIS. Morison.


Root annual. Stem 6—8 inches long, slender, branched, a little hairy, particularly on the sheaths. Leaves pinnatifid, decumbent; segments slightly ciliate. Umbels terminal, about 3-rayed; partial umbels 4—5-flowered. Universal involucre wanting; partial 4—5-leaved, ovate, ciliate. Flowers all fertile. Calyx 5-toothed. Corolla white; petals oblong, slightly inflexed. Fruit linear-oblong, prismatic, crowned with the persistent styles; intervals angularly elevated.


Root perennial, fusiform, slender. Stem about 2 feet high, hairy, particularly on the upper part, when young, as well as the pe-
tioles, almost woolly. *Leaves* hairy, ternate, with the primary divisions quinate; lower common pетioles very long; leaflets subpinnaed with lobed; lobes dentate. *Umbels* about 2, proceeding from the forked extremity of the stem; primary rays generally 3, with 1—2 short abortive ones; partial umbels 5—6-flowered, seldom perfecting more than 2 or 3 flowers. Universal involucrum about 3-leaved; leaves linear-lanceolate; partial 5-leaved, reflexed, acuminate. *Calyx* obsolete. *Petals* white, obcordate, with a minute inflexed tip. *Stamens* as long as the petals; *anthers* roundish, yellow. *Styles* very short, thickened and gibbous at the base; *stigmas* minute. *Fruit* linear-lanceolate, nearly black, shining, crowned with the short thick styles; *angles* hispid; *intervals* flat; *seeds* three-fourths of an inch long, attenuated into a cauda at the base, which is very hispid.

**Hab.** In shady rocky situations; particularly on mountains; common. May—June.

The whole plant, but especially the root, is sweet tasted, and is called *Sweet Cicely*.

3. *M. longistylis*:* stem* smooth; leaves binate; the lower ones on short petioles; leaflets ovate, incisely lobed and dentate; umbel 3—4-rayed; central flowers abortive; universal and partial involucra 3—5-leaved, oblong, acuminate; fruit attenuate at the base, with hispid angles; styles long, subulate, straight.

*Root* perennial, fusiform, slender. *Stem* 2—3 feet high, branching, very smooth, striate. *Leaves* about 2, a little hairy on both sides, shining beneath, sometimes almost smooth; the lowest one on a short petiole; partial petioles elongated, nearly smooth; leaflets ovate, acute, less divided than in the preceding species. *Umbels* terminating the forked extremity of the stem; much divaricate when in fruit; rays 1—2 inches long. Universal involucrum 2—3-leaved, lanceolate; partial ones about 5-leaved; leaves oblong, acuminate, ciliate, reflexed. *Fruit* linear-lanceolate, blackish, with hispid angles; *seeds* attenuated into a cauda at the base, crowned with the linear-subulate styles.


This species resembles the preceding in many respects, but is easily distinguished by the characters given above, especially by its long subulate styles. For excellent specimens of this plant, I am indebted to *Dr. Paine,* of Geneva, who first directed my attention to its peculiarities.

4. *M. canadensis* *Moris.*: leaves ternate, smooth; leaflets rhomboid-ovate, acute, incisely toothed, acutely serrate; partial involucra minute, subulate; fruit oblong, very

Root perennial, fusiform. Stem a foot and a half, or 2 feet high, erect, smooth. Leaves ternate; radical ones 2—3-lobed; cauline somewhat incised, broad-ovate, and often rhomboid; petioles membranaceous, amplexicaul. Umbels numerous, with the rays straight, and very unequal when in fruit. Universal involucrem wanting; partial of 2—3 minute subulate leaves. Calyx obsolete. Petals white, subcordate, with an inflexed point. Styles short, subulate, erect; stigmas simple, very minute. Fruit not attenuate at the base, one-fourth of an inch long, very smooth, striate, rostrate with the persistent styles.

HAB. In shady rocky woods. June.

208. SIUM. L.


Root perennial, creeping. Stem erect, 7-angled, very smooth, about a foot and a half high. Leaves alternate, simply pinnate, with a terminal leaflet; leaflets 4 pairs, remote, sessile, 4—6 inches long, and often 2 inches broad, smooth; margin acutely and rather coarsely toothed; those immersed often finely divided. Umbel many-rayed, unequal; partial umbels 10—15-flowered. Involucre many-leaved; leaflets lanceolate, acuminate, with a prominent midrib. Calyx obliquely 5-toothed. Petals white, inflexed. Styles long, reflexed; stigmas capitate. Fruit oval, with obtuse elevated ribs, laterally compressed.


FENTANDRIA. DIGYNIA.


Root perennial. Stem 7-angled, with intermediate grooves, 2—3 feet high, erect, smooth. Leaves simply pinnate; leaflets 2—3 inches long, 2—4 lines broad, acute at each end, very sharply serrate; serratures nearly equal. Umbels terminal, with rather short rays. Involucra 8—10-leaved; leaflets linear-lanceolate, acuminate, entire. Calyx obsolete. Petals white, infl. Stigmas capitate. Fruit about a line and a half long, ovate, with 5 prominent ridges.


This species, and the preceding, are probably only varieties of each other, and both appear to be distinct from the European Sium latifolium.

209. CONIUM. L.

Fruit ovate, solid, with 5 obtuse ribs, crenulate when immature; intervals flat. Umbels with universal and partial involucra. Roem. & Schult. Gen. 1211.


A very poisonous plant. The leaves are fetid when bruised.

210. LIGUSTICUM. L.—Sprengel.

Fruit ovate oblong, with 5 acute ribs; intervals sulcate. Universal and partial involucra various. Roem. & Schult. Gen. 1212.

1. L. scoticum L.: leaves biternate; leaflets subrhom-
bic-ovate, coarsely serrate; involucre linear-lanceolate.


Root perennial. Stem a foot and a half high, smooth and striate. Leaves rather fleshy; leaflets incisely serrate, smooth, reticulately veined beneath. Umbels terminal, on long peduncles; primary and secondary rays numerous. Involucra 3—4-leaved; leaflets linear-lanceolate. Calyx 5-toothed. Petals small, white, inflexed. Styles short, spreading. Fruit large, oblong, tumid; ribs acute and slightly winged.


This plant resembles the European in every respect.


Root perennial. Stem very tall, smooth and striate. Lower leaves triternate, petioles of the primary divisions very long; leaflets ovate, coarsely toothed, about 2 inches long; uppermost leaves ternate, with the leaflets nearly entire. Umbels numerous, terminal, subverticillate; the lateral ones sterile. Fruit with slightly winged and somewhat undulate ribs.


The largest North-American species, first discovered by Michaux on the banks of the St. Lawrence. It has been found in abundance about Salem, North-Carolina, by Mr. Schweinitz. In Muhlenberg's Catalogue it stands as a doubtful species to be compared with *Cicuta maculata*, to which, however, it bears not the least resemblance.

211. *HERACLEUM.* L.

*Fruit* compressed, with a membranaceous margin; ribs 3, dorsal, obtuse; intervals and commissure with clavate spots. *Flowers* subradiant. Involucrum 0. **Roem. & Schult. Gen. 1216.**


Root perennial. Stem 3—5 feet high, thick, sulcate, pubescent. Common petiole very broad and membranaceous; leaflets 5—6 inches long, somewhat palmately lobed, smooth above;

Hab. In wet meadows. June.

Allied to H. Sphondylium, but quite distinct.

212. PASTINACA. L.

Fruit oval, compressed, flat, margined; ribs obsolete; intervals striate; commissures 2. Universal and partial involucra 0. *Roe m. & Schult. Gen. 1217.


Root biennial, fusiform. Stem 2 feet high, smooth, sulcate. Leaves simply pinnate; leaflets sessile, incisely lobed, smooth above. *Umbels numerous, large, terminal. Flowers yellow. Fruit much compressed.


Common Parsnipe.


Root perennial. Stem 2—4 feet high, erect, rigid, fistulous. Leaves all simply pinnate; leaflets 4—5 pairs, sessile, acute, 2—4 inches long, often with a narrow discoloured margin; the inferior ones with several very remote acute and subpand teeth. *Umbels about 3, terminal, on long peduncles; rays numerous, spreading, filiform; central flowers abortive. Universal involucrum 0; partial involucra of 6—8 subulate leaves. Calyx 5-toothed, acute. Styles very short, dilated at the base, divaricate; stigmas simple. Petals white, cordate, with an inflected point. Fruit oval, much compressed, corteicate; ribs or striae 5, approximate; intervals convex, coloured.


Root perennial. Stem 3—5 feet high, erect, very smooth, fistulous. Leaves few, all pinnate; leaflets narrow-linear, or linear-lanceolate, 3—6 inches long, thickish and rather rigid, very rarely with one or two minute teeth on the margin. Umbel subsolitary, on a long terminal peduncle, spreading; central flowers often abortive. Universal involucre wanting; partial involucra of 3—5 subulate leaves. *Calyx* minute, 5-toothed. Petals white, cordate, with an inflexed point. Styles very short, dilated at the base, divaricate. Fruit flat, smooth, oval, corticate; stria prominent, with the intervals coloured.

**Hab.** In swamps in the pine barrens of New-Jersey. On the marshy banks of the Delaware. *N ut t ail.* September.

This species is nearly allied to the preceding, of which it is possibly but a variety.

213. **ANGELICA.** *L.*

*Fruit* subcompressed, with 3 acute winged ribs; intervals sulcate; margin membranaceous. *Ro e m. & Schult.* Gen. 1220.


Root perennial. Stem 3—5 feet high, simple, erect, straight, white-vilious and sulcate below the umbel. Leaves on long naked petioles, which are only a little sheathing at the base, ternate, and again subdivided; the partitions 5—7-leaved; leaflets ovate or subrhomboid, rather obtuse, on short petioles, or abruptly attenuate at the base, thick, moderately serrate; the inferior ones deeply 2-lobed at the base, and thus appearing auriculate. Umbels generally 3, terminal, many-rayed, spreading, with 2 opposite inflated petioles at the divisions, bearing minute leaves. Universal involucre wanting; partial of 6—8 subulate unilateral leaves. *Calyx* 5-toothed. Petals white, obcordate, with a long inflexed point. Styles subulate, divaricate. Fruit oval, compressed; margin winged; ribs 3, elevated, acute, approximate, parallel.
HAB. In dry woods, and on the sides of hills. August.

There can be little doubt that this is the Ferula villosa of Walter, though by no means the plant described by Greene in the Amer. Phil. Trans. under the name of Cicuta venenata. The description of the latter is too imperfect to ascertain what plant is meant, but I suspect it to be Cicuta maculata.


Root perennial, aromatic. Stem large, 3—5 feet high, fistulous, generally of a purplish colour. Petioles very large, inflated and sheathing. Leaflets 2—4 inches long, closely sessile, sometimes a little cordate; the lateral ones often with a large lobe towards the base; the 3 terminal ones united. Umbels 3—5, terminal, with 2 opposite sheathing petioles at the base; common peduncle short. Universal involucrum wanting; partial ones of 8—10 subulate leaves. Calyx nearly obsolete, 5-toothed. Petals greenish, obcordate, with an inflected point. Fruit oval, compressed; margin slightly winged; ribs 3, elevated, parallel.

HAB. In wet meadows; not uncommon. June. Common Angelica.


Root perennial, acrid. Stem 1—2 feet high, erect, branched, fistulous. Radical leaves tripinnate; those of the stem bipinnate; leaflets lanceolate or ovate, somewhat acute, dark green and lucid above, shining beneath; terminal ones confluent. Umbels convex, dense. Universal involucrum about 5-leaved; leaflets lanceolate; partial involucra subulate. Petals ovate, inflexed at the point. Fruit fuscous, with 3 elevated parallel striae. Jacq.


This, to me, is an obscure species. I suspect many of our Botanists have mistaken for it the A. triquinata. The figure of Jacquin, cited above, I have not had an opportunity of examining; but, with his description, the A. triquinata agrees
very well, excepting in the character of the universal involu-
crum. Cornuti’s figure is too imperfect to determine the
question.

214. THAPSIA. L.

Fruit narrow, slightly compressed, nearly ribless, with 2 dorsal and marginal wings. Involucrum 0.

T. trifoliata Mill.: petioles and nodes of the stem pu-
bescent; leaves biternate and ternate; leaflets cuneate and
ovate, unequally and incisely serrate, entire at the base; um-
bel terminal; partial involucra 3-leaved, subulate. Will d.
Spec. I. p. 1465. Room. & Schult. VI. p. 615. Ligus-

Root perennial. Stem about 3 feet high, angular and sulcate,
smooth, except at the nodes. Leaves smooth; inferior ones
biternate; superior ones ternate; leaflets about an inch and a
half long, cuneate and entire at the base. Umbels 3—4, ter-
minal, many-rayed. Universal involucrum wanting. Calyx
distinctly 5-toothed. Petals yellow, with an acute inflexed
point. Styles longer than the petals, spreading. Fruit ellip-
tical, compressed; marginal ridges winged.

Hab. On the shady banks of the Schuylkill, near Philadelphia.

In the arrangement of the Umbelliferæ in this work, I have
adopted the recent system of Sprengel, as elabor-
ated by himself in the 6th Vol. of Roomer & Schultes’
Systema Vegetabilium. I must confess, however, that I am
not satisfied with his distribution of the North-American spe-
cies of this class, and regret also that I have not the materials
for revising satisfactorily their generic characters.

ORDER III.

TRIGYNA.

* Flowers superior.


* * Flowers inferior.

217. Rhus.

215. Viburnum. L.

Calyx minute, 5-toothed; superior. Corolla 5-cleft;


A shrub or small tree, with spreading branches. Leaves opposite, roundish-obovate, very smooth, about an inch and a half long, obtuse, or with a short abrupt acumination; petioles half an inch long, slightly margined. Cymes terminating the short lateral branches, spreading, about 3 inches in diameter. Calyx with 5 obtuse teeth. Corolla white; segments oblong obtuse, spreading. Stamens longer than the corolla; filaments subulate; anthers roundish, 2-celled. Stigmas sessile. Berries oval, dark blue, eatable; seed large, long, much compressed.

Hab. In woods and hedges; common. June. Black-haw or Sloe.


A shrub 5—10 feet high. Leaves 2 inches long, somewhat acuminate, acute at the base, very smooth, with minute obtuse serratures; petioles half an inch long, not margined. Cymes large, spreading, on angular peduncles half an inch in length. Berries red.


A shrub 8—12 feet high. Leaves about 3 inches long, rounded or subcordate at the base, smooth on both sides, acutely and uncinately serrate; petioles an inch long, undulate or crisped. Cymes closely sessile. Flowers small. Berries black.

Hab. In rocky woods, along rivers and creeks. May.

4. V. nudum L.: leaves oval-oblong; margin revolute

A shrub 8—10 feet high. Leaves about 4 inches long, often obovate, slightly acuminate, attenuate at the base, punctate and reticulately veined beneath; petioles and peduncles with a ferruginous scaly pubescence. Cyme on a peduncle 1—2 inches long. Flowers crowded, very small. Berries oval, dark blue.


A shrub 4—8 feet high, with flexuous and often procumbent branches. Leaves nearly as broad as long; nerves beneath very conspicuous and covered with a rusty down; petioles nearly an inch long. Cymes generally with 2 leaves at the base, with several of the lateral flowers abortive and very large. Berries at first red, but nearly black when quite ripe.


A shrub about 8 feet high, with very straight and angular branches. Leaves about 2 inches long, with coarse acute serratures or teeth; ciliate nerves very prominent beneath, forked towards the margin; petioles three-fourths of an inch long. Cymes terminal, large, expanding. Berries blue, small, acute, crowned with the 5-toothed calyx; seed ovate, convex on one side, and a deep groove on the other, dividing it into 2 lobes.


A shrub about 6 feet high; branches obscurely angular. *Leaves* smaller than in the preceding species, and less acutely toothed, villous-tomentose beneath, coriaceous; petioles 2—3 lines long. *Cymes* small, on a peduncle three-fourths of an inch long, spreading. The fruit I have not seen.


This appears to me quite a distinct species from *V. dentatum.* It is readily known by its short petioles and pubescent leaves.


A shrub 4—6 feet high; branches smooth; straight, slender. *Leaves* broad-subcordate, with spreading lobes; serratures coarse; petioles nearly an inch long, with subulate bracts at the base. *Cymes* on a long naked peduncle. *Berries* almost black, oval, compressed; pulp thin; *seed* cartilaginous, flattened, with an obtuse elevated ridge on one side, and two ridges on the other.

**Hab.** In rocky woods; particularly on mountains; common. May—June.


A small shrub with smooth spreading branches. *Leaves* very broad-pubescent beneath; serratures coarse and obtuse. *Unicorns* on a long peduncle; the large flower abortive and very
large. Fruit large, subglobose, red, of an agreeable acid taste; seed flat, without ridges.


The fruit is sometimes used as a substitute for Cranberries.


A smaller and more upright shrub than the preceding. Berries the same colour and size, but when fully ripe more agreeable to eat.


This species I have never seen, except I have confounded it with the preceding, from which it appears to be scarcely distinct. They both are nearly allied to V. Opulus of Europe.

216. SAMBUCUS. L.


A shrub 6—10 feet high, erect, smooth; branches swelled at the joints. Leaves frequently bipinnate; leaflets on short petioles, much acuminate, acutely serrate, shining; the younger ones often subpubescent. Flowers in large spreading terminal cymes. Teeth of the calyx acute. Corolla white; segments ovate, spreading or revolute. Berries deep purple or black, oval.


A shrub 6—8 feet high; branches often tuberculate. Leaves simply pinnate; leaflets 3 pairs, with an odd one, oval or oblong-lanceolate, much acuminate, acutely serrate. Cyme or panicle pyramidal, dense, naked. Flowers white. Berries small, red.


217. RHUS. L.


*Leaves pinnate.


Hab. In hedges and thickets July. Common Sumach.

The leaves of this species, and the following, are astringent, and are used in tanning. The acid of the berries resides in the down, and has been ascertained by Mr. Cozzens to be the malic.†


† See Annals of the Lyceum of Natural History of New-York, No. 2. p. 45.\
A shrub 8—15 feet high, the last year's branches very villous. 

*Leaves* pinnate; leaflets 10—15 pairs, sessile, whitish beneath, with distant serratures; petiole 2 feet or more in length. 


**Hab.** Among rocks in hilly situations, and in thickets; common. June. 

**Stag's-horn.**


A small shrub, with terete pubescent branches. *Leaves* pinnate, dark green; leaflets 4—6 pairs, with an odd one, acute at each extremity, pubescent on the under surface; petiole with a broad winged margin, which is contracted at the insertion of the leaflets. *Panicle* smaller than in the preceding species, pyramidal. *Petals* greenish-yellow. *Berries* red, small, compressed, hairy, and of a pleasant acid taste. 

**Hab.** In dry woods and on hill sides. July. *Mountain Sumach.*


A shrub or small tree. *Leaves* and petioles very smooth; leaflets about 5 pairs, oval-oblong, margined, sometimes with obsolete angular teeth; partial petioles very short. *Flowers* greenish, in loose slender racemes, which are clustered at the extremity of the branches. *Pedicel* and *pedicels* pubescent. *Berries* subglobose, very smooth, nearly white when ripe. 

**Hab.** In swamps and wet woods; rare near New-York. June—July. 

**Swamp Sumach.**—*Poison Elder.* 

The effluvium of this plant is a violent poison to some persons, though, as *Dr. Bigelow* remarks, the majority of constitutions are unaffected by it.

*** Leaves ternate.**

A shrub 1—3 feet high, slender, smooth, except towards the summit, where it is a little pubescent; leaflets very broad-ovate, acuminate, with the upper surface smooth and shining; lateral ones sessile; the terminal one on a peduncle nearly an inch long; margin entire, or with a few obuse sinuate teeth. Flowers in axillary clusters towards the upper part of the stem, greenish. Berries subglobose, white, smooth.


A vine climbing trees and houses to a great height, to which it attaches itself by its lateral radicles. Leaves ternate; leaflets ovate, acuminate, smooth, generally entire, (the lower ones sinuate-dentate.) Flowers dioecious, in axillary racemes, greenish. Berries white.

Hab. In woods, hedges, and about habitations; very common. Poison Vine.—Mercury.

This plant is by many Botanists considered a distinct species from R. Toxicodendron, but I am of the opinion of Pursh and Michaux, that it is a mere variety. They are both poisonous, but in a much less degree than R. Vernix.


A small shrub with smooth slender branches. Leaves ternate; petioles an inch long, pilose; leaflets subrhomboidal, about an inch and a half long, acute, closely sessile, pubescent beneath; terminal one narrowed and entire at the base; margin coarsely toothed. Flowers in short dense axillary racemes or aments, bracteate at the base. Calyx 5-lobed, half as long as the petals, coloured; segments ovate, obtuse. Petals yellowish, oblong, glanduliferous at the base. Stamens 5. Stigmas nearly sessile, capitate. Berries subglobose, red, villous, in small dense clusters.


According to Mr. Brace, the flowers are feebid. The R. suaveolens of Aiton does not appear to be a distinct species.
218. STAPHYLEA. L.


Bladder-nut.


A shrub 6—10 feet high, erect, with smooth slender branches. Leaves on long pubescent peduncles; leaflets ovate, acuminate, 2—3 inches long, acutely serrulate, pubescent; the lateral ones subsessile; terminal one petiolate. Flowers in loose axillary and terminal pendulous racemes; pedicels nearly half an inch long. Calyx greenish-white, deeply 5-parted; segments connivent, oblong, obtuse. Petals white, obovate, longer than the calyx, ciliate at the base. Stamens alternating with the petals, exserted; filaments capillary, slightly hairy; anthers roundish, yellow, 2-celled. Germs 3-celled; cells 2—3 seeded. Style deeply 3-parted; stigmas capitate. Capsules generally 3, large, membranaceous, cohering on the inner side, seldom with more than one of them† perfecting a single seed. Seed hard, subglobose, a little compressed, smooth and polished, with a small margined cicatrix on one side, above which is a minute oblique process.

Hab. On rocky hills. May.

ORDER IV.
TETRAGYNYA.

219. PARNASSIA. L.

Calyx 5-parted, persistent. Petals 5, inferior. Nectaries of 5 scales, inserted into the claws of the petals, fringed with capitate ciliæ. Stigmas 4, sessile. Cap-

† In the vicinity of New-York, where only I have examined it.


Root perennial. Leaves mostly radical, from an inch and a half, to 2 inches or more in length, oval, roundish or subreniform, generally more or less cordate at the base, obtuse, very smooth, entire, 7—9-nerved; petioles 2—4 inches long; stem leaf below the middle, solitary, sessile, amplexicaul. Stem 12—18 inches high, simple, angular, naked, except the single leaf. Flowers solitary, terminal, large, yellowish-white. Calyx deeply 5-parted; segments ovate, rather obtuse, nervèd. Petals broad-ovate, strongly veined, sessile, obtuse. Nectaries 5, each fringed with 3 subulate processes, terminated by yellow pellucid heads. Stamens alternating with the petals; filaments shorter than the petals; anthers oblong, incumbent. Style 0; stigmas 4, very small. Calix cilium oblong, acute. Seeds very numerous, attached to the margin of the dissepiments. 


Hab. In bog-meadows. Pennsylvania to Virginia. *Pursh.* I have never seen but one North-American species of *Parnassia*, and I suspect that no other has yet been discovered. *Michaux* gives no habitat of his *P. palustris*, nor is it enumerated in *Muhlenberg*'s Catalogue.

† The Natural Order of this singular plant is still unsettled, scarcely any two Botanists agreeing as to situation.—*By R. Brown* and *Smith*, it is supposed to be allied to *Saxifraga*; *Adanson* places it among his *Cistid*; and *Hooker* is inclined to refer it to *Hypericinæ*. *Ventenat* supposes it to constitute a distinct Order of itself.
ORDER V.

PENTAGYNIA.

220. Aralia. 222. Linum.
221. Statice. 223. Sibbaldia.

220. ARALIA. L.


Root perennial, creeping, thick and irregular, aromatic. Stem very short, (scarcely any except the naked root.) Leaf mostly solitary; petiole twice 3-parted, with the partitions quinate; leaflets sessile, oval, acuminate, acutely serrate, smooth. Scape arising from the very short stem below the leaf, divided into 3 long peduncles, each bearing an umbel of 20 or 30 flowers. Involucrum 0. Pedicels spreading, filiform, nearly an inch long, hairy. Calyx with 5 minute acute teeth. Petals greenish-white, spreading, caducous. Stamens longer than the petals; filaments subulate; anthers small, roundish. Stigmas minute, obtuse, connivent.


The root is frequently used as a substitute for Sarsaparilla.


Root perennial, thick and horizontal, aromatic. Stem 3—4 feet high, smooth, branched somewhat dichotomously. Leaves smooth; petiole 3-parted; the terminal division on a long pe-
PENTANDRIA. PENTAGYNIA.  

AZALIA.
tiole; leaflets oval-oblong, acuminate, acutely and doubly serrate. Umbels very numerous, in large axillary panicles; pedicels short. Petals white, oblong, acute, reflexed. Styles 3—5, very short.


Spikenard.


Stem a foot and a half high, shrubby at the base, which is thickly covered with stiff bristles. Leaflets about an inch long, sessile, acutely serrate. Peduncles terminal and axillary, bearing 2—4 umbels. Involuterum of many short subulate bracts. Pedicels filiform, smooth. Flowers greenish-white. Petals reflexed.

Hab. In rocky woods and on mountains; rare near the sea-coast. July—August.

Wild Elder.


A shrub 8—12 feet high, stem erect, straight, simple, very prickly. Leaves mostly terminal, large; leaflets ovate, acuminate, with minute distant teeth; petioles prickly. Panicles very large, terminal; umbels 15—20-flowered. Petals white, caduceous, reflexed.


According to Colden, this plant is a native of New-York.

221. STATICE. L.


Thrift.

1. S. Armeria L.: scape simple, terete, capitate; leaves

Root perennial, large and ligneous. Leaves all radical, cespitose, canaliculate, smooth. *Scape* about a foot high, simple, bearing a roundish head of rose-coloured flowers. *Involucrum* many-leaved, scarious.

Hab. On rocks near the sea-shore. Pennsylvania to Virginia.

A doubtful native. *Pursh* has made some mistake respecting the habitat, as there is no “sea-shore” to Pennsylvania.


Root perennial, large, ligneous, very astringent. Leaves all radical, oblong-lanceolate, rather obtuse, or mucronate, with a minute bent point under the extremity; margin distinctly undulate; under surface slightly veined. *Scape* longer than the leaves, nearly terete, striate, with several lanceolate amplexicaul bracts. *Panicle* very large, much branched; branches alternate, corymbed, bracteate. *Flowers* sessile, secund, veined, with 3 imbricate bracts at the base. *Calyx* tubular, 5-angled, coloured, hairy at the base; teeth 5, lanceolate, acute, with 5 short bifid intermediate teeth. *Corolla* blue; *petals* obovate, unguiculate, rather longer than the calyx. *Stamens* included; *filaments* compressed, inserted at the base of the petals; *anthers* incumbent, roundish, purple. *Styles* filiform, shorter than the stamens; *stigmas* simple. *Seed* oblong, angular, truncate.


The root is a valuable astringent. I am unable to distinguish any essential difference between the North-American and European varieties of this plant.

---

**LINUM L.**

PENTANDRA. PENTAGYNIA. LINUM.


Flax.


Root annual. Stem a foot and a half or 2 feet high, erect, very slender, smooth, simple, except towards the summit, which is more or less branched in a paniculate manner. Leaves scattered, alternate, or rarely opposite, about an inch long, smooth; those on the upper part of the stem very acute. Flowers very small, on pedicels about 2 lines long, secund. Segments of the calyx broad-ovate, acuminate, carinate. Petals pale yellow, ovate. Capsule depressed, globose.

Hab. On rocky hills; common. July—August.


Root annual, fibrous. Stem a foot and a half high, simple below, branched above. Leaves numerous, very acute. Flowers pedicellate, large. Petals obovate, crowded or crenate. Stamens united at the base. Capsule acuminate.


Common Flax.

223. SIBBALDIA. L.


A small procumbent plant, with the habit of Potentilla tridentata. Flowers yellow.

Hab. On the high mountains of Canada and Vermont. Pursh.
ORDER VI.

HEXAGYNIA.

224. DROSELA.


*Root* perennial. *Leaves* all radical, spreading circularly on the ground, covered with brownish filaments, each with a drop of viscid fluid at the extremity. *Scape* 4—8 inches long; erect, smooth, slender, at first involute, bearing from 5—10 very small secund flowers in a simple, or rarely in a bifid, raceme. *Pedicels* about a line long. Segments of the *calyx* linear-oblung, obtuse, reddish. *Petals* white, oblong, obtuse, marcescent. *Stamens* 5; *anthers* 2-lobed, turned outwards; *pollen* granular. *Styles* 5—6, very short; *stigmas* simple. *Capsule* oblong, longer than the *calyx*. *Seeds* very numerous, attenuate at each extremity.

*Hab.* In wet boggy grounds, particularly where *Sphagnum* abounds; common. *July—August.*


*Root* perennial. *Caudex* when overflowed often elongated

**Hab.** In bog-meadows, and in sandy swamps. July—August.

Very common in the pine barrens of New-Jersey, and in swamps on the sea-coast of Long-Island.

This species varies much in size, breadth and length of the leaves, &c. but is easily distinguished by its declined scape, broader segments of the calyx, and capillary stipules. It much resembles the European plant, but may be distinct.


*Root* perennial. *Leaves* filiform, 6—10 inches long, covered all over, except on the under surface, with brown glandular filaments, which, as in the rest of the genus, frequently entangle small insects, at first spirally involute, but at length straight, and when old, tortuous. *Stipules* a lanuginous web. *Scapie* smooth, terete, longer than the leaves, subcompound. *Flowers* racemose, secund, on glandular *pedicels* about 2 lines long; *bracts* subulate. *Calyx* glandular-pubescent; segments unequal, oblong, obtuse. *Petals* large, obovate, pale purple, with darker veins. *Stamens* 5, shorter than the petals; *anthers* large, oblong, 2-lobed, yellow. *Styles* 6; *stigmas* incrassated upwards. *Capsule* oblong. *Seeds* numerous, ovate, acute, black, punctate.

**Hab.** In sandy swamps on the banks of small creeks in the pine barrens of New-Jersey, particularly abundant about Quaker Bridge and Atson. Near Tuckerton, N. J. *Pursh.*


This species was first discovered by *Mr. Rafinesque*, and described by him as early as the year 1808, in the work above quoted. It is a remarkable plant, resembling *D. lusitanica*, which has 10 stamens, and the flowers subumbellate.
ORDER VII.

POLYGYNIA.


Root large, 3—12 inches long, yellow and very bitter, throwing up numerous scions. Stem shrubby below, 2—3 feet high, slender and very smooth. Leaves alternate, mostly terminal, bipinnate; leaflets sessile, lanceolate, incisely toothed, smooth above, a little pubescent beneath. Flowers in compound racemes, subterminal. Petals oblong, acute, dark purple. Nectaries obovate, 2-lobed, shorter than the petals, and alternating with them, dark purple. Stamens 5—8; filaments shorter than the petals; anthers incumbent. Germens 2—3-seeded, (Nutt.) Capsules (by abortion) 1-seeded, inflated, compressed, opening from the acute extremity, half way down. Seed oblong, compressed.


The root is a valuable yellow dye, and is also a strong and pleasant bitter.
CLASS VI.

HEXANDRIA.

ORDER I.

MONOGYNIA.

A. Flowers complete, having a calyx and corolla.
   230. Floerkea.

B. Flowers spathaceous.

C. Flowers naked. (Without a spath; perianth single, petaloid.)
   236. ALetris. 242. Lilium.
   238. Agave. 244. Uvulara.
   239. Phalangium. 245. Streptopus.
   247. Asparagus.

D. Flowers incomplete. (Perianth single, resembling a calyx.)
   249. Acorus. 251. Luzula.

226. TRADESCANTIA. L.


**Root** perennial, creeping. **Stem** about a foot high, a little succulent, branched very smooth. **Leaves** linear-lanceolate, a little pubescent and ciliate, canaliculate, sheathing at the base. **Flowers** in terminal compound clusters or imperfect umbels, with a large 2-leaved involucrum at the base; clusters sessile. **Calyx** persistent; leaflets ovate-lanceolate, rather acute. **Corolla** purple or blue, very fugacious; **petals** ovate, twice as long as the calyx. **Stamens** shorter than the corolla; **filaments** densely covered with a blue down or hair; **anthers** large, crescent-shaped, yellow. **Style** filiform, as long as the stamens; **stigma** capitate. **Capsule** obtusely triangular, 3-celled, 3-valved, covered by the calyx. **Seeds** 2—3 in each cell, compressed, angular.


**Root** perennial, creeping. **Stem** nearly a foot high, sometimes a little branched. **Leaves** 6—8 inches long, and 2 lines broad, smooth, canaliculate, sheathing at the base. **Flowers** much smaller than in the preceding species, in a loose terminal head. **Pedicels** nearly an inch long. **Involucrum** of 2 or 3 small subulate leaves. **Calyx** smooth; leaflets ovate-oblong, spotted. **Petals** bright rose-colour, twice as long as the calyx. **Capsule** obtusely triangular, with one or two seeds in each cell.


227. **LEONTICE.** *L.*

HEXANDRIA. MONOGYNIA. LEONTICE.


Root perennial. Stem about a foot high, erect, very smooth, generally 2-leaved; the lower leaf triternate; upper one biter- nate; leaflets ovate, nearly sessile, except the terminal one, which is petiolate and equally 3 lobed at the extremity; lobes acute. Panicle loose and racemose when there is but one leaf to the stem, proceeding from the divisions of the petiole; when there is a second leaf, it proceeds from the base of this. Pedicels bracteate. Calyx spreading; leaves small and unequal, lanceolate, 2—3, sometimes wanting. Petals greenish-yellow, ovate-lanceolate, unguiculate; margin reflexed, 3—5-nerved. Nectaries one-third the length of the petals, unguiculate, subreniform, somewhat fleshy; margin glutinous. Stamens very short; filaments inserted at the base of the germin; anthers oblong-cordate, opening by elastic longitudinal valves. Germin 2-seeded. Capsule rupturing soon after the flower decays; one of the seeds proving abortive, the other elevated on its short thick funiculus, which resembles a pedicel, when ripe large, and of a dark blue colour; albumen large and horny.


The true structure of the fruit of this plant was entirely misunderstood, until it was described by the learned and ingenious R. Brown. What was supposed to be a drupe by Michaux, and all succeeding Botanists, is only a naked seed which had early ruptured its pericarp, the remains of which are easily seen at its base; the “nux cornea crassissima” is the albumen, and the “seed” is the embryo.

228. BERBERIS. L.


A shrub 3—4 feet high, with numerous yellowish branches. Root large, creeping, yellow. Leaves alternate, often fasciculate, about an inch long, narrowed at the base into a petiole. Spines subaxillary, generally 3-parted, but sometimes simple. Racemes about 2 inches long, proceeding from the fascicles of leaves, gradually becoming recurved or pendulous. Pedicels aggregated, bracteate; the lower ones elongated. Calyx coloured, deciduous; leaflets unequal, obovate; the interior ones larger. Corolla yellow; petals as long as the interior leaves of the calyx, ovate, often emarginate, with 2 small purple glands at the base. Stamens shorter than the petals; filaments very irritable when touched on the inside, near the base; anthers adnate. Germen superior; stigma sessile, broad, margined. Berries oblong, red, extremely acid, 2-seeded.

Hab. On mountains and rocky hills; also along the borders of woods and in hedges; common. May—June.

The American Barberry resembles the European variety in almost every respect.

229. PRINOS. L.


A shrub 6—8 feet high, much branched. Leaves alternate, acuminate, about 2 inches long, and one inch broad, uncinately serrate, with prominent veins beneath; petioles half an inch long. Flowers white, dioecious: Staminiferous in small axillary umbels; pedicels about one-fourth of an inch long. Calyx deeply 6-parted; segments ovate, acute. Corolla sometimes 7-parted; segments oblong, rounded: Pistilliferous nearly sessile, aggregated. Berries globose, scarlet, crowded in bunches, and thus appearing verticillate.


A shrub about 5 feet high; branches very slender. Leaves petiolate, uncinately serrate, obtuse, or with a short abrupt acuminatation, smooth beneath, except a slight pubescence on the midrib. Pistilliferous flowers on very short pedicels, generally solitary. Berries scarlet.


This may possibly be the P. ambiguus of Pursh, but not of Michaux. It is scarcely a distinct species.


A small tree with smooth whitish bark. Leaves elliptical-oval, entire, with a mucronulate point, smooth on both sides, an inch and a half long, and one inch broad; petioles nearly half an inch long. Pistilliferous flowers on long peduncles. Nutt.


3. P. levigatus Ph.: leaves deciduous, lanceolate, with adpressed serratures, smooth on both sides, shining above; nerves beneath scarcely pubescent; flowers 6-cleft; pistilliferous axillary, solitary, subsessile; staminiferous scattered. Pursh Fl. I. p. 220. Muhl. Cat. p. 36?

A shrub 6—8 feet high; branches gray, minutely verrucose. Leaves about 2 and a half inches long, and three-fourths of an inch broad, petiolate, acute at each extremity, obsolesly serrulate, smooth on both sides, except on the nerves beneath, which are a little pubescent. Pedicels of the staminiferous flowers often an inch long. Pistilliferous flowers on pedicels about 2 lines long. Berries red.


I suspect this to be the plant described by Nutt all as the P. ambiguus. There is little doubt that it is Pursh's P. levigatus.


230. FLOERKEA. Willdenow.


Root annual. Stem decumbent, slender, terete, very smooth, and a little succulent. Leaves alternate, on long petioles, trifid and pinnatifid; segments about 5, lanceolate, with dichotomous nerves; the superior ones confluent. Peduncles axillary, at length elongated and reflexed. Calyx deeply 3-parted, persistent; segments spreading, ovate, acute, obscurely 3-nerved. Petals white, scarcely half the length of the calyx on which they are inserted, oblong, pubescent at the base. Stamens very short, inserted at the base of the calyx; the alternate ones seated upon 3 minute glands; anthers minute, roundish, 2-celled. Style inserted between the fruit, bifid; stigmas minute, capitate. Utriculi generally 2, roundish, papillose. Seed roundish; "corculum erect, flat; cotyledons convex, peltate; radicle inferior; perisperm none." Nutt.


231. AMARYLLIS. L.


† Mr. Nuttall informs me, that, from a recent examination of this plant, he is of opinion, that it should be the type of a new Natural Order, allied to the Cruciferæ.
340

HEXANDRIA. MONOGYNIA. AMARYLLIS.


NARCISSE Juss. AMARYLLIDEÆ R. Brown.


Root bulbous. Leaves linear, entire, somewhat succulent, concave, glabrous, about a foot long. Scape 6 inches high, 1-flowered, terete, arising from among the lateral leaves. Spath 1-leaved, a little coloured, opening at one side, 2-cleft at the summit. Corolla 6-petalled, slightly united into a tube at the base; petals all lanceolate, acute, equal, white; the 3 exterior striate, and tinged with pink at the summit. Filaments shorter than the petals; anthers incumbent. Germen inferior, pedicellate, nearly cylindrical. Style longer than the stamens, inclining to one side of the corolla; stigma 3-cleft. Capsules 3-valved, 3-celled. Seeds many in each cell. Eill. Hab. In Pennsylvania. June. Muhlenberg. Native?

232. ALLIUM. L.


Root bulbous. Leaves very long, narrow, flat above, but a little rounded on the back. Scape about a foot and a half high, smooth, slender. Head bearing bulbs and flowers. Pedicels about three-fourths of an inch long. Corolla pale rose-coloured; petals oval, obtuse; Stamens scarcely exserted; filaments simple.

Hab. In moist meadows. May.


Bulb ovate, small. Stem about 2 feet high, slender, striate, a little leafy. Leaves a foot or more in length. Spath of 2
small deciduous leaves. Umbel or head small when bearing bulbs, few-flowered; pedicels capillary, half an inch, or one inch long. Bulbs often numerous, obovate, spreading, sessile. Corolla deep rose-coloured mixed with green. Stamens exerted; filaments flattened; the lateral ones with 2 lateral processes. Style filiform; stigma simple. Capsule triangular.

Hab. In meadows and pastures; very common. Introduced. Wild Garlic.

A very pernicious weed, which it is difficult to extirpate.


I am doubtful about the synonyms of Muhlenberg and Elliott. They probably refer to a distinct plant from the one described by Roth.


Bulb large, oblong. Leaves about 4 inches long, and an inch or more broad. Scape a foot high, striate. Spath 1-leaved, deciduous. Umbel spreading, about 10-flowered; pedicels half an inch long. Corolla white. Stamens not exerted; filaments all simple. Capsule obtusely triangular; cells 1-seeded.


233. HYPOXIS. L.


*Root* bulbous, solid, ovate. *Leaves* all radical, longer than the scape, sparsely hirsute, linear and gramineous. *Scape* 4—6 inches long, slender, subumbellate at the summit; *pedicels* unequal, with subulate stipules at the base. *Flowers* generally about 4, rarely solitary. *Corolla* yellow within, hairy and greenish on the outside, or lanceolate-oblong, rather obtuse. *Stamens* unequal, much shorter than the corolla; *filaments* subulate; *anthers* linear-oblong, incumbent, bifurcate at each extremity. *Style* filiform, about as long as the stamens; *stigma* incrassated, glandular. *Capsule* oblong, 3-celled, 3-valved. *Seeds* numerous, ovate, angular, black.

**Hab.** In dry open woods and in meadows. May—June.

*Yellow Star of Bethlehem.*

This plant varies considerably in size, breadth of leaves, and in number of flowers. I have observed a variety with leaves nearly half an inch broad. Sometimes it occurs with very long and narrow leaves; in which state it is probably *H. graminea* of *Pursh.*

234. Pontederia. L.


*Root* fasciculate. *Leaves* subradical, cordate-sagittate, 3—4
inches long, obtuse, rather fleshy; petiole an inch or more in length, proceeding from a very long tubular sheath. Scape 1—2 feet long, according to the depth of water. Spath oblone, sheathing the pubescent common peduncle. Flowers aggregated by twos and threes, sessile. Corolla bright blue; tube curved, pubescent, with 3 longitudinal gashes or foramina on the inside; border bilabiate; upper lip flat, 3-cleft; segments oblong; one of them with a yellowish spot in the centre; lower lip deeply 3-parted; the segments linear-oblong. Stamens 6; 3 of the filaments inserted near the base of the tube; the other 3 towards the summit exserted. Germen ovate, gibbous; style filiform, blue, scarcely exserted; stigma minute, entire. Vtriculus 1-seeded, covered by the persistent base of the corolla. Seed with 6 elevated ridges. "Perisperm ovate, conic, very white, sweet and farinaceous; corculum in the axis of the perisperm, cylindric, inverted, (or with the radicle upwards); gemmula† oval, conspicuous." Nutt.

Hab. In ponds and on the edges of rivers; common. August; Pickerel-weed.


I consider this plant a mere variety of P. cordata, which varies considerably in the breadth of its leaves. The P. lancefolia of Muhlenberg and Elliott, (which is also P. lanceolata of Nuttall,) is another variety.

235. CONOSTYLIS. R. Brown.


† A term used to distinguish the apparent from the true cotyledons. In the present plant there are no proper cotyledons, merely a minute bud similar to the perfect plant. Nutt.
HEXANDRIA. MONOGYNIA. CONOSTYLIS.

Root fibrous, creeping. Leaves narrow linear, ancipitous, very smooth; those about the root short and cespitose; those on the stem 4—6 inches long. Stem or scape a foot and a half high, erect, terete; when young covered with a white tomentum. Corymb many-flowered, woolly, at first contracted, but at length expanding. Pedicels as long as the flowers, incrassated, bracteate at the base. Corolla 6-cleft, yellow within; segments oblong, acute, reflexed; the 3 interior ones narrower. Stamens about as long as the corolla, and inserted opposite its segments; filaments subulate, smooth; anthers ovate, yellow. Germen semisuperior, roundish, smooth; style subulate, as long as the stamens, divisible into 3 parts; stigma simple. Capsule ovate, obtusely triangular, covered by the persistent calycine corolla, which adheres to its base, acuminate, 3-celled, 3-valved; dissepiments arising from the centre of each valve. Seeds 10—15 in each cell, white; attached to the dissepiments, oblong, acute at one extremity, longitudinally striate.


This plant differs somewhat from Conostylis of R. Br an w n, as defined in his profound work above quoted, but perhaps not sufficiently to form a distinct genus. In the latter the pubescence is ramarlose; in the former simple. To Lachnanthes of Elliott it has much resemblance in character and habit. In Muhlenberg's Catalogue it stands as a native of New-York, by the same mistake as that mentioned in page 38 of this work.

236. ALETRIS. L.


Root premorse, perennial. Leaves all radical, 3—6 inches long, and about half an inch broad, spreading in a stellate manner, lanceolate, very smooth, of a pale yellowish-green colour, and dry texture. Spike 2 feet or more in height, terete, striate, very smooth, with several remote bracts. Spike 4—6 inches
Ar, ETR is.

TL EXANDRIA.

MONOGYNA *

345

long; flowers numerous, but not crowded; pedicels very short, with subulate bracts at the base, nearly as long as the flowers. Corolla white, scabrous-pulverulent; segments acute. Stamens very short, inserted opposite the segments of the corolla; anthers sagittate. Style the attenuated summit of the germen, triangular; stigma small, nearly simple. Capsule ovate, obtusely triangular, acuminate, 3-partite,† (or rather capsules 3, partite when ripe opening on the inside and at the summit, crowned with part of the style) Seeds very numerous and minute, oblong, acute at one extremity, yellow, longitudinally striated.

HAB. In dry sandy woods and on hill sides. July. Colic-root.


Root large, premorse. Leaves all radical, lanceolate, acuminate. Scape 2—3 feet high. Spike with fewer flowers than in the preceding species. Pedicels very short, with the subulate bracts at the base half the length of the flower. Corolla yellow, tubular-campanulate. Capsule as in A. farinosa.

HAB. In the pine barrens of New-Jersey; abundant. July—August.

Scarcely a distinct species from the preceding.

237. HEMEROCALLIS. L.


Root fasciculate. Leaves very long. Scape 3 feet high, corymbose at the summit. Flowers fulvous, large, fugacious.

HAB. In wet meadows; beginning to be naturalized in many localities. June—August.

238. AGAVE. L.

Corolla superior, erect, tubular or infundibuliform.

† Mr. Nuttall remarks, that the capsule is firmly closed and indurated at the summit. He supposes it to open horizontally all round. This excellent Botanist could never have examined the fruit in its mature state, or he would undoubtedly have seen its true structure.


Root perennial, tuberous, præmorse. Radical leaves long, lanceolate, acute, very smooth, succulent; stem leaves semiamplexicaul, acute, resembling scales. Scape 4—6 feet high, terete, glabrous. Flowers sessile. Corolla fragrant, of an obscure yellow colour, tubular, furrowed; segments shorter than the tube, acute. Filaments spotted, twice as long as the corolla, inserted into its base. Style terete, shorter than the filaments, spotted. Capsule globular, slightly 3-furrowed, 3-celled, 3-valved. Seeds numerous, compressed, angular, 2-rowed in each cell, attached to a central receptacle. *Ell.*


239. *PHALANGIUM. Tournefort.*


Root an ovate tunicate bulb, about an inch and a half in diameter. Leaves about a foot long, 4—6 lines broad, very smooth, striate. Scape longer than the leaves, simple, terete. Flowers in a spiked raceme. Pedicels 1-flowered, terete, longer than the coloured subulate bracts at their base. Corolla 6-petalled, pale blue, spreading; petals linear-lanceolate, acute, 5-striate. Stamens shorter than the corolla; filaments subulate, very smooth; anthers large, oblong, yellow. Germen triangular; style filiform, rather longer than the stamens; stigma slightly 3-cleft. Capsule subglobose-triangular, 3-celled, many-seeded. Seeds oblong, black.


This plant has not yet been discovered within the limits prescribed for this work, though there is little doubt that it exists on the shores of Lake Ontario, as well as on Lake Erie;
on the latter of which it was found by Mr. Nuttall, near its confluence with Huron River. According to this learned Botanist, its geographical range from east to west is more than 2000 miles, but from north to south scarcely more than 300. Its bulbous roots are a favourite article of diet with the tribes of Indians near the Rocky Mountains.

240. NARTHETCIUM. Hudson.


Root creeping and fibrous. Leaves numerous, all radical, narrow-ensiform, striate, very smooth, of a yellowish-green colour. Scape ascending, about a foot high, simple, terete, with 2—3 remote subulate bracts. Spike about 3 inches long; terminal, straight; pedicels sometimes in twos and threes, half an inch long. Petals yellow within, greenish externally, persistent, linear-oblong. Stamens a little shorter than the corolla; filaments clothed with short wool; anthers linear, yellow. Germen oblong, attenuate at the extremity; stigma small, subsessile. Capsule as long again as the corolla, obtusely angular, yellowish, rigid, splitting imperfectly into 3 valves. Seeds numerous, as long as the capsule, with a subulate process at each extremity.

Hab. In sandy swamps of the pine barrens of New-Jersey. August.

Scarcehly distinct, except in the position of the bracts, from the Narthecium ossifragum of Europe.

241. ORNITHOGALUM. L.


Root bulbous, small, white. Leaves radical, linear, canaliculate, very smooth. Scape about a span high, terete; pedicels alternate, corymbed, each with a membranaceous lanceolate bract at the base. Flowers 6–8, large. Petals oblong-lanceolate, white internally, greenish, with a white border externally. Stamens shorter than the corolla; filaments flattened, smooth, equal, entire; anthers large, yellow. Germen subturbinate; style very short, persistent; stigma obtuse. Capsule obtusely angular. Seeds numerous, spherical.


242. *LILIUM.* L.


Root bulbous. Stem about 2 feet high, very smooth, shining. Leaves by sixes, linear-lanceolate, rather acute, 3-nerved. Flowers mostly solitary, sometimes 2 or 3 on a stem, very large, dark orange. Petals lanceolate, attenuate into long claws at the base, marked below with fulvous spots. Stamens shorter than the corolla; filaments slender, smooth; anthers large, linear, incumbent. Style as long as the stamens; stigmas large, thick. Capsule oblong, obtusely triangular, with the angles sulcate. Seeds ovate, flattened, incumbent.


2. *L. canadense* L.: leaves remotely verticillate, lanceolate; nerves hairy beneath; peduncles terminal, elongated, generally by threes; flowers nodding; corolla turbinate, campanulate, slightly revolute; petals lanceolate. *Willd. Spec.*
Lilium. Hexandria. Monogynia. 349


Root a middle-sized bulb. Stem 2—4 feet high, smooth and shining. Leaves by sixes, in rather distant whorls, acute, distinctly 3-nerved. Flowers generally 3, sometimes solitary, on very long peduncles, yellow, with numerous roundish fulvous spots on the inside; petals turned outward above the middle, but scarcely revolute, acuminate.

Hab. In wet meadows and on the banks of rivers. June—July.


Root a large scaly bulb. Stem 4—6 feet high, terete, very smooth. Leaves on the lower part of the stem by sixes, narrow-lanceolate, attenuate; upper ones more or less scattered. Flowers 3—20, in a large pyramidal raceme, bright orange, with dark purple spots; petals linear-lanceolate, beautifully revolute. Capsules becoming erect as they ripen.


A very splendid species; not very common north of New-York.


Root a scaly bulb. Stem a foot and a half high, terete, very smooth. Leaves about 2 inches long, and scarcely 2 lines broad, very acute, adpressed. Flowers large, scarlet, spotted with yellow and brown; petals ovate-lanceolate, much acuminate, tapering into a long claw at the base.


L. pennsylvanicum of the Botanical Magazine, 872, is supposed by Mr. Nuttall to be merely a hybrid of the gardens.

243. Erythronium, L.

Corolla 6-petalled, subcampanulate; petals reflexed; the interior ones with a callous tooth on each side near


Root a small ovate scaly bulb, buried deeply in the earth. Leaves 2, radical, elliptical-lanceolate, smooth and shining, thickened at the extremity, spotted with green and brown; upper surface minutely punctate. Scape 6—8 inches long, bearing a single large cernuous flower. Petals yellow, spotted near the base, reflexed; inner ones broader, with a longitudinal groove near the base, terminating in a small pore, on each side of which, and embracing the filaments, is a minute scaly process. Stamens scarcely half the length of the petals; filaments slender, smooth; anthers erect, large, linear-oblong. Style rather longer than the stamens, incrassated upwards, triangular; stigma entire, perservious, pubescent within. Capsule oblong, acuminate, sub stipitate, 3-celled, 3-valved. Seeds numerous, ovate.

Hab. In woods and moist thickets. April—May.


Root. Leaves about 6 inches long, and an inch or more in breadth, not spotted; without punctures, callous at the tip. Scape a little longer than the leaves. Flowers rather larger than in the preceding species, white with a shade of blue. Petals reflexed or revolute. Ger mand elliptic; style scarcely dilated above, cleft into 3 distinct lobes, which are papillose on the inside.

Hab. On the banks of the Ohio, within the limits of this work. April.

For specimens of this handsome and very distinct species, I am indebted to Dr. Mitchell. In the Western States it takes the place of E. americanum.
244. UVULARIA. L.


**Bell-wort.**


**Root** a large tuft of fleshy fibres. **Stem** erect, 8—10 inches high, smooth, terete, bifid near the summit. **Leaves** about an inch and a half long, (when the plant is in fruit much larger,) perfoliate near the base, and slightly cordate, longitudinally nervet. **Flowers** mostly solitary, pendulous from one of the forks of the stem, pale yellow. **Petals** linear-lanceolate, roughened on the inside with granular eminences. **Filaments** very short, inserted at the base of the petals; **anthers** long-linear, with a subulate point. **Germen** obovate; **style** triangular, longer than the stamens; **stigmas** filiform, reflexed. **Capsule** triangular, with concave sides, truncate, 3-celled, 3-valved; valves septiferous in the middle. **Seeds** several in each cell, subglobose.

**Hab.** In moist woods and shady thickets. **May—June.**


**Flowers** larger than in the preceding species, and of a brighter yellow. **Ph.**

**Hab.** In shady woods in sandy soil. **May—June. Pursh.**

This species I have never seen. It appears to be scarcely distinct from *U. perfoliata.*


Root perennial. Stem 8—12 inches high, forked near the summit. Leaves smooth, acuminate. Flowers axillary, 1—2 on one of the forks of the stem, pale yellow; petals lanceolate, acute, not granular within. Capsule ovate, on a short pedicel. Hab. In moist shady woods and thickets. May—June.

245. STREPTOPUS. Mich.


Root perennial. Stem about 18 inches high, dichotomous, terete, smooth. Leaves ovate, acuminate, many-nerved, thin and membranaceous; margin distinctly ciliate. Flowers small, solitary, axillary, on nodding filiform pedicels about three-fourths of an inch in length; pedicels with a minute lateral process near the middle, where it is commonly geniculate. Corolla rose-coloured; petals lanceolate, acuminate. Stamens short; anthers broad, flat, smooth, oblong-cordate, with 2 minute horns at the summit. Germin sessile, turbinate, sub-triangular; style about as long as the stamens; stigmas 3, minute, simple. Hab. On mountains. New-England to Carolina. In the Highlands of New-York. Barratt, &c. Not found near the sea-coast. May—June.

Michaux's figure of this species does not represent the ciliate leaves. It resembles much more the following.

Root perennial. Stem 2 feet high, very smooth, with several dichotomous branches. Leaves 2—4 inches long, ovate-lanceolate, smooth on both sides, many-nerved, acuminate; margin very entire. Flowers small, solitary, on filiform axillary pedicels an inch and a half in length; pedicels generally distorted about the middle. Corolla greenish-yellow; petals linear-lanceolate, reflexed. Filaments very short, flat; anthers sagittate, attenuate into long subulate (ciliate?) points. Germen ovate, sessile; style very thick; stigmas nearly entire. 


It appears to be somewhat doubtful whether our plant is identical with the *Uvularia amplexifolia* of the north of Europe, and I have not the means of determining the question.


Leaves with an abrupt and long acumination. Flowers greenish, three times as large as in the preceding species. Berry with the cells, by abortion, 1—2 seeded. *Mich.*


246. CONVALLARIA. L.


*Corolla* deeply 4-parted, spreading; stamens 4; berry 2-celled. (Flowers in a terminal raceme.) *Maianthemum Desfontaines.*

HEXANDRIA. MONOGYNIAS. CONVALLARIAS


Root perennial, creeping. Stem 4—6 inches high, mostly 2-leaved near the summit, sometimes with a large radical leaf, erect, terete. Leaves more or less distinctly cordate at the base, very smooth on both sides, acute or acuminate; petiole 1—2 lines long. Raceme oblong, many-flowered. Pedicels in twos and threes, 1—2 lines long, spreading. Flowers very small. Corolla white, deeply 4-parted; segments oblong, obtuse, reflexed. Filaments short, seated at the base of the petals; anthers oblong, incumbent. Germen subrotund; style short, triangular; stigmas capitate, slightly 3-lobed. Berries small, globose, when unripe spotted with red, pellucid.

Hab. In shady woods, around the roots of trees. May—June.

The North-American plant appears to be almost identical with the European.

** Corolla 6-parted, spreading; filaments divergent attached to the base of the segments. (Flowers in a terminal raceme.)

** SMILACINA Desfontaines.


Root creeping, somewhat tuberous. Stem about a foot high, nearly smooth, terete. Leaves about 9, lanceolate or oval-lanceolate, acute, slightly pubescent on the nerves beneath. Raceme 3—9-flowered, short; pedicels 1—2 lines long. Flowers small, white. Corolla deeply 6-parted; segments spreading, oval-oblong. Style very short, triangular; stigma slightly 3-lobed.

Hab. In wet meadows; common in mountainous districts. May—June.


Root perennial. Stem about a span high, smooth, angular? Leaves generally 3, remote, ovate, contracted and amplexicaul at the base, very smooth on both sides, erect. Raceme 4—6-flowered; pedicels a line long, thick, with a minute bract at the base. Flowers small, white. Corolla 6-parted; segments ovate, spreading. Berries small, red.


4. C. racemosa L.: leaves numerous, alternate, sessile;

Root tuberous. Stem a foot and a half or 2 feet high, a little flexuous and angular, smooth below. Leaves alternate, 6 inches long, much acuminate, contracted at the base into a short petiole, pubescent on the nerves beneath; margin minutely ciliate. Flowers very small, in a compound terminal raceme or panicle; branches alternate, pubescent. Corolla greenish-white, 6-cleft; segments oblong, spreading. Stamens nearly as long as the corolla. Germin subrotund, acuminate with the short thick style. Berries globose, red, seldom perfecting more than 2 osseous hemispherical seeds.

Hab. In low grounds; common. June.

** * Corolla subcampanulate, deeply 6-parted; style elongated; berry 2-celled, many-seeded.


Root creeping, somewhat tuberous. Leaves generally about 3, approximate on the very short stem, sometimes obovate, 4—6 inches long, and about 2 broad, abruptly acuminate, thin and membranaceous, finely nerved; margin pilose-ciliate. Scape 6—8 inches long, angular, terminating in a corymbose umbel of about 4 flowers; pedicels pubescent, half an inch long, naked, or with minute bracts at the base. Corolla nearly as large as in Uvularia sessilifolia, greenish-yellow, 6-cleft almost to the base; segments oblong-lanceolate, obtuse, a little spreading. Stamens the length of the corolla; filaments slender, smooth, inserted into the base of the segments; anthers oblong. Germin oblong; style triangular, thick, nearly as long as the stamens; stigma 2-lobed. Berries of an amentine blue, 2-celled; cells 3—4-seeded. Seeds angular.


This plant agrees almost equally well with the characters of Convallaria umbellulata of Michaux, and Dracena borealis of Aiton; both of which are referred to Smilacina by Pursh. It resembles the latter, except in having the pedicels bracteate; and differs from C. borealis (as described by
**Polygonatum Desfontaines.**

*Corolla 6-cleft, cylindric; filaments inserted on the upper part of the tube; berry 3-celled; cells 2-seeded. (Flowers axillary.)*


Root creeping, large and fleshy. Stem 2—3 feet high, a little curved, very smooth. Leaves smooth on both sides, paler beneath, many-nerved. Peduncles nodding, secund, 2—4-flowered. Corolla greenish-white, about three-fourths of an inch long, tubular, smooth; border a little dilated. Stamens very short; filaments inserted into the tube opposite the segments; anthers oblong. Germen subglobose; style shorter than the corolla; stigma triangular. Berries dark blue.


Flowers yellowish-white, with green tips. *Ph.*


I have specimens of a *Convallaria* sent to me from Salem, North-Carolina, by Mr. Schweinitz, under the name of *C. angustifolia*, agreeing exactly with the description of *Pursh* and *Elliott*, which, I have little doubt, is only a variety of *C. multiflora*.


Root creeping, tuberous. Stem about a foot and a half high, curved, smooth. Leaves oblong ovate, acuminate, contracted at the base, 5—7-nerved, pale and pubescent beneath. Peduncles axillary, filiform, nodding, forked towards the extremity. Flowers not half as large as in the preceding species, yellowish-white, greenish at the tips and base.

Hab. On rocks; common. June.


Root creeping, tuberous. Stem 3—5 feet high, obtusely angular, smooth, curved towards the summit. Leaves 6 inches long, and more than 2 broad, very smooth on both sides, acuminate, a little amplexicaul at the base. Peduncles 3—6-flowered, long and recurved. Flowers as large as in C. multiflora, greenish-white.


The largest North-American species; but probably only a variety of C. multiflora. It appears to be the C. Polygonatum of Europe.

247. ASPARAGUS. L.


Root creeping, fleshy. Stem erect, smooth, 1—2 feet high. Leaves very slender, in numerous small fascicles. Stipules minute, subterminal. Flowers small, drooping, subaxillary, solitary, greenish-white. Corolla deeply 6-parted; segments lanceolate; the 3 interior ones spreading towards the extremity. Stamens very short, included. Germen subrotund; style very short; stigmas 3, united at the base. Berry globose, bright scarlet, shining. Seeds black.


Common Asparagus.
248. ORONTIUM. L.


Root perennial. Leaves all radical, at first small, but at length 6—8 inches long, and 2—3 broad, very smooth, and a little succulent, entire, mucronate, pale and almost glaucous beneath, obscurely nerved; lamina abruptly coalescing with the summit of the petiole. Spath radical. Spadix 1—2 inches long, on a long cylindrical peduncle, the upper part of which is of a bright yellow colour. Calyx yellow, in the lower flowers 6-leaved, in the upper 4-leaved, with as many stamens; leaflets dilated, cucullate, truncate. Filaments shorter than the calyx, broad and flat, a little contracted above; anthers adnate, 2-lobed, persistent; cells opening vertically. Germen superior, truncate; stigma sessile, minute, concave. "Utriculus naked, green, roundish, 1-seeded, of the size of a large pea; gemmula viviparous, or commencing to vegetate as soon as mature; (cotyledons 0); primary vaginate leaves 2 or 3, linear and subulate, the 4th leaf usually exhibiting a small lamina; primary radicle conspicuous, conic. Somarhizet roundish, large, dark green, umbilicately depressed at the summit, having a small concealed internal cavity, and a lateral shallow groove for the reception of the gemmula, which is appressed to it and curved over the greater part of the somarhizet." Nutt.


249. ACORUS. L.

Spadix cylindric, covered with flowers. Corolla

† In this case a large round ingerminative body, laterally connected by a vascular system to the gemmula, and forming the principal part of the seed. Nutt.


Root thick, creeping, horizontal, aromatic. Leaves ensiform, 2—3 feet long. Scape ancipital, leafy above the spadix, which protrudes from its side above the middle. Spadix cylindrical, thick, 2 inches or more in length, tessellated with minute greenish flowers. Petals ovate, obtuse, a little inflexed at the summit. Stamens alternating with the petals, and somewhat exceeding them in length; anthers minute, erect. Germin oblong, superior; stigma punctiform. Capsule triangular, obtuse, 2-celled; cells 2—4-seeded. Seeds ovate.

Hab. In swamps, and on the borders of rivers and ponds; common. June. Certainly indigenous.

The root is a well known carminative.

250. JUNCUS. L.


* Scape naked; (flowers lateral.)


Root fibrous, perennial, cespite. Scape 2—3 feet high, erect, simple, soft and pliable, filled with a spongy pith, slightly striate, terminating in a long filiform extremity. Panicle bursting from a fissure in the side of the scape, about half way down, sessile, much branched, and often proliferous, bracteate at the base. Leaflets of the perianth very acute. Stamens 3,
shorter than the perianth; anthers yellow. Style scarcely any; stigmas filiform, spreading. Capsule triangular. Seeds minute, very numerous, yellow, attenuate at each extremity.

Hab. In low wet grounds; very common.

Bog-rush or Bull-rush.


Root fibrous, creeping, cespitose. Scape very slender, about 2 feet high, a little curved above, terete, deeply striate, sheathed at the base. Panicle scarcely more than an inch long, 20—30-flowered; peduncles compressed. Leaflets of the perianth very acute; the 3 exterior ones about as long as the capsule. Stamens 6. Style short; stigmas filiform, brown. Capsule triangular, acute.


Resembles J. filiformis of Europe, but sufficiently distinct.


Root perennial, cespitose, forming very large tufts. Stem sometimes in distichous fascicles, 2—3 feet high, without leaves, hard, rigid, with a marescent sheath at the base. Panicles 2—3 inches long, terminal, though appearing to be lateral. Involutrum of 2 unequal acute and pungent leaves; one of them longer, the other shorter than the panicle. Leaflets of the perianth lanceolate, acute, fuscous, membranaceous on the margin; the 3 exterior longer, acuminate, reflexed at the point. Stamens very short. Stigmas subulate, glandular. Capsule somewhat obovate, obtusely triangular, pointed with the style. Seed angular. Ell.


** Leaves all radical; (flowers terminal.)


This species is marked as a native of New-York, by Muhl-


**Hab.** In low grounds and on road sides; sometimes in very dry places; very common. June—July.

This species, when it grows luxuriantly, produces compound panicles, with the branches bearing from three to five flowers in a racemose manner. It then appears to be the *J. gracilis* of *Eng. Bot.* t. 2174, and exactly resembles specimens sent to me under this name from England, by Mr. A. H. *Haworth.*


*Root* bulbous. *Stem* 8—10 inches high, filiform, nearly terete. *Leaves* few, slender, terete, often longer than the stem, divided by transverse partitions, which, especially in a dry state, give them a jointed appearance. *Heads* often solitary, but generally 2, globose, 8—12-flowered: one of them sessile, the other on a peduncle nearly an inch long. *Involucrum* a single filiform leaf, much longer than the heads. *Bracts* at the base of the *perianth* ovate, acute. Leaflets of the *perianth* linear-lanceolate, with a mucronate or subaristate tip. *Stamens* 6; *anthers* yellow. *Capsule* triquetrous.

**Hab.** In swamps and boggy grounds. July.
**Stems leafy.**

Leaves nearly plane, grooved above.


*Root* tuberous and creeping. *Stem* a foot or 18 inches high, compressed. *Leaves* mostly radical, flat, linear, sheathing at the base; a single one on the stem, which is a little canaliculate. *Panicle* of 3—5 globose heads on unequal peduncles, longer than the erect bract at the base. *Heads* generally about 6-flowered. Leaflets of the perianth unequal; the 3 exterior, as well as the bracts at their base, subulate; the 3 interior obtuse, margined. *Stamens* 3, inserted at the base of the exterior leaflets of the perianth. *Capsule* obtusely triangular. *Seeds* numerous, yellow, acute at each extremity, and a little curved, conspicuously striate.

*Hab.* In low grounds; not uncommon. August.

*β. odorus*:* stem* tall, subterete, leafy; *panicle* much branched, proliferous.

*Root* —. *Stem* 2—3 feet high, slightly compressed. *Leaves* a foot or more in length, 2 lines broad; all of them flat, very smooth. *Panicle* terminal, subcorymbed, much branched. *Heads* very numerous, twice or thrice proliferous. Leaflets of the perianth unequal, rather shorter than the capsule; the exterior ones lanceolate, subulate; the others obtuse and scarios on the margin. *Stamens* 3. *Capsule* subglobose, very obtuse. *Seeds* very numerous, yellow, acute at each extremity, striate.

*Hab.* In moist woods. Bloomingdale, near New-York. August. This variety has an odorous smell, similar to that of *Vanilla*.


*Root* creeping. *Stem* about 6 inches high. *Leaf* mostly solitary near the summit, linear-setaceous; sheaths with finely laciniate stipules; the lower ones with only the rudiments of leaves. *Flowers* mostly in a single head, with 2 long setaceous bracts at the base resembling the leaf on the stem. Leaflets of the perianth ovate, acute. *Capsule* oblong, acuminate.


Root perennial, fibrous, forming large tufts. Stem erect, simple, leafy, compressed, tough and wiry. Leaves very narrow, angular beneath, but channelled above, short. Panicle small, terminal, subtrichotomous. Involucrum of 2 unequal setaceous leaves, the longer of which is shorter than the panicle. Flowers mostly by threes, with obtuse scarious bracts at the base. Leaflets of the perianth lanceolate, incurved over the capsule, generally acute. Stamens 6. Capsule dark brown, obtusely triangular, rather longer than the perianth. Seeds fuscos, oblong, acuminate at each extremity, distinctly striate.


Hab. In low overflowed places; very common on the borders of salt marshes. June—August.

†† Leaves rounded or subcompressed, nodose-articulate.

364 HEXANDRIA. MONOGYNIA.


Root fibrous, cespitose. Stem a foot and a half high, terete, tennacious. Leaves few, short, terete, indistinctly articulate. Panicle terminal, subcorymbose, erect, sometimes proliferous. Heads generally 3-flowered, with acuminate bracts at the base. Leaflets of the perianth tapering into a cusp or short awn. Capsule acutely triangular, acuminate. Seeds minute, subulate at each extremity, yellow.


This is nearly allied to J. sylvaticus of Willdenow, but a very distinct plant from J. sylvaticus of Smith, &c. which is a species of Luzula. It scarcely differs from J. acutiflorus, Eng. Bot. t. 238.


Root perennial, fibrous. Stem a foot and a half or 2 feet high, tough, a little compressed below. Leaves compressed, distinctly articulate, thick; sheaths membranaceous. Panicle compound and somewhat verticillate. Heads globose, dense, sessile and pedunculate, 10—15-flowered. Flowers with ovate scarious bracts at the base. Leaflets of the perianth lanceolate, produced into a cusp or short awn. Stamens 3, (rarely 6.) Capsule oblong, acutely triangular. Seeds minute, yellow, oblong, attenuate at each extremity.

Hab. In boggy meadows. August September.

Allied to J. nodosus, but differs in its compound panicle, more acute calyx, &c.


This species has not come under my observation, unless I have mistaken it for a variety of J. nodosus or polyccephalus.

251. LUZULA. Willd.


Root perennial. Stem about 6 inches high, terete, slender. Radical leaves numerous, broad-linear, with long hairs on the margin and towards the base; stem leaves short and narrow. Panicle 8—10-flowered, subtended by a foliaceous bract; pedicels about half an inch long, capillary, at length bent down. Perianth with 2 bracts at the base; leaflets lanceolate, acuminate, scarious, fuscous. Stamens 6; anthers yellow. Style 3-cleft; stigmas filiform, longer than the perianth. Capsule triangular. Seeds with a curved appendage at the tip.


This species resembles the European in every respect.


Root fibrous, creeping, perennial, sometimes bulbous. Stem about a foot high, cespitose at the base, terete, leafy. Leaves flat, broad-linear; margin ciliate with long loose hairs. Flowers forming a terminal subcorymbose panicle; peduncles about 6, unequal, erect or spreading, some of them at length reflexed. Involucrum of 2 or 3 unequal leaves. Spikes round-ovate, many-flowered. Leaflets of the perianth fuscous, scarious on
the margin. *Stamens* scarcely exserted; *anthers* large, yellow. *Capsule* obovate, triangular, 3-celled; 2 of the cells sometimes abortive.

**Hab.** In low meadows and in woods; very common. April—May.


**Root** fibrous cespitose. **Stem** about a span high, erect, slender, simple. **Leaves** 2 inches long, recurved, narrow-linear, a little grooved, smooth, except at the margin of the sheaths. **Spike** an inch long, branched at the base. **Spikelets** shorter than the *bracts* at the base. **Flowers** ferruginous. **Capsule** obscurely angular, acute.

**Hab.** On the White Hills of New-Hampshire. August. *Boott.* Communicated to me by *Dr. Bigelow.*

---

**ORDER II.**

**TRIGYNI A.**


---

252. *Melanthium.* *L.*

Polygamous. —*Calyx* 0. *Corolla* 6-parted, rotate; segments unguiculate, with 2 glands at the base;


Root —. Stem 3 feet high, erect, terete, minutely pubescent, leafy. Leaves a foot or more in length, and about half an inch broad, sheathing at the base, smooth. Panicle a foot long, compound, loose; branches alternate. Pedicels three-fourths of an inch long, with ovate obtuse bracts at the base. Flowers polygamo-dioecious, more than half an inch in diameter. Petals greenish-white, becoming brown with age, persistent, auriculate or subhastate at the base, which is marked with glandular oval spots. Stamens shorter than the corolla, and inserted into its narrow claws, which appear to be folded round their base; anthers oblong-reniform; styles 3, short, spreading, persistent; stigmas simple. Capsule superior, a little 3-cleft at the summit, and then 3-horned, triangular; cells 3—6-seeded. Seeds oval, compressed, with a winged margin.


About a foot high. Raceme sometimes a little divided at the base. Flowers whitish. Nutt.


According to Mr. Nuttall, this species is also found on the borders of Lakes Huron and Michigan, and up the Missouri to Fort Mandan.


Stem 2 feet high, terete, slightly striate, leafy. Leaves long-linear,
nearly glabrous, embracing the stem; the midrib rather distinct. Panicle long, composed of simple racemes. Flowers somewhat distant, on peduncles twice the length of the petals; sterile and fertile flowers mixed in each panicle. Petals persistent, orbicular, plaited, waved or repand on the margin, (not changing with age, Mich.); glands forming an emarginate circle at the summit of the claw, with a furrow along the centre. Stamens as long as the petals. Styles expanding. Ell. Capsule large, appearing like 3 united by the inner margins, 3—5, and probably sometimes 6-seed. Seeds imbricated, flat, subelliptic, with a double alated margin, about the size of the seeds of some species of Pinus. Nutt.


253. VERATRUM. L.


Green and White Hellebore.


Root large, with thick white descending fibres. Stem 3—4 feet high, erect, terete, pubescent. Leaves 6—8 inches long, 2—3 broad, longitudinally plicate, acuminate, entire, sheathing the stem at their base. Panicle large, terminal, pyramidal; branches pubescent, attenuate, with leafy bracts at their base; upper ones bearing staminiferous flowers; the inferior ones perfect. Corolla greenish, persistent; petals oblong, acute, thickened on each side of the base. Stamens shorter than the corolla; filaments smooth, subulate, inserted at the base of the germen; anthers roundish, incumbent, turned outwards. Germen oblong, acute, reflexed; stigmas simple. Capsules 3, united. Seeds numerous, ovate, compressed.


Swamp Hellebore.—Poke-root.

254. HELONIAS. L.

Corolla 6-parted, spreading; segments sessile, with-


**Root** bulbous. **Stem** 2 feet high, leafy, obtusely angular, simple, very smooth. **Leaves** a foot or more in length, 3—4 lines broad, mostly radical, somewhat caricine. **Raceme terminal**, 3—4 inches long, simple; **pedicels** nearly an inch in length, filiform, spreading; **bracts** ovate, obtuse. **Flowers** one-fourth of an inch in diameter, white, becoming greenish with age. **Petals** oblong, obtuse, sessile. **Stamens** rather longer than the flowers; **filaments** subulate, inserted at the base of the petals; **anthers** white, roundish. **Germens** 3, superior, divaricate at the summit; **stigmas** short, simple. **Capsules** 3, turgid, united at the base. **Seeds** ovate, covered with a pulpy coat, which becomes bright scarlet when ripe.

**Hab.** In shady moist situations on river banks, and on high mountains. Pennsylvania to Carolina. *Pursh.* June.

This plant is a narcotic poison, and is used in the Southern States for destroying flies.


**Root** fibrous, perennial. **Stem** about 2 feet high, terete, glabrous. **Leaves** very long, linear, acute, much narrower than in the preceding species. **Flowers** in a terminal simple ra-
HEXANDRIA. TRIGYNIA. HELONIAS.

ceme; peduncles longer than the flowers. Petals persistent, longer than the stamens. Capsules 3, twice as long as the petals, triangular, acute, cohering to the very summit. Ell.


This species possesses a different habit from either of the preceding, and should, perhaps, be the type of a new genus. It is intermediate between Helonias and Veratrum.

255. XEROPHYLLUM. Michaux.


Asphodelus minor albus, Pluk. Mant. 29. t. 342. f. 3.

Root somewhat bulbous. Radical leaves forming large tufts, dry and caricine, about a foot in length and very narrow; leaves of the scape or stem numerous, scattered, setaceous. Scape 5—5 feet high, erect, simple, terete. Flowers white, in a large terminal raceme. Pedicels an inch or more in length, filiform, with a long setaceous bract near the base, and another below the flower. Corolla deeply 6-parted; segments oval-oblong, persistent; the alternate segments rather shorter and narrower. Stamens about the length of the corolla; filaments subulate, compressed, contiguous at the base; anthers large, roundish. Germen subglobose, obtusely triangular; styles 0; stigmas linear, united at the base, but revolute above. Capsule subglobose, obtusely 3-lobed; cells opening from the summit to near the middle, 2-seeded. Seeds oblong, compressed.

Hab. In the pine barrens of New-Jersey; abundant in many parts of Monmouth county. June.

Few herbaceous plants of North-America can vie with this in stateliness and singularity of appearance. It is very distinct from Helonias in habit and structure. The H. tenax of Pursh forms a second species of this genus.

256. TOFIELDIA. Hudson.


Root sometimes tuberous. Leaves mostly radical, narrow-ensiform, about a foot long, very smooth. Scape with one or two leaves near the base, a foot and a half high, covered towards the summit with a glandular pubescence. Raceme spiked; the lower flowers mostly by threes; pedicels 1—2 lines long,
subtended by several minute bracts. *Calyx* of 3 short bracteiform leaflets. *Corolla* greenish-white; *petals* oblong-obovate. *Stamens* about as long as the petals; *filaments* subulate, distinct at the base; *anthers* roundish, compressed, brownish-purple. *Germen* ovate, obtusely triangular, acuminate; *styles* shorter than the germin, a little expanding. "*Capsule* brown and indurated; margin of the valves inflexed, seminferous above. *Seeds* caudate." Nutt.

**Hab.** In Sussex county, Delaware. Nuttall.

Muhlenberg gives, as synonyms of this species, Helonis borealis L. (meaning, probably, of Wilde niow,) which is the Tofieldia palustris of Hudson and Smith.

### 257. SCHEUCHZERIA. L.


*Root* perennial, horizontal, covered with the persistent fibrous remains of leaves. *Stem* 8—12 inches high, erect, or flexuous, simple, angular. *Leaves* somewhat distichous, linear and semiterete, with a small depression on the upper surface a little below the tip, sheathing at the base; those of the infertile stems very long. *Raceme* 5—7-flowered; lowest peduncles longest, and subtended by sheathing leaves which diminish upwards into short bracts. *Calyx* greenish-yellow; segments oblong, acute, a little spreading, persistent. *Stamens* 6, longer than the calyx, (sometimes one or two of them abortive); *filaments* short, capillary; *anthers* linear, very large, erect, compressed, obtuse. *Germens* 3, (rarely more), ovate, obtuse; *stigmas* sessile, obtuse. *Capsules* scarcely united at the base, ovate, coriaceous, compressed, margined, 2-valved. *Seeds* 2 in each capsule, attached to the margins near the base, oblong, smooth, obtusely triangular, black.


A rare plant in this country. It appears to be similar to the European in every respect.

### 258. TRIGLOCHIN. L.

*Perianth* 6-leaved, deciduous; leaflets concave; 3 of
the leaflets inferior and more calyce.  

**Stamens** 3—6, very short; **anthers** turned outward.  

**Stigmas** nearly sessile, adnate.  

**Capsules** 3—6, united above by a common receptacle or axis, generally separating at the base, 1-seeded, not opening.  


*Juss.* p. 47.  

*Lam. Ill. t. CCLXX.*  


**Arrow-grass**.

1. *T. maritimum L.* : fruit ovate-oblong, of 6 united capsules.  


*Pursh Fl.* I.* p. 247.  

*Big. Bost.* I.* p. 35.  

*T. elatum Nutt.*  


**Root** horizontal, perennial.  

**Leaves** all radical, 6—12 inches long, linear and very narrow, rush-like, sheathing at the base, fleshy, semicylindrical.  

**Scape** longer than the leaves, naked, obtusely angular.  

**Spike** a foot or more in length; **flowers** on pedicels 1—2 lines long, erect.  

**Perianth** 6-leaved; **3 of the leaflets inferior and more calyce.**  

**Stamens** 6, by pairs at the base of each leaflet of the perianth; **filaments** very short; **anthers** nearly sessile.  

**Stigmas** persistent, spreading.  

**Capsules** linear, margined, grooved on the back, united above to a filiform persistent axis, and thus forming a single oblong-ovate hexagonal fruit, which appears to be 6-celled.  

**Seed** linear, one in each capsule.

**Hab.** In salt marshes near New-York. Near Boston.  


**Cooper.** July—August.

If the plant described above is the *T. elatum of Mr. Nuttall,* of which there can be little doubt, I am obliged, in this instance, to differ from that acute Botanist. Having compared the former with European specimens of *T. maritimum,* I find no difference, except its oblong, rather than ovate fruit. Even among the latter, however, I find some with the fruit nearly as narrow as in the North-American plant.


*Pursh Fl.* I.* p. 247.

**Root** perennial.  

**Leaves** all radical, very narrow, nearly as long as the scape, a little fleshy.  

**Scape** about a foot high, very slender.  

**Peduncles** appressed, 2—3 lines long.  

**Fruit** linear, attenuated downwards, composed of 3 united capsules.

**Hab.** In marshes round the Salt Lake of Onondaga, New-York.  

**Pursh. Near the Table Rock, Falls of Niagara. August. Cooper. v. s. in Herb. Cooper.**
259. **GYROMIA. Nuttall.**


Indian Cucumber.


Root oblong, tuberous, horizontal. Stem erect, simple, about 18 inches high, clothed with a brownish deciduous wool. Leaves in two whorls; one a little above the middle, of 6—8 ovate-lanceolate acuminate leaves; the other terminal, of 2—3 ovate ones; all of them entire, membranaceous, 3-nerved. Flowers 3—6, on aggregated pedicels arising from the upper whorl, and reflexed down between the leaves. Corolla pale yellow; petals oblong, obtuse, longitudinally nerved. Stamens rather shorter than the petals; filaments capillary, smooth; anthers oblong, incumbent, 2-celled. Stigmas thick, very long.

Hab. In moist woods; generally in rich soil. May—June.

This plant is very properly separated from the other species of Medeola by Nuttall, from which it differs in the flowers and fruit, as well as in its habit. I could never discover in the roots any flavour resembling that of cucumbers. The variety picta of Nuttall appears scarcely to differ from the common kind, which, when in fruit, generally has the leaves of the superior whorl coloured crimson near the base.

260. **TRILLIUM. L.**


Leaves 3, verticillate at the summit of the stem; flower terminal, solitary. American Herb Paris.

Root thick, somewhat praemorse, with thick horizontal fibres.

Stem 8—10 inches high, thick, smooth. Leaves broad-oval or obovate, about 4 inches long, and 2 and a half broad,clouded with darker green, acute or slightly acuminate, 2-nerved. Flowers closely sessile. Leaflets of the calyx ovate-oblong, obtuse, persistent. Corolla dark purple, half as long again as the calyx, rather obtuse. Filaments very short; anthers linear, nearly half an inch long, adnate to the filaments, and opening on the inner side. Germin ovate, triangular; stigmas almost sessile, spreading, obnute. Berry obtusely triangular, dark purple.

Hab. On the sides of fertile hills, in shady and rocky grounds. Pennsylvania to Carolina. - Pursh.

In my specimens, the petals are scarcely half as long again as the calyx. It is probable that there are several species with sessile flowers, confounded under the name of sessile. I have specimens of a very distinct species discovered in Arkansas by Mr. Nuttall; and the yellow flowered variety mentioned by Pursh and Muhlenberg is probably another.


Root perennial. Stem about 8 inches high. Leaves broad-ovate, much acuminate, somewhat cordate; the base abruptly contracted into a short, but distinct petiole. Peduncle half as long as the leaves, inclined to one side. Calyx about half the length of the corolla; leaflets lanceolate, acute. Corolla white, with purplish veins towards the base; undulate on the margin. Stigmas short, recurved. Berry oblong, scarlet.


Among my specimens of Trillium, are two from Deerfield, Massachusetts, in which there are three distinct, though short styles, with the stigmas nearly erect; in every other respect they resemble T. erythrocarpum.

The T. undulatum of Elliott, (l. c. p. 43,) described

† T. undulatum: foliis ovatis acuminatis; flore pedunculato, erecto; petalis oblongis, undulatis patentibus—Leaves sessile; peduncle short, erect; petals much longer than the calyx. Ell.
from specimens collected in the mountains of Pennsylvania, does not appear to differ from *T. crythrocarpum*, except in its sessile leaves, which is not an uncommon occurrence in the latter species.


*Hab.* In shady woods, among rocks. *May.* Rare in the vicinity of New-York, but not uncommon in the interior of the country.

This is not the *T. cernuum* of *Michaux*, according to *Mr. Nuttall*, which is a distinct species, having a styliferous germin and narrow leaves, (T. *stylsum, Nutt.*) *Elliot*’s *T. Catesbeian* is perhaps the same.


*Root* large, praeomorse, with thick horizontal fibres. *Stem* a foot or more in height, sheathed at the base. *Leaves* large, abruptly acuminate, closely sessile. *Peduncle* about half as long as the leaves, inclined to one side. *Flower* large, a little nodding. *Leaflets* of the *calyx* oblong-lanceolate, acuminate. *Petals* dark purple, nearly as broad again as the calyx. *Filaments* distinct; *anthers* linear; *stigmas* sessile, spreading. *Berry* large, nearly black.

*Hab.* In rich soil, among shady rocks; common. *May.*
TRILLIUM. HEXANDRIA. TRIGYNIA.


Root perennial. Stem a foot high. Leaves acute at the base, but sessile, with a short abrupt acumination. Peduncle about an inch long, inclined or recurved. Leaflets of the calyx ovate-lanceolate. Corolla white, with pink veins, a little longer than the calyx.


This species strongly resembles T. cernuum.


Root præmorse, with large fasciculate fibres. Stem about 10 inches high. Leaves sessile, acute at the base, abruptly acuminate. Peduncle somewhat inclined, an inch and a half in length. Leaflets of the calyx ovate-lanceolate, acute. Corolla white, becoming dark rose-coloured; petals an inch and a half, or 2 inches in length, obovate, with a very short abrupt acumination. Stigmas nearly as long as the gernen, spreading. Berries dark purple.


My specimens are from Black Rock, Lake Erie, where they were collected by Prof. Douglass; so that the geographical range of this species is from Canada to Carolina.

261. RUMEX. L.

* Flowers all perfect; valves graniferous. LAPATHUM.

† Valves entire.


Root large, thick, astringent. Stem 3—4 feet high, erect, sulcate. Leaves lanceolate, 6—8 inches long, somewhat glaucous; the inferior ones larger, on long petioles, distinctly cordate at the base. Flowers in a terminal leafy panicle, verticillate; pedicels 3—4 lines long, capillary, nodding. Valves of the perianth ovate, with prominent veins, each bearing a small linear grain, which is sometimes obsolete. Nut large, acutely triangular.


Root large, fusiform, yellow. Stem 2—3 feet high, sulcate, smooth. Leaves oblong-lanceolate, crisped on the margin, rather acute. Whorls of flowers crowded; the inferior ones leafy. Pedicels 3—4 lines long. Valves large, broadly cordate, minutely serrate towards the base under a lens, each graniferous, one of the grains much the largest.


Root fusiform. Stem 2—3 feet high, much branched, angular, smooth. Leaves large, petiolate, generally variegated with blood-red veins. Whorls of flowers small, distant; the upper ones without leaves. Valves entire, only one of them bearing a large red grain.


Rumex.  


Root large, fusiform, dark coloured externally, yellow internally.  
Stem 2—3 feet high, branched, angular and furrowed. Leaves large, petiolate, acute; stipules lacerate and nearly obsolete. Flowers in a large terminal panicle, polygamous; fascicles verticillate, at length pendulous. Valves cordate; those of the perfect flowers much larger. Nut acutely triquetrous.

Hab. In overflowed swamps, and on the muddy borders of ponds.  

Yellow-rooted Water Dock.

A native species, which, according to Persoon, does not inhabit Europe. It is said by C o l d e n to be the great secret remedy of our Indians for phagædenic ulcers.


Root large, fusiform. Stem about 2 feet high, a little branched. Leaves oblong-lanceolate, acute, flat; sheaths cylindrical, long, membranaceous. Flowers semiverticillate; whorls few-flowered. Pedicels half an inch or more in length, incrassated upwards. Valves cordate-oblong, very entire. Nut acutely triquetrous.

Hab. In deep mud on the borders of rivers and ponds; rare. June.

Resembles the preceding species.

†† Valves toothed.


Root fusiform. Stem 2—3 feet high, angular. Leaves large; the lower ones distinctly cordate, on long petioles. Racemes branched. Whorls semiverticillate, dense, leafy. Valves oblong-lanceolate, minutely toothed, especially towards the base, each bearing a large red grain. Nut small, acutely triangular.

Hab. In waste places and about ditches. May. Doubtless introduced.


**HEXANDRIA. TRIGYNA.**

*Root* large, branched, brown externally, yellow within. *Stem* 2—4 feet high, branched, angular and sulcate. *Leaves* very large; the radical ones nearly a foot long; and 6—7 inches broad, slightly waved on the margin, obtuse; veins often red beneath. *Racemes* long, nearly leafless. *Valves* large, ovate-cordate, reticulate, acutely dentate; one of them bearing a large grain.

**HAB.** In shady woods and in fields. In the former situation it grows much larger. June—July. Introduced.

**Flowers** dioecious; **valves** grainless. *Acetosa.*


*Root* creeping. *Stem* 4—12 inches high, slender, somewhat angular and furrowed. *Leaves* generally all hastate, though sometimes the radical ones only are so; petioles long; *sheaths* lacerate. *Racemes* paniculate; *whorls* 6—8-flowered. *Staminiferous flowers* with scarcely more than the rudiment of a *germen*; **perianth** petaloid. *Valves* in the **pistilliferous** flowers ovate, entire, reticulate.

**HAB.** In fields and cultivated grounds; very common. May—July. Introduced. *Sheep's Sorrel.*

A pernicious weed, well known for its pleasant acid taste. I have very rarely found the pistilliferous flowers.

---

**ORDER III.**

**TETRAGYNA.**

262. **SAURURUS.** *L.*


† *Jussieu* does not appear to be satisfied with the place he has assigned to this plant in his *System.* He asks whether it is not more nearly allied to the *Aroiden,* or to *Piper.* We think certainly to the latter.
Saururus. Hexandria. Tetragynia. 381


Root creeping in the mud, perennial. Stem a foot and a half or 2 feet in height, angular and sulcate, a little hairy towards the summit, forked above. Leaves alternate, cordate, acuminate, 4—6 inches long, 2—3 broad, smooth on both sides, glaucous, with prominent nerves beneath; petioles 1—2 inches long. Spike or amulet solitary, opposite a leaf on one of the forks of the stem, pedunculate, 3—6 inches long. Calyx or scale of the amulet 1-leaved, tubular, hairy, white, cleft on the upper side, acute. Stamens 6—8, much longer than the calyx; filaments unequal, filiform, enlarging a little upwards, inserted at the base of the germens; anthers oblong, 2-celled, opening laterally the whole length. Germens 4, oblong, united on the inside to the elongated receptacle; styles short, recurved; stigmas small, capitate.

Hab. In swamps and on the borders of rivers. July—August.

ORDER IV.

POLYGYNIA.

263. Alisma. L.


Root fibrous, perennial. Leaves all radical, on long petioles, ovate or oval, 4—6 inches long, and 2 or more in breadth, entire, smooth, sometimes with a short abrupt acumination, rarely obtuse, distinctly cordate at the base, with 9 longitudi-
nal nerves, 2 of which arise from the midrib above its base, and 2 are marginal. **Scape** 1—2 feet high, triangular. **Panicle** much decompounded in a verticillate manner, with ovate, acuminate bracts at the division of the branches. **Calyx** shorter than the corolla; leaflets dilated, roundish. **Petals** larger than the calyx, white, with a tinge of purple, nearly orbicular, deciduous. **Stamens** shorter than the corolla; **anthers** roundish. **Germens** superior, numerous, (6—10); **styles** short; **stigmas** obtuse. **Capsules** rarely with more than one seed. compressed, obtuse.

**HAB.** In ditches and on the borders of ponds; common. July—August.


Resembles the preceding, but has smaller flowers, and the leaves not more than 7-nerved.

**HAB.** In ditches and bogs; generally near the salt water. August. Certainly no more than a variety of *A. Plantago.*
CLASS VII.

HEPTANDRIA.

ORDER I.

MONOGYNIA.

264. Trientalis.

265. Æsculus.

264. TRIENTALIS. L.


Root creeping, perennial. Stems simple, erect, slender, terete, about 6 inches high. Leaves 6—7, in a terminal whorl, with 2—3 smaller ones on the stem, narrow, or oblong-lanceolate, acuminate at each extremity, a little twisted at the base, smooth on both sides, entire. Peduncles 3—4, arising from the centre of the whorl of leaves, filiform, a little inclined, an inch and a half, or 2 inches in length, each terminated by a single flower half an inch in diameter. Leaflets of the calyx subulate, cuspidate. Corolla white, deeply 7—8-parted, nearly as long again as the calyx; segments obovate-lanceolate, acuminate. Stamens 7—8, shorter than the corolla; filaments very slender, inserted at the base of the corolla; anthers simple, linear, involute when decaying. Germin superior, globose; style filiform, as long as the stamens; stigma emarginate. Berry small, dry, resembling a capsule, white, membranaceous. Seeds few, seated on a central spongy receptacle.

Hab. In sphagnous swamps abounding with evergreens, and in low woods. May—June.
The North-American variety of this plant is considered as a distinct species by Pursh, but having compared it with specimens of T. europaea, from several parts of the old world, I find no difference sufficient to constitute it more than a variety. In my Swedish specimens, the leaves are as narrow as in our own plant. Whether the character of the oblique leaves exist in the T. europaea or not, I am unable to decide.

265. ÅSCULUS. L.


A large shrub or small tree, with a soft white wood. Leaflets 5, unequal, oval, acuminate, 9—10 inches long. Flowers large, yellowish-white, in terminal racemose panicles. Fruit globose, about half as large as the common Horse-chesnut, covered with short prickles.

Hab. In the western counties of Pennsylvania. Pursh. May.
CLASS VIII.

OCTANDRIA.

ORDER I.

MONOGYNIA.

* Flowers superior.

266. Rhexia.
267. Ónothera. 269. Epilobium.
270. Oxycccus.

* * Flowers inferior.


266. Rhexia. L.—R. Brown.†


1. R. virginica L.: stem with winged angles, somewhat

† Rhexia, as now characterized by R. Brown, and D. Don, is a North-American genus; nearly all the South-American species resembling Melastoma formerly referred hither, being excluded, and now forming the genus Anthrostemma of Pavon, and of Don.

**Root** perennial. Stem about a foot high, quadrangular, with membranaceous angles, which are a little hairy, dichotomously paniculate above. Leaves opposite, rarely ternate, an inch long, acute, 3-nerved, with scattered hairs on the upper surface, and on the nerves beneath; margin distinctly serrulate. Peduncles terminal, subcorymbose. Calyx exactly urceolate; segments lanceolate, acuminate. Corolla bright purple, large; petals obovate, caducous. Filaments subulate, shorter than the petals, inserted in the margin surrounding the mouth of the calyx; anthers at first hanging down, but ascending as the flowers expand, linear, obtusely calcarate at the base, incurved, 1-celled, yellow, with a small setaceous process at their junction with the filaments, discharging their pollen through a terminal pore.† **Style** longer than the stamens, curved; stigma obtuse, pubescent. Capsule subglobose; valves opening by an oblong fissure in the middle of each cell. Seeds numerous, subreniform, cochleate, with a large concave umbilicus at one extremity.

**Hab.** In wet meadows, among high grass; not uncommon. July—August. Deer-grass.


**Root** perennial. Stem a foot high, nearly terete, sulcate, branched, covered with brownish spreading hairs. Leaves varying from lanceolate to ovate-lanceolate, serrulate-ciliate. Calyx ventricose at the base, contracted at the throat, which is tubular and slightly hairy; segments linear-lanceolate, setaceous at the extremity. Corolla purple; petals oblique, broad-ovate. Anthers gibbous, and obtusely calcarate at the base.


3. *R. ciliosa Mich.*; stem subquadrangular, smooth;

† *Mr. Nuttall* remarks, of the anthers in this genus, "that they emit their pollen by a single clandestine pore, situated at the junction with the filament; the pore guarded by a single seta." To me, however, they appear to open as in the rest of the Nat. Ord. Melastomaceae, by a terminal pore.

"Root" perennial. Stem a foot high, obtusely quadrangular, slender, generally simple. Leaves broadly-ovate, scarcely more than half an inch long, distinctly ciliate on the margin, 3-nerved; the 2 lateral nerves almost marginal. Flowers 3—5, terminal, each subtended by an involucrum of 2 leaves resembling those on the stem. Corolla purple; petals roundish. Anthers short, a little curved, scarcely produced at the base.


I have described this species from Southern specimens, not having seen any from the Northern States.

267. *CÉNOTHERA.* L.


*Night Willow-herb.*


Root annual and biennial. Stem 3—5 feet high, terete, hairy, branched. Leaves alternate, distinctly toothed, very pubescent; those near the root on short petioles; the upper ones sessile. Flowers in a terminal leafy raceme or spike. *Calyx* with a cylindrical tube nearly 2 inches in length, coloured; segments reflexed, and turned to one side, subulate at the tip, nearly one half the length of the tube, united in the middle, villous externally. *Petals* yellow, inserted into the calyx, obovate, or roundish, sometimes emarginate. *Stamens* nearly straight; *filaments* capillary, inserted into the orifice of the calyx; *anthers* incumbent, linear, long, yellow. *Style* filiform, longer than the corolla; *stigma* of 4 spreading segments, reflexed at the apex. *Capsule* subcylindrical, an inch and a half long, splitting longitudinally into 4 valves, bearing the dissepiments down their middle. *Seeds* numerous, angular.
HAB. In fields, along fences; very common. June—October.
I never could perceive that the flowers of this plant were luminous in the dark, as they are stated to be by Pursh.


*Flowers smaller than in the preceding species. Ph.*

**HAB.** In old fields and along fences. Near Troy, New-York. **Eaton.** In Pennsylvania. **Muhlenberg.**


**HAB.** In fields and woods. Canada to Virginia. **Pursh.** In New-York. **Muhlenberg.**

This, to me, is an obscure species. In Donn’s Catalogue it is said to be a native of South-America. *O. parviflora,* of the Catalogue of New-York Plants, I am now convinced, is a variety of *O. biennis.*


*Root biennial. Stem 3—3 feet high, terete, a little hairy, much branched above. Leaves ovate-lanceolate, subdentate, pubescent. Tube of the calyx very long; segments of the border united, except at the base and apex, split by the expansion of the flower, and turned to one side. Corolla 2—3 inches in diameter, yellow; petals roundish. Stamens shorter than the corolla, slightly decline. Capsule subquadrangular, an inch and a half long, 4-toothed at the summit. Seeds angular.*

**HAB.** In fields, and along the borders of woods. New-Jersey and Pennsylvania. July—August.

Is this more than a variety of *O. biennis*?


*O. minima Nutt.* : stem humble, simple, 1-flowered;
Fl. I. p. 262. t. 15.


Hab. In New-Jersey; not uncommon. *Nuttall*.

*Elliott* and *Nuttall* both agree in considering the *O. minima* of *Pursh* a mere variety of *O. sinuata*, become dwarfish by growing in sandy soil.

**Capsule ventricose, angular, mostly pedicellate.**


Root perennial. Stem terete, a foot or 18 inches high, purplish, erect, branched from the base. Leaves sometimes oblong-lanceolate, punctate, (when held to the light,) remotely denticate. Flowers middle-sized, in a terminal raceme. Segments of the calyx lanceolate, acuminate, more or less united. Corolla pale yellow; petals nearly as broad as long. Stamens shorter than the corolla. Capsule acutely quadrangular, the angles almost winged, with the sides carinate, pubescent, tapering at the base into a distinct pedicel.

Hab. On the sides of hills, and along the borders of woods. June.

*b. ambigua* *Nutt.*: more or less pilose; stem simple; leaves lanceolate or ovate-lanceolate, acute, subdenticulate; petals obcordate, longer than broad; points of the calyx very short; capsules subsessile, always smooth, oblong, and 4-winged; raceme naked below. *Nutt.* I. c.

Root perennial. Stem simple, or branched above, slender, a foot or more in height, nearly smooth, or sparsely pubescent. Leaves 2 and a half inches long, often ovate-lanceolate, remotely and subrepandly denticate, somewhat petiolate. Segments of the calyx shorter than the tube, united. Petals pale yellow.


 Apparently, as Mr. *Nuttall* remarks, a distinct species.

7. *O. incana* *Nutt.*: stem slender, erect; leaves flat, hoary and tomentose, very entire, elliptic-ovate, acute; ra-
OCTANDRIA. MONOGYNIA. \textit{Conothera}.


\textit{Stem} 6—8 inches high. \textit{Flowers} bright yellow.

\textit{Hab.} In dry woods. Maryland. \textit{Dr. W. Bar ton.}

I have specimens of \textit{Cenothera} in my Herbarium agreeing exactly with Mr. \textit{Nuttall's} description, but they appear to be scarcely more than a variety of \textit{Cenothera fruticosa}.


\textit{Root} perennial. \textit{Stem} simple, oblique at the base, about a span high, terete, slightly hairy. \textit{Leaves} about an inch long, lanceolate or linear-oblong, with a pubescent margin or midrib. \textit{Flowers} small, in a terminal raceme. Segments of the \textit{calyx} lanceolate, nearly as long as the tube. \textit{Petals} obcordate. \textit{Stamens} shorter than the corolla. \textit{Capsule} closely sessile, acutely quadrangular, with smaller intermediate angles.


\textit{Stem} about a foot high. \textit{Flowers} small. \textit{Petals} bright yellow. \textit{Mich.}

\textit{Hab.} On the mountains of Pennsylvania. \textit{Pursh.}

Scarcely distinct from the preceding species.


\textit{Stem} 4—6 inches high, erect. \textit{Capsule} appearing 8-angled, or deeply 8-sulcate by the prominent midrib on each side. \textit{Mich.}

\textit{Hab.} On the high mountains of Pennsylvania. \textit{Pursh.}

268. GAURA. \textit{L.}


Stem a foot and a half or 2 feet high, erect, hairy, terete, generally of a purplish colour. Leaves alternate, sessile, pale green, and minutely pubescent, acute at each extremity, remotely and repandly dentate. Flowers numerous, sessile, in terminal spikes. Calyx coloured, deciduous; segments linear, reflexed, longer than the tube. Corolla dark rose-coloured; petals inserted into the tube of the calyx near the summit, ascending towards the upper side, oblong, obtuse. Stamens shorter than the corolla; filaments inserted into the tube of the calyx; anthers linear-oblong, 2-celled, opening longitudinally. Style longer than the stamens; stigma 4-lobed. Nut obtusely quadrangular, rarely perfecting more than one seed.


269. EPILOBIUM. L.


Root perennial. Stem 3—5 feet high, terete, smooth, branched, and purplish above. Leaves lanceolate or narrow-lanceolate, irregularly alternate, subglaucescent beneath, nearly sessile, acute; margin remotely denticulate. Flowers large, in terminal spiked racemes, pedicellate. Calyx coloured, deciduous; segments linear. Corolla bright purple, irregular; petals obovate, emarginate. Stamens bent down; filaments capillary; anthers oblong; pollen blue. Germen linear, purplish-hoary; style about as long as the stamens; stigma 4-lobed.
Capsule an inch or more in length, obtusely quadrangular. Seeds crowned with a long silky pappus.


Root perennial. Stem 3—4 feet high, much branched, more or less softly pubescent; the upper branches slightly marked by 4 recurrent lines from the base of the petioles. Leaves mostly opposite, on very short petioles, obtuse at the base, smooth, marked with numerous linear punctures, (seen under a lens); veins beneath of a reddish colour; margin dentate-serrulate. Flowers small, axillary towards the extremity of the branches, alternate, pedicellate. Segments of the calyx lanceolate, acute. Corolla purple; segments roundish, emarginate. Stamens unequal, shorter than the corolla; anthers oblong. Style scarcely exserted; stigma entire. Capsule very narrow, 2—3 inches long. Seeds oblong, sulcate.

Hab. In wet meadows and swamps. July—August.

Allied to E. tetragonum, but differing in the round stem, &c.


Root bulbous and scaly. Stem 1—2 feet high, slender, simple below, but generally with a few erect branches above. Leaves numerous, 1—2 inches long, scarcely one line broad, slightly pubescent, with linear punctures. Flowers few, axillary, very small. Calyx about half as long as the corolla; segments lanceolate. Corolla pale purple; petals obcordate. Stamens unequal, not exserted. Stigma clavate, very entire. Capsule linear, about 2 inches long.

Hab. In swamps; rare. In the cedar swamp, near New-Durham, New-Jersey, &c. August.

Nuttall has changed Pursh’s name of this species, because there is a species so called by Hanke, but the latter is only a synonym of E. angustissimum of Aiton and Willdenow, and others. Our plant may be the E. oliganthum of Michaux, which, however, is too imperfectly described to decide on with certainty.
4. *E. molle*; densely and softly pubescent; stem terete; leaves oblong-linear, sessile, very entire; the lower ones opposite; upper ones alternate; flowers pedicellate, subterminal, regular; petals 2-lobed; stigma entire.

Stem about a foot and a half high, erect, branched above, covered, as well as the leaves, with a dense, almost silky pubescence. Leaves numerous, about an inch long, 1—2 lines broad, rather obtuse, not punctate. Flowers small, on long peduncles. Segments of the calyx oblong-lanceolate. Corolla pale purple or rose-coloured; petals deeply emarginate, as long again as the calyx. Stamens unequal. Stigma large, thick.


This species resembles the preceding, but is easily distinguished by its soft dense pubescence, broader leaves, and more robust erect habit. It may possibly be the *E. strictum* of Muhlenberg's Catalogue, p. 39, of which, no description has been published to my knowledge.

---

270. OXYCOCCUS. Persoon.

*Calyx* superior, 4-toothed. *Corolla* 4-parted; segments sublinear, revolute. *Filaments* connivent; *anthers* tubulous, 2-parted. *Berry* many-seeded. *Pers.*

---


Cranberry.

Stem prostrate, filiform, creeping, often a yard or more in length, throwing up short erect branches. *Leaves* alternate, oval and oblong-oval, about half an inch long, very obtuse, on short petioles, slightly revolute on the margin, whitish beneath; the younger ones pubescent at the tip. *Pedicels* arising from the base of the vernal upright branches, 1-flowered, an inch or more in length, erect, hispidulous, with 2 ovate, acuminate bracts above the middle. *Flowers* cernuous. *Calyx* very short, persistent; teeth acute. *Corolla* pale red; segments
narrow-lanceolate, acute, revolute. Stamens inserted into the base of the corolla; filaments very short; anthers long, linear, 2-celled, 2-parted to the middle; each division tubular, and perforate at the extremity. Style about as long as the stamens; stigma simple. Berry 4-celled, large, bright scarlet, persistent during part of the winter. Seeds minute, numerous, attached to central receptacles.


There is a variety, with oval acute revolute leaves, growing in the cedar swamp near New-Durham, New-Jersey. It agrees with Michaux's V. Oxycoccus a. ovalifolius, except in the flowers, which I have not seen.


This species I have not seen, unless it be the variety mentioned above.

271. MENZIESIA. Smith.


A small evergreen shrub. Stem branched, woody below. Leaves approximate, coriaceous, about one-third of an inch long, spreading, obtuse, very smooth, except on the midrib, which is
pubescent; margin with minute cartilaginous teeth. Peduncles erect, red, an inch or more in length, glandular. Flowers large, purple. Calyx 5-parted; segments lanceolate, rather obtuse. Corolla urceolate; border 5-toothed. Stamens included. Style persistent, a little curved; stigma somewhat 5-lobed.


This is also a native of the northern parts and high mountains of Europe. I have a specimen from Greenland, in every respect resembling one from New-Hampshire, sent to me by Dr. Bigelow.


Not above 4 feet high. Flowers yellowish-brown. Ph.


This species I have never seen.

---

272. **ACER.** *L.*


A large tree, with smooth clouded bark; wood close grained, hard. Leaves opposite, on long petioles, with about 5 acute lobes spreading in a palmate manner, when young pubescent beneath, but at length smooth and glaucous, except on the nerves. Flowers appearing before the leaves, mostly in sessile umbels or fascicles of about 5, surrounded by a gemmaceous involucrum. **Perfect:** Pedicels lengthening as the fruit
ripens, when they are 2—3 inches long. Calyx coloured, peta-
loid, smooth, 5-cleft; segments oblong, obtuse. Petals 3—6, red, ovate, obtuse, longer than the calyx. Stamens 5—6, about as long as the corolla, with a globular nectary at the base; an-
thers red. Germin 2-lobed; stigmas long, recurved, pubes-
cent. Fruit with 2 long membranaceous wings, which are very slightly arculate. Staminiferous: Pedicels about one-
fourth of an inch long. Segments of the calyx oblong-spathu-
late, red, smooth. Petals linear-oblong. Filaments 6, three times as long as the calyx, with a hemispherical nectary at the base of each.

**Hab.** In moist woods; common. April. Red or Swamp Maple.

2. A. dasycarpum Ehrh.: leaves palmately 5-lobed; truncate at the base, incisely toothed, smooth and whitish-
glaucous beneath; sinuses obtuse; pedicels short; germens

A large tree. Trunk low, with very numerous divergent branches. Leaves on very long petioles, divided below the middle into 5 lobes, at first pubescent, but at length smooth, and almost white beneath; the spaces between the incisions rounded at the base. Flowers polygamous, aggregated in fives, greenish-yellow; pedicels scarcely more than 2 lines long. Perfect: Calyx membranaceous, obscurely 5—7-tooth-
ed. Petals 0. Stamens 5—6, very short, without glands at the base. Germin white, tomentose, 4-seeded; 2 of the seeds abortive; styles 2, distinct; stigmas linear, glandular recurv-
ed. Fruit with large wings, dilated towards the extremity.


Cooper. Deerfield, Massachusetts. Cooley and Hitch-
cock. April. White or Soft Maple.

Sandy River, Maine, according to the younger Michaux, is the most northern limit of this tree. The sap yields a good sugar, but in smaller quantity than in A. saccharinum.

3. A. barbatum Mich.: leaves ovate-cordate, with 3 short lobes, unequally serrate, glaucous beneath and pubes-


**Hab.** In deep pine and cedar swamps. New-Jersey to Caro-

4. A. saccharinum L.: leaves palmately 5-lobed, sub-

A large tree, often 2 feet or more in diameter, with a smooth whitish bark, and compact wood. *Leaves* on long petioles, truncate and a little cordate at the base; lobes acuminate, each with several large teeth; sinuses rounded. *Flowers* on filiform, very long pilose peduncles, yellowish. *Fruit* turbid, with 2 long narrow wings.

**Hab.** In woods. April. Sugar or Rock Maple.

An exceedingly valuable tree, both for its timber and the sugar obtained from its sap.


A large tree. *Leaves* large, dark green, 5-lobed, with the 2 inferior lobes much smaller. *Flowers* on long slender pendulous pedicels, yellowish, apetalous. *Fruit* with long pale yellow wings.


Black Sugar Maple.—Sugar-tree.

This tree yields sugar like *A. saccharinum*, from which it differs very little.


A shrub seldom exceeding 10 feet in height; bark green, marked with black stripes. *Leaves* nearly as broad as long, rounded and slightly cordate at the base, 3-lobed above; the lobes much acuminate. *Racemes* terminating the extremity of the young branches, 10—14-flowered; *flowers* greenish-yellow. *Calyx* 5-cleft. *Petals* 5, oblong, obtuse. *Stamens* 8; *anthers* pale yellow. *Wings* of the *fruit* arcuate, moderately spreading.

**Hab.** In shaded rocky situations on mountains. New-England
to Carolina. It is rare near the sea-coast, and is not found on
the Hudson below the Highlands. May.

Moose-wood.—Striped Maple.

7. *A. montanum* Ait. : leaves somewhat 5-lobed, acute,
dentate, pubescent beneath; racemes compound, erect.

A shrub 6—10 feet high. Leaves small, cordate at the base,
shortly rugose, 5-lobed, with the inferior lobes indistinct;
tooth acuminate. Racemes numerous, terminal, more or less
compound, always erect. Flowers small, greenish. Calyx
5-cleft; segments oblong. Petals 5, linear-oblong. Stamens
8. Styles 2, spreading. Fruit small; wings arcuate, dilated.

Hab. On mountains; not uncommon. New-England to Caro-
lina. May.

† Flowers dioecious. Calyx minute, 5-toothed. Petals 0. Sta-
mens 5; anthers linear, sessile, acuminate. Samarae as in
*Acer.—Negundium* Raf.

8. *A. Negundo* L. : leaves pinnate and ternate, unequally
*Alm.* t. 123. f. 45. *Negundo fraxinifolium* *Nutt.* Gen. I.
p. 253.

A large tree, with spreading irregular branches. Leaves pinnate;
leaflets 5—7, sometimes ternate, ovate, acuminate, on short pe-
tioles, with a few coarse remote teeth. Racemes pendulous,
simple, 8—10 flowered; pedicels filiform, an inch or more in
length. Flowers greenish, with oblong-obovate, somewhat
connivent wings.

Hab. On the banks of rivers. Pennsylvania. *M u h l e n b e r g.*
April.

This species differs considerably in habit from the preced-
ing, and has, by several Botanists, been proposed as a distinct
genus. The fruit, however, is exactly that of *Acer.*

273. *DIRCA. L.*

*Calyx* 0. *Corolla* tubular; border obsolete. Stamens unequal, exserted. *Berry* 1-seeded. *Gen. pl.*
*Ill.* t. 293. *Nat. Ord.* *Thyme leae* *Juss.*

Leather-wood.

A shrub about 2 feet high, with exceedingly tough and flexible branches, and a yellowish bark. Leaves alternate, ovate, pale green, on long petioles, very entire, obtuse. Buds 3-flowered, densely villous. Flowers appearing before the leaves. Corolla about half an inch long, yellow; border irregularly toothed. Stamens 8; filaments capillary, inserted into the tube of the corolla about half way down; anthers oblong, erect, 2-celled. Style filiform; stigma sessile. Berry ovate, about the size of a pepper-corn, yellowish when ripe. Seed solitary, large, compressed.

Hab. In shady woods, especially about the base of mountains. April.

274. JEFFERSONIA. Barton.


Root perennial. Leaf radical, binate, on a long naked footstalk; leaflets 4—6 inches long, and about 2 broad, truncate at the base, on short petioles, smooth, glaucous beneath; margin undulate, with several large obtuse teeth towards the extremity. Scape about a foot long, naked, terete, smooth, bearing a single large terminal flower. Calyx sometimes 3—4-leaved; leaflets lanceolate. Petals white, lanceolate, a little longer than the calyx, spreading, and somewhat incurved. Stamens much shorter than the corolla; anthers oblong. Germen obovate; style short; stigma peltate, crenate. Capsule subterbinate, oblique, coriaceous, on a thick pedicel about 2 lines long, which is articulated to the scape, opening with a semicircular foramen below the summit, and thus appearing operculate. Seeds numerous, attached to a longitudinal line on the back of the capsule.

OCTANDRIA. TRIGYNIA. POLYGONUM.

ORDER II.

TRIGYNIA.

275. POLYGONUM. L.


* Flowers axillary.


Root fibrous, sublignous, tenacious, annual. Stem much branched, spreading flat on the ground, striate. Leaves more or less lanceolate, or obovate, attenuate at the base. Stipules sheathing, scarious, marked with several remote nerves. Flowers 2—3 in the axil of each leaf, nearly sessile, very small. Perianth white, tinged with red and green; segments connivent. Stamens shorter than the perianth. Styles very short. Seed triquetrous, dark brown, minutely striate.

Hab. In pastures and cultivated grounds, on road sides, &c.; very common. May—October. Knot-grass.


Stem 3—6 inches high, sometimes procumbent. Leaves much broader than in the preceding variety.

Hab. With the preceding, but more commonly in damp or shady places.

2. P. glaucum Nutt.: flowers octandrous; styles 3; leaves lanceolate, thick and glaucous, revolute on the margin; stipules lacerate; pedicels exerted; stem diffuse, pros-
Root annual? Stem procumbent and much branched, a foot and a half or more in length, hard, and somewhat ligneous towards the base, glaucous. Leaves lanceolate or elliptical, thick and succulent, about three-fourths of an inch long; narrowed at the base. Stipules large and conspicuous, much lacerate, with numerous nerves. Flowers twice as large as in P. avicularia, 3—4 from each stipule, on pedicels 2—3 lines long. Perianth white or pale rose-colour; segments ovate, obtuse. Stamens included; filaments very short, unequal, much dilated at the base; anthers roundish, red. Styles distinct; stigmas capitate. Nut acuminate, very smooth and even, shining.

Hab. On the sandy beach of Long-Island and New-Jersey. August.

I suspect this to be P. avicularia s. Smith Fl. Brit. I. p. 429, a variety growing on the sea-shore of Great-Britain, altered by its maritime situation. It can hardly be P. maritimum of Linnaeus, a native of the shores of the Mediterranean, for that species is frutescent and evergreen, while our plant appears to be decidedly annual.


Root annual. Stem 6—10 inches high, often simple, but generally more or less branched, with acute scabrous angles. Leaves about an inch long, cuspidate, 3-nerved, ciliate-serrulate on the margin. Stipules tubulose and entire below, divided above into several segments, which are setaceousy acuminate. Flowers solitary and by pairs, on very short pedicels. Segments of the perianth oblong, obtuse. Stamens 8; filaments short, dilated at the base. Styles 3. Nut acutely triangular, smooth and shining, black.


* * Flowers spiked.

† Spike solitary, terminal; stamens 9; stigmas 3; nut triangular. Bistorta.


Root perennial. Stem about 6 inches high, erect, quite simple.
smooth. Leaves an inch or more in length, conspicuously revolute on the margin, with a prominent midrib. Stipules tubular, smooth, entire, obtuse. Spike about an inch and a half long, linear; the lower part, and sometimes the whole, bearing small red bulbs instead of flowers. Perianth pale red, with obtuse segments.


In a specimen of this plant from this locality, for which I am indebted to Dr. Bigelow, the spike is almost entirely bulbiferous, there being scarcely a perfect flower upon it. It is by these viviparous bulbs that the plant generally propagates itself, for it seldom produces perfect seeds.

† † Spikes axillary or terminal; stamens 5—8; stigmas mostly 2; nut ovate. Persicaria.


Root perennial, creeping. Stem a foot and a half or 2 feet high, slender, more or less branched, sometimes decumbent at the base. Leaves lanceolate, or narrow-lanceolate, acute, smooth, or very slightly hairy, marked with minute diaphanous punctures. Stipules tubular, truncate, the summit fringed with hairs, not more than half the length of the tube. Spikes axillary and terminal, few-flowered, weak, and nodding when young, but at length becoming erect. Flowers on pedicels shorter than the perianth, 1—3 proceeding from each stipule of the spike. Perianth covered with small glandular dots, white; segments obtuse. Stamens generally 8, sometimes 7. Style deeply 3-cleft; stigmas capitate. Nut sublenticular, acuminate, black and shining.

Hab. In ditches and low places, or where it is occasionally overflowed; rarely in dry situations. August—October.

This species strongly resembles P. Hydropiper of Europe, and, like that plant, is very acrid. It differs in the number of stamens and styles, but still may be only a variety.


Root perennial, creeping. Stem assurgent, a foot and a half high, a little branched towards the summit. Leaves subsessile,
somewhat acuminate, with short appressed hairs on the lower surface, very scabrous on the upper. Stigmas tubular, very hairy, truncate, fringed at the top with hairs as long as the tube. Spikes 2—5, erect, linear, but rather crowded. Flowers mostly by threes, with ciliate bracts at the base of the pedicels. Perianth pale red or white, ovate, not punctate. Nut triquetrous, brown, smooth and shining.

Hab. In swamps and along the borders of ponds. August—September.


Root perennial. Stem 2—4 feet high, erect, simple, angular, pubescent above. Leaves large, on short petioles, acuminate, nearly smooth; margin scabrous-ciliate. Stipules very hairy, truncate, ciliate. Spike sometimes a foot and a half long, very slender, naked. Flowers subsolitary, remote, a little recurved. Perianth unequally 4-cleft, white. Stamens unequal. Styles 2, much exserted, spreading, and often deflexed, involute at the summit, persistent; stigma simple, minute. Nut ovate, acute, compressed.

Hab. In shady woods and hedges. August—September.

A singular species, which differs in several respects from the rest of this genus, but not sufficiently to constitute a new one.


a. terrestre: stem nearly erect; leaves oblong-lanceolate, often cordate at the base, smooth above, slightly pubescent beneath; spike ovate-oblong. P. amphibium β. e m e r s u m M iche. Fl. I. p. 240.

Root perennial, creeping. Stem assurgent, rooting at the lower joints, about 8 inches high. Leaves 4—6 inches long, and one or more broad, generally smooth, or with the under surface sprinkled with hairs, somewhat scabrous on the margin; petioles an inch in length. Stipules naked. Spike mostly solitary, terminal, dense, about an inch long. Perianth bright rose-colour; segments obtuse, spreading. Stamens unequal, a little exserted; filaments dilated. Style deeply 2-cleft; stigmas minute, simple. Nut ovate, compressed, dark brown.

The P. amphibium of this country is considered as a distinct species from the European plant by W ill d e n o w , and some other authors; but I am unable to discover any essential difference between them, except that in the latter the leaves (of the var. α.) are scabrous.


Stem 3—10 feet long, branched, spreading on the surface of the water. Leaves petiolate, about 3 inches long, rather obtuse, not cordate at the base, very smooth above and beneath; margin pilosely ciliate. Spike solitary, terminal, emersed, an inch and a half long.


This can hardly be considered a distinct species, as it is sometimes found passing into the variety α. The European plant appears to be identical with our's.


Root annual. Stem 2—4 feet high, geniculate, with tumid joints, branched, smooth. Leaves petiolate, often broad-lanceolate, pale green, with scattered appressed hairs, particularly on the margin, punctate beneath, under a lens. Stipules truncate. Spikes terminal, subpaniculate; the peduncles glandularly hispid. Perianth rose-colour, large. Nut broad-ovate, compressed, black, smooth and shining.


Root annual. Stem 2—4 feet high, geniculate, smooth. Leaves large, pale green, often hoary beneath, scabrous on the margin. Spikes numerous, somewhat paniculate; peduncles glandularly scabrous, not hispid. Flowers smaller than in the pre-

**Hab.** Along ditches and in swamps; rare. August.


**Root** annual. *Stem* erect, branched, 1—2 feet high, smooth, often of a reddish colour. *Leaves* on very short petioles, smooth, the upper surface often marked with a dark coloured binate spot. *Spikes* terminal, dense. *Flowers* rose-colour.

**Nut** compressed, triangular.

**Hab.** In low grounds and along ditches; very common. Black-heart.—Ladies'-thumb.


**Hab.** In cultivated grounds and on road sides; naturalized in many situations. August—September.

**Flowers in paniculate spikes; perianth 5-leaved.**


**Root** annual. *Stem* about a foot high, erect, branched above, smooth. *Leaves* linear, three-fourths of an inch long, obtuse. *Stipules* short, naked, truncate. *Spikes* or racemes erect, terminating the branches; *pedicels* longer than the flowers, capillary, distinctly articulate near the base; *bracts* short, truncate, approximate or imbricate, thus giving the spikes a jointed appearance. *Perianth* spreading, rose-colour; leaflets broadly obovate. *Stamens* shorter than the perianth; *anthers* simple. *Stigmas* capitate, nearly sessile. *Nut* acutely triangular, acuminate.

**Hab.** In barren sandy woods. Plentiful in the pine barrens of New-Jersey. Very abundant on the sandy plains west of Al-
A singular species, belonging to *Michaux*’s Polygonella. Is it not allied to Rumex?

** Flowers in racemose panicles; (leaves subcordate or sagittate.) Fagopyrum.


Root annual. Stem long, climbing on other plants, or running over the ground. Leaves petiolate, cordate, with the lobes a little spreading and acute. Racemes terminal, interrupted, leafy. Perianth tinged with green and purple; the 3 exterior segments obtusely carinate. Style very short, with 3 spreading stigmas. Nut acutely triangular.


Root annual. Whole plant minutely pubescent. Stem mostly prostrate, with obtuse angles of a reddish colour. Leaves petiolate, subhastate-cordate, acuminate. Stipules mostly acute, fringed with reflected hairs at the base. Racemes paniculate, terminal, somewhat leafy. Perianth pale rose-colour or greenish; segments a little spreading, obtusely carinate, but not winged. Nut triquetrous.


Root annual. Stem 4—5-angled, very long, purple. Leaves petiolate, acuminate, cordate, with the sinus broad and obtuse. Stipules short. Racemes axillary; flowers aggregate, large.
Perianth white or pale rose-colour; the 3 exterior leaflets with a broad winged margin when in fruit. Nut large, acutely triangular, black and shining.

HAB. In hedges and thickets. August.


Root annual. Stem long, slender, prostrate, or supported by other plants, acutely quadrangular; the angles armed with minute reflexed prickles. Leaves an inch and a half in length, and half an inch broad, acute; the midrib and petioles aculeate. Stipules acute, lacerate at the tip. Flowers in small terminal pedunculate heads. Perianth white. Nut triangular, black and shining; the sides a little convex.

HAB. In wet hedges and thickets. July—August.


Root annual. Stem slender, very long, prostrate, or supported by other plants, acutely angular; the angles armed with minute prickles, which are much more remote than in the preceding species. Leaves on long aculeate petioles, exactly hastate, 3—4 inches long, acuminate, with short scattered hairs on the upper surface, minutely papillose beneath. Stipules long, smooth, obtuse, slightly ciliate. Spikes 4—6-flowered; flowers remote. Perianth pale rose-colour, mostly 4-parted.

HAB. In wet thickets. July—September.
CLASS IX.

ENNEANDRIA.

ORDER I.

MONOGYNYA.

276. LAURUS. L.


Spice-wood, Sassafras, &c.


A small tree or large shrub. Leaves entire, rigid and glossy. Flowers in small clusters, pale yellow, polygamous. Drupes dark blue, on a thick red peduncle.

Hab. In the Great Cypress Swamp, Sussex county, Delaware, its most northern boundary. Nuttall. Red Bay.

* Euosmus Nuttall. Flowers polygamous or dioecious. Calyx 6-parted. Nectaries 0. Stamina 9, fertile; 6 exterior naked; the 3 interior
augmented by 6 infertile ones attached by pairs; 
anthers of the sterile stamina glanduloid. Berry
1-seeded. Nutt. l. c. (Leaves deciduous.)


A shrub 4—10 feet high, with long virgate branches. Leaves alternate, about 5 inches long, acuminate, cuneate at the base, deciduous; petioles half an inch long. Flowers appearing before the leaves, in small lateral tufts; pedicels very short. Calyx yellow; segments ovate, obtuse or acute. Stamens shorter than the calyx; filaments adnate to the anthers; anthers 2-celled; cells opening elastically by vertical valves. Style short and thick; stigma capitate. Berries conglomerate, roundish, scarlet.


A middle-sized tree, with the smaller branches yellowish. Leaves various, frequently 3-lobed, acute at the base, petiolate, the lobes very obtuse. Flowers appearing before the leaves, in terminal clustered coryms, which proceed from the same buds with the leaves; pedicels pubescent. Stamini ferous: Calyx pale greenish-yellow; segments spreading, ovate, acute. Anthers unequally 4-celled. Pistilliferous: Stamens 6, all infertile. Gernen roundish; stigma obtuse, nearly sessile. Berries oval, blue, on thick red pedicels.

Hab. In woods and along the banks of rivers. April. Sassafras.

In the neighbourhood of New-York the Sassafras is not uncommon, and frequently attains the height of 30 or 40 feet,
with a diameter of a foot or more. Farther north it grows rare, and at length is only a large shrub. *Michaux*, the younger, remarks, that the neighbourhood of Portsmouth, New-Hampshire, (lat. 73°) is one of the most north-eastern points where he has observed this tree. In the western country it is found one degree farther north.
CLASS X.
DECANDRIA.

ORDER I.
MONOGYNIA.

* * Flowers monopetalous.
285. Pterospora.

* * * Flowers polypetalous, regular.
290. Clethra.

* * * Flowers polypetalous, irregular.
293. Cercis.

277. ARBUTUS. L:


A. Uva ursi L.: stem procumbent; leaves cuneate-obovate, very entire, coriaceous; margin convex; flowers fasciculate; berries 5-seeded. Willd. Spec. II. p. 618. Smith
A small trailing evergreen. Stem woody, often forming large tufts or mats. Leaves alternate, petiolate, spreading or recurved, variable in breadth, obtuse, rigid, rounded or revolute on the margin, reticulately veined beneath. Flowers in a small terminal clustered raceme, drooping. Segments of the calyx obtuse. Corolla rose-colour, pellucid at the base, hairy internally; segments of the border ovate, acute. Stamens included; anthers large, bifid. Berries red, persistent. Seeds small, hard.

**Hab** In sandy pine woods and on mountains; not uncommon. Plentiful in the pine barrens of New-Jersey. April—May.

**Common Bear-berry.**

276. **GAULTHERIA. L.**


**Mountain-tea.—Partridge-Berry.**


Stem frutescent, creeping; flowering branches erect, 3—4 inches high, naked below. Leaves sempervirent, 4—5 on each branch, crowded towards the summit, about an inch and a half long, coriaceous; serratures rather distant; petiole very short. Flowers axillary, solitary, on short recurved pubescent pedicels. Calyx 5-toothed, with 2 roundish bracts at the base resembling an exterior calyx; segments broad, rather acute, pubescent on the margin. Corolla ovate, obtusely pentangular, white, hairy within; border 5-toothed, revolute. Stamens included; filaments woolly, short, alternating with the teeth of the receptacle; anthers large, opening by 2 terminal pores, each with bifid horns. Germen roundish, surrounded at the base with a greenish 10-toothed receptacle or torus; style cylindrical, tubular, longer than the stamens, the base immersed
in the germen; stigma 5-cleft. Capsule obtusely pentagonal, umbilicate, covered by the connivent persistent calyx, which becomes red and succulent, resembling a berry; valves septiferous in the middle. Seeds 15—20 in each cell, attached by one extremity to the 5 lobes of the central axis, ovate, compressed, shining.

Hab. In wet or dry woods, mostly under the shade of evergreens. July—August. Mountain-tea.

The whole plant has a pleasant aromatic flavour, somewhat resembling that of Betula nigra. It is vulgarly called Winter-green.

* Flowers octandrous; calyx 4-toothed; corolla subcampanulate, 4-cleft; capsule 2 subglobose, 4-celled, adhering to the calyx below the middle. Lasierpa*.


A creeping evergreen, with long filiform stems, covered with ferruginous hairs. Leaves about one-third of an inch long, acute at each extremity, covered, like the stem, with hispid hairs. Flowers solitary, on short recurved pedicels. Bracts 2, resembling an exterior calyx, ovate, acute. Calyx inferior, of 4 ovate acuminate teeth, adhering to the capsule below the middle, not becoming succulent? Corolla very small, white, short-campanulate; border erect? Stamens included; filaments broad; anthers naked at the base. Capsule? or dry berry, white, many-seeded; dissepiments membranaceous. Seeds attached to central receptacles.


I much regret not having a full description of this plant taken from living specimens, it being very probable that it will constitute a new genus. It has been referred to four distinct genera, from each of which it differs in several important characters. It most resembles Oxycoccus and Gaultheria; but differs from the former, in having a bibracteate inferior calyx, which, however, appears to adhere to the base of the fruit, &c.; and from the latter in being octandrous, as well as in habit. The fruit I have not examined in a recent state, but it appears to be a dry berry. In Michaux’s figure, which is otherwise excellent, the fruit is represented as crowned with the calyx; but the calyx was certainly inferior in the
specimens I examined, and, with a little care, could be separated to the base of the fruit. *Pursh* represents the plant in a far more luxuriant state than I have ever observed it.

279. **VACCINIUM.** *L.*


* Leaves deciduous.
† *Corolla* campanulate.


A shrub 2—3 feet high, much branched; the younger branches pubescent. *Leaves* about an inch and a half long, and three-fourths of an inch broad, obtuse or acute, on very short pedicels. *Pedicels* from one half to three-fourths of an inch long, generally arising from the short lateral branches of the stem, which appear like leafy racemes. Segments of the *calyx* short, acute. *Corolla* white, spreading; lobes somewhat mucronate. *Stamens* erect; *filaments* short; *anthers* very long, linear, with 2 subulate processes near the base, 2-parted; the divisions tubular, bifid at the extremity. *Germen* subglobose; *style* longer than the stamens; *stigma* simple. *Berries* large, greenish-white, scarcely edible. *Hab.* In dry woods and on rocky hills. *May—June.* *Deer-berry.*


*Hab.* In the pine barrens of New-Jersey. *June.*

This, as *Smith* remarks, is scarcely even a variety of *V. stamineum.*

2. **V. dumosum** *Curt.* : younger branches, leaves and racemes sprinkled with resinous atoms; leaves obovate, cuneate at the base, mucronate, very entire, green on both
sides; racemes bracteate; pedicels short, axillary, subsolitary; corolla campanulate; segments rounded; anthers included. 


Elliot Sk. I. p. 497. 


V. hirtellum Hort. Kew. ed. 2. II. p. 357.

A shrub about a foot or 18 inches high, with long creeping roots, branched above, often naked below. 

Leaves an inch long, somewhat shining, conspicuously sprinkled with resinous dots; margin slightly revolute. 

Racemes lateral, leafy; pedicels somewhat recurved, bicrinate at the middle. 

Calyx glanular; segments ovate, acute. 

Corolla large, white, exactly campanulate. 

Stamens one-third shorter than the corolla; anthers naked at the base, bifid; segments simple. 

Style as long as the corolla. 

Berries large, a little depressed, black and shining, crowned with the large persistent calyx.


3. V. frondosum L.: leaves obovate-oblong, obtuse, very entire, and sprinkled with resinous atoms beneath, glaucous; racemes loose, bracteate; pedicels long, filiform; corolla ovate-campanulate; anthers included. 


Ait. Kew. II. p. 11. 


Elliot Sk. I. p. 497. 


A shrub 3—5 feet high. 

Leaves an inch and a half long, generally obtuse, oval or obovate, dull, subsessile. 

Racemes lateral, few-flowered; pedicels smooth, bracteate, at length elongated and pendulous. 

Corolla small, white, a little contracted at the orifice. 

Anthers naked at the base. 

Style scarcely exerted; stigma margined. 

Berries large, blue, glaucous, nearly globular, very agreeable to eat.

Hab. In sandy woods and in swamps; common. 

Blue-tangles.

The berries of this species, and of No. 7, form the principal part of the fruit sold under the name of Whortle-berries or Huckle-berries.

† † Corolla urceolate.

a. Flowers racemose, or fasciculate.

4. V. resinosum Ait.: leaves petiolate, oblong-oval, mostly obtuse, very entire, sprinkled with resinous atoms beneath; racemes lateral, secund, bracteate; corolla ovate-conic, pentangular. 


Ait. Kew. II. p. 12. 


Andromeda baccata Wang. Amer. 11. t. 30. f. 69.

A shrub about 2 feet high, erect, much branched, with the
younger branches pubescent. Leaves at first acute, but when old obuse, thin, with the resinous dots beneath very conspicuous. Flowers in short lateral racemes or fascicles, small, red, or reddish green, contracted at the orifice. Stamens shorter than the corolla. Style a little exserted; stigma capitate. Berries globular, black and shining, sweet.

Hab. In woods and on hills; common. May—June.

*Black Whortle-berry.*


A shrub 4—3 feet high, with irregular straggling branches. Leaves when young very pubescent, in maturity nearly smooth above, but somewhat pubescent and pale beneath, mucronate; obsetously serrulate. Segments of the calyx erect or reflexed. Flowers much longer than in the preceding species, in sub-corymbose racemes, which are crowded towards the extremity of the leafless branches. Corolla white, often tinged with purple. Stamens included; filaments nearly as long as the anthers, villous; anthers without awns. Style exserted; stigma capitate. Berries large, black, subacid.

Hab. In swamps and low woods. May—June.

*High Whortle-berry.*


Hab. In Pennsylvania. M u h l e n b e r g. +

This is an obscure species to me; though I suspect it to be a mere variety of the preceding. M u h l e n b e r g asks if it is not a variety of *V. virgatum*, but it appears to be more nearly allied to *V. corymbosum*, to which also it is referred by S m i t h.


A shrub a foot or 18 inches high, very much branched; the branches more or less angular, with the bark of a greenish co-

**Hab.** On dry rocky hills. May—June.

This is the most common species of *Whortle-berry* brought to the New-York market.


This species has not come under my observation. It is not the *V. tenellum* of *Pursh*, which is our *Pennsylvanicum*.


A small shrub; branches straight and erect, slender. *Leaves* about three-fourths of an inch long, and three lines broad, very acute, hairy on the margin and midrib, conspicuously veined beneath. *Corolla* purple, with the floral scales at the base of the same colour.

**Hab.** In dry woods. Pennsylvania to Virginia. *Pursh.*

A delicate and handsome species, of which I have seen no northern specimens.

**β. Flowers solitary.**


This is considered as a new species by Dr. Bigelow, but it appears to differ so little from V. uliginosum, that I think it had better not be separated.

* * Leaves sempervirent.


A low shrub, with straggling branches. Leaves often submarginate, shining, somewhat coriaceous, revolute. Racemes few-flowered. Corolla pale red, mostly 4-cleft. Berries red, acid.


230. ANDROMEDA. L.


* Leaves sempervirent.


A small creeping shrub, resembling some species of Lyco-pondium, about 6 inches long, much branched; flowering branches erect. Leaves densely imbricate, 2—3 lines long, minutely ciliate on the margin, (under a lens.) Flowers small, solitary, on a terminal peduncle about half an inch long. Segments of the calyx ovate, acute. "Corolla white, tinged with red." Ph. Capsule subglobose, crowned with the short persistent style.


This very rare plant, of which specimens were communicated to me by Dr. Bigelow, is also a native of Lapland and Siberia.


A shrub about a foot and a half high, nearly simple. Leaves 2—3 inches long, scattered, very acute, distinctly revolute on the margin, with a prominent midrib, very glaucous beneath. Flowers aggregated towards the extremity of the stem or branches; pedicels short. *Calyx* reddish, with oblong segments. *Corolla* short, urceolate, contracted at the orifice, white. *Stamens* included; *anthers* short, 2-awned towards the summit. *Style* persistent, pentangular. *Capsule* subglobose; valves naked on the margin.


This species is also a native of Scotland, and of the northern parts of Europe.

3. *A. calyculata* L.: leaves lanceolate-oblong, rather obtuse, obsolesly serrulate, ferruginous beneath; racemes terminal, leafy, subsecund; calyx bibracteate; corolla oblong-cylindrical.


A shrub 3—4 feet high, much branched. Leaves alternate, thick and coriaceous, squamulose-punctate; petioles very short. Flowers subracemose, or rather axillary towards the extremity of the branches; pedicels short and thick. *Calyx* with 2 broad-ovate acuminate bracts at the base; segments acute, coriaceous. *Corolla* white, sometimes tinged with purple. *Stamens* included; *anthers* unawned. *Style* persistent, longer than the stamens. "*Capsule* roundish, coated; septa spontaneously bipartite in a longitudinal direction, exhibiting 5 distinct capsules, primarily attached to a common axis opening externally, and connected by a 5-parted external envelope. *Seeds* numerous, truncate, angular, transversely accumulated."

*Hab.* In bog meadows, and in sandy swamps; not uncommon. April—May.

**Leaves deciduous.**

4. *A. mariana* L.: leaves oval, somewhat acute, very entire, smooth, subcoriaceous, paler beneath; flowering branches nearly naked; pedicels fasciculate; corolla ovate-cylindric;

A shrub 2—4 feet high, with few erect branches. *Leaves* smooth, acute at the base, rather obtuse at the extremity, puncticulate beneath; margin slightly revolute. *Racemes* or naked branches often a foot or more in length; *pedicels* aggregated, half an inch long. *Calyx* foliaceous, deeply 5-parted; leaflets about half as long as the corolla, oblong, acute. *Corolla* white, and pale red, large. *Stamens* included; *filaments* hairy; *anthers* with 2 minute awns at the base. *Style* longer than the *stamens*, 5-angled; *stigma* lobed. *Capsule* somewhat conoid; the sutures closed externally by 5 narrow convex ribs. *Seeds* subulate, very numerous, truncate at one extremity, attached by the smaller end to the 5 lobes or *flaenca* of the central receptacle.

**Hab.** In dry sandy woods. Abundant on Hempstead Plains, Long-Island, and in the pine barrens of New-Jersey. June. It also generally flowers again in October. A beautiful shrub.


A shrub 4—6 feet high, with irregular straggling branches. *Leaves* acute at each extremity, smooth above, finely serrulate on the margin. *Racemes* 3—4 inches long, sometimes, from luxuriance, compound; *flowers* on short pedicels, nodding, sweet scented. *Calyx* bifractate at the base, coloured; segments lanceolate, acuminate, ciliate. *Corolla* white, with the segments minute, revolute. *Stamens* not half the length of the corolla; *filaments* smooth; *anthers* bifid, each division 2-awned. *Germen* roundish; *style* slightly exserted, cylindric; *stigma* minute.

**Hab.** In swamps and on the borders of wet woods; rare. June—July.

A middle-sized tree. Leaves petiolate, large, shining above, paler beneath, uncinately serrate. Flowers in large terminal panicles, composed of numerous second racemes or spikes; pedicels naked at the base, with one minute bract below the flower. Segments of the calyx short, acute. Corolla white, obtusely pentangular. Filaments very short; anthers long, bifid. Style not exserted.


This tree, according to the younger Michaux, sometimes attains the height of 7 feet. The leaves are pleasantly acid, and are frequently used by the hunters to assuage thirst.


A shrub 4—8 feet high, with numerous straggling branches. Leaves at length smooth on the upper surface, membranaceous. Panicles compound, nearly naked, erect; pedicels somewhat aggregated, without bracts. Calyx 5-toothed. Corolla small, nearly globose, white, pubescent. Stamens shorter than the corolla; anthers acute. Style not exserted; stigma simple. Capsule globose; sutures closed by 5 narrow convex ribs.† Seeds subulate, attached by the smaller extremity to the 5 lobes of the central receptacle.

Hab. In swamps and wet thickets. June—July.

This is certainly the Vaccinium ligustrinum of Linnaeus, as I am informed by Sir J. E. Smith. The A. paniculata, of the former, is perhaps merely a luxuriant specimen of A. racemosa, which often, especially in the Southern States, bears compound racemes.

† The genus Lyonia of Nuttall is characterized as distinct from Andromeda, by the valves of the capsule being closed with 5 other narrow and exterior valves. This structure is, however, observed in some genuine species of Andromeda, as in A. mariana; and Mr. Nuttall informs me, he now thinks his Lyonia had better be reunited to the genus from whence it was taken.
KALMIA. L.


American Laurel.—Calico-bush.


A shrub 4—15 feet high, with very crooked irregular branches; wood hard and dense. Leaves sempervirent, 2—3 inches long, very smooth and shining; acute at each extremity; the under surface nearly of the same colour with the upper. Flowers large, in terminal corymbs; pedicels an inch long, trichotomous at the base. Teeth of the calyx acute. Corolla rose-colour, with a very short tube, and a large spreading border. Stamens 2, the anthers lodged in the depressions of the corolla, but at length liberated elastically at different times. Style filiform, persistent; stigma capitate. Capsule depressed-globose. Seeds very minute, much compressed, attached to the central receptacle.

Hab. On rocky hills and on mountains; common. June—July. Michaux, the younger, remarks, that the west end of Long-Island, and the vicinity of Poughkeepsie, New-York, are the northern limits of this plant. Dr. Bigelow, however, found it in great quantities at Cape-Ann, Massachusetts. It also occurs on the Hudson as far north as the Catskill Mountains, where it sometimes attains the height of 20 feet.

A shrub seldom more than 2 feet high. *Leaves* sempervirent, on short petioles, very smooth, somewhat glaucous beneath, scattered or in threes. *Flowers* not more than one third as large as in the preceding, but deeper rose-colour, in small lateral corymbs, and thus appearing verticillate. *Capsule* smooth. 

**Hab.** In sandy woods and in swamps. June—July.

*Dwarf-laurel.—Kill-calf.*

This and the preceding species are poisonous, and frequently kill sheep.


β. *rosmarinifolia* Ph.: leaves linear, conspicuously revolute, nearly green beneath. *Pursh l. c.*

A low shrub with few branches. *Leaves* scarcely 2 lines broad, slightly glaucous beneath. *Umbels* terminal. *Flowers,* &c. as in the preceding variety.


This is certainly but a variety of *K. glauca*, as it sometimes occurs with broader leaves, which are distinctly glaucous beneath.

282. RHODODENDRON. *L.*

*Flowers pentandrous.*


A shrub 2—6 feet high, much branched towards the summit. *Leaves* deciduous, alternate, crowded on the extremity of the branches, very entire, nearly smooth above, except a pubes- cence along the midrib; under surface slightly hairy or smooth. *Flowers* in terminal clusters, appearing before the leaves are expanded; *pedicels* bracteate at the base. *Calyx* very short. *Corolla* red; tube very long; border unequally 5-lobed. *Stamens* about as long again as the corolla; *filaments* slender, smooth; *anthers* with 2 terminal pores. *Germen* hairy; *style* filiform; *stigma* capitate. *Capsule* oblong, obtusely 5-angled.

**Hab.** In woods and copses; common. Upright Honey-suckle.

Of this plant there are numerous varieties; some of which are found in their native woods, others the effect of cultivation. Of the former, the most remarkable is one with from 10 to 20 stamens, found by *Pursh* in the vicinity of Phila- delphia, confirming the opinion, that *Azalea* (excluding *A. procumbens*) and *Rhododendron* should form but one genus.


A shrub 4—8 feet high, with the younger branches and pedun- cles bristly. *Leaves* crowded, nearly smooth, somewhat serr- ulate on the margin; the under surface of the same colour as the uppers. *Flowers* in terminal leafy clusters, sweet scented. *Calyx* very short. *Corolla* white, very viscosous and pubescent; *infundibuliform*; tube long. *Stamens* about as long as the corolla.

**Hab.** In wet woods and copses. June.

   

Hab. In swamps; rare. July.

This variety is made a separate species by *Pursh*, but it appears to be scarcely distinct from *A. viscosa*.

3. **R. calendulaceum**:* flowers somewhat naked; leaves oblong, pubescent on both sides, at length hairy; flowers not viscid; teeth of the calyx oblong; tube of the corolla hairy, shorter than the segments. *Azalea calendulacea* *Mich.*
   

A shrub 2—6 feet high. Leaves deciduous. Flowers large, bright flame-colour, or bright yellow.


*Pursh* remarks, that this is the handsomest shrub in North-America. It is, by some Botanists, considered as a variety of *Azalea pontica*, a native of the Levant.

4. **R. arborescens**:* flowers leafy; leaves obovate, rather obtuse, smooth on both sides, glaucous beneath, ciliate on the margin; nerve almost smooth; flowers not viscid; tube longer than the segments; calyx leafy, with the segments oblong, acute; filaments exserted. *Azalea arborescens* *Pursh* *Fl.* *I.* *p.* 153. *Roem.* & *Schult.* *IV.* *p.* 474.


Hab. In rivulets near the Blue Mountains, Pennsylvania. *Pursh.*

5. **R. nitidum**:* flowers leafy; branches somewhat smooth; leaves ob lanceolate, subnucronate, coriaceous, smooth on both sides, shining above; nerve bristly beneath; margin revolute-ciliate; flowers viscid; tube a little longer than the segments; calyx very short; filaments exserted. *Azalea nitida* *Pursh* *Fl.* *I.* *p.* 153. *Roem.* & *Schult.* *IV.* *p.* 378.

Leaves dark green and shining, smaller than in any other species. Flowers white, with a red tinge. *Ph.*


6. **R. hispidum**:* flowers leafy; branches straight, very hispid; leaves long-lanceolate, hispid above, smooth beneath, glaucous on both sides; nerve beneath bristly; margin ci-
Decandria; flowers very viscous; tube scarcely longer than the segments; teeth of the calyx oblong, rounded; filaments exerted. **Azalea hispida** Pursh Fl. l. p. 154. Roem. & Schult. IV. p. 578.

A shrub 10—15 feet high, very upright, and of a blueish appearance. **Flowers** white, with a red border, and a tinge of red on the tube, which makes them appear of a rose-colour before they open. **Ph.**

Hab. On the borders of lakes on the highest parts of the Blue Mountains, New-York to Pennsylvania. July—August. **Pursh.**

* Flowers campanulate; stamens 5—10.


An evergreen (procumbent?) shrub, 8—10 inches high, with straggling branches. **Leaves** mostly crowded towards the extremity of the branches, scarcely more than half an inch long, elliptical ovate, coriaceous, flat, rather obtuse, on very short petioles, covered on both surfaces with excavated punctures or pores, which, especially on the lower surface, are closed with ferruginous scales. **Flowers** in terminal leafy clusters. **Calyx** minute, 4-toothed; teeth obtuse. **Corolla** bright purple, campanulate, 4-cleft; segments rounded, nearly equal. **Stamens** 8, a little longer than the corolla; **filaments** slender, woolly at the base; **anthers** oblong, opening by 2 small terminal pores. **Germen** roundish, pubescent; **style** filiform; **stigma** capitate, entire.


This rare plant is also a native of Lapland. A fine specimen, sent to me by Dr. Bigelow, agrees in every respect with one in my Herbarium from Lapland. Whatever doubt there may be respecting the propriety of removing the other species of **Azalea** to **Rhododendron**, I think there can be none about this. Its habit is exactly that of **R. ferrugineum** and **punctatum**.

A shrub 10—15 feet high. Leaves sempervirent, 4—6 inches long, and an inch and a half broad, coriaceous, somewhat cuneate, abruptly acuminated, pale or ferruginous on the under surface; petioles about an inch in length. Flowers in dense terminal racemes, very large, at first invested with large acuminated ferruginous bracts; pedicels viscosous-pubescent, erect, an inch and a half long. Calyx very short, with 5 ovate obtuse teeth. Corolla subcampanulate, irregular, rose-colour, 5-cleft; segments rounded, spreading. Stamens rather shorter than the corolla, unequal; filaments woolly at the base; anthers roundish. Style about as long as the stamens; stigma capitate. Capsule oblong, subterete, 5-celled. Seeds very minute and numerous, compressed, subulate at each extremity, attached to the 5 wings of the columella, which extend into the cells of the capsule.


A highly ornamental evergreen shrub. Michaux, the younger, remarks, that the northern limits of this plant are the west end of Long-Island, and the River Hudson below the Highlands; but Dr. Bigelow has found it near Boston, and Dr. J. Locke, I believe, still farther north.

233. RHODORA. L.


A shrub about 2 feet high, with erect branches. Leaves alternate, oval, very entire, pubescent and glaucous beneath, somewhat revolute on the margin. Flowers in terminal umbels or clusters, appearing before the leaves are unfolded. Calyx very minute. Corolla purple or reddish; superior petals narrow-lanceolate, obtuse; inferior ones broader, and 3-lobed at
the summit. **Stamens** about as long as the corolla; **filaments** slightly hairy at the base; **anthers** oblong, opening by 2 terminal pores. **Style** longer than the stamens; **stigma** capitata. **Capsule** oblong, splitting nearly to the base into 5 valves. **Seeds** with a membranaceous wing at each extremity.


This shrub possesses much of the habit of **Rhododendron**, with which genus it may hereafter be united.

---

284. **EPIGAEA**. L.


*Ground-lau~


A trailing evergreen. **Stem** woody, hairy, a foot or more in length. **Leaves** alternate, on long petioles, mucronate, flat. **Flowers** in dense terminal and axillary racemes, very fragrant. **Bracts** nearly as long as the calyx, ovate, acuminate. **Calyx** deeply 5-parted, with ovate, acute segments, coloured. **Corolla** white, with a tinge of red, woolly internally; tube cylindrical; border spreading; segments ovate, obtuse. **Stamens** shorter than the corolla; **filaments** woolly; **anthers** in-cumbent, linear-oblong, opening longitudinally the whole length. **Style** as long as the stamens; **stigma** simple.

**Hab.** In rocky woods and on hill sides. April. *Mountain-tea*.

---

285. **PTEROSPORA**. *Nutt.*

**Calyx** 5-parted. **Corolla** monopetalous, ovate; margin 5-toothed, reflexed. **Anthers** excentrically peltate, 2-celled, adnate to the filaments by the margin, bisetose. **Capsule** 5-celled, imperfectly 5-valved; dis-
septiments from the middle of the valves; septa and valves uniting towards the base, and coalescing with the receptacular axis; receptacle 5-lobed. Seeds very numerous and minute, each furnished with a terminal wing. Nutt. Gen. I. p. 269. Nat. Ord. Monotropeae Nutt.


Root roundish, consisting of matted filaments, (annual, Nutt.) Every part of the plant, except the corolla, covered with brownish viscid hairs. Stem from a foot and a half to 2 feet or more in height, simple, brownish red or purple, clothed towards the base with lanceolate bracts, somewhat cylindric, sensibly attenuated upward. Flowers numerous, (sometimes as many as 80,) irregularly dispersed in a long raceme; peduncles spreading equally around the stem, sometimes collected in fascicles of 4 and 5 each, cylindrical, nutant, three-fourths of an inch long, each subtended at the base by a longish linear pellaceous bract. Calyx 5-parted; segments ovate, nearly half the length of the corolla, somewhat pubescently ciliate, furnished with obscure longitudinal nerves. Corolla monopetalous, marcescent, ovate, open; margin 5-toothed, reflexed; dentures short-oval, obtuse, rosaceous; the rest of the corolla white. Stamens 10, included; filaments subulate, flat and membranaceous, arising from the base of the germin; anthers small, 2-celled, traversed by, and inseparably connected with the filaments, of an oboval form, attached by the margin, opening inward from the base, or junction of the filaments, in a horizontal manner, or, in other words, in a contrary direction to that of the filaments which support them. At the base of the singular anther there is situated 2 small filiform processes nearly its length, which have probably been applied to the 2 sutures of the anthers before opening? Style 1, short and columnar; stigma capitate, obscurely 5-lobed. Capsule 5-celled, subglobose; valves 5, coalescing towards the base by their dissepiments with the axis of the receptacle; receptacle 5-lobed; lobes long, alternating with the dissepiments, which arise from the centre of the valves. Seeds extremely numerous and minute, globular-ovoid, acute at the base, sulcate, terminated upward by a dilated roundish reticulated membranaceous wing, which is hyaline, and many times larger than the seed.†—Nutt.

Hab. In hard clayey soil, where there is little vegetation to be

† From an external inspection of this minutest of seeds, we perceive that the embryon, as the umbilicus, must be concentric, and probably surrounded by a perisperm; but it may fairly be doubted whether this plant, and Monotropa, its coordinate, are not deprived of cotyledons. Nutt.

I received specimens of this plant, in fruit, about eight years since, from Dr. Edwin James, who discovered it at Greenbush, near Albany. Having only seen imperfect specimens, I was ignorant of the structure of the flowers, but referred it to Monotropa as the genus to which it was most nearly allied, and a short description was published in Eaton’s Manual of Botany, ed. 2d. 1818, under the name of M. firocera. There can, however, be no doubt of its belonging to a genus quite distinct from Monotropa. This plant is said, by Mr. M’uttall, to be an evanescent annual, but I am assured by Mr. Tracy, of Albany, an accurate Botanist, that it is certainly a perennial. He has taken up the roots from their native soil, and transplanted them into his garden, where they flowered. I am informed that the Pterospora has lately been illustrated in Europe by Hooker, and also by Lindley and Brown; but unfortunately their publications have not yet reached this country, so that I am unable to avail myself of their valuable observations.

236. MONOTROPA. L.


Root perennial? consisting of imbricated scales. Whole plant, except the lower part of the scape, pubescent, of a dingy co-
flour, and musky odour. Sca& clustered, 4—6 inches long, invested with lanceolate scales, erect, simple, angular. Spike at first convolute, at length more erect, but the flowers drooping and secund; pedicels about half an inch long. Corolla large; petals obovate-lanceolate, obtuse; the 5 exterior with a nectariferous cucullate base. Stamens 10; filaments pubescent, shorter than the corolla, alternating at the base with 10 short recurved filiform processes; anthers 1-celled, adnate to the filaments on one side, opening outward their whole length. Style nearly as long as the stamens, thick, hairy, persistent; stigma large, dilated, bearded beneath. Capsule superior, roundish, erect; dissepiments growing to the axis towards the base, thus preventing the valves from expanding.

Hab. In woods, particularly where beech abounds; not uncommon. August.


Whole plant of a dingy yellow, half the size of the European plant. Mich.


I have never seen undoubted North-American specimens of this plant; all that have come under my observation hitherto being merely smoother varieties of M. lanuginosa.

* * Scape 1-flowered. Monotropa. Nuttall.


Root roundish, composed of densely matted filaments. Whole plant white, not musky. Scape 5—8 inches high, simple, succulent; scales oblong or lanceolate, scattered or approximate, nerved. Flowers large, generally nodding, but frequently erect. Petals 5, oblong or obovate. Stamens shorter than the corolla; filaments pubescent, unequal, with 10 short recurved processes at the base; anthers horizontal, excentric, opening by 2 linear transverse foramina. Style short; stigma large, dilated, concave. Capsule obtuse, pentangular, 5-celled,
5-valved; valves coalescing with the axis at the base. Seeds very numerous and minute.

**Hab.** In shady woods. June.

The *M. Morisoniana* of *Michaux*, is scarcely a distinct species from the present, unless there be some important character omitted in the description; for the flowers are very frequently erect, the scape elongated, and the scale distinct. The figure of *Morison*, to which *Pursh* refers, is very rude, and of little use in determining the question; yet, the latter Botanist, who saw the original specimens from which the figure was drawn, describes the *M. Morisoniana* as distinct.

**287. PYROLA.** *L.*


* Flowers racemcd, pointing in various directions.


Root perennial, creeping. Leaves all radical, sempervirent, about an inch and a half in diameter, smooth and shining, with conspicuous nerves; margin with appressed obsolete serratures; petiole margined. *Scape* a foot or more high, acutely 3–5-angled, with 2 or 3 remote lanceolate bracts. *Flowers* large, in a long terminal raceme, sweet scented; *pedicels* one-third of an inch long, nodding, subtended by lanceolate acute bracts. *Calyx* nearly one third as long as the corolla; segments acute, a little reflexed at the tip. *Corolla* white, with a rosaceous tinge; *petals* ovate-oblong, rather obtuse. *Stamens* shorter than the corolla, ascending; *filaments* smooth, flattened; *anthers* oblong, with 2 pores at the base, at first erect, but becoming inverted after the flower expands, as in
the rest of the genus. *Style* thick, longer than the stamens; *stigma* annulate, 5-lobed.

**Hab.** In dry woods. July—August.

2. *P. elliptica* *Nutt.*: leaves membranaceous, elliptical-ovate, serrulate, rather acute; lamina longer than the petiole; scape nearly naked; bracts subulate; *calyx* 5-toothed; *style* deccinate. *Nutt.* Gen. I. p. 273.

*Root* creeping, perennial. *Leaves* sometimes oblong-oval, acute or obtuse, of a much more thin and membranaceous texture than the preceding; petiole generally much longer than the lamina. *Scape* about 10 inches high, pentangular, with scarcely ever more than a single bract. *Flowers* sweet-scented. *Calyx* very short; teeth broad, with the points a little reflexed. *Corolla* white, with a greenish tinge; *petals* oblong-oval, rounded. *Stamens* shorter than the corolla, ascending. *Style* deccinate, longer than the flower; *stigma* annulate, with 5 distinct emarginate lobes. *Capsule* roundish, depressed, obtusely pentangular; valves connected on the margin by an intricate tomentum, which prevents them from expanding. *Seeds* very minute, covered with a membranaceous integument attenuate at each extremity.

**Hab.** In dry woods, especially in pine barrens; not uncommon. July—August.

This species is well distinguished by Mr. *Nuttall* from *P. rotundifolia*, which it resembles in many respects.


*Root* long and creeping. *Leaves* not half the size of the preceding species, dark green and opaque, dilated, mostly with an irregular notch at the extremity, absolutely crenulate. *Scape* 8—10 inches high, acutely angular, with rarely more than one convolute bract. *Calyx* of 5 obtuse dilated teeth. *Corolla* greenish, "nearly destitute of odour," *Nutt.*; *petals* obovate, obtuse. *Stamens* shorter than the corolla. *Style* deflexed and recurved; *stigma* annulate, 5-lobed.


I think there can be little doubt that this is the *P. asarifolia*. It is referred to *P. chlorantha* of *Swartz*. (in Stodd. Trans. 1810. p. 190. t. 5.) but even if it were identical with
that species, the name of *Michaux* must be adopted, it being seven years anterior. Prof. *Hooker*, of Glasgow, informs me, however, that he has compared the North-Ameri-
can plant with specimens of *P. chlorantha* from *Swartz*
himself, and finds them quite distinct.

4. *P. minor* L.: leaves roundish-oval, serrulate; scape
naked; style short, straight, as long as the erect stamens.

*Flowers* smaller than in the preceding species, white, with a

**HAB.** In the western parts of the State of New-York. *Pursh.*

**Flowers racemed, second.**

5. *P. secunda* L.: leaves roundish-ovate, acute, serrate;

*Root* long, creeping. *Stem* 1—2 inches high, procumbent at
the base. *Leaves* submembranaceous, smooth and shining,
rather acute, distinctly serrate; lamina much longer than the
leaf. *Scape* angular, 6—8 inches high; *bracts* lanceolate,
acute, appressed. *Raceme* many-flowered. *Calyx* small, with
acute teeth. *Corolla* greenish-white; *petals* oblong, concave.
*Stamens* nearly as long as the corolla; *anthers* with large open
pores. *Style* exserted, straight; *stigma* peltate, gibbous.

**HAB.** In open sandy woods; not uncommon. June—July.

**Flower solitary, terminal.**

6. *P. uniflora* L.: leaves orbicular, serrate; scape 1-

*Root* creeping. *Stem* very short, ascending. *Leaves* nearly or-
bicular or obovate, smooth and flat, distinctly serrate; lamina
much longer than the petiole. *Scape* 2—4 inches long, naked.
*Flowers* large, nodding, fragrant. *Teeth* of the *calyx* ovate,
obtuse. *Corolla* nearly white, sometimes tinged with red;
*petals* roundish. *Stamens* shorter than the corolla; *anthers*
with 2 tubular pores at the base. *Style* thick, nearly as long
as the stamens; *stigma* 5-rayed.

**HAB.** In pine woods at Windham, Massachusetts. *Oakes.*
In dry woods and sphagnous swamps. Canada to New-York.
*Pursh.* July.

Of this species, I am informed by *Mr. Oakes*, there ap-
ppear to be two varieties; one with regular kidney-shaped
leaves; the other with round, more irregular leaves, which are thin and rather membranaceous. They both occur, though rarely, in the pine woods near Windham, Massachusetts.

** Flowers somewhat umbellate; styles very short. **

** Chima rhila. Pursh. **


Root long, creeping. Stem ascending, ligneous. Leaves sempervirent, subverticillate, smooth and coriaceous, narrowed at the base into a short petiole, acute; margin distantly and acutely serrate. Scape or peduncle 4—6 inches long, bearing from 4—6 large flowers in an imperfect terminal umbel. Teeth of the calyx rather obtuse, dilated. Corolla greenish-white, tinged with violet. Stamens nearly as long as the corolla; filaments with a dilated violaceous disk near the middle; anthers spotted, with 2 tubular truncate pores at the base, becoming inverted when the flower is expanded. Geren obtusely conic, surrounded at the base with a glandular ring; style very short and thick, immersed in the depression of the germen; stigma large, convex, viscous, 5-lobed. Capsule roundish, opening at the summit; margin of the valves destitute of a connecting web; receptacle 5-lobed. Seeds very minute and numerous, acute at each extremity.


This species is also a native of the north of Europe and of Asia.


Root long and creeping. Stem assurgent, 3—4 inches high, woody at the base. Leaves sempervirent, subverticillate, on short petioles, sometimes ovate lanceolate, acute, with a longitudinal discoloured spot along the midrib, smooth and coriaceous; margin with remote acute subrepand teeth. Scape or peduncle about 4 inches long, bearing 2 or 3 flowers in an umbellate manner; pedicels nearly an inch long. Flowers large, fragrant, nodding. Calyx 5-leaved; leaflets obtuse, ciliate.
Corolla white, with a tinge of purple; petals broad ovate. Stamens sometimes 12; filaments bearing a flattened obcordate villous disk; anthers large; the tubular pores at the base divergent and truncated obliquely. Stigma large, sessile, partly immersed in the germen.

Hab In dry woods. July—August.

This, and the preceding species, form the genus Chimaphila of Pursh. This acute Botanist separated them Pyrolæ, as was long before proposed by Michaux, on account of their sessile stigmas, and the anthers being rostrate and opening by a subvalve foramen. But in their anthers they certainly agree with the other Pyrolæ, opening by 2 simple pores at their base; and in the stigma, they differ from each other, it being furnished with a short style in P. umbellata, and quite sessile in P. maculata. Dr. Bigelow, in his Medical Botany, above quoted, under the article Pyrola umbellata, has given excellent reasons for retaining these species in the genus where they were originally placed, and has shewn that they differ as much from each other, as some true Pyrolæ do from these.† In Mr. Nuttall’s improved generic character of Chimaphila, he describes the filaments as stipitate, with a ciliate discoid stipe, and the capsule with the valves unconnected by a web. In P. secunda, however, the valves of the capsule are likewise unconnected. It appears to me, therefore, better to restore Pursh’s genus to Pyrolæ.

288. LEDUM. L.

Calyx minute, 5-toothed. Corolla 5-petalled, spreading. Stamens exserted; anthers opening by 2 terminal pores. Capsule subovate, 5-celled, 5-vaived, opening at the base; valves with the margins inflexed and approximate; receptacle 5-lobed; columella 5-angled, pedicellate. Seeds numerous, flat, linear, scabrous, with a membranaceous wing at each extremity.


† Dr. Bigelow arranges the North-American species of Pyrolæ according to the following synopsis:—

- Style declined; stigma annulate. P. rotundifolia, elliptica, asarifolia.
- Style straight; stigma peltate. P. secunda, uniflora, minor.
- Style incrassated; calyx 5-leaved. P. maculata.
- Style immersed; calyx 5-toothed. P. umbellata.

A small evergreen shrub. Stem irregularly branched; branches woolly. Leaves alternate, subsessile, about 2 inches long, and from one-third to half an inch broad, obtuse, covered on the under surface with a dense ferruginous wool; margin folded in. Flowers large, in dense terminal corymbs; pedicels filiform, pubescent. Calyx very minute. Corolla white; petals obovate, obtuse. Stamens about as long as the corolla; filaments slender, smooth; anthers small, opening by 2 simple terminal pores. Germin roundish; style straight, about as long as the stamens; stigma small, obtuse. Capsule ovate-oblong, subpubescent; valves separating at the base, with the margins inflexed and connivent; receptacles linear, extending into the cells of the capsule. Seeds minute, terminating in a membrane at each extremity.


289. LEIOPHYLLUM. *Persoon.*


An evergreen branching shrub, from 8 inches to a foot high, erect, much branched. Leaves not half an inch long, oval or oblong, coriaceous, very smooth and shining, convex, revolute on the margin. Flowers numerous, small, in terminal corymbs or umbels. Calyx persistent; segments ovate, acute. Corolla white; petals oblong. Stamens exerted; filaments slender, smooth; anthers small, roundish. Style straight, as long as the stamens; stigma capitate. Capsule 3—5-celled, 5—5-valved, opening nearly half way down; margin of the valves not approximate; columella ovate, rugose, slightly 5-angled. Seeds minute, naked.


Sand-Myrtle.

290. CLETHRA. L.


A shrub 4—8 feet high. Leaves alternate, petiolate, acute or acuminate, with mucronate serratures, cuneate and entire at the base; petioles, and generally the larger nerves, pubescent. Flowers in long erect racemes or spikes, very fragrant. Peduncle, pedicel, and calyx, covered with a white down. Calyx about half as long as the corolla; segments ovate, rather obtuse. Corolla white; petals obovate, spathulate, obtuse. Stamens one-third longer than the corolla; anthers with divaricate lobes, acute at the top, opening by 2 pores at the base, inverted after flowering. Germen roundish, villous; style angular, hairy, as long as the stamens; stigma dilated and 3-lobed.
Clethra. Decandra. Monogynia. 439

Capsule covered with the persistent calyx, obtusely triangular. Seeds angular, attached to the lobes of the receptacle.

Hab. In wet woods and in swamps. August.

Sweet Pepper-bush.

291. Cassia. L.


Root perennial. Stem 2—4 feet high, erect, much branched, slightly hairy. Leaves pinnate, with 7—8 pairs of leaflets; leaflets nearly equal, petiolate, acute, pubescent; gland near the base of the common petiole subpetiolar. Flowers in axillary racemes, which are mostly towards the upper part of the stem, and thus form a large terminal panicle; pedicels filiform, with linear bracts at the base. Calyx nearly half as long as the corolla, coloured; leaves oblong, obtuse, unequal. Corolla bright yellow, large; petals oblong-ovate, veined; the inferior ones longer. Stamens very unequal; the 3 superior ones very short, with flattened abortive anthers; the 3 inferior with compressed filaments and large incurved anthers; all the anthers dark brown. Germen linear, as long as the middle stamens, villous, ascending; style incurved; stigma simple. Legume about 4 inches long, flattened, generally hairy. Seeds 9—12, large, compressed, separated by transverse partitions.

Hab. In wet meadows and on the banks of rivers; common. Wild August.

DECANDRIA. MONOGYNIA.  

Root annual. Stem about a foot high, erect or pubescent, much branched, covered with a minute appressed pubescence. Leaves in 12—15 pairs, somewhat sensitive, as in the rest of the genus, linear-oblong, oblique at the base, obtuse, mucronate; stipules in pairs, subulate; gland cup-shaped, slightly pedicellate. Flowers in lateral bracteate fascicles above the axils, often in pairs, but sometimes in fours; pedicels nearly an inch long, with 2 subulate bracts a little below the flower. Calyx coloured, two-thirds as long as the corolla, lanceolate, attenuate to a fine point. Petals bright yellow, obovate, 2, and sometimes 3 of them, with a purple spot at the base. Stamens unequal, all of them fertile; anthers very long, almost sessile; 4 of them yellow, the rest purple. Germen villous; style filiform, smooth; stigma simple. Legume flattened, about 2 inches long, sprinkled with short hairs.

Hab. On the sides of hills and in sandy fields. June—August. 

Sensitive-wna or Magoty-bay-bean.

This is a very common species in New-Jersey, frequently covering whole fields.


Root annual. Stem about a foot high, erect or procumbent, much branched, slender. Leaves in 14—18 pairs, small, linear-oblong, mucronate, oblique at the base; gland near the base of the common petiole, cup-shaped, on a distinct slender pedicel. Flowers very small above the axils. Calyx sometimes 4-leaved; leaves ovate-lanceolate, acuminate. Petals dark yellow, obovate. Stamens all fertile; anthers large, truncate. Germen villous; style short, thickened at the extremity. Legume hairy.

Hab. In sandy fields. Abundant on Long-Island, &c.

Sensitive-wna.


292. BAPTISIA. *V*entenat.


Root perennial. Stem 2—3 feet high, very much branched, somewhat glaucous. Leaves alternate; common petiole scarcely a line long, without stipules at the base; leaflets about three-fourths of an inch long, rounded at the extremity, cuneate at the base; stipules minute, caducous. Flowers in a loose terminal spike or raceme; pedicels articulate at the base. Calyx subcampanulate, 4-cleft; the upper segment broader. Corolla bright yellow; vexillum roundish, crenulate, reflexed on the sides; wings obovate; keel of 2 obovate petals slightly united. Stamens nearly equal, as long as the keel; filaments slender, smooth; anthers small, oblong, incumbent. Germen smooth, pedicellate, tapering into a slender style; stigma simple. Legume short, inflated, gibbous, on a long stipe, of a dark blueish colour. Seeds small, subreniform.

Hab. In open sandy woods; common. July—September.

The whole plant turns blueish-black in drying. It affords a considerable quantity of an inferior kind of Indigo.

293. CERCIS. *L.*


C. canadensis L.: leaves roundish-cordate, acuminate,

A small tree with smooth grayish bark. Leaves alternate, large, nearly orbicular, with an abrupt acumination, smooth and entire; petioles 1—2 inches long. Flowers in small fascicles, laterally disposed on the limbs, and sometimes on the trunk, appearing before the leaves. Calyx coloured, very gibbous on the lower part, pubescent on the margin. Corolla dark rose-colour; vexillum very small, covered by the wings; keel of 2 distinct petals, larger than the wings. Stamens alternately longer; anthers oblong, incumbent. Germen linear, smooth, tapering into a slender style; stigma simple. Legumen compressed, many-seeded.


I have not observed this tree north of New-Jersey. It is not rare in the vicinity of Philadelphia; and farther south it is abundant. The North-American plant is very nearly allied to C. Siliquastrum of Europe.

ORDER II.

DIGYNIA.

296. Chrysosplenium. 300. Dianthus.
297. Tiarella. 301. Scleranthus.

294. Hydrangea. L.


1. H. vulgaris Mich.: leaves oblong-ovate, smooth
HYDRANGEA. DECANDRIA, DIGYNIA.


A shrub 5—6 feet high, with opposite branches. Leaves opposite, petiolate, often a little cordate at the base, acuminate, pubescent, green on both sides. Flowers cymose, all uniform, (rarely radiate.) Calyx minute, 5-toothed. Petals white, small. Stamens longer than the petals, a little unequal; anthers oblong. Styles 2 or 3, persistent. Capsule somewhat 2—3-beaked by the persistent styles, opening by a transverse foramen between the beaks. The capsule is invested with the persistent calyx, which is truncate and 10-ribbed; the ribs connected at the top by a margin. Seeds oblong, striate.


The H. cordata of Pursh is, by several good Botanists, considered as a mere variety of H. vulgaris.


HYDRANGEA Lam. Ill. t. 307. f. 2.

A shrub about 6 feet high, with smooth opposite branches. Leaves frequently subcordate, conspicuously acuminate, pubescent along the veins on the upper surface, silvery tomentose beneath; serratules mucronate. Cymes pedunculate, terminal; the lateral flowers very large and imperfect. Perfect Fl. Calyx 5-toothed, 10-ribbed. Petals 5, white, oblong, small. Stamens unequal, longer than the petals; filaments slender, smooth; anthers roundish. Styles 2, short, divergent; stigmas simple. Abortive Fl. Calyx 3—4-leaved, very large, yellowish-white; leaflets oval, persistent. Corolla 3—4-petalled, minute. Stamens very short; sterile. Pistil a mere rudiment.


The above description was taken from a plant collected in Virginia, and growing in Mr. Prince's Garden at Flushing.

295. SAXIFRAGA. L.


Root perennial, thick. Whole plant minutely pubescent. Stem succulent, very variable in size, early in spring scarcely more than an inch, but later, and in favourable situations, more than a foot high, dichotomously branched above; the branches bearing small terminal corymbs. Leaves mostly radical, spreading on the ground, an inch or more in length, thick, crenate-dentate, obtuse. Flowers numerous, crowded. Segments of the calyx ovate, acute, erect. Petals white, obtuse. Stamens shorter than the calyx; filaments subulate; anthers roundish. Styles short, diverging, persistent. Capsule half inferior.

Hab. On rocks and dry hills; common. April—May.

Nearly allied to *S. nivalis*, but that species has acutely crenate leaves; the scape scarcely branched, with the flowers in a dense cluster, &c.


Root perennial. Leaves all radical, 5—8 inches long, and an inch or more in breadth, slightly pubescent, acute, attenuate at the base; margin irregularly denticulate. Scape a foot and a half or 2 feet high, pubescent, simple. Panicle oblong, consisting of short alternate branches, bearing small fascicles of flowers, but in fruit more expanded, with the flowers distinct. Calyx green; segments lanceolate, acute, spreading. Petals yellowish-green, obtuse. Stamens longer than the calyx, persistent; anthers roundish, orange. Styles very short, spreading. Capsule superior. Seeds very numerous, linear-oblong, angular, dark brown.

Hab. In wet meadows and bogs. May—June.
296. CHRYSOSELEN. L.


Root perennial, creeping. Plant subaquatic and rather succulent, brittle, yellowish-green. Stem dichotomously branching, subquadrangular. Leaves on short petioles, orbicular, oblique at the base, smooth and veinless, crenate-dentate. Flowers sessile, all octandrous. Calyx 4-cleft; green or slightly tinged with purple; segments orbicular, and very obtuse; 2 opposite ones narrower. Stamens very short; filaments inserted into the indentations of the receptacle; anthers roundish, at first orange red, but at length becoming brown. Germen inferior; styles 2, tapering, divaricate, about as long as the stamens; stigma obtuse. Capsule 2-horned, with the horns spreading, 1-celled, covered with the persistent calyx. Seeds 10—12, nearly orbicular, pubescent.

Hab. About springs and in brooks in shady places. April—May. Pursh thinks the North-American plant a distinct species from the European; but I have not been able to detect any difference. Smith remarks, that in the latter the flowers are frequently all 4-cleft and octandrous.

297. TIARELLA. L.


Root perennial. Leaves all radical, about 2 inches and a half in diameter, distinctly cordate, with scattered hairs above, pubescent beneath; petiole 3—4 inches long. Scape 8—10 inches
DECANDRIA. DIGYNIA. TIARELLA.

high, naked, simple. Flowers in a simple terminal raceme; pedicels about half an inch long, without bracts at the base. Segments of the calyx spathulate, rather obtuse. Petals white, spreading, as long again as the calyx, elliptical, attenuated at the base. Stamens longer than the flower; filaments slender, smooth; anthers roundish. Styles subulate, spreading; stigmas simple.

Hab. On shady rocks and on mountains; not uncommon. May.

Mitrewort.

298. MITELLA. L.


Root perennial, creeping. Stem about a foot high, erect, slender, simple, slightly pubescent, with 2 opposite leaves above. Radical leaves on long hairy petioles, cordate, pubescent, doubly and acutely dentate; stem leaves closely sessile, ovate, acuminate, subtricuspidate. Flowers small, in a long loose terminal raceme or spike; pedicels very short. Calyx campanulate; segments ovate, acute. Petals white, pinnatifid-laciniate, as long again as the calyx, and inserted between its teeth. Stamens very short; filaments inserted into the calyx; anthers subglobose. Styles minute, divergent; stigmas obtuse. Capsule ovate, half 2-valved. Seeds numerous, roundish.

Hab. On wet rocks along the banks of creeks. May.


Root perennial, creeping. Stem slender, pubescent, 6—8 inches long, sometimes prostrate, with creeping suckers at the base, naked, or with a subsessile leaf near the middle. Radical leaves roundish, on long petioles, sublobed; the lobes obtusely...
Mittilia

Decandria. Digynia.

Crenate-dentate; upper surface with scattered appressed hairs. Flowers few, pedicellate. Calyx short-campanulate; segments broad, acute. Petals white, as long again as the calyx; pectinate; the segments horizontal, few, capillary. Stamens very short; anthers roundish. Styles minute, spreading.


The M. reniformis of Lamarck and Pursh is scarcely a distinct species from this. I am informed by Sir J. E. Smith, that specimens of M. cordifolia, which I sent him, appear to be of exactly the same species with M. nuda from Siberia, of the Linnean Herbarium. The latter is a synonym of Pursh's M. reniformis.

299. Saponaria. L.


Root perennial, branched, extensively creeping. Stem about a foot and a half high, thick, terete, scabrous. Leaves opposite, connate, entire, 3-nerved. Panicle terminal, crowded, bracteate. Flowers large. Calyx three-fourths of an inch long, tubular, 5-toothed at the summit. Petals rose-colour; crowned at the orifice; limb obcordate. Capsule as long as the calyx.

Hab. In waste places, meadows, and along the banks of rivers. Abundant in many places on the Hudson. June—September. Naturalized.

300. Dianthus. L.


Pink.

D. Armeria L.: flowers aggregate, fasciculate; scales of the calyx lanceolate, villous, as long as the tube. Willd.
DECANDRIA. DIGYNIA. DIANTHUS.


Root annual. Stem about a foot high, pubescent, branched above. Leaves linear-lanceolate, opposite and connate, acute, somewhat pubescent; the inferior ones spatulate. Flowers in terminal crowded clusters, inodorous. Calyx slender, with 4 scales at the base. Petals red, with white dots; limb elliptical, crenate on the margin.


301. SCLERANTHUS. L.


Root annual. Stems numerous, procumbent, dichotomously branched, somewhat pubescent. Leaves opposite, subulate, carinate, scarious and dilated at the base. Flowers in axillary leafy fascicles. Calyx urceolate, green; segments lanceolate, with the border white and membranaceous, at first spreading, but when in fruit erect. Stamens often but 5, shorter than the calyx.

Hab. In sandy fields; common. July. Introduced?

ORDER III.

TRIGYNNIA.

302. CUCUBALUS.
303. SILENE.
304. STELLARIA.
305. ARENARIA.

302. CUCUBALUS. L.

Calyx 1-leaved, inflated, 5-toothed. Petals 5, unguiculate, naked at the orifice. Capsule 3-celled.


Root perennial. Stem about a foot and a half high, erect, paniculately branched, terete. Leaves opposite, ovate-lanceolate, entire, sometimes pubescent. Panicle dichotomous. Flowers large, nodding. Calyx oblong-campanulate, much inflated, green, tinged with purple; border with 5 acute teeth. Petals white, spreading; lamina semibifid. Stamens exserted; anthers oblong, greenish. Styles filiform, longer than the stamens; stigmas simple, obtuse.


Bladder Campion.

2. C. niveus Nutt.: stem divaricate and dichotomous above; leaves oblong-lanceolate, minutely and pulverulently pubescent; the uppermost ovate; calyx obtuse, campanulate, inflated, subpilose; petals small, reflexed, bifid at the extremity; claws exserted beyond the calyx, nearly naked; flowers solitary, dichotomous, terminal. Nutt. Gen. I. p. 287. Silene nivea (alba ?) Muhl. Cat. p. 45. (Nutt.)

Stem slender, nearly smooth. Leaves opposite, about 2 inches long, and half an inch broad, sessile. Flowers remote, solitary, dichotomous, each arising from the centre of a pair of leaves; peduncles about half an inch long. Calyx somewhat pilose, reticulately veined; border 5-cleft, with the segments obtuse, and membranaceous marginated. Petals white, nearly naked at the orifice, exserted, but narrow; limb reflexed, scarcely half the length of the calyx. Seeds bright brown, subreniform, striate, and transversely rugose. Nutt.

Hab. On an island of the Susquehanna, near Columbia. Muhlenberg, (Nutt.)

Can this be a variety of C. Behen?


Root perennial. Whole plant pulverulently pubescent. Stem
2—3 feet high, simple, terete, swollen at the joints. Leaves in remote whorls, sessile, spreading, much acuminate, indistinctly nerved. Flowers in a terminal panicle, subverticillate. Calyx subcampanulate, not reticulate; segments acuminate, mucronate. Petals white; claws as long as the calyx; limb lacerately fimbriate. Stamens as long as the corolla. Capsule round-ovate, smooth, opening at the summit. Seeds dark brown, reniform, transversely rugose.

Hab. In dry woods and on the sides of hills; not rare. July—August.

303. SILENE. L.


Root large, fusiform, branched, perennial. Stems numerous, cespitose, 8—12 inches high. Radical leaves numerous, 3—4 inches long, obcuneate-lanceolate, acute; stem leaves few, opposite, linear-lanceolate. Flowers in terminal trichotomous panicles. Calyx slightly ventricose above, purplish, very viscid; border of 5 erect obtuse teeth. Petals bright purple; claws as long as the calyx, with a 2-lobed appendage on the inside at the summit, forming the crown; limb expanding, obovate. Stamens longer than the calyx; filaments slender; 5 of them inserted into the base of the petals; the others alternating with them. Germin stipitate, oblong, obtuse. Styles filiform. Capsule cylindrical-oblong.


\textit{Decandria. Trigynia.}

Root perennial, creeping. Stem mostly erect, simple, about a foot high, pubescent. Radical leaves oblong-spathulate; petioles villous; stem leaves lanceolate. Panicle dichotomous, few-flowered. Calyx subventricose above, with the teeth a little spreading. Petals crimson, deeply 2-cleft, much longer than the calyx. Stamens unequal, exserted.

Hab. In Pennsylvania. Muhlenberg. June. This species abounds in the Southern and Western States. Elliott remarks, that it varies with the lobes of the petals entire and divided. In all my specimens the lobes are bifid.


Root annual. Stem 1—2 feet high, erect, terete, slender, pubescent below, dichotomous at the summit. Radical leaves spathulate-lanceolate; stem leaves linear-lanceolate. Flowers on long peduncles, in terminal dichotomous panicles. Calyx smooth, ovate, green, 10-nerved, with 5 short acute teeth at the summit. Petals expanding in the evening, or in moist weather, a little longer than the calyx, slightly crowned, sometimes wanting; limb white, or with a tinge of purple, notched at the extremity. Stamens a little shorter than the calyx. Capsule ovate, opening at the summit by 6 teeth. Seeds very numerous, subreniform, scabrous.

Hab. On dry hills and on the banks of rivers. June.


Root annual. Inferior leaves obovate, concave, rigid. Flowers sessile, alternate. Petals white, bifid, rather large, greenish beneath, not red after flowering. \textit{Lin.}


Resembles \textit{Cucubalus reflexus}, but the stem is more branched and taller, and the petals are spreading beyond the calyx. \textit{Lin.} This species is said to be also a native of Spain and the south of France.

304. \textit{Stellaria}. L.

DECANDRIA. TRIGYNIA. STELLARIA.

Juss.*


Root perennial. Stem 6—10 inches long, diffuse, dichotomous, with 2 opposite pubescent lines. Leaves an inch and a half or 2 inches long, ovate, or ovate-lanceolate, acute at each end, more or less undulate; margin and midrib pubescent. Flowers large, axillary, and terminal; pedicels filiform, hairy, recurved or deflexed. Calyx pubescent; leaflets ovate-lanceolate, spreading, rather obtuse, obscurely nerved. Petals white, deeply bifid, expanding; segments linear-oblong. Capsule roundish-ovate. Seeds 3—4, large, coelocate, muricate, brown.

Hab. On shady rocks near the Falls of the Schuylkill, in the vicinity of Philadelphia. May—June.


Root annual. Stem often a foot or more in length, prostrate, much branched, weak, with an alternate hairy line between each joint. Leaves petiolate, opposite, acute; petioles ciliate. Peduncles axillary and terminal, solitary, 1-flowered. Calyx hairy, with lanceolate leaflets. Petals shorter than the calyx, cleft nearly to the base. Stamens mostly 5, sometimes 10, or 5. Capsule ovate. Seeds roundish, compressed, nearly even.

Hab. In cultivated grounds, on road sides, &c. Flowers from March to December. Common Chickweed.


Root perennial. Stem a foot or more high, very weak and slender, acutely quadrangular, dichotomous. Leaves an inch and a half or 2 inches long, scarcely more than a line broad, acute. Panicle large, loose; pedicel filiform, much spreading, and when old reflexed. Calyx smooth; leaflets ovate-lanceolate,
acute, indistinctly 3-nerved. Petals cleft about half way down, at first shorter than the calyx, but at length one-third longer.


Hab. In bog meadows and wet woods. June.

This species is nearly allied to S. graminea of Europe, of which it may be only a variety. I entirely agree with Mr. Nuttall that the genus Micropetalum is founded on too trifling characters to be separated from Stellaria, to which I have accordingly united it. The petals in the former, though sometimes very minute, are, in two at least, of Michaux's species, as long, or longer, than the calyx.


Root perennial. Stem diffuse, branched, 6—8 inches long, very smooth. Leaves an inch or an inch and a half long, a little scabrous on the margin. Flowers axillary and terminal, solitary, on long slender peduncles. Leaflets of the calyx lanceolate, acute, nerveless. Petals sometimes wanting, at first much shorter than the calyx, but afterwards increasing in length, bifid. Stamens 8—10. Styles generally 4, but often 3, and rarely 5. Capsule ovate.


This species much resembles S. palustris of Europe.

305. ARENARIA. L.


* Leaves without stipules at the base.


Root long, creeping, perennial. Stem decumbent, 8—12 inches long, branched, angular, very smooth, thick; branches erect.
Leaves an inch long, decussate, fleshy, shining, spreading; margin with a minute eroded cartilaginous border. Flowers subsolitary, axillary, on very short pedicels. Leaflets of the calyx ovate, obtuse, concave, scarious on the margin. Petals oborate-spathulate, entire, or slightly emarginate, about as long as the calyx. Stamens 10—11, with a small gland between each 2 at the base; filaments shorter than the petals; anthers oblong. Styles 5, (3 in the lower flowers,) short. Capsule subglobose, 3—5-angled, 1-celled, many-seeded. Seeds numerous, black.


Root perennial. Stem 5—8 inches high, often simple, but frequently branched. Leaves sessile, three-fourths of an inch long, pale green, punctate; margin and midrib ciliate-pubescent. Peduncle filiform, axillary near the summit of the stem, bifurcate, bracteate at the division. Leaflets of the calyx ovate-oblong, obtuse, smooth. Petals white, oblong, twice as long as the calyx, obtuse. Stamens 10; filaments pubescent. Capsule ovate.


Root annual. Stem mostly procumbent, 3—8 inches long, much branched, minutely and retrorsely pubescent. Leaves scarcely one-fourth of an inch long, closely sessile, scabrous, nerv'd, subacuminate. Flowers solitary; axillary and terminal, on pedicels about half an inch long. Leaflets of the calyx lanceolate, acuminate; the exterior broader, and 3—5-nerved. Petals oval, about as long as the calyx. Stamens rather shorter than the petals. Capsule ovate, 6-toothed at the summit.

Hab. In sandy fields and cultivated grounds. May—July.

4. A. squarrosa Mich.: cespitose; inferior leaves squarrose-imbricate, caliculate, pungent; stem simple, few-

*Root* very long, perennial. *Stems* densely cespitose, with numerous short leafy branches; flowering branches about 6 inches long; quite simple, pubescent. *Leaves* subulate, rigid; the inferior ones much crowded, and imbricate somewhat in 4 rows. *Flowers* about 3 on each stem, which is trichotomously divided at the summit into 3 peduncles. Leaflets of the *calyx* roundish-ovate, smooth. *Petals* oblong, nearly three times as long as the calyx. *Stamens* 10; *filaments* slender, smooth. *Capsule* roundish-ovate.

**Hab.** In the pine barrens of New-Jersey; abundant in Monmouth county. May—August.


*Root* perennial. *Stems* numerous from one root, 4—6 inches high, very slender. *Leaves* in remote pairs, linear, half an inch or more in length, not rigid. *Pedicels* filiform, proceeding from the summit of the stem, spreading. Leaflets of the *calyx* roundish, discoloured on the margin. *Petals* obovate, as long again as the calyx, slightly emarginate.


*Root* perennial. *Stems* numerous from one root, erect, 6—12 inches high; joints approximate. *Leaves* nearly an inch long, rather rigid, very narrow and acute, with several shorter ones in the axils, and thus appearing fasciculate. *Panicle* spreading and filiform, trichotomous. *Calyx* smooth; leaflets very acute, with 3 prominent nerves. *Petals* oblong, twice as long as the calyx. *Capsule* ovate.

* * Leaves with sti/iules at the base.


Root annual. Stem spreading, terete, smooth. Leaves an inch long, terminating in a short point. Sti/pules below the leaves, amplexicaul, scarious, entire or divided. Peduncles axillary towards the extremity of the branches. Calyx viscid-pubescent; leaflets ovate-oblong. Petals red, ovate, rather shorter than the calyx. Stamens 5—10. Capsule ovate, as long as the calyx.


Hab. In salt marshes. Common in the vicinity of New-York, and probably along the whole coast of North-America. Dr. Barratt has found it as far up the Hudson as Haverstraw Bay. May—November.

The common variety of our salt marshes appears to be nothing more than A. rubra, altered by its maritime situation. I never could distinguish the remarkable difference in the seed, mentioned by Smith, and therefore suspect the A. maritima of this discriminating Botanist to be distinct from our var. β.
ORDER IV.

PENTAGYNIA.

306. Spergula
307. Cerastium
308. Agrostemma
309. Oxalis
310. Penthorum
311. Sedum

306. Spergula. L.


1. S. arvensis L.; leaves verticillate; panicle dichotomous; peduncles of the fruit reflexed. Willd. Spec. II.


The S. pentandra is supposed by Hooker to be but a variety of this species.


Root annual. Stem decumbent, branching, 2—3 inches long,

307. CERASTIUM. L.


*Petals* not exceeding the calyx in length.


*Hab.* In fields and on dry hills. May—September. Introduced.


*Root* perennial. Whole plant deeper green than the preceding, rarely viscid. *Stems* numerous, spreading, 6—12 inches high, dichotomously paniculate above. *Leaves* rather obtuse, about three-fourths of an inch long, and 2—3 lines broad. *Flowers* from the divisions of the stem, shorter than their pedicels, especially when in fruit. Leaflets of the calyx oblong-lanceolate, scarious on the margin. *Petals* obovate, a little longer than
the calyx, bifid at the extremity. *Stamens 10. Capsule cylindrical, somewhat incurved, twice as long as the calyx.*

**Hab.** In fields and on road sides. May—September. Introduced.


**Root** annual. **Stems** numerous, viscid above, decumbent at the base, assurgent. **Lower leaves** often smooth. **Petals** generally shorter than the calyx. *Pursh.*

This species strongly resembles the preceding, of which *Hooker* is inclined to think it a variety.


**Root** annual. **Whole plant** exceedingly hairy. **Stems** numerous, spreading, terete. **Leaves** somewhat obovate, rounded at the extremity, about half an inch long; the upper pairs remote. **Flowers** in dense clusters. Leaflets of the calyx lanceolate, acuminate. **Petals** oblong, bifid at the extremity. *Stamens* 10, alternately longer. **Capsule** cylindrical, straight, twice as long as the calyx, slightly nerves, with 10 subulate teeth at the extremity. **Seeds** obovate, muralate.

**Hab.** In New-York and Delaware. *Mu h len berg.*

The above description was taken from southern specimens, obligingly communicated to me by Mr. *Elliot t.*

* * Petals longer than the calyx.


**Root** annual. **Whole plant** of a pale green colour, and covered with a soft pubescence. **Stems** numerous from one root, erect, 8—12 inches high, very viscid; internodes much longer than the leaves. Radical **leaves** subspathulate, 2 inches long; stem leaves rather amplexicaul, an inch or more in length. **Flowers**
DECANDRIA. PENTAGYNIA. CERASTIUM.

Terminal, in a loose dichotomous panicle; pedicels at length elongated and deflexed. Leaflets of the calyx oblong, scarious on the margin. Petals oblong, nearly as long again as the calyx. Stamens 10. Styles 5, very short; stigmas glandular. Capsule three-times as long as the calyx, oblong-cylindric, incurved, 10-nerved, with 10 acuminate teeth at the summit.


6. C. oblongifolium*: cespiteose, pubescent; stems erect, terete, even; leaves lanceolate-oblong, rather acute, shorter than the joints; flowers terminal, shorter than their pedicels; petals obovate, bifid at the tip, twice the length of the calyx.

Root perennial, creeping. Stems numerous from one root, about 8 inches high, simple, terete, not striate, retrorsely pubescent. Flowers terminal, few, in a dichotomous panicle; pedicels erect, bracteate at the base. Leaflets of the calyx ovate-oblong, obtuse, scarious on the margin. Petals cleft about one-third of the way down. Stamens 10; 5 of them a little longer.


This species is intermediate between the preceding and C. arvense. From the former it differs in being perennial, and from the latter in its much broader leaves. It was first discovered by Prof. Douglass, of West Point, near Sandusky Bay, Lake Erie.

7. C. tenuifolium Ph.: pubescent, cespiteose; leaves narrow-linear, longer than the internodes; stems short, 3-flowered at the summit; petals obovate, emarginate, three times as long as the calyx.

Root perennial, creeping. Stems numerous from one root, erect, simple, terete, even, minutely pubescent. Leaves an inch or more in length, and scarcely more than a line broad, a little callous at the tip; the inferior subsessile. Flowers on long peduncles, generally 3 from the summit of each stem. Leaflets of the calyx oblong-lanceolate, acute. Petals slightly cleft at the extremity. Stamens 10. Capsule cylindrical, as long as the calyx, 10-toothed at the summit.


This species is undoubtedly a native. It much resembles C. arvense, but has longer and narrower leaves, and also longer petals.

308. AGROSTEMMA. L.

Calyx 1-leaved, tubulous, coriaceous, 5-cleft. Petals 5, unguiculate; limb obtuse, undivided. Capsule


Root annual. Whole plant of a pale green colour, covered with appressed hairs, about 2 feet high, a little branched above. Leaves opposite, linear-lanceolate, 3—4 inches long, ciliate with long loose hairs. Flowers solitary, terminal, large. Calyx elliptical, 10-ribbed, with 5 very long linear-lanceolate spreading teeth. Petals purple, half as long as the calyx, with the orifice naked; limb obcordate.


309. *OXALIS. L.*


* Stemless.


Root horizontal, squamose dentate. Leaves all radical, on petioles 2—4 inches long; leaflets broadly obcordate, with the lobes rounded, sprinkled with hairs on both sides, often of a purplish colour beneath. Scape slender, with 2 minute bracts above the middle, terminated with a large nodding flower Calyx 5-parted to the base; segments lanceolate. Petals expanding, obovate, with red veins, yellow at the base. Stamens somewhat monadelphous, alternately shorter; filaments smooth; anthers small, oval, 2-celled. Styles 5, as long as the stamens, erect; stigmas bifid at the extremity. Capsule rostrate; valves cohering by the axis; cells 2-seeded. Seeds suspended, ejected from the capsule by the rupture of the elastic arillus.
DECANDRIA. PENTAGYNIA. OXALIS.


Root roundish, consisting of thick ovate imbricate scales, which are 3-ribbed, and ciliate on the margin. *Leaves on petioles 3-4 inches long; leaflets broadly obcordate, punctate, slightly hairy. Scape about 6 inches high, naked and smooth, bearing a terminal umbel of about 4 flowers. Segments of the calyx connivent, each with a callous orange-colour tip. Petals violet, obovate. Stamens unequal; filaments hairy; anthers oblong. Style shorter than the stamens, spreading; stigma capitative, 2-lobed.*

HAB. In rocky woods, on the sides of hills; rare. April—June. *Caulescent.*


Root annual. Stem branched, diffuse or procumbent, hairy, 6-3 inches long. Inferior leaves alternate; upper ones fasciculate, on long petioles; leaflets obcordate, hairy beneath. *Umbels on peduncles nearly as long as the petioles, 2-4-flowered. Flowers small. Segments of the calyx lanceolate, obtuse. Petals yellow, about twice as long as the calyx. Stamens unequal; the shorter ones as long as the calyx. Styles spreading.*

HAB. In cultivated grounds and in dry woods. May—September.


Root perennial, fibrous, creeping. Stem usually erect, some-
times diffuse, 4—10 inches high. Leaves deeply obcordate, hairy on the margin and under surface. Umbels axillary, about 4-flowered. Petals sometimes eroded, twice as long as the calyx. Styles spreading, short, hairy; stigmas simple.
Hab. In sandy fields and cultivated grounds. May—August.

310. PENTHORUM. L.

Calyx 5—10-cleft. Petals 5 or 0. Capsule 5-pointed, 5-celled; cells dividing transversely, many-seeded.


Root perennial. Stem a foot or 18 inches high, erect, branched, terete below, angular above, smooth, except on the angles. Leaves alternate, on short petioles, 4—6 inches long, and about an inch broad, very smooth, acutely and somewhat doubly serrate. Flowers in terminal racemes or spikes, which are paniculate or cymose; peduncles and pedicels pubescent. Calyx spreading; segments ovate, acute, denticulate. Petals generally wanting. Stamens exerted; filaments subulate, smooth, inserted at the base of the germin; anthers terminal, ovate, 2-celled, red. Styles very short, spreading, persistent; stigmas simple. Capsule 5-celled, superior, appearing like 5 united follicles. Seeds very numerous, elliptical, acute at one end, transversely accumulated, sebrous.
Hab. In ditches and overflowed places. July—August.

311. SEDUM. L.


Root perennial. Stem 4—6 inches long, a little angular, slightly scabrous. Leaves about an inch long, broadly obovate, abruptly narrowed at the base, very entire; upper leaves narrower. Flowers in a terminal cyme of about 3 spreading spikes, second. Segments of the calyx linear-oblong, obtuse, glandular-punctate. Petals white, twice as long as the calyx, linear-lanceolate. Stamens shorter than the petals; filaments smooth, dilated at the base; anthers dark coloured, sagittate, obtuse. Styles attenuate.


Root somewhat tuberous, thick. Stem about a foot high, erect, simple, leafy, smooth, tinged with purple. Leaves alternate, smooth and fleshy, an inch and a half long, broadly oval, obtusely dentate. Corymbs compound, terminal, crowded, leafy. Segments of the calyx lanceolate, obtuse. Petals pale purple, half as long again as the calyx, elliptical-oblong, acute. Stamens 10, shorter than the petals; anthers roundish.


This species is nearly allied to S. Telephium, and perhaps is not distinct.

---

Order V.

Decagynia.

312. Phytolacca. L.


PHYTOLEACCA. DECANDRIA. DECAGYNIA.


Root large, filiform, perennial. Stem 4—8 feet high, terete, smooth, succulent, purplish. Leaves alternate, 4—6 inches long, and 2—3 broad, on short petioles, very smooth. Flowers in simple pedunculate racemes, which are opposite the leaves. Perianth white; leaflets ovate, rounded, persistent. Stamens nearly as long as the perianth; anthers yellowish-white. Styles very short; stigmas simple, obtuse. Berries globose-depressed, indistinctly furrowed, juicy, dark purple when fully ripe.

CLASS XI.

ICOSANDRIA.

ORDER I.

MONOGYNIA.

313. CACTUS. 315. Lythrum.

313. CACTUS. L.


Root perennial. Stems erect or procumbent, destitute of proper leaves, articulate and proliferous; joints very fleshy, 2—4 inches long, armed with tufts of setaceous spines, which are all uniform. Flowers large, sessile, growing from the margin of the joints. Segments of the calyx ovate-lanceolate, acuminate. Petals bright yellow, obovate, mucronate, much longer than the calyx. Stamens very numerous; filaments smooth; anthers linear, yellow, incumbent. Style longer than the stamens, thick; stigma large, many-cleft. Fruit obovate,

**Hab.** On dry rocks and in sandy fields. June—July.

*Prickly Pear.*

The most northern locality of this plant, with which I am acquainted, is Fairfield, New-York, where it was found by Dr. Hadley. It is common on dry rocks near New-York, and in the pine barrens of New-Jersey. In the Southern States it bears two kinds of spines; one strong, long, and subulate; the other small and setaceous. Mr. Elliott supposes there are several species included under the name of *Opuntia,* but I suspect these are varieties produced by diversity of situation.

314. **PRUNUS.** *L.*


*Plum and Cherry.*

*Flowers* racemose.


A large tree, with a blackish rough bark, which detaches itself semicircularly in thick narrow plates; wood dense, resembling mahogany. *Leaves* alternate, petiolate, dull, with a short abrupt acumenation, acute at the base, serrate; the serratures nearly equal, callous and slightly mucronate at the tip. *Flowers* in long simple racemes, which are straight when young; *pedicels* 2—3 lines long. *Calyx* smooth, with 5 small teeth. *Petals* white, orbicular. * Stamens* 15—20. *Style* simple, straight; *stigma* obtuse. *Fruit* dark red, almost black when ripe, edible.

**Hab.** In woods; frequent. May.

*Wild Cherry.*

2. **P. serotina Ehrh.** : racemes loose, at length pendulous; leaves deciduous, oval, with a short acumination, opake, doubly and very acutely serrate; midrib bearded on each side towards the base; petiole with 2 glands. *Willd. Spec.*

A large tree, much resembling the preceding in its bark and wood. *Leaves* broad-oval, sometimes obovate, slightly cordate and unequal at the base, thin and membranaceous, with very acute and generally double serratures; the serratures almost subulate; petioles with 2, or rarely 4 glands near the lamina, in front. *Flowers* in long simple racemes; *pedicels* 2—3 lines long. *Calyx* smooth, with 5 small teeth. *Petals* nearly orbicular. *Fruit* dark red, rather bitter and astringent.

**Hab.** In woods; particularly in mountainous situations. June. *Choke-cherry.*

This and the preceding species have been confounded by *Michaux,* and probably by many other Botanists. They are incorrectly described both by *Willdenow* and *Pursh.* In the latter species, which has the midrib of the leaves bearded, the serratures are very acutely and doubly serrate; while they are described in the books as simply serrate; and, in the former, with the midrib naked, I have have always found the leaves simply serrate instead of "doubly toothed."


*Branches* smooth and even. *Leaves* without glands on the petiole, acutely serrate, green on both sides, attenuated at the base. *Lin.*

**Hab.** In Pennsylvania. *Muhlenberg.* +

This is a doubtful species, and is supposed by *Pursh* to be nothing more than *P. hiemalis* of *Michaux.*

* * Pedicels subumbellate or solitary.


A handsome tree from 20—25 feet high; branches punctate with white dots. *Leaves* about 2 inches long, membranaceous, often ovate, closely serrate, slightly pubescent when young, but smooth when old. *Coryms* 6—8-flowered, sessile, sometimes a little elongated, and then appearing racemose; *pedicels* an inch and a half or more in length, smooth. Segments of the *calyx* ovate-lanceolate, obtuse. *Petals* roundish. *Fruit* slightly ovate, red, scarcely edible.

5. P. nigra \textit{Ait.} : umbels sessile, solitary, few-flowered; leaves deciduous, ovate, acuminate, unequally and acutely serrate, smooth on both sides; petiole with 2 glands. \textit{Ait.}


A shrub 6—8 feet high, with smooth dark red branches. \textit{Leaves} oblong-ovate, conspicuously acuminate, erosely denticulate or serrate. \textit{Umbels} sessile, 3—4-flowered; \textit{pedicels} smooth, scarcely an inch long. \textit{Petals} broadly obovate. \textit{Fruit} ...


A shrub 3—4 feet high, unarmed. \textit{Leaves} ovate-elliptical, rather acute, attenuated at the base. \textit{Umbels} sessile, 4—5-flowered, crowded. \textit{Fruit} the size of a large pea, black, of indifferent taste. \textit{Willd.}


A shrub 2—3 feet high, straggling, and often prostrate; smaller branches pubescent. \textit{Leaves} about an inch and a half long, in the adult state quite smooth, sometimes with the 2 lowest serratures glandulous. \textit{Flowers} appearing in great profusion before the leaves are expanded. \textit{Fruit} about half an inch in diameter, pale brownish-purple, glaucous, acid and astringent.


May. Sand-cherries.

The name given to this species by \textit{Michaux} is changed, there being a P. \textit{sphaerocarpa} previously established by \textit{Swartz}.


A shrub 2—3 feet high, with straggling verrucose branches.
Leaves 2—3 inches long, and half an inch broad, very acute, attenuate at the base, pale, but not glaucous beneath. Umbels about 4-flowered; pedicels smooth, short. Fruit small, ovate, red, acid.


A low shrub spreading its branches very much, and not rising above a foot from the ground. Fruit black, small, and agreeably tasted. Ph.

Hab. On the sandy shores of rivers and lakes. Canada to Virginia. Pursh.


The fruit of a species of Prunus is sold in our markets under the name of Beach-plum. It is about as large as the common garden plum, of a dark purple colour, and it is said to grow abundantly on the sea-coast of New-Jersey.

11. P. mollis*: younger branches, leaves and peduncles pubescent; umbels sessile, 2—3-flowered; leaves ovate, long-acuminate, doubly dentate-serrate; stipules setaceous, denticulate; calyx nearly smooth; segments linear-lanceolate, serrate.

A small tree. Leaves 2—3 inches long, conspicuously acuminate, almost villous beneath, with the serratures obtuse. Umbels mostly 3-flowered; pedicels an inch long. Flowers large. Segments of the calyx serrate or denticulate, veined. Petals obovate. Fruit oval, large, nearly black when ripe.

Hab. In Massachusetts, on the road from Williams College to Troy. Dewey.

I propose this species with some hesitation; although it appears to be quite distinct from any Prunus described by Pursh. The only locality of it, with which I am acquainted, is that given on the authority of Professor Dewey, who informs me that it appeared to be indigenous. There is great obscurity respecting many of the North-American species of Prunus, which can only be cleared up by a careful examination of them in a living state.
315. **LYTHRUM. L.**


Stamens 8—12, in two rows. *Loosestrife.—Milk-Willow-herb.*

* Calyx subcampanulate, 10-toothed; capsule 3—4-celled.

**Decodon. Gmelin.**


Root perennial. *Stem* herbaceous or suffruticose, about 2 feet high, hexangular, recurved, and sometimes taking root at the extremities. *Leaves* broadly-lanceolate, attenuate at each extremity, very entire; the lower verticillate, by threes; the upper opposite. *Flowers* in short axillary corymbs, crowded, and appearing verticillate. *Calyx* campanulate, coloured, mostly 10-toothed; 5 of the teeth long, subulate, at length inflexed; the other 5 short, ovate. *Petals* 5—6, purple, oblong, unguiculate, inserted into the calyx at the base of its longer teeth. *Stamens* 10—12, half of them as long again as the corolla, and inserted at the base of the short teeth of the calyx; the other half shorter, and inserted lower down; anthers roundish, didymous. *Style* long, filiform; stigma obtuse. *Capsule* subglobose, usually 3-celled. *Seeds* angular, 5—8 in each cell.

**Hab.** In swamps; not uncommon. *August. Grass-poly.*

* * Calyx tubular; capsule 2-celled.


About 2 feet high. *Flowers* purple, very showy. *Ph.*

**Hab.** In wet meadows. *Canada* and *New-England. Pursh.*

Among the numerous specimens of plants I have received from various parts of *New-England*, I have never seen one of this; nor has it been found in *North-America*, to my knowledge, by any other *Botanist* except *Pursh.*

*Stem* nearly simple, or sparingly branched from the base, quadrangular, and somewhat margined. *Flowers* pale purple. *Nutt.*


316. CUPHEA. *Browne.*


*Root* annual, fibrous. *Stem* a foot or 18 inches high, very viscid, pubescent, branched, purplish, erect. *Leaves* smoothish, on long petioles, entire or waved on the margin. *Flowers* axillary, pecicellate. *Calyx* cylindrical, hairy, 12-striate, coloured, 6-toothed at the summit. *Petals* purple, very unequal, obovate, inserted, as well as the stamens, into the orifice of the *calyx*. *Stamens* 12, included; *filaments* very short. *Germen* oblong; *style* long, tapering; *stigma* simple. *Capsule* rupturing with the *calyx* before maturity, exposing the naked seeds to the atmosphere.

ORDER II.

DI-PENTAGYNIA.

317. AGRIMONIA. L.


Root perennial. Stem 2 feet high, erect, angular, simple, strigously hairy. Leaves pseudo-pinnate; leaflets 5—7, an inch and a half or 2 inches long, alternating with much smaller ones, hairy beneath, deeply serrate or dentate. Spike or raceme terminal, long and slender. Flowers numerous, alternate, on short pedicels, which are bracteate at the base. Calyx striate at the base, with acuminate segments, surrounded about the middle with spreading uncinate bristles. Petals yellow, oval, obtuse. Staminens about 12, very short. Styles 2, shorter than the stamens; stigmas obtuse. Achenia, or seeds, 2 in the bottom of the calyx.

Hab. In woods and hedges. June—August.

H. hirsuta*: whole plant very hairy.

Hab. In dry woods; rare. July.

This variety resembles the preceding in every respect, except that it is smaller, and much more hairy.
2. *A. parviflora* Ait.: hairy; leaves interruptedly pinnate, with the terminal one sessile; leaflets numerous, mostly linear-lanceolate, incisely serrate; spike virgate; flowers on very short pedicels; petals once and a half the length of the calyx; fruit roundish, divaricately hispid. *Willd. Spec. II.* p. 376. *Ait. Kew. II.* p. 130. *Pursh Fl. I.* p. 236.

Flowers small, yellow.

Hab. In woods on the sides of hills. *Pennsylvania to Virginia.*

This species I have never seen; what is so named in the Catalogue of New-York Plants being merely a variety of *A. Eupatoria.*

318. CRATÆGUS. L.


A large shrub with smooth virgate branches, bearing a few long subaxillary spines. *Leaves* nearly 3 inches long, and 2 or more broad, slightly and very acutely lobed, truncate, and often subcordate at the base; petiole an inch in length, glandular, not pubescent. *Flowers* in corymbs, terminating the short young branches. *Stipules* of the coryms linear-lanceolate, very glandular. *Calyx* smooth when old; segments lanceolate, denticulate and glandular. *Petals* roundish-ovate, white. *Stamens* about 20. *Styles* 5, as long as the stamens; stigmas capitate. *Fruit* about one-third of an inch in diameter, red, edible.

Hab. In dry woods and in hedges. May.


A large shrub. *Leaves* with 3, 5, or 7 lobes, acuminate, acutely
serrate, when young pubescent along the veins; petioles slender, short. Stipules subulate, serrate. Corymbes compound. Segments of the calyx short, obtuse. Fruit small, globose, depressed, red. *Ell.*


Leaves large, acute, sometimes acuminate at each end, slightly lobed, irregularly serrate. Corymb many-flowered. Peduncles and calyx tomentose. *Ell.*


Segments of the calyx obtuse. Fruit small, red. *Ph.*


Fruit middle-sized, scarlet. *Ph.*


A shrub about 4 feet high, with numerous irregular branches; the younger branches and leaves very tomentose; spines few, long, and slender. Leaves about an inch and a half long, thick, roundish-oboval, obtusely cuneate at the base, when old nearly smooth. Flowers mostly solitary, terminating the short lateral branches. Calyx very woolly; segments long, lanceo-
late, incisedly serrate. *Petals* nearly round. *Fruit* large, yellow, edible, containing 5 bony 1-seeded nuts.


A small tree; youngest branches villous, *Leaves* 2 inches or more in length, tapering at the base into a petiole, somewhat plaited, hairy on the veins beneath, doubly and incisedly serrate; the serratures very acute. *Corymb* many-flowered, pubescent. Segments of the calyx sparingly serrate. *Petals* nearly round. *Styles* 2? *Fruit* yellow, dotted, sometimes red.


A shrub or small tree, much branched, with numerous long spines. *Leaves* about 3 inches long; almost sempervirent, shining on the upper surface, slightly acuminate, or sometimes obtuse, unequally serrate, tapering to a long petiole at the base. *Corymb* compound. many-flowered, smooth. Segments of the calyx linear, acute, nearly entire. *Petals* roundish. *Style* often solitary. *Fruit* small, red, mostly 1-seeded.

**HAB.** In thickets and along the borders of woods. June.

The northern species of *Crataegus* appear to be in much confusion; few of them being easily determined by the description in the books. I have several in my Herbarium which do not accord with any enumerated by *Pursh*; yet, as they are not rare, it is probable they are not new, and I have therefore concluded to let them remain for future investigation. *Mr. Elliott* has thrown much light on the southern species of this genus.
319. SORBUS. L.


Service-tree.


A large shrub or small tree, with the younger branches pubescent; bark smooth. Leaves pinnate; common petiole a foot or more in length, when young pubescent; leaflets 7 pairs, with an odd one, oblong-lanceolate, acuminate, unequally and very acutely serrate, entire at the base; under surface when young very pubescent, but in the adult state quite smooth. Flowers in compound terminal corymbs. Calyx with 5 acute teeth. Petals white, roundish. Stamens very numerous. Styles usually 3. Berries globose, fulvous, slightly acid, remaining on the tree all winter. Seeds 3—5, oblong, compressed.


A beautiful shrub, frequently attaining the height of 15 or 20 feet. It is nearly allied to S. aucuparia of Europe, but differs in the leaves being more sharply serrate, in the size and colour of the fruit, &c.; still it may not be a distinct species.


A large shrub; the younger branches covered with a shining dark brown gloss. Berries small, scarlet. Ph.


320. SESUVIUM. L.

ICOSANDRIA. DI-PENTAGYNIA. SESUVIUM.


The S. Portulacastrum, a native of India, and the only Linnaean species of the genus, has been divided by De Candolle into S. pedunculatum, sessile, and revolutum. The first is common on the sandy sea-coast in the Southern States. Mr. Nuttall is, I believe, the only Botanist who has observed S. sessile in this country. Mr. Elliott thinks the capsule of Sesuvium has been incorrectly described as cut round near the base. He remarks that it has towards the summit three sutures distinctly marked, but the base is membranaceous and very delicate, and appears to decay or tear as the seed becomes mature, suffering the more substantial summit to fall off without opening. But in some of my specimens there were many ripe capsules, which appeared to open transversely all round, by a well defined margin.

321. ARONIA. Persoon.


A shrub 2—4 feet high, with few slender branches. Leaves about an inch and a half long, and three-fourths of an inch broad, slightly acuminate, very tomentose beneath when young, obtusely serrulate; midrib glandular above. Flowers in terminal corymb. Segments of the calyx acute, erect, glandular on the margin. Petals with a tinge of red, roundish-ovate. Styles 5. Fruit about the size of a large whortle-berry, scarlet, sweetish, but astringent; cells mostly 2-seeded.


A shrub about as large as the preceding. Leaves narrower, and rather smaller, distinctly acuminate, smooth on both sides, crenate-serrulate; midrib glandular above. Flowers in terminal corymbs. Calyx smooth, with acute entire segments. Petals white, often with a tinge of red. Fruit black, a little astringent, but eatable; cells 2-seeded.

Hab. On mountains; rarely in bogs. May.


A small tree. Leaves when young densely covered with a silky pubescence, but in the adult state almost entirely smooth, acutely serrate; petioles nearly an inch long. Stipules long, linear, hairy, deciduous. Flowers large, in loose downy racemes, which appear before the leaves are expanded. Calyx pubescent, with lanceolate acute segments. Petals white, three-fourths of an inch long, obtuse, entire. Styles 5. Fruit purplish, pruinose, very agreeably tasted.

Hab. In low woods. May. June-berry.—Shad-flower.—May-bush.


A small shrub. Berries black and eatable. Ph.


I suspect this species to be no more than a variety of A. Botryapnum.
322. PYRUS. L.


A tree from 15—18 feet high, sometimes larger, with spreading branches. Leaves about an inch and a half long, slightly serrate, acute; petiole short. Corymb terminal, few-flowered; peduncles long, smooth. Flowers large, very fragrant. Calyx villous within; segments lanceolate, acute. Petals pale-rose-colour, obovate, obtuse. Fruit depressed, acid, yellowish and subdiaphanous when ripe.

Hab. In woods. New-Jersey, &c. Throughout the Middle States, but especially in the back parts of Pennsylvania. It abounds along the Glades, a tract 15 or 18 miles broad on the summit of the Alleghanies, along the road from Philadelphia to Virginia. Michaux f. May.

Crab-apple or Sweet-scented Crab-tree.


A tree 15—20 feet high, resembling the preceding, but the fruit and leaves are smaller, &c.


323. SPIRÆA. L.


Shrubby or suffrutescent. Stem 2—4 feet high, somewhat branched, smooth, reddish. Leaves alternate, more or less lanceolate, obtuse or acute, tapering at the base, slightly glaucous, and a little hairy on the veins beneath. Racemes crowded in a long terminal panicle. Calyx turbinate, smooth; segments ovate, acute. Petals white, roundish, longer than the calyx. Capsules or follicles 5, opening on the inner side, pointed with the remains of the styles. Seeds numerous, minute.

Hab. In wet meadows; common. July.

The *S. salicifolia* of Europe is considered as distinct from the North-American plant by some Botanists. I have had no opportunity of comparing them.


Shrubby or suffrutescent. Stem 2—3 feet high, somewhat branched, pubescent. Leaves on short petioles, thick, very tomentose and pale ferruginous beneath, with prominent veins, dark green above, unequally serrate and somewhat lobed. Raceme very dense, elongated and subpyramidal. Flowers small. Calyx tomentose; segments acute, reflexed after flowering. Petals roundish, pale purple. Capsules 5, distinct. Seeds few in each capsule, subulate at each extremity.


A shrub about 3 feet high, with numerous slender branches. Leaves small, cuneate-ovate, mostly very entire, slightly pubescent beneath. Umbels 4—6-flowered, axillary and terminal; pedicels an inch long. Calyx turbinate; segments ovate, acute. Petals broadly obovate, white, sometimes emarginate.

I have never seen this plant except in gardens, nor have I ever received native specimens from any part of North-America.


Suffruticose. *Stem* about 18 inches high, reddish, slightly pubescent. *Leaves* nearly smooth above, paler beneath, incisely and unequally dentate. *Corymb* terminal, on a naked peduncle, compound, many-flowered, intermixed with small leaves. *Calyx* smooth; segments ovate, acute, reflexed. *Petals* white or pale rose-colour, roundish-obovate. *Stamens* very numerous, nearly as long again as the petals. *Styles* 5, straight, much shorter than the stamens.


This species may be the *S. chamedrifolia* of *Pursh,* but probably not of *Linnaeus.* The description in the books is too brief to determine the question.


A shrub 3—5 feet high, with the bark in many loose laminae. *Leaves* petiolate, roundish-ovate, about 3-lobed, obtuse and crenate. *Corymbs* simple, 30—40-flowered; *pedicels* pubescent, nearly an inch long. Segments of the *calyx* ovate, obtuse, pubescent. *Petals* white, ovate. *Styles* 5; *stigmas* capitately. *Capsules* large, inflated, compressed, slightly acuminate with the persistent styles. *Seeds* about 2 in each capsule, subovate, polished.


* * Herbageous.

7. *S. Aruncus* *L.* *americana* *Ph.* : leaves twice or thrice

**Root** perennial. *Stem* 4—6 feet high. *Flowers* white.


### 324. GILLENIA. *Moench.*


**Root** perennial, fibrous. *Stem* herbaceous, 2 feet or more high, branched, reddish, smooth. *Leaves* all ternate; leaflets obovate-lanceolate, acuminate, sharply and unequally serrate, pubescent beneath. *Stipules* small, mostly entire. *Flowers* large, in loose panicles at the extremity of the branches. *Calyx* tubular-campanulate, smooth, with 5 acute erect teeth. *Petals* nearly an inch long, white, tapering at the base, obtuse. *Stamens* about 15, scarcely longer than the calyx; *filaments* smooth; *anthers* roundish. *Styles* 5, contiguous; *stigmas* ca-
pitate. *Capsules 5*, somewhat united at the base, each with 2 oblong brown seeds.

**Hab.** In shady woods and on rocky hills; rare. June.

*Indian- physic. — Bowmans-root.*

I have not found this plant north of the Hudson. It is occasionally met with in the mountainous parts of New-Jersey; farther south it is more common.


* Spiraea stipulata MuHl.* Cat. p. 51.

**Root** perennial. **Stem** 2—3 feet high, branched, reddish, smooth. **Leaves** slightly pubescent; radical ones deeply pinnatifid; those of the stem all ternate, subsessile; leaflets oblong-lanceolate; incisely serrate, (sometimes subpinnatifid,) acuminate. **Stipules** opposite, nearly an inch long, amplexicaul. **Flowers** few, large. **Calyx** tubular campanulate, smooth; segments acute, erect. **Petals** linear-lanceolate, three-fourths of an inch long. **Stamens** about 15, scarcely longer than the petals. **Capsules** 5, slightly united at the base, with 2 oblong brown corrugated seeds in each.

**Hab.** On the west side of the Alleghany Mountains, extending as far north as New-York. *Cleaver.*

This species possesses similar medicinal properties to the preceding.

**ORDER III.**

**POLYGYNYA.**

325. *Rosa.*
326. *Rubus.*
327. *Dalibarda.*
328. *Dryas.*
329. *Geum.*
331. *Fragaria.*
332. *Calycanthus.*

325. *ROSA.* *L.*


*Rose.*

A shrub about 3 feet high, with numerous greenish and punctate branches. *Prickles* mostly by pairs, at the base of each petiole, subulate. *Leaves* pinnate; leaflets 3—4 pairs, with an odd one, ovate or elliptical-lanceolate, slightly pubescent beneath, acutely and almost equally serrate; common petiole armed with small straight-prickles. *Flowers* mostly by pairs at the extremity of the branches. Segments of the *calyx* lanceolate, acuminate, pubescent and somewhat glandular; the 3 exterior somewhat laciniate. *Petals* red, large, broadly obovate, emarginate. *Fruit* about half an inch in diameter, nearly smooth when ripe.

**Hab.** In woods and copses; common. *June—July.*


**Hab.** In Pennsylvania. *Pursh.*


A shrub about 3 feet high, much branched. *Prickles* small, straight. Leaflets 2—3 pairs, with an odd one, ovate, simply and coarsely toothed, paler beneath, shining above; petiole often with a few minute prickles. *Flowers* by pairs, or rarely solitary. Segments of the *calyx* long, lanceolate, all of them entire. *Petals* red, large, emarginate. *Fruit* nearly smooth when ripe, half an inch in diameter.


4. *R. gemella* *Willd.*: fruit depressed-globose, and, with the peduncles, glabrous; flowers mostly by pairs; leaflets oblong, acute, obovate; petioles and under surface of the veins pubescent; stipular prickles uncinate, by pairs. *Willd.*
Icosandria. Polygynia.


A low shrub. Flowers large, red. Ph.


This species does not appear to be very distinct. It is nearly allied to the following.


A shrub 3—8 feet high, with numerous prickly branches. Prickles strong, hooked. Leaflets ovate-lanceolate, often acuminate, smooth or pubescent beneath. Corymbs 4—7-flowered, terminating the branches. Calyx with linear-lanceolate smooth segments, as long as the petals, entire. Petals large, red, broad, obovate, emarginate. Fruit large, nearly globose, hispid, ciliate.

Hab. In swamps and wet thickets; common. June—July.

A very variable species in the shape and pubescence of the leaves. Sometimes they are much acuminate, and quite pubescent beneath.


A tall slender shrub, sometimes climbing the highest trees; branches bright green. Prickles long, recurved, strong. Leaves dull, sweet-scented; leaflets 5—7, roundish or elliptical, covered beneath with a glandular ferruginous pubescence; petioles with a few short prickles. Flowers solitary, by pairs, or sometimes three together. Segments of the calyx spreading; 2 or 3 of the exterior ones laciniate. Petals pale red, emarginate. Fruit orange-red, ovate or roundish, a little hispid.

Hab. In hedges, on hill sides, &c.; common. Sweet-briar.

The North-American Sweet-briar is, by Pursh and Smith, considered as a distinct species; but I believe, with Mr. Nuttall, that it is merely a naturalized plant in this country. It does not differ so much from R. rubiginosa as many of the varieties of that plant do from each other.
326. RUBUS. L.


* Frutescent.


I have never seen North-American specimens of this Rubus. Canada is probably its southern limit.


Root very long, creeping. Shrub 4—6 feet high; younger branches glandular-pubescent. Prickles strong, uncinate. Leaves ternate and quinate; leaflets elliptical, oval, and oval-lanceolate, coarsely and unequally toothed, unequal at the base; the terminal one on a long petiole; petioles canaliculate above, prickly beneath. Racemes many-flowered, loose; the lower flowers opening first; pedicels villous, an inch or more in length, with foliaceous 3-cleft bracts at the base. Segments of the calyx ovate, mucronate. Petals white, lanceolate-ovate, with wide interstices when expanding. Fruit large, black, of a pleasant taste.


β. frondosus Big.: pubescence simple; racemes leafy, few-flowered; the upper flowers opening first; petals orbicular-ovate, approximate.

Flowers larger than in the preceding variety.


According to Dr. Bigelow, this variety differs from R.
villosus, in having the pubescence simple, the flowers in leafy racemes, &c. These characters, if constant, may be sufficient to establish it as a distinct species.


An upright shrub; stem thickly covered with stiff bristles instead of prickles, of a reddish colour; younger branches somewhat pubescent. Leaflets mostly in threes, smoothish above, unequally serrate; the terminal one on a short petiole, rather acute at the base. *Racemes* few-flowered, terminal; *peduncles* hispid. Segments of the *calyx* acuminate, hispid. *Petals* obovate, longer than the calyx. *Fruit* red, very agreeably tasted.


A shrub about 2 feet high, branched, with numerous subulate recurved prickles. *Leaves* mostly ternate; leaflets about an inch and a half long, entire, and somewhat revolute towards the base, short-acuminate, whitish-tomentose beneath, unequally serrate, with the serratures mucronate; petiole prickly. *Racemes* simple, terminal; the inferior *pedicels* elongated. Segments of the *calyx* lanceolate, acuminate, very pubescent. *Petals* oval, white, sometimes reddish, three times as long as the calyx. *Fruit* black, small in quantity, ovate, juicy, well flavoured.


*Stem* woody, *sarmentose,* procumbent or reclining, unarmed, somewhat pubescent; shoots 6—10 inches long. Lower *leaves* often quinate; upper ones ternate; leaflets rhombic.
and rhombic-lanceolate, thin, entire below, incisely serrate above, nearly smooth; terminal leaflet on a short petiole; bracts lanceolate, entire, ciliate. *Peduncles terminal, frequently only 1-flowered. Calyx smoothish; segments linear-lanceolate, very acute, reflexed. Petals oblong, white, scarcely as long as the calyx. Fruit small, dark red, well-tasted.


Stems long and slender, curved, covered with a fine glaucous powder, which is easily rubbed off. Prickles strong and recurved. Leaves all ternate; leaflets very white and hoary beneath, incisely and unequally serrate; the lateral ones frequently with a deep notch or lobe on the outside; petioles pubescent and somewhat prickly. Flowers in terminal leafy racemes. Calyx tomentose; segments ovate, acuminate Petals ovate, white, sometimes emarginate. Fruit roundish, black, and dark purple, sweet and well-flavoured.

**Hab.** In rocky woods and in stony fields. May—August. *Wild Raspberry.—Thimbleberry.*


Stems procumbent, slender, running many feet along the ground, armed with fine recurved prickles, shooting up short erect branches at intervals. Leaves generally ternate, subsemper-virent; leaflets scarcely more than an inch long, nearly smooth, and a little shining, unequally and coarsely serrate, obtusely cuneate at the base; the terminal leaflet petiolate. Flowers few, terminal, somewhat corymbose by the elongation of the
lower pedicels. Segments of the calyx lanceolate, acute. Petals obovate, white, twice as long as the calyx. Fruit large, black, sweet.


A shrub 3—4 feet high, branched, pubescent and hispid. Leaves very large, 3-lobed, cordate; the lateral lobes slightly cleft; stipules subulate. Flowers nearly 2 inches in diameter, in loose spreading corymb. Calyx covered with brownish viscid hairs; segments ovate, terminating in a long point, which is somewhat leafy at the extremity. Petals roundish, bright-purple. Fruit large, honey-yellow, well-flavoured, but small in quantity.


* * Somewhat herbaceous.


Fruit small, black. *Ph.*


Fruit with only a few large grains, black and sweet. *Ph.*


This appears to be scarcely distinct from *R. trivialis.*


Flowers white. Fruit yellow, or amber-coloured.

327. DALIBARDA. Michaux.


Root perennial. Stem herbaceous, creeping, rooting and throwing out suckers at intervals. Leaves on long petioles, roundish-cordate, about an inch and a half in diameter, hairy on both sides. Scapes 1-flowered, filiform, longer than the petioles. Segments of the calyx ovate-lanceolate, 2 or 3 of them toothed towards the summit. Petals white, ovate, obtuse, as long again as the calyx. Stamens very numerous; filaments capillary; anthers minute. Styles about 7; stigmas simple, involute at the summit.


Root perennial, creeping. Leaves on petioles 3—4 inches long, ternate or rarely quinate; leaflets dilated-ovate, hairy on both sides, toothed and serrate above, obtusely cuneate below; the lateral leaflets subsessile. Scapes longer than the petioles, slender, with 2—3 small leafy bracts, 3—5-flowered. Calyx turbinate, smoothish, with spreading acute segments. Petals yellow, obovate. Stamens very numerous.

Hab. In woods; principally in mountainous regions. Canada to Carolina. Not found in the Middle States near the seacoast. May.

328. DRYAS. L.


Mountain Avens.

Stems short, cespitose, suffruticose, clothed at the base with the withered remains of preceding years. Leaves sempervirent, alternate, petiolate, smooth, wrinkled above, white and pubescent beneath; margin revolute, sometimes with one or two small teeth towards the base. Peduncles elongated, solitary, bearing one large flower, Calyx downy; segments, linear-lanceolate, obtuse, Petals white. Seeds with very long silky awns, as in some species of Anemone.


This species is also a native of Greenland. It scarcely differs from D. octofolia. The above description was taken from a Greenland specimen, sent to me by Prof. Hooker.

329. GEUM. L.


Root perennial. Stem about 2 feet high, simple. Leaves alternate; leaflets ovate-lanceolate, incised, acute. Stipules large, foliaceous, deeply incised. Flowers large, in a loose terminal cluster. Calyx unequally cleft; 5 of the segments ovate, acuminate, alternating with 5 linear much shorter ones. Petals yellow, spreading.

Hab. In swamps in the northern parts of the State of New-York; particularly abundant around Lake George. August.

2. G. agrimonoides Ph.: very hairy; leaves all pinnate; leaflets nearly equal, unequally and incisely dentate; stipules ovate, nearly entire; flowers erect; segments of the calyx
subequal; petals oval, as long as the calyx. *Pursh Fl. I.* p. 351.

Flowers white. *P.*

**Hab.** On the rocky banks of the Susquehannah, Pennsylvania. *Pursh.*

This, to me, is a doubtful species. I strongly suspect it is the *Potentilla confertiflora* of this work.


**Root** perennial. **Stem** erect, about 2 feet high, branched above, hairy. Lower leaves large, mostly ternate, sometimes quinate; the upper ones simple, 3-lobed, and 3-cleft; leaflets ovate-lanceolate, incised and coarsely serrate. **Stipules** large, ovate, with several large teeth. Flowers on long peduncles, terminating the branches, at first nodding, at length erect. **Calyx** somewhat hairy; 5 of the segments ovate, acute; the other 5 linear, and very minute. **Petals** yellowish-white, obovate, a little shorter than the calyx. **Seeds** hairy, awned with the persistent style, which is tortuous at the summit.

**Hab.** In woods and thickets. June—July.

4. *G. album* *Willd.*: pubescent; radical leaves pinnate; stem leaves ternate; the upper one simple, 3-cleft; lower stipules incised; flowers erect; petals as long as the calyx; awns uncinate, naked, hairy at the summit. *Willd. Enum.* p. 556. *Pursh Fl. I.* p. 351. *Elliott Sk. I.* p. 572.

Flowers white.


**Root** perennial, horizontal. **Stem** a foot and a half high, erect, terete, minutely and retrorsely pubescent, sparingly branched at the summit. Radical leaves interruptedly pinnate or somewhat lyrate; the terminal leaflet large, lobed, or 3-cleft; the rest very small; all of them coarsely serrate and hairy on
both sides. Stipules ovate, acute. Flowers large, terminal, several on each branch of the stem. Calyx deeply parted, pubescent, purplish; 5 of the segments ovate-lanceolate, acute; the rest narrow-linear, and much shorter. Petals dark purple and orange, broadly obcordate, geniculate, rather shorter than the petals. Fruit erect.


This plant resembles the European G. rivale in every respect.

6. G. Peckii Ph.: somewhat hairy; stem few-flowered; radical leaves reniform, incisely toothed, and somewhat lobed; petioles elongated, with minute leaflets; petals roundish, longer than the calyx. *Pursh Fl. I. p. 352.*

Root long, horizontal, somewhat ligneous. Stem clothed at the base with the vestiges of leaves, about 6 inches high, simple. Radical leaves on long petioles, truncate at the base, sparingly hirsute on both sides; petiole very hairy, furnished with several minute leaflets; stem leaves 2—3, near the summit, very small, about 3-cleft. Flowers several, (Big.) middle-sized. Calyx somewhat hairy, spreading; 5 of the segments ovate, acuminate. Petals yellow? nearly orbicular, about as long as the calyx. Styles numerous, smooth, simple at the summit.


A singular, but genuine species, first discovered by Prof. *Peck.* *Pursh* describes the stem as one-flowered, and this is the case in my specimen; but Dr. *Bigelow,* who collected the plant in its native situation, informs me, that it bears several flowers.

330. POTENTILLA. L.

Calyx flat, 10-cleft, (rarely 8 or 12-cleft); segments alternately smaller. Petals 5, (rarely 4.) Seeds or acines subovate, mostly rugose, immersed in a common receptacle, which is juiceless or spongy, more or less hemispherical. *Lehm. Monog. Potent. p. 11.*


† I have followed *Nestler* and *Lehmann* in uniting *Tormentilla,* *Comarum,* and some species of *Prararia,* to the genus *Potentilla,* from which they scarcely differ, except in number, and some other unimportant characters.
* Leaves ternate:


Root creeping, somewhat ligneous. Stems numerous, 3—6 inches high, simple, hairy, with the hairs appressed, covered at the base with the persistent naked petioles of former leaves. Leaves all ternate, somewhat coriaceous; the upper ones nearly sessile; leaflets nearly an inch long, a little shining above, mostly 5-toothed at the summit, sometimes retuse or 5-toothed. Stipules lanceolate, acuminate. Flowers middle-sized, 6—8 on the summit of each stem, in a sort of corymb; pedicels short. Calyx hairy; exterior segments linear; interior longer; ovate, rather acute. Petals white, sometimes with a tinge of red, obovate, half as long again as the calyx. Receptacle villous.


Root annual. Stem erect, terete, nearly simple, purple, covered with soft spreading hairs. Lower leaves on long petioles, alternate; the uppermost ones small, opposite; leaflets of the lower leaves roundish; of the upper oblong or obovate, obtuse, toothed, and somewhat incised; under surface more hairy than the upper. Stipules ovate-oblong, mostly entire. Flowers few, in a terminal dichotomous panicle. Calyx hairy; segments equal in length; the exterior oblong, rather obtuse; the interior semi-ovate, acute. Petals pale yellow, (white, *Mich.*,) obovate, slightly emarginate, or almost obcordate, a little shorter than the calyx. Receptacle ovate, smooth. Acines rugulous. *Lehm.*

According to *De Candolle,* this is the original *P. monstreiensis* of *Linnaeus,* which is not a native of any part of Europe, but was introduced long since into the Botanic Garden of Montpellier, by seeds sent from Virginia or Canada.


Root annual. Whole plant hairy. Stem 8 inches to a foot and a half high, simple below; dichotomously branched above. Leaves all ternate; leaflets sessile, acutely and incisely serrate. Stipules large, oblong, oblique at the base, subdeterminate. Flowers terminal, and from the forks of the stem; pedicels from half an inch to an inch or more in length. Segments of the calyx subequal, ovate-lanceolate, acute. Petals yellow. Receptacle ovate, naked. Acines somewhat reniform, smooth, with divergent rugae.


**Leaves digitate.**


Root perennial, creeping. Stem 2—10 inches long, slender, at first assurgent, but at length procumbent. Radical leaves on long petioles; leaflets about an inch long, entire at the base, acutely and incisely toothed; stem leaves few, small, opposite, 3-cleft. Stipules ovate, incised. Flowers middle-sized, on long slender pedicels. Segments of the calyx nearly equal. Petals bright yellow, sometimes a little emarginate. Receptacle hemispherical, hairy.


The *P. fumila* of *Lamarck* appears to be nothing more than this species as it first appears in the spring, when it is scarcely more than an inch high, and is nearly destitute of a stem.

*Root* thick, horizontal. Whole plant hairy. *Stems* numerous, somewhat scabrous, erect at the base, generally incurved at the summit. *Leaves* on long petioles, all of them quinate; leaflets oblong, acute or obtuse, rather acutely serrate. *Stipules* large, laciniate. *Pedicels* 1-flowered, as long as the leaves. Segments of the *calyx* subequal, linear-lanceolate. *Petals* bright yellow.

*Hab.* In fields and dry woods. May—August. *Five-finger.*


*Root* branched, ligneous. *Stems* numerous, 4—10 inches long, assurgent, or spreading on the ground, purplish, covered with a loose white wool. *Leaves* all quinate; the inferior ones petiolate; leaflets sessile, cuneate, variable in breadth, deeply incised or lobed, very white and woolly beneath, green and mostly glabrous above. *Stipules* ovate, acuminate, sometimes incised. *Flowers* in terminal clusters; *pedicels* short. *Calyx* very woolly; segments nearly equal, linear-lanceolate. *Petals* yellow, obovate, emarginate. *Receptacle* villous.


* * * *Leaves pinnate.*


A shrub about 2 feet high, much branched, hairy; bark on the stem and larger branches loose and brownish. *Inferior leaves* on petioles about an inch long; the uppermost ones subsessile; leaflets 5, flat, paler beneath; the lowest pair distinct; the other 3 confluent at the base. *Stipules* ovate, entire. *Flowers* large, on short pedicels, 2—3 at the extremity of each branch. *Calyx* silky-villous; exterior leaflets linear-
lanceolate; interior yellowish, ovate, acuminate. Petals bright yellow, obovate-roundish, entire, a little longer than the calyx. Receptacle hemispherical, villous.


The P. floribunda of Pursh differs only in being of lower and thicker growth, and with the flowers rather more numerous.

8. P. Ansering L.: stem creeping; leaves interruptedly pinnate; leaflets numerous, incisely and very acutely serrate, silky; pedicels axillary, solitary, as long as the leaves; stipules many-cleft.


Silver-weed.—Wild-tansey.


Root annual. Flowers small, yellow. Ph.


Root terete, creeping, astringent. Stem about a foot and a half high, terete, smooth below, brownish-pubescent above. Inferior leaves petiolate, with 5—7 leaflets; superior leaves sessile, ternate; leaflets oblong-lanceolate, rather obtuse, whitish and veined beneath, coarsely serrate. Stipules ovate, acute, entire. Flowers terminal and axillary in the upper part of the stem. Calyx coloured, spreading, hairy; exterior segments
much smaller, lanceolate; interior broad-ovate, acuminate. *Petals* dark purple, scarcely half the length of the calyx. *Receptacle* ovate, spongy, villous, at length covered with the calyx.


Root perennial, ligneous. Whole plant covered with soft hairs. *Stems* numerous, simple, erect, straight, a foot and a half or more in height. *Leaves* interruptedly pinnate; the inferior on long petioles; larger leaflets 9—15, oblong, incisely serrate; the upper pair confluent at the base; stem leaves with 3—5 leaflets. *Stipules* lanceolate, amplexicaul, entire, or rarely cleft. *Flowers* in a terminal panicle, more or less pedicellate. *Calyx* woolly; exterior segments linear-lanceolate; interior ovate, acuminate. *Petals* obovate, a little longer than the calyx, emarginate or obcordate. *Receptacle* ovate, conic. *Acines* rugous. *L. h. m."


I consider this an obscure species, having never seen a North-American *Potentilla* at all agreeing with the description of *P. pennsylvanica* as given in the books. *Sir J. E. Smith* informs me, that *P. pennsylvanica* of the Linnaean Herbarium resembles *P. recta* in shape of leaflets and serratures, but is pinnate and very soft-downy.

12. *P. compactiflora*:* viscous and very hairy; stem erect, nearly simple; leaves somewhat interruptedly pinnate; leaflets roundish-ovate, doubly and incisely dentate, oblique; stipules ovate, acute, entire; flowers clustered, subsessile; leaflets of the calyx unequal, oblong, acute; petals obovate, longer than the calyx. *Gnem agrimonoide* *Pursh Fl. I.* p. 351? *Torrey Cat. pl. New-York,* p. 92.

Root thick, fuscous. Whole plant with a dense brownish pubescence, and when young viscid. *Stems* numerous, about 2 feet high, terete, striate. *Leaves* mostly in tufts about the root, on very long petioles; leaflets 5—7 pairs, an inch and a half or more in length, often with foliaceous bracts or minute leaflets at the base, coarsely and doubly serrate; the serratures rather obtuse. *Flowers* crowded in a terminal panicle, nearly sessile. Exterior segments of the *calyx* ovate-lanceolate, subincised; the interior ovate and acute. *Petals* yellowish-white. *Sta-
mens about 25; filaments inserted on the margin of a 5-lobed glandular disk, which surrounds the base of the receptacle, and is adnate to the calyx; anthers subpeltate, margined. Receptacle ovate-oblong, somewhat villous. Acines smooth and even.


This species is nearly allied to P. geoides Leh. Potent. p. 58, t. 2, but differs in its entire stipules. Sir J. E. Smith, to whom I sent specimens for examination, is totally unlike that species, or any other that he had seen. The nectary or disk on which the stamens are inserted, is a remarkable character in this genus, and is not noticed by Lehmann in his recent elaborate Monography of Potentilla. On account of this peculiarity Dr. Bigelow proposes it as a new genus under the name of Bootia.†

331. FRAGARIA. L.


Root perennial. Stem erect, very short, throwing out numerous creeping suckers from its base. Leaves ternate, mostly radical, on long petioles; hairs on the petiole spreading horizontally; leaflets all petiolate, with coarse, rather acute serratures; silky pubescent beneath. Flowers on long peduncles, in a terminal corymbose panicle. Calyx villous; segments nearly equal, linear-lanceolate. Petals white, about as long as the calyx. Receptacle large, scarlet, resembling a berry. Acines smooth and even.

Hab. In fields and woods; common. May—June.

Wild Strawberry.

† In honour of Francis Boott, Esq. an assiduous Botanist, who has paid much attention to North-American plants.
332. CALYCANTHUS. *L.*


A shrub 4—6 feet high. _Leaves_ opposite, entire. _Flowers_ large, terminal, solitary. _Calyx_ brownish-purple, odoriferous. _Hab._ In the mountains of Pennsylvania. _Pursh._
INDEX

TO THE

GENERAE AND SPECIES

OF VOLUME I.

The names in italics indicate the Synonyms.

ACER 595
barbatum 596
dasyacarpum 596
ericacarpum 596
pennysylvanicum 597
pennysylvanicum 598
nigricum 597
Negundo 598
montanum 598
rubrum 595
saccharinum 596
straits 597
ACHNANTHERUM 84
ACORUS 338
Calamus 339
ACTINOCHLOA 139
ESCLUS 384
echinata 394
glabra 384
ÆTHUSA 306
leptophylla 306
AGAVE 345
virginica 345
AGRIMONIA 473
Euataria 473
parviflora 473
AGROSTEMMA 360
Githago 461
AGROSTIS 84
aspera 90, 91
Cima 86, 91
clandestina 90
compressa 88
decumbens 86
diffusa 87
filiformis 86
foliosa 86
glaucu 94
hispida 85
juncea 89
indica 89
lateriflora 86
luxa 83
mexicana 86
monandra 91
puerpera 89, 90
AGROSTIS 92
rachistosa 93
ecabra 93
sericea 93
serotina 93
setosa 92
sobilfera 87
striet a 87
sylvestre 87
tenuiflora 87
tremula 89
virginica 89
vulgaris 85
AGROSTON 84
repens 135
caninium 135
AIRA 132
aristulata 132
cestita 131
flexuosa 131
melicoides 131
mollis 116
pallescens 116
pallens 116
pennysylvanica 116
precox 131
purpurea 132
pratensis 131
triflora 131
truncata 116
ALCHEMILLA 190
alpina 190
ALETRIS 344
alba 344
aurea 344
farinosa 345
virginica 205
ALISMA 381
parviflora 381
Plantago 381
triplabra 381
ALLIUM 340
canadense 340
cernuum 341
triviale 341
tricocccum 341
triflorum 341
vinca 340
ALOPECURUS 39
aristulatus 97
borealis 98
carolinianus 97
geniculosus 97
pratensis 97
subaristatus 97
ALISINE 452
media 452
AMELANCHIER 7
AMARYLLIS 339
Atamasco 349
AMMANNIA 188
humilis 189
ramosior 189
AMMI 305
Annuus 305
AMEPOLYS 265
AMMOPHILA 95
AMEPOLYS 265
AMMOPHILA 95
ALACRITAS 437
ANANAS 438
ANAGALLIS 209
arvensis 209
ANACRISIA 205
virginica 156
ANDROMEDA 418
arborea 420
baccata 415
calyciata 419
cerulata 394
hypnoides 418
ligustriana 421
marianna 410
paniculata 420
polifolia 419
racemosa 420
<table>
<thead>
<tr>
<th>ANDROMEDA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>speciosa</td>
<td>420</td>
</tr>
<tr>
<td>taxifolia</td>
<td>344</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANDROPOGON</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambiguum</td>
<td>99</td>
</tr>
<tr>
<td>avenacea</td>
<td>157</td>
</tr>
<tr>
<td>chloris</td>
<td>156</td>
</tr>
<tr>
<td>fuscum</td>
<td>157</td>
</tr>
<tr>
<td>macraurum</td>
<td>156</td>
</tr>
<tr>
<td>notons</td>
<td>157</td>
</tr>
<tr>
<td>pulvinate</td>
<td>156</td>
</tr>
<tr>
<td>Scoparium</td>
<td>156</td>
</tr>
<tr>
<td>virgineum</td>
<td>156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANGELICA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>atropurpurea</td>
<td>315</td>
</tr>
<tr>
<td>hirta</td>
<td>315</td>
</tr>
<tr>
<td>lobata</td>
<td>316</td>
</tr>
<tr>
<td>lucida</td>
<td>316</td>
</tr>
<tr>
<td>triquinita</td>
<td>313</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTHOCANTHUS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>subsimulacrum</td>
<td>369</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTHOCRANION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>lepturoides</td>
<td>99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTHOCRANION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>subtetricum</td>
<td>101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTHOCRANION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>obaratum</td>
<td>272</td>
</tr>
<tr>
<td>dichotoma</td>
<td>273</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APOLLYNAS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>androsemifolium</td>
<td>275</td>
</tr>
<tr>
<td>cannabisinum</td>
<td>276</td>
</tr>
<tr>
<td>hypericifolium</td>
<td>276</td>
</tr>
<tr>
<td>pubescens</td>
<td>276</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARALIA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>hispida</td>
<td>327</td>
</tr>
<tr>
<td>nudicaulis</td>
<td>327</td>
</tr>
<tr>
<td>racemosa</td>
<td>327</td>
</tr>
<tr>
<td>spinosa</td>
<td>328</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARBITUS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>filiformis</td>
<td>411</td>
</tr>
<tr>
<td>Úva ursi</td>
<td>411</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARENARIA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>canadensis</td>
<td>453</td>
</tr>
<tr>
<td>carolinana</td>
<td>456</td>
</tr>
<tr>
<td>glabra</td>
<td>455</td>
</tr>
<tr>
<td>lateiflora</td>
<td>454</td>
</tr>
<tr>
<td>marina</td>
<td>456</td>
</tr>
<tr>
<td>peploidie</td>
<td>456</td>
</tr>
<tr>
<td>rubra</td>
<td>456</td>
</tr>
<tr>
<td>squarrosa</td>
<td>454</td>
</tr>
<tr>
<td>stricta</td>
<td>455</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARISTA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>vulgaris</td>
<td>329</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARKINDIA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>argyrophyllum</td>
<td>478</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARNICA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>argyrophyllum</td>
<td>478</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARTHROPS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>zephyrana</td>
<td>385</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARRHENATHE-</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>arrhenum</td>
<td>130</td>
</tr>
<tr>
<td>americanum</td>
<td>131</td>
</tr>
<tr>
<td>avenacerum</td>
<td>130</td>
</tr>
<tr>
<td>kentuckensiis</td>
<td>131</td>
</tr>
<tr>
<td>pennsylvaniae</td>
<td>131</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ARUNDO</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>agrifolius</td>
<td>94</td>
</tr>
<tr>
<td>arearia</td>
<td>95</td>
</tr>
<tr>
<td>brevipilis</td>
<td>95</td>
</tr>
<tr>
<td>arecolis</td>
<td>93</td>
</tr>
<tr>
<td>cinnamomeis</td>
<td>94</td>
</tr>
<tr>
<td>eucalyptus</td>
<td>94</td>
</tr>
<tr>
<td>glauca</td>
<td>94</td>
</tr>
<tr>
<td>Euphorbos</td>
<td>95</td>
</tr>
<tr>
<td>Phragmites</td>
<td>103</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASCLEPIS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>acuminata</td>
<td>279</td>
</tr>
<tr>
<td>amara</td>
<td>285</td>
</tr>
<tr>
<td>cordiata</td>
<td>282</td>
</tr>
<tr>
<td>delinis</td>
<td>283</td>
</tr>
<tr>
<td>exaltata</td>
<td>283</td>
</tr>
<tr>
<td>hybida</td>
<td>280</td>
</tr>
<tr>
<td>inaequata</td>
<td>281</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASPIRAGUS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>asplenifolius</td>
<td>284</td>
</tr>
<tr>
<td>obtusifolius</td>
<td>281</td>
</tr>
<tr>
<td>parviflora</td>
<td>283</td>
</tr>
<tr>
<td>phytolaccoides</td>
<td>280</td>
</tr>
<tr>
<td>pulchra</td>
<td>282</td>
</tr>
<tr>
<td>purpurascens</td>
<td>282</td>
</tr>
<tr>
<td>quadrifolia</td>
<td>283</td>
</tr>
<tr>
<td>syriaca</td>
<td>279</td>
</tr>
<tr>
<td>tuberosa</td>
<td>285</td>
</tr>
<tr>
<td>variegata</td>
<td>280</td>
</tr>
<tr>
<td>verticalata</td>
<td>284</td>
</tr>
<tr>
<td>viridiflora</td>
<td>284</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASPERULA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>asperula</td>
<td>284</td>
</tr>
<tr>
<td>orbiculata</td>
<td>284</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATHEROPONO</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>aphuloides</td>
<td>139</td>
</tr>
<tr>
<td>racemosa</td>
<td>140</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATRIBLEX</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>arenaria</td>
<td>292</td>
</tr>
<tr>
<td>Halimus</td>
<td>295</td>
</tr>
<tr>
<td>hortenis</td>
<td>292</td>
</tr>
<tr>
<td>luciintia</td>
<td>293</td>
</tr>
<tr>
<td>patula</td>
<td>293</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AVENA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>elatior</td>
<td>131</td>
</tr>
<tr>
<td>glamosa</td>
<td>130</td>
</tr>
<tr>
<td>graminea</td>
<td>131</td>
</tr>
<tr>
<td>pennispermum</td>
<td>130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>arborensis</td>
<td>232</td>
</tr>
<tr>
<td>calendulae</td>
<td>425</td>
</tr>
<tr>
<td>hispida</td>
<td>426</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>azalea</td>
<td>232</td>
</tr>
<tr>
<td>arborensis</td>
<td>425</td>
</tr>
<tr>
<td>calendulae</td>
<td>425</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>hispida</td>
<td>426</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>altamanica</td>
<td>427</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>atamanica</td>
<td>427</td>
</tr>
<tr>
<td>hispida</td>
<td>426</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>atamanica</td>
<td>427</td>
</tr>
<tr>
<td>hispida</td>
<td>426</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AZALEA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>altamanica</td>
<td>427</td>
</tr>
<tr>
<td>hispida</td>
<td>426</td>
</tr>
<tr>
<td>INDEX.</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>CAMPANULA</td>
<td>237</td>
</tr>
<tr>
<td>americana</td>
<td>237</td>
</tr>
<tr>
<td>amplexicaulis</td>
<td>236</td>
</tr>
<tr>
<td>aphanooides</td>
<td>237</td>
</tr>
<tr>
<td>erinoides</td>
<td>237</td>
</tr>
<tr>
<td>flexuosa</td>
<td>238</td>
</tr>
<tr>
<td>filiforme</td>
<td>236</td>
</tr>
<tr>
<td>perciformis</td>
<td>236</td>
</tr>
<tr>
<td>CARCIFOLIUM</td>
<td>242</td>
</tr>
<tr>
<td>bracteatum</td>
<td>243</td>
</tr>
<tr>
<td>dioicum</td>
<td>243</td>
</tr>
<tr>
<td>flavum</td>
<td>243</td>
</tr>
<tr>
<td>Frasert</td>
<td>243</td>
</tr>
<tr>
<td>gratus</td>
<td>244</td>
</tr>
<tr>
<td>purpureum</td>
<td>244</td>
</tr>
<tr>
<td>sempervivens</td>
<td>244</td>
</tr>
<tr>
<td>tubescens</td>
<td>242</td>
</tr>
<tr>
<td>CASSIA</td>
<td>439</td>
</tr>
<tr>
<td>chamaecrista</td>
<td>439</td>
</tr>
<tr>
<td>fasiculata</td>
<td>440</td>
</tr>
<tr>
<td>marilandica</td>
<td>439</td>
</tr>
<tr>
<td>nicetans</td>
<td>440</td>
</tr>
<tr>
<td>CATAFROSI</td>
<td>133</td>
</tr>
<tr>
<td>aquatica</td>
<td>135</td>
</tr>
<tr>
<td>cespitosa</td>
<td>132</td>
</tr>
<tr>
<td>pumila</td>
<td>133</td>
</tr>
<tr>
<td>CATALPA</td>
<td>16</td>
</tr>
<tr>
<td>bigynoideis</td>
<td>16</td>
</tr>
<tr>
<td>cordifoliat</td>
<td>16</td>
</tr>
<tr>
<td>syringifolia</td>
<td>16</td>
</tr>
<tr>
<td>CATHAROLIUM</td>
<td>335</td>
</tr>
<tr>
<td>thalictroides</td>
<td>336</td>
</tr>
<tr>
<td>Ceanothus</td>
<td>259</td>
</tr>
<tr>
<td>americanus</td>
<td>260</td>
</tr>
<tr>
<td>herbaceus</td>
<td>260</td>
</tr>
<tr>
<td>perennis</td>
<td>260</td>
</tr>
<tr>
<td>CELASTRUS</td>
<td>262</td>
</tr>
<tr>
<td>scardens</td>
<td>262</td>
</tr>
<tr>
<td>CELTIS</td>
<td>299</td>
</tr>
<tr>
<td>cordifolia</td>
<td>300</td>
</tr>
<tr>
<td>crassifolia</td>
<td>300</td>
</tr>
<tr>
<td>occidentalis</td>
<td>300</td>
</tr>
<tr>
<td>CENCHRUS</td>
<td>68</td>
</tr>
<tr>
<td>carolinianus</td>
<td>68</td>
</tr>
<tr>
<td>echinaurus</td>
<td>68</td>
</tr>
<tr>
<td>tribuloides</td>
<td>69</td>
</tr>
<tr>
<td>CENMAREAULA</td>
<td>185</td>
</tr>
<tr>
<td>autumnalis</td>
<td>185</td>
</tr>
<tr>
<td>paniculata</td>
<td>185</td>
</tr>
<tr>
<td>CENTARIUM</td>
<td>185</td>
</tr>
<tr>
<td>cephalanthus</td>
<td>163</td>
</tr>
<tr>
<td>occidentalis</td>
<td>164</td>
</tr>
<tr>
<td>CERASTIUM</td>
<td>439</td>
</tr>
<tr>
<td>bracteatum</td>
<td>460</td>
</tr>
<tr>
<td>glutinosum</td>
<td>450</td>
</tr>
<tr>
<td>hirsutum</td>
<td>459</td>
</tr>
<tr>
<td>longpedunculatum</td>
<td>459</td>
</tr>
<tr>
<td>nutans</td>
<td>459</td>
</tr>
<tr>
<td>oblongifolium</td>
<td>459</td>
</tr>
<tr>
<td>tubescens</td>
<td>459</td>
</tr>
<tr>
<td>semidecandrum</td>
<td>459</td>
</tr>
<tr>
<td>tenuifolium</td>
<td>460</td>
</tr>
<tr>
<td>viscosum</td>
<td>458</td>
</tr>
<tr>
<td>valgatum</td>
<td>458</td>
</tr>
<tr>
<td>CERASUS</td>
<td>437</td>
</tr>
<tr>
<td>borealis</td>
<td>468</td>
</tr>
<tr>
<td>pumila</td>
<td>470</td>
</tr>
<tr>
<td>virginiana</td>
<td>477</td>
</tr>
<tr>
<td>CERATOCOCHRIO</td>
<td>578</td>
</tr>
<tr>
<td>unitedeis</td>
<td>441</td>
</tr>
<tr>
<td>CERCIS</td>
<td>54</td>
</tr>
<tr>
<td>canadensis</td>
<td>441</td>
</tr>
<tr>
<td>CERATRUM</td>
<td>81</td>
</tr>
<tr>
<td>purpurascens</td>
<td>81</td>
</tr>
<tr>
<td>stricta</td>
<td>81</td>
</tr>
<tr>
<td>CHENOPODIUM</td>
<td>294</td>
</tr>
<tr>
<td>album</td>
<td>294</td>
</tr>
<tr>
<td>ambrosioides</td>
<td>295</td>
</tr>
<tr>
<td>anthelminticum</td>
<td>296</td>
</tr>
<tr>
<td>Bonus Henryi</td>
<td>294</td>
</tr>
<tr>
<td>Botryx</td>
<td>296</td>
</tr>
<tr>
<td>glaucum</td>
<td>296</td>
</tr>
<tr>
<td>hybridum</td>
<td>296</td>
</tr>
<tr>
<td>maritimum</td>
<td>296</td>
</tr>
<tr>
<td>rhombofolium</td>
<td>296</td>
</tr>
<tr>
<td>rubrum</td>
<td>297</td>
</tr>
<tr>
<td>tenuifolium</td>
<td>297</td>
</tr>
<tr>
<td>viride</td>
<td>439</td>
</tr>
<tr>
<td>CHIMAPHILIA</td>
<td>439</td>
</tr>
<tr>
<td>corymbosa</td>
<td>439</td>
</tr>
<tr>
<td>maculata</td>
<td>439</td>
</tr>
<tr>
<td>umbratile</td>
<td>439</td>
</tr>
<tr>
<td>CHIONANTHUS</td>
<td>217</td>
</tr>
<tr>
<td>virginica</td>
<td>217</td>
</tr>
<tr>
<td>CHIRONIA</td>
<td>217</td>
</tr>
<tr>
<td>angustirus</td>
<td>218</td>
</tr>
<tr>
<td>calycosa</td>
<td>218</td>
</tr>
<tr>
<td>chloroides</td>
<td>218</td>
</tr>
<tr>
<td>chloranula</td>
<td>218</td>
</tr>
<tr>
<td>chloroide</td>
<td>218</td>
</tr>
<tr>
<td>chlorus</td>
<td>218</td>
</tr>
<tr>
<td>dodecandra</td>
<td>218</td>
</tr>
<tr>
<td>CHLORIS</td>
<td>139</td>
</tr>
<tr>
<td>curtipendula</td>
<td>139</td>
</tr>
<tr>
<td>CHRYSONOLEP</td>
<td>445</td>
</tr>
<tr>
<td>nium</td>
<td>445</td>
</tr>
<tr>
<td>ophidophillum</td>
<td>307</td>
</tr>
<tr>
<td>CURCUMA</td>
<td>307</td>
</tr>
<tr>
<td>bullifera</td>
<td>308</td>
</tr>
<tr>
<td>maculata</td>
<td>508</td>
</tr>
<tr>
<td>venenata</td>
<td>516</td>
</tr>
<tr>
<td>CINNA</td>
<td>91</td>
</tr>
<tr>
<td>arundinacea</td>
<td>91</td>
</tr>
<tr>
<td>CIRCEA</td>
<td>429</td>
</tr>
<tr>
<td>alpina</td>
<td>30</td>
</tr>
<tr>
<td>canadensis</td>
<td>30</td>
</tr>
<tr>
<td>lactealina</td>
<td>30</td>
</tr>
<tr>
<td>lactealista</td>
<td>30</td>
</tr>
<tr>
<td>CISSUS</td>
<td>265</td>
</tr>
<tr>
<td>Ampelopsis</td>
<td>266</td>
</tr>
<tr>
<td>hederacea</td>
<td>266</td>
</tr>
<tr>
<td>CLADUUM</td>
<td>34</td>
</tr>
<tr>
<td>CLAYTONIA</td>
<td>258</td>
</tr>
<tr>
<td>caroliniana</td>
<td>259</td>
</tr>
<tr>
<td>virgincia</td>
<td>259</td>
</tr>
<tr>
<td>CLETHRA</td>
<td>438</td>
</tr>
<tr>
<td>alhifolia</td>
<td>438</td>
</tr>
<tr>
<td>CNIUMNUM</td>
<td>306</td>
</tr>
<tr>
<td>atropurpureum</td>
<td>307</td>
</tr>
<tr>
<td>canadensis</td>
<td>306</td>
</tr>
<tr>
<td>COLLONSONIA</td>
<td>28</td>
</tr>
<tr>
<td>canadensis</td>
<td>29</td>
</tr>
<tr>
<td>COMANDRA</td>
<td>32</td>
</tr>
<tr>
<td>umbilicata</td>
<td>32</td>
</tr>
<tr>
<td>COMARUM</td>
<td>32</td>
</tr>
<tr>
<td>polystre</td>
<td>32</td>
</tr>
<tr>
<td>COMELINA</td>
<td>38</td>
</tr>
<tr>
<td>angustifolia</td>
<td>38</td>
</tr>
<tr>
<td>dobia</td>
<td>38</td>
</tr>
<tr>
<td>erecta</td>
<td>39</td>
</tr>
<tr>
<td>hirtella</td>
<td>39</td>
</tr>
<tr>
<td>longifolia</td>
<td>39</td>
</tr>
<tr>
<td>truncata</td>
<td>39</td>
</tr>
<tr>
<td>CONIUM</td>
<td>314</td>
</tr>
<tr>
<td>maculatum</td>
<td>314</td>
</tr>
<tr>
<td>CONOYTHERIS</td>
<td>313</td>
</tr>
<tr>
<td>CONVALLARIA</td>
<td>353</td>
</tr>
<tr>
<td>bifora</td>
<td>353</td>
</tr>
<tr>
<td>bifolia</td>
<td>353</td>
</tr>
<tr>
<td>borealis</td>
<td>353</td>
</tr>
<tr>
<td>canaliculata</td>
<td>357</td>
</tr>
<tr>
<td>latifolia</td>
<td>357</td>
</tr>
<tr>
<td>multiflora</td>
<td>356</td>
</tr>
<tr>
<td>Polygonatum</td>
<td>357</td>
</tr>
<tr>
<td>pubescens</td>
<td>357</td>
</tr>
<tr>
<td>racemosa</td>
<td>354</td>
</tr>
<tr>
<td>stemata</td>
<td>354</td>
</tr>
<tr>
<td>trifolia</td>
<td>354</td>
</tr>
<tr>
<td>umbellulata</td>
<td>355</td>
</tr>
<tr>
<td>CONVOLVULUS</td>
<td>234</td>
</tr>
<tr>
<td>arvensis</td>
<td>224</td>
</tr>
<tr>
<td>Nil</td>
<td>224</td>
</tr>
<tr>
<td>panduratus</td>
<td>224</td>
</tr>
<tr>
<td>purpureum</td>
<td>224</td>
</tr>
<tr>
<td>repens</td>
<td>225</td>
</tr>
<tr>
<td>Sepium</td>
<td>225</td>
</tr>
<tr>
<td>spathulata</td>
<td>225</td>
</tr>
<tr>
<td>stans</td>
<td>225</td>
</tr>
<tr>
<td>CORNUCOPIA</td>
<td>83</td>
</tr>
<tr>
<td>altissima</td>
<td>84</td>
</tr>
<tr>
<td>hyperal</td>
<td>84</td>
</tr>
<tr>
<td>CORNUS</td>
<td>177</td>
</tr>
<tr>
<td>alba</td>
<td>177</td>
</tr>
<tr>
<td>alternifolia</td>
<td>177</td>
</tr>
<tr>
<td>canadensis</td>
<td>177</td>
</tr>
<tr>
<td>cinerata</td>
<td>177</td>
</tr>
<tr>
<td>festiglata</td>
<td>177</td>
</tr>
<tr>
<td>florinda</td>
<td>177</td>
</tr>
<tr>
<td>langinosa</td>
<td>177</td>
</tr>
<tr>
<td>paniculata</td>
<td>177</td>
</tr>
<tr>
<td>racemosa</td>
<td>177</td>
</tr>
<tr>
<td>rugosa</td>
<td>177</td>
</tr>
<tr>
<td>sanguinea</td>
<td>177</td>
</tr>
<tr>
<td>sanguinea</td>
<td>177</td>
</tr>
<tr>
<td>sericea</td>
<td>178</td>
</tr>
<tr>
<td>stolonifera</td>
<td>179</td>
</tr>
<tr>
<td>stricta</td>
<td>179</td>
</tr>
<tr>
<td>CORNUS</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>tomentulosa</td>
<td>179</td>
</tr>
<tr>
<td>CRANITZIA</td>
<td>304</td>
</tr>
<tr>
<td>lineata</td>
<td>304</td>
</tr>
<tr>
<td>CRATAEGUS</td>
<td>474</td>
</tr>
<tr>
<td>coecinea</td>
<td>474</td>
</tr>
<tr>
<td>cordata</td>
<td>474</td>
</tr>
<tr>
<td>Crus galli</td>
<td>476</td>
</tr>
<tr>
<td>elliptica</td>
<td>475</td>
</tr>
<tr>
<td>glandulosa</td>
<td>475</td>
</tr>
<tr>
<td>lenticipes</td>
<td>475</td>
</tr>
<tr>
<td>parvifolia</td>
<td>475</td>
</tr>
<tr>
<td>populisfolia</td>
<td>474</td>
</tr>
<tr>
<td>punctata</td>
<td>476</td>
</tr>
<tr>
<td>pyriformia</td>
<td>475</td>
</tr>
<tr>
<td>pyrifolia</td>
<td>476</td>
</tr>
<tr>
<td>ruscifolia</td>
<td>479</td>
</tr>
<tr>
<td>apicata</td>
<td>479</td>
</tr>
<tr>
<td>tomentosa</td>
<td>476</td>
</tr>
<tr>
<td>CRYPSIS</td>
<td>96</td>
</tr>
<tr>
<td>virginica</td>
<td>96</td>
</tr>
<tr>
<td>CRYPTA</td>
<td>32</td>
</tr>
<tr>
<td>minima</td>
<td>32</td>
</tr>
<tr>
<td>CUCUBALUS</td>
<td>448</td>
</tr>
<tr>
<td>Behen</td>
<td>449</td>
</tr>
<tr>
<td>nivens</td>
<td>449</td>
</tr>
<tr>
<td>reflexus</td>
<td>451</td>
</tr>
<tr>
<td>stellatus</td>
<td>449</td>
</tr>
<tr>
<td>CUNILA</td>
<td>22</td>
</tr>
<tr>
<td>glabella</td>
<td>25</td>
</tr>
<tr>
<td>mariana</td>
<td>22</td>
</tr>
<tr>
<td>pulchroides</td>
<td>24</td>
</tr>
<tr>
<td>CUPhea</td>
<td>492</td>
</tr>
<tr>
<td>viscosissima</td>
<td>472</td>
</tr>
<tr>
<td>CURTOPOGON</td>
<td>81</td>
</tr>
<tr>
<td>dichotomum</td>
<td>81</td>
</tr>
<tr>
<td>CUSCUTA</td>
<td>289</td>
</tr>
<tr>
<td>americana</td>
<td>289</td>
</tr>
<tr>
<td>eurhcea</td>
<td>290</td>
</tr>
<tr>
<td>CYMBOPOGON</td>
<td>155</td>
</tr>
<tr>
<td>CYNODON</td>
<td>98</td>
</tr>
<tr>
<td>Dactylon</td>
<td>99</td>
</tr>
<tr>
<td>CYNOCHUM</td>
<td>278</td>
</tr>
<tr>
<td>obliquum</td>
<td>278</td>
</tr>
<tr>
<td>CYNOGLOSSUM</td>
<td>207</td>
</tr>
<tr>
<td>amplexicaule</td>
<td>208</td>
</tr>
<tr>
<td>officinale</td>
<td>208</td>
</tr>
<tr>
<td>virginica</td>
<td>208</td>
</tr>
<tr>
<td>CYNOSURUS</td>
<td>134</td>
</tr>
<tr>
<td>indicus</td>
<td>134</td>
</tr>
<tr>
<td>CYPERUS</td>
<td>59</td>
</tr>
<tr>
<td>brizeus</td>
<td>59</td>
</tr>
<tr>
<td>cespiticos</td>
<td>60</td>
</tr>
<tr>
<td>compressus</td>
<td>60</td>
</tr>
<tr>
<td>denutius</td>
<td>61</td>
</tr>
<tr>
<td>diandrus</td>
<td>60</td>
</tr>
<tr>
<td>erythrorhizos</td>
<td>61</td>
</tr>
<tr>
<td>flavescens</td>
<td>60</td>
</tr>
<tr>
<td>flavicoma</td>
<td>60</td>
</tr>
<tr>
<td>Hydra</td>
<td>63</td>
</tr>
<tr>
<td>influs</td>
<td>59</td>
</tr>
<tr>
<td>mariscoideus</td>
<td>59</td>
</tr>
<tr>
<td>Nutallii</td>
<td>60</td>
</tr>
<tr>
<td>odoratus</td>
<td>64</td>
</tr>
<tr>
<td>parviflorus</td>
<td>61</td>
</tr>
<tr>
<td>phylatodes</td>
<td>62</td>
</tr>
<tr>
<td>Purshii</td>
<td>40</td>
</tr>
<tr>
<td>repens</td>
<td>62</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CYPHERUS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>spathaceus</td>
<td>58</td>
</tr>
<tr>
<td>striglosus</td>
<td>62</td>
</tr>
<tr>
<td>tenuis</td>
<td>69</td>
</tr>
<tr>
<td>tuberosus</td>
<td>62</td>
</tr>
<tr>
<td>ucaninates</td>
<td>59</td>
</tr>
<tr>
<td>virens</td>
<td>63</td>
</tr>
<tr>
<td>DACTYLIS</td>
<td>123</td>
</tr>
<tr>
<td>cynosuroides</td>
<td>123</td>
</tr>
<tr>
<td>glomerata</td>
<td>123</td>
</tr>
<tr>
<td>maritimia</td>
<td>123</td>
</tr>
<tr>
<td>DALBARDA</td>
<td>401</td>
</tr>
<tr>
<td>fragariaoides</td>
<td>401</td>
</tr>
<tr>
<td>DATURA</td>
<td>309</td>
</tr>
<tr>
<td>Stramoniun</td>
<td>309</td>
</tr>
<tr>
<td>Tatula</td>
<td>309</td>
</tr>
<tr>
<td>DACUS</td>
<td>96</td>
</tr>
<tr>
<td>Carota</td>
<td>96</td>
</tr>
<tr>
<td>DECODON</td>
<td>471</td>
</tr>
<tr>
<td>acquaticum</td>
<td>471</td>
</tr>
<tr>
<td>verticillatum</td>
<td>471</td>
</tr>
<tr>
<td>DELCHAMPSIA</td>
<td>103</td>
</tr>
<tr>
<td>Dielatax</td>
<td>103</td>
</tr>
<tr>
<td>DELFIAUXXIA</td>
<td>163</td>
</tr>
<tr>
<td>finitans</td>
<td>163</td>
</tr>
<tr>
<td>DIANTHERA</td>
<td>17</td>
</tr>
<tr>
<td>americana</td>
<td>17</td>
</tr>
<tr>
<td>ensiformis</td>
<td>447</td>
</tr>
<tr>
<td>DIANTHUS</td>
<td>247</td>
</tr>
<tr>
<td>Armeria</td>
<td>247</td>
</tr>
<tr>
<td>DIAPENSA</td>
<td>231</td>
</tr>
<tr>
<td>barbata</td>
<td>231</td>
</tr>
<tr>
<td>DIERVILLA</td>
<td>231</td>
</tr>
<tr>
<td>canadensis</td>
<td>231</td>
</tr>
<tr>
<td>huilnis</td>
<td>231</td>
</tr>
<tr>
<td>DILARINA</td>
<td>124</td>
</tr>
<tr>
<td>festucomides</td>
<td>124</td>
</tr>
<tr>
<td>DIARRHENAA</td>
<td>124</td>
</tr>
<tr>
<td>americana</td>
<td>124</td>
</tr>
<tr>
<td>DIERVILLA</td>
<td>238</td>
</tr>
<tr>
<td>canadensis</td>
<td>238</td>
</tr>
<tr>
<td>humilis</td>
<td>238</td>
</tr>
<tr>
<td>Tourneforti</td>
<td>238</td>
</tr>
<tr>
<td>DIGITARIA</td>
<td>153</td>
</tr>
<tr>
<td>Dactylon</td>
<td>90</td>
</tr>
<tr>
<td>filiformis</td>
<td>155</td>
</tr>
<tr>
<td>filicinumps</td>
<td>144</td>
</tr>
<tr>
<td>DIPLOCHENE</td>
<td>125</td>
</tr>
<tr>
<td>DIPLOCARIA</td>
<td>125</td>
</tr>
<tr>
<td>DIPLOCHENE</td>
<td>125</td>
</tr>
<tr>
<td>DIPSACUS</td>
<td>63</td>
</tr>
<tr>
<td>sylvaticus</td>
<td>63</td>
</tr>
<tr>
<td>DIRCA</td>
<td>398</td>
</tr>
<tr>
<td>paliustri</td>
<td>398</td>
</tr>
<tr>
<td>DODECATHEON</td>
<td>213</td>
</tr>
<tr>
<td>integrifolia</td>
<td>213</td>
</tr>
<tr>
<td>Mecadis</td>
<td>213</td>
</tr>
<tr>
<td>DRACOONUT</td>
<td>191</td>
</tr>
<tr>
<td>footidium</td>
<td>191</td>
</tr>
<tr>
<td>DROSERA</td>
<td>331</td>
</tr>
<tr>
<td>americana</td>
<td>331</td>
</tr>
<tr>
<td>angustifolia</td>
<td>331</td>
</tr>
<tr>
<td>filiformis</td>
<td>333</td>
</tr>
<tr>
<td>foliosa</td>
<td>253</td>
</tr>
<tr>
<td>foliosa</td>
<td>253</td>
</tr>
<tr>
<td>DULICHUM</td>
<td>58</td>
</tr>
<tr>
<td>canadense</td>
<td>58</td>
</tr>
<tr>
<td>spathaceae</td>
<td>58</td>
</tr>
<tr>
<td>ECHINOCCHOIA</td>
<td>149</td>
</tr>
<tr>
<td>Crus Galli</td>
<td>149</td>
</tr>
<tr>
<td>ECHINOSPERMUM</td>
<td>208</td>
</tr>
<tr>
<td>Lappula</td>
<td>208</td>
</tr>
<tr>
<td>virginiana</td>
<td>209</td>
</tr>
<tr>
<td>ECHINUM</td>
<td>205</td>
</tr>
<tr>
<td>vulgare</td>
<td>205</td>
</tr>
<tr>
<td>ELEOCHARIS</td>
<td>44</td>
</tr>
<tr>
<td>acicularis</td>
<td>44</td>
</tr>
<tr>
<td>capitate</td>
<td>45</td>
</tr>
<tr>
<td>pulchrum</td>
<td>45</td>
</tr>
<tr>
<td>ELEUSINE</td>
<td>134</td>
</tr>
<tr>
<td>indica</td>
<td>134</td>
</tr>
<tr>
<td>ELYMUS</td>
<td>134</td>
</tr>
<tr>
<td>canadensis</td>
<td>134</td>
</tr>
<tr>
<td>camillus</td>
<td>134</td>
</tr>
<tr>
<td>carolinianus</td>
<td>134</td>
</tr>
<tr>
<td>glaucifolius</td>
<td>134</td>
</tr>
<tr>
<td>Histrix</td>
<td>138</td>
</tr>
<tr>
<td>philadelphicus</td>
<td>138</td>
</tr>
<tr>
<td>villosus</td>
<td>138</td>
</tr>
<tr>
<td>virginicus</td>
<td>138</td>
</tr>
<tr>
<td>EPINEA</td>
<td>423</td>
</tr>
<tr>
<td>repens</td>
<td>423</td>
</tr>
<tr>
<td>EPILOBHUM</td>
<td>392</td>
</tr>
<tr>
<td>angustifolium</td>
<td>392</td>
</tr>
<tr>
<td>angustissimus</td>
<td>392</td>
</tr>
<tr>
<td>coloratum</td>
<td>392</td>
</tr>
<tr>
<td>linearis</td>
<td>392</td>
</tr>
<tr>
<td>molle</td>
<td>393</td>
</tr>
<tr>
<td>oliganthum</td>
<td>393</td>
</tr>
<tr>
<td>rosmarinofolium</td>
<td>393</td>
</tr>
<tr>
<td>spicatet</td>
<td>391</td>
</tr>
<tr>
<td>squamatum</td>
<td>392</td>
</tr>
<tr>
<td>strictum</td>
<td>392</td>
</tr>
<tr>
<td>DILEPYRUM</td>
<td>102</td>
</tr>
<tr>
<td>aristatum</td>
<td>82</td>
</tr>
<tr>
<td>minuta</td>
<td>102</td>
</tr>
<tr>
<td>DINEBA</td>
<td>139</td>
</tr>
<tr>
<td>aristatum</td>
<td>82</td>
</tr>
<tr>
<td>DIOGLIA</td>
<td>170</td>
</tr>
<tr>
<td>pilosa</td>
<td>114</td>
</tr>
<tr>
<td>FOLIOIDES</td>
<td>116</td>
</tr>
<tr>
<td>ERYICA</td>
<td>164</td>
</tr>
<tr>
<td>carulca</td>
<td>394</td>
</tr>
<tr>
<td>carulca</td>
<td>394</td>
</tr>
<tr>
<td>LATIN NAME</td>
<td>PAGE</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
</tr>
<tr>
<td>FASSA</td>
<td>122</td>
</tr>
<tr>
<td>fulva</td>
<td>121</td>
</tr>
<tr>
<td>canadensis</td>
<td>123</td>
</tr>
<tr>
<td>umbellata</td>
<td>121</td>
</tr>
<tr>
<td>orthoeleca</td>
<td>122</td>
</tr>
<tr>
<td>Pneumonanth</td>
<td>123</td>
</tr>
<tr>
<td>stigmatica</td>
<td>122</td>
</tr>
<tr>
<td>distichophyla</td>
<td>121</td>
</tr>
<tr>
<td>elatior</td>
<td>121</td>
</tr>
<tr>
<td>passionata</td>
<td>122</td>
</tr>
<tr>
<td>distichus</td>
<td>121</td>
</tr>
<tr>
<td>Myra</td>
<td>119</td>
</tr>
<tr>
<td>nutans</td>
<td>122</td>
</tr>
<tr>
<td>obtusa</td>
<td>121</td>
</tr>
<tr>
<td>octoflora</td>
<td>120</td>
</tr>
<tr>
<td>polystachya</td>
<td>122</td>
</tr>
<tr>
<td>pratensis</td>
<td>121</td>
</tr>
<tr>
<td>procumbens</td>
<td>122</td>
</tr>
<tr>
<td>quadriflora</td>
<td>119</td>
</tr>
<tr>
<td>rubra</td>
<td>120</td>
</tr>
<tr>
<td>rubra</td>
<td>121</td>
</tr>
<tr>
<td>tenella</td>
<td>120</td>
</tr>
<tr>
<td>unioioides</td>
<td>124</td>
</tr>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
<tr>
<td>ERICA</td>
<td>394</td>
</tr>
<tr>
<td>pilosa</td>
<td>304</td>
</tr>
<tr>
<td>ERigena</td>
<td>305</td>
</tr>
<tr>
<td>bulbosa</td>
<td>305</td>
</tr>
<tr>
<td>Eriophorum</td>
<td>65</td>
</tr>
<tr>
<td>alpina</td>
<td>63</td>
</tr>
<tr>
<td>angustifolium</td>
<td>67</td>
</tr>
<tr>
<td>cespitum</td>
<td>55</td>
</tr>
<tr>
<td>hyperinum</td>
<td>50</td>
</tr>
<tr>
<td>Eustemonum</td>
<td>55</td>
</tr>
<tr>
<td>flavus</td>
<td>66</td>
</tr>
<tr>
<td>polyacanthum</td>
<td>66</td>
</tr>
<tr>
<td>tenellum</td>
<td>66</td>
</tr>
<tr>
<td>vaginatum</td>
<td>65</td>
</tr>
<tr>
<td>virginicum</td>
<td>66</td>
</tr>
<tr>
<td>Eryngium</td>
<td>300</td>
</tr>
<tr>
<td>aquatilis</td>
<td>301</td>
</tr>
<tr>
<td>ovalifolium</td>
<td>301</td>
</tr>
<tr>
<td>virgatum</td>
<td>301</td>
</tr>
<tr>
<td>virginicum</td>
<td>301</td>
</tr>
<tr>
<td>Yucesquium</td>
<td>301</td>
</tr>
<tr>
<td>ERYthronium</td>
<td>349</td>
</tr>
<tr>
<td>albidum</td>
<td>350</td>
</tr>
<tr>
<td>americanum</td>
<td>350</td>
</tr>
<tr>
<td>dens Canis</td>
<td>350</td>
</tr>
<tr>
<td>lanceolatum</td>
<td>350</td>
</tr>
<tr>
<td>elongatum</td>
<td>350</td>
</tr>
<tr>
<td>Euonymus</td>
<td>369</td>
</tr>
<tr>
<td>americanus</td>
<td>369</td>
</tr>
<tr>
<td>atropurpureus</td>
<td>369</td>
</tr>
<tr>
<td>Chlorus</td>
<td>369</td>
</tr>
<tr>
<td>EUOsmus</td>
<td>408</td>
</tr>
<tr>
<td>Euryriana</td>
<td>139</td>
</tr>
<tr>
<td>curtipendula</td>
<td>139</td>
</tr>
<tr>
<td>EXACUM</td>
<td>186</td>
</tr>
<tr>
<td>pulchellum</td>
<td>186</td>
</tr>
<tr>
<td>PAGOPYRUM</td>
<td>406</td>
</tr>
<tr>
<td>sedea</td>
<td>34</td>
</tr>
<tr>
<td>radiata</td>
<td>34</td>
</tr>
<tr>
<td>Ferula</td>
<td>315</td>
</tr>
<tr>
<td>villosa</td>
<td>315</td>
</tr>
<tr>
<td>Festuca</td>
<td>119</td>
</tr>
<tr>
<td>brevifolia</td>
<td>104</td>
</tr>
<tr>
<td>bromoides</td>
<td>120</td>
</tr>
<tr>
<td>clandestina</td>
<td>123</td>
</tr>
<tr>
<td>diandra</td>
<td>124</td>
</tr>
<tr>
<td>distichophylla</td>
<td>105</td>
</tr>
<tr>
<td>duriscula</td>
<td>120</td>
</tr>
<tr>
<td>elatior</td>
<td>121</td>
</tr>
<tr>
<td>fascicularis</td>
<td>122</td>
</tr>
<tr>
<td>flautus</td>
<td>122</td>
</tr>
<tr>
<td>multiflora</td>
<td>122</td>
</tr>
<tr>
<td>Myrus</td>
<td>119</td>
</tr>
<tr>
<td>nutans</td>
<td>122</td>
</tr>
<tr>
<td>obtusa</td>
<td>121</td>
</tr>
<tr>
<td>octoflora</td>
<td>120</td>
</tr>
<tr>
<td>polystachya</td>
<td>122</td>
</tr>
<tr>
<td>pratensis</td>
<td>121</td>
</tr>
<tr>
<td>procumbens</td>
<td>122</td>
</tr>
<tr>
<td>quadriflora</td>
<td>119</td>
</tr>
<tr>
<td>rubra</td>
<td>120</td>
</tr>
<tr>
<td>rubra</td>
<td>121</td>
</tr>
<tr>
<td>tenella</td>
<td>120</td>
</tr>
<tr>
<td>unioioides</td>
<td>124</td>
</tr>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
<tr>
<td>FIMBRISTYLIS</td>
<td>53</td>
</tr>
<tr>
<td>spadicenum</td>
<td>53</td>
</tr>
<tr>
<td>Fluerkea</td>
<td>339</td>
</tr>
<tr>
<td>lacustris</td>
<td>339</td>
</tr>
<tr>
<td>proserpinacoides</td>
<td>339</td>
</tr>
<tr>
<td>Fragaria</td>
<td>500</td>
</tr>
<tr>
<td>canadensis</td>
<td>500</td>
</tr>
<tr>
<td>paroiflora</td>
<td>500</td>
</tr>
<tr>
<td>virginiana</td>
<td>500</td>
</tr>
<tr>
<td>Fraxera</td>
<td>187</td>
</tr>
<tr>
<td>cardiniana</td>
<td>187</td>
</tr>
<tr>
<td>verticillata</td>
<td>187</td>
</tr>
<tr>
<td>Frazier</td>
<td>187</td>
</tr>
<tr>
<td>Fiaurina</td>
<td>67</td>
</tr>
<tr>
<td>Figraphy</td>
<td>67</td>
</tr>
<tr>
<td>Galium</td>
<td>164</td>
</tr>
<tr>
<td>Aparine</td>
<td>166</td>
</tr>
<tr>
<td>asprellum</td>
<td>166</td>
</tr>
<tr>
<td>bermudianum</td>
<td>169</td>
</tr>
<tr>
<td>boreale</td>
<td>169</td>
</tr>
<tr>
<td>boreale</td>
<td>169</td>
</tr>
<tr>
<td>brachiatum</td>
<td>168</td>
</tr>
<tr>
<td>brachiatum</td>
<td>168</td>
</tr>
<tr>
<td>circzezans</td>
<td>168</td>
</tr>
<tr>
<td>circeoides</td>
<td>168</td>
</tr>
<tr>
<td>Eryngium</td>
<td>280</td>
</tr>
<tr>
<td>Clagoun</td>
<td>165</td>
</tr>
<tr>
<td>cuspidatum</td>
<td>167</td>
</tr>
<tr>
<td>lanceolatum</td>
<td>167</td>
</tr>
<tr>
<td>mierchantum</td>
<td>167</td>
</tr>
<tr>
<td>pilosum</td>
<td>167</td>
</tr>
<tr>
<td>secteptrionale</td>
<td>169</td>
</tr>
<tr>
<td>strictum</td>
<td>169</td>
</tr>
<tr>
<td>tinctorium</td>
<td>166</td>
</tr>
<tr>
<td>trifidum</td>
<td>165</td>
</tr>
<tr>
<td>triforum</td>
<td>167</td>
</tr>
<tr>
<td>valerum</td>
<td>165</td>
</tr>
<tr>
<td>Gaultheria</td>
<td>412</td>
</tr>
<tr>
<td>hispidula</td>
<td>413</td>
</tr>
<tr>
<td>procumbens</td>
<td>412</td>
</tr>
<tr>
<td>serpilfollia</td>
<td>413</td>
</tr>
<tr>
<td>Gaura</td>
<td>390</td>
</tr>
<tr>
<td>biennis</td>
<td>391</td>
</tr>
<tr>
<td>Gentiana</td>
<td>385</td>
</tr>
<tr>
<td>amareloides</td>
<td>288</td>
</tr>
<tr>
<td>angustifolium</td>
<td>287</td>
</tr>
<tr>
<td>ornith</td>
<td>288</td>
</tr>
<tr>
<td>linearis</td>
<td>287</td>
</tr>
<tr>
<td>othoeleca</td>
<td>286</td>
</tr>
<tr>
<td>Pneumonanth</td>
<td>287</td>
</tr>
<tr>
<td>Pseud-Neumo-</td>
<td>287</td>
</tr>
<tr>
<td>nith</td>
<td>287</td>
</tr>
<tr>
<td>puberula</td>
<td>288</td>
</tr>
<tr>
<td>purpurea</td>
<td>288</td>
</tr>
<tr>
<td>quinqueflora</td>
<td>288</td>
</tr>
<tr>
<td>quinqueflora</td>
<td>288</td>
</tr>
<tr>
<td>Saponaria</td>
<td>286</td>
</tr>
<tr>
<td>Guemi</td>
<td>492</td>
</tr>
<tr>
<td>agrimonoides</td>
<td>492</td>
</tr>
<tr>
<td>agrimonoides</td>
<td>499</td>
</tr>
<tr>
<td>album</td>
<td>493</td>
</tr>
<tr>
<td>aleppicum</td>
<td>492</td>
</tr>
<tr>
<td>canadensis</td>
<td>492</td>
</tr>
<tr>
<td>Peckae</td>
<td>492</td>
</tr>
<tr>
<td>rivale</td>
<td>492</td>
</tr>
<tr>
<td>GEUM</td>
<td>492</td>
</tr>
<tr>
<td>strictum</td>
<td>492</td>
</tr>
<tr>
<td>virginianum</td>
<td>493</td>
</tr>
<tr>
<td>Gilla</td>
<td>393</td>
</tr>
<tr>
<td>stipulae</td>
<td>394</td>
</tr>
<tr>
<td>trifoliate</td>
<td>393</td>
</tr>
<tr>
<td>Glaux</td>
<td>474</td>
</tr>
<tr>
<td>markumia</td>
<td>474</td>
</tr>
<tr>
<td>GLYCERIA</td>
<td>203</td>
</tr>
<tr>
<td>acutiflora</td>
<td>104</td>
</tr>
<tr>
<td>GONOLUBUS</td>
<td>277</td>
</tr>
<tr>
<td>hirsuta</td>
<td>278</td>
</tr>
<tr>
<td>obliquus</td>
<td>278</td>
</tr>
<tr>
<td>GONOLIBUM</td>
<td>278</td>
</tr>
<tr>
<td>carinatum</td>
<td>278</td>
</tr>
<tr>
<td>GYMNOSTI-</td>
<td>133</td>
</tr>
<tr>
<td>CHUM</td>
<td>133</td>
</tr>
<tr>
<td>GYRUMIA</td>
<td>374</td>
</tr>
<tr>
<td>virginica</td>
<td>374</td>
</tr>
<tr>
<td>HAMAMELIS</td>
<td>192</td>
</tr>
<tr>
<td>androgeya</td>
<td>192</td>
</tr>
<tr>
<td>dioica</td>
<td>192</td>
</tr>
<tr>
<td>monoca</td>
<td>192</td>
</tr>
<tr>
<td>virginc</td>
<td>192</td>
</tr>
<tr>
<td>HAMILTONIA</td>
<td>271</td>
</tr>
<tr>
<td>oleifera</td>
<td>271</td>
</tr>
<tr>
<td>HEDEOMA</td>
<td>23</td>
</tr>
<tr>
<td>glabrum</td>
<td>23</td>
</tr>
<tr>
<td>HEDERA</td>
<td>268</td>
</tr>
<tr>
<td>quinqueflora</td>
<td>268</td>
</tr>
<tr>
<td>HEDYTIS</td>
<td>171</td>
</tr>
<tr>
<td>glomerata</td>
<td>171</td>
</tr>
<tr>
<td>uniflora</td>
<td>171</td>
</tr>
<tr>
<td>virginc</td>
<td>171</td>
</tr>
<tr>
<td>umbellata</td>
<td>171</td>
</tr>
<tr>
<td>HELONIAS</td>
<td>368</td>
</tr>
<tr>
<td>angustifolia</td>
<td>368</td>
</tr>
<tr>
<td>asphodeloides</td>
<td>370</td>
</tr>
<tr>
<td>borealis</td>
<td>372</td>
</tr>
<tr>
<td>bullata</td>
<td>369</td>
</tr>
<tr>
<td>dioica</td>
<td>370</td>
</tr>
<tr>
<td>erythrosperma</td>
<td>369</td>
</tr>
<tr>
<td>lata</td>
<td>369</td>
</tr>
<tr>
<td>latifolia</td>
<td>369</td>
</tr>
<tr>
<td>lutea</td>
<td>370</td>
</tr>
<tr>
<td>PUMILA</td>
<td>370</td>
</tr>
<tr>
<td>tenax</td>
<td>371</td>
</tr>
<tr>
<td>tomentosa</td>
<td>343</td>
</tr>
<tr>
<td>virginica</td>
<td>367</td>
</tr>
<tr>
<td>viridis</td>
<td>368</td>
</tr>
</tbody>
</table>

**INDEX.**

**GEUM**

<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
</tbody>
</table>

**INDEX.**

<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
</tbody>
</table>

**INDEX.**

<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
</tbody>
</table>

**INDEX.**

<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
</tbody>
</table>

**INDEX.**

<table>
<thead>
<tr>
<th>LATIN NAME</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIMBRISTYLIS</td>
<td>44</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
</tr>
<tr>
<td>ferrugineum</td>
<td>52</td>
</tr>
<tr>
<td>puberulus</td>
<td>53</td>
</tr>
<tr>
<td>INDEX.</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>LIGUSTICUM</td>
<td>312</td>
</tr>
<tr>
<td>aceatolium</td>
<td>313</td>
</tr>
<tr>
<td>barbinode</td>
<td>317</td>
</tr>
<tr>
<td>scoticum</td>
<td>312</td>
</tr>
<tr>
<td>LIGUSTRUM</td>
<td>6</td>
</tr>
<tr>
<td>vulgare</td>
<td>6</td>
</tr>
<tr>
<td>LILUM</td>
<td>348</td>
</tr>
<tr>
<td>canadense</td>
<td>348</td>
</tr>
<tr>
<td>Catesbaei</td>
<td>340</td>
</tr>
<tr>
<td>pennysylvanicum</td>
<td>349</td>
</tr>
<tr>
<td>philadelphicum</td>
<td>348</td>
</tr>
<tr>
<td>spectabile</td>
<td>349</td>
</tr>
<tr>
<td>superbum</td>
<td>349</td>
</tr>
<tr>
<td>LINNETIS</td>
<td>69</td>
</tr>
<tr>
<td>cynosuroides</td>
<td>69</td>
</tr>
<tr>
<td>nineu</td>
<td>70</td>
</tr>
<tr>
<td>polystachya</td>
<td>69</td>
</tr>
<tr>
<td>LINDERNIA</td>
<td>14</td>
</tr>
<tr>
<td>attenuata</td>
<td>14</td>
</tr>
<tr>
<td>dilata</td>
<td>14</td>
</tr>
<tr>
<td>monticola</td>
<td>15</td>
</tr>
<tr>
<td>pyxidaria</td>
<td>14</td>
</tr>
<tr>
<td>LINNÆA</td>
<td>175</td>
</tr>
<tr>
<td>borealis</td>
<td>175</td>
</tr>
<tr>
<td>LINUM</td>
<td>329</td>
</tr>
<tr>
<td>virginianum</td>
<td>330</td>
</tr>
<tr>
<td>unisatissimum</td>
<td>330</td>
</tr>
<tr>
<td>LITHOSPERNUM</td>
<td>202</td>
</tr>
<tr>
<td>arvensc</td>
<td>202</td>
</tr>
<tr>
<td>canescens</td>
<td>203</td>
</tr>
<tr>
<td>carpinctum</td>
<td>203</td>
</tr>
<tr>
<td>denticulatum</td>
<td>203</td>
</tr>
<tr>
<td>hirtum</td>
<td>204</td>
</tr>
<tr>
<td>latifolium</td>
<td>204</td>
</tr>
<tr>
<td>maritimum</td>
<td>204</td>
</tr>
<tr>
<td>molle</td>
<td>205</td>
</tr>
<tr>
<td>officinale</td>
<td>202</td>
</tr>
<tr>
<td>pulchellum</td>
<td>201</td>
</tr>
<tr>
<td>virginianum</td>
<td>204</td>
</tr>
<tr>
<td>LOBIDIUM</td>
<td>324</td>
</tr>
<tr>
<td>aromaticum</td>
<td>324</td>
</tr>
<tr>
<td>LOBELLA</td>
<td>238</td>
</tr>
<tr>
<td>Cardinäis</td>
<td>242</td>
</tr>
<tr>
<td>Claytoniæ</td>
<td>240</td>
</tr>
<tr>
<td>Dortmania</td>
<td>239</td>
</tr>
<tr>
<td>goodenoides</td>
<td>240</td>
</tr>
<tr>
<td>gracilis</td>
<td>240</td>
</tr>
<tr>
<td>inflata</td>
<td>241</td>
</tr>
<tr>
<td>Kalmii</td>
<td>240</td>
</tr>
<tr>
<td>Kalmii</td>
<td>240</td>
</tr>
<tr>
<td>Nuttallii</td>
<td>240</td>
</tr>
<tr>
<td>palida</td>
<td>240</td>
</tr>
<tr>
<td>paludosa</td>
<td>239</td>
</tr>
<tr>
<td>puberula</td>
<td>240</td>
</tr>
<tr>
<td>siphilitica</td>
<td>241</td>
</tr>
<tr>
<td>spicata</td>
<td>240</td>
</tr>
<tr>
<td>LISEELURIA</td>
<td>232</td>
</tr>
<tr>
<td>procumbens</td>
<td>233</td>
</tr>
<tr>
<td>LÖLÖM</td>
<td>233</td>
</tr>
<tr>
<td>perenne</td>
<td>153</td>
</tr>
<tr>
<td>temulentum</td>
<td>134</td>
</tr>
<tr>
<td>vulgare</td>
<td>134</td>
</tr>
<tr>
<td>LOPIOLA</td>
<td>343</td>
</tr>
<tr>
<td>aurea</td>
<td>343</td>
</tr>
<tr>
<td>MALUS</td>
<td>480</td>
</tr>
<tr>
<td>ciliata</td>
<td>245</td>
</tr>
<tr>
<td>Diervilla</td>
<td>238</td>
</tr>
<tr>
<td>MALICERA</td>
<td>343</td>
</tr>
<tr>
<td>dioica</td>
<td>243</td>
</tr>
<tr>
<td>flava</td>
<td>243</td>
</tr>
<tr>
<td>grata</td>
<td>244</td>
</tr>
<tr>
<td>hirsuta</td>
<td>243</td>
</tr>
<tr>
<td>media</td>
<td>243</td>
</tr>
<tr>
<td>parviflora</td>
<td>243</td>
</tr>
<tr>
<td>LUDWIGIA</td>
<td>180</td>
</tr>
<tr>
<td>alternifolia</td>
<td>180</td>
</tr>
<tr>
<td>apetala</td>
<td>180</td>
</tr>
<tr>
<td>aurantiaca</td>
<td>181</td>
</tr>
<tr>
<td>hirtella</td>
<td>181</td>
</tr>
<tr>
<td>macrocarpa</td>
<td>180</td>
</tr>
<tr>
<td>nitida</td>
<td>182</td>
</tr>
<tr>
<td>LUXULA</td>
<td>365</td>
</tr>
<tr>
<td>campastris</td>
<td>365</td>
</tr>
<tr>
<td>ranousisissina</td>
<td>181</td>
</tr>
<tr>
<td>uniflora</td>
<td>181</td>
</tr>
<tr>
<td>LYZULIA</td>
<td>421</td>
</tr>
<tr>
<td>ligustrina</td>
<td>421</td>
</tr>
<tr>
<td>angustifolia</td>
<td>21</td>
</tr>
<tr>
<td>bulfera</td>
<td>21</td>
</tr>
<tr>
<td>capitate</td>
<td>21</td>
</tr>
<tr>
<td>ciliata</td>
<td>21</td>
</tr>
<tr>
<td>heterophylla</td>
<td>21</td>
</tr>
<tr>
<td>hirsuta</td>
<td>21</td>
</tr>
<tr>
<td>hybrida</td>
<td>21</td>
</tr>
<tr>
<td>longifolia</td>
<td>21</td>
</tr>
<tr>
<td>punctata</td>
<td>21</td>
</tr>
<tr>
<td>quadrifolia</td>
<td>21</td>
</tr>
<tr>
<td>racemosa</td>
<td>21</td>
</tr>
<tr>
<td>revoluta</td>
<td>21</td>
</tr>
<tr>
<td>thyrsiflora</td>
<td>21</td>
</tr>
<tr>
<td>LYTHRUM</td>
<td>471</td>
</tr>
<tr>
<td>Cuphea</td>
<td>472</td>
</tr>
<tr>
<td>hyssopofolia</td>
<td>472</td>
</tr>
<tr>
<td>petullatum</td>
<td>472</td>
</tr>
<tr>
<td>Salicaria</td>
<td>471</td>
</tr>
<tr>
<td>verticillatum</td>
<td>471</td>
</tr>
<tr>
<td>MALAYTHEMUM</td>
<td>533</td>
</tr>
<tr>
<td>canadensis</td>
<td>534</td>
</tr>
<tr>
<td>MALUS</td>
<td>480</td>
</tr>
<tr>
<td>angustifolia</td>
<td>480</td>
</tr>
<tr>
<td>Lonicera</td>
<td>242</td>
</tr>
<tr>
<td>corronaria</td>
<td>490</td>
</tr>
<tr>
<td>LONICERA</td>
<td>534</td>
</tr>
<tr>
<td>MALUS</td>
<td>480</td>
</tr>
<tr>
<td>angustifolia</td>
<td>480</td>
</tr>
<tr>
<td>MARYTUSCHKEA</td>
<td>380</td>
</tr>
<tr>
<td>MÉDÉOLAY</td>
<td>381</td>
</tr>
<tr>
<td>MÉGASTACHYA</td>
<td>107</td>
</tr>
<tr>
<td>MELOMANTHYM</td>
<td>366</td>
</tr>
<tr>
<td>DSPUM</td>
<td>214</td>
</tr>
<tr>
<td>MEXANTHES</td>
<td>214</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>MESPILOLVAY</td>
<td>475</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MICROPETALUM</td>
<td>452</td>
</tr>
<tr>
<td>MELECA</td>
<td>138</td>
</tr>
<tr>
<td>alissimia</td>
<td>139</td>
</tr>
<tr>
<td>glabra</td>
<td>139</td>
</tr>
<tr>
<td>DULCA</td>
<td>139</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>MÉLICA</td>
<td>394</td>
</tr>
<tr>
<td>verinalis</td>
<td>395</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>395</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>395</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>395</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>395</td>
</tr>
<tr>
<td>MEYTALENIA</td>
<td>202</td>
</tr>
<tr>
<td>MOSPILUS</td>
<td>475</td>
</tr>
<tr>
<td>arborcra</td>
<td>479</td>
</tr>
<tr>
<td>arbutifolia</td>
<td>478</td>
</tr>
<tr>
<td>axillaris</td>
<td>474</td>
</tr>
<tr>
<td>canadensis</td>
<td>479</td>
</tr>
<tr>
<td>canefolia</td>
<td>476</td>
</tr>
<tr>
<td>lactucenta</td>
<td>475</td>
</tr>
<tr>
<td>lucida</td>
<td>476</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MEYTALENIA</td>
<td>202</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>Xanthocarpus</td>
<td>475</td>
</tr>
<tr>
<td>MÉNISLESIA</td>
<td>394</td>
</tr>
<tr>
<td>MOLLUGO</td>
<td>159</td>
</tr>
<tr>
<td>MONARDA</td>
<td>24</td>
</tr>
<tr>
<td>ciliata</td>
<td>27</td>
</tr>
<tr>
<td>cocinea</td>
<td>24</td>
</tr>
<tr>
<td>didyma</td>
<td>24</td>
</tr>
<tr>
<td>hirsuta</td>
<td>27</td>
</tr>
<tr>
<td>hua</td>
<td>26</td>
</tr>
<tr>
<td>oblongata</td>
<td>25</td>
</tr>
<tr>
<td>punctata</td>
<td>28</td>
</tr>
<tr>
<td>purpurea</td>
<td>24</td>
</tr>
<tr>
<td>MONOTROPA</td>
<td>430</td>
</tr>
<tr>
<td>Hypophysis</td>
<td>431</td>
</tr>
<tr>
<td>Hypoptis</td>
<td>430</td>
</tr>
<tr>
<td>lanuginae</td>
<td>430</td>
</tr>
<tr>
<td>Macranthes</td>
<td>431</td>
</tr>
<tr>
<td>uniflora</td>
<td>431</td>
</tr>
<tr>
<td>MUHLENBERGIA</td>
<td>82</td>
</tr>
<tr>
<td>arisata</td>
<td>108</td>
</tr>
<tr>
<td>diffusa</td>
<td>82</td>
</tr>
<tr>
<td>erecta</td>
<td>108</td>
</tr>
<tr>
<td>MYOSOTIS</td>
<td>206</td>
</tr>
<tr>
<td>arvensis</td>
<td>206</td>
</tr>
<tr>
<td>Loppula</td>
<td>208</td>
</tr>
<tr>
<td>palustris</td>
<td>206</td>
</tr>
<tr>
<td>scorpoises</td>
<td>206</td>
</tr>
<tr>
<td>verna</td>
<td>207</td>
</tr>
<tr>
<td>virginiana</td>
<td>209</td>
</tr>
<tr>
<td>MYRRHIS</td>
<td>309</td>
</tr>
<tr>
<td>canadensis</td>
<td>310</td>
</tr>
<tr>
<td>Claytoni</td>
<td>309</td>
</tr>
<tr>
<td>longistylis</td>
<td>310</td>
</tr>
<tr>
<td>precumbens</td>
<td>309</td>
</tr>
<tr>
<td>NAUCHEIUM</td>
<td>347</td>
</tr>
<tr>
<td>americanum</td>
<td>347</td>
</tr>
<tr>
<td>rubens</td>
<td>371</td>
</tr>
<tr>
<td>NECTRIS</td>
<td>339</td>
</tr>
<tr>
<td>pinnata</td>
<td>359</td>
</tr>
<tr>
<td>NEGUNDIUM</td>
<td>398</td>
</tr>
<tr>
<td>NEGUNDO</td>
<td>398</td>
</tr>
<tr>
<td>fraxinifolium</td>
<td>398</td>
</tr>
<tr>
<td>NICOTIANA</td>
<td>223</td>
</tr>
<tr>
<td>rustica</td>
<td>223</td>
</tr>
<tr>
<td>OBOLARIA</td>
<td>187</td>
</tr>
<tr>
<td>virginica</td>
<td>188</td>
</tr>
<tr>
<td>OENANTHE</td>
<td>314</td>
</tr>
<tr>
<td>ricida</td>
<td>314</td>
</tr>
<tr>
<td>OENOTHERA</td>
<td>387</td>
</tr>
<tr>
<td>biennis</td>
<td>387</td>
</tr>
<tr>
<td>canadensis</td>
<td>390</td>
</tr>
<tr>
<td>chrysanthum</td>
<td>390</td>
</tr>
<tr>
<td>frutescens</td>
<td>389</td>
</tr>
<tr>
<td>grandiflora</td>
<td>388</td>
</tr>
<tr>
<td>incana</td>
<td>389</td>
</tr>
<tr>
<td>mucicata</td>
<td>388</td>
</tr>
<tr>
<td>muralium</td>
<td>389</td>
</tr>
<tr>
<td>nervosum</td>
<td>389</td>
</tr>
<tr>
<td>nitidum</td>
<td>390</td>
</tr>
<tr>
<td>pedunculatum</td>
<td>390</td>
</tr>
<tr>
<td>pennycanamicum</td>
<td>389</td>
</tr>
<tr>
<td>proliferum</td>
<td>148</td>
</tr>
<tr>
<td>pulcherrima</td>
<td>148</td>
</tr>
<tr>
<td>rectum</td>
<td>148</td>
</tr>
<tr>
<td>rostratum</td>
<td>147</td>
</tr>
<tr>
<td>SANGUINACE</td>
<td>154</td>
</tr>
<tr>
<td>SCARPA</td>
<td>148</td>
</tr>
<tr>
<td>SONGRUM</td>
<td>154</td>
</tr>
<tr>
<td>STRIGOSUM</td>
<td>148</td>
</tr>
<tr>
<td>virgatum</td>
<td>147</td>
</tr>
<tr>
<td>viride</td>
<td>152</td>
</tr>
<tr>
<td>WALTER</td>
<td>144, 142</td>
</tr>
<tr>
<td>ONOSMIDIUM</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INDEX.

PHYSALIS
pennsylvanica 234
prunosa 233
viscosa 233

PHYTOLACCA
decandra 404

PIPTATHERUM
nigrum 79

PLANARE
Richardi 399

PLANTAGO
cordata 182
cucullata 182
hybrida 182
interrupta 185
kentuckensis 182
lancolata 184
linearesfolia 185
major 183
maritima 184
maxima 185
media 183
oliganthos 184
pauciflora 184
pusilla 184
virginica 183

POA
alpina 106
amabilis 114
annua 107
aquatica 108
arundinacea 106
arvenalis 109
brevifolia 108
canadiensis 112
capillaris 123
cornuta 114
crocata 111
dentata 107
dentata 112
Eragrostis 115
fasciculata 107
flexuosa 109
fluitans 103
hirsuta 114
hydrophila 111
hyphoides 115
taxa 118
lineata 111
maritima 108
memoralis 111
nervata 111
obtusa 112
obtusa 115
palustris 111
parviflora 112
pectinacea 114
pilosus 114
plumosa 114
pratensis 109
pungen 109
quinquefolia 118
reptans 114
serotina 110
serotina B. 111
seslerioïdes 118
stolonifera 110
spectabilis 114

POA
striata 111
subverticillata 111
tenella 114
trivialis 110
viridis 109

PODAVYRIA
tinctoria 441

PODPHYLLUM
philadelphicum 399

POLIANA
fluitans 157
scoparia 156

POLYGONATUM
angustifolium 356
biflorum 358
canaliculatum 357
latifolium 357
multiflorum 356

POLYGONUM
amphibia 403
artefolium 405
articulatum 405
aviculariae 400
barbatum 402
Bistorta 403
ciliata 406
coccineum 404
Convolvulus 406
erectum 400
glacum 402
Hydropiper 402
hydrostephioides 402
incarnatum 404
lathifolium 404
latifolium 401
maritimum 401
munitum 401
mite 402
natans 404
orientale 405
pennsylvanicum 404
Persicaria 405
punctatum 402
sagittatum 408

POLYGONELLA

POLYPOGON
91

glomeratus 92
racemosus 92
setosus 92

PONTEDERIA
angustifolia 842
cordata 842
mucronata 842

POTAMOGETON
capillaceum 195
compressum 198
crispus 198
diversifolium 197
exstipulaceum 198
fluitans 196
gramineum 198
heterophyllum 196
hybridum 196
luclus 197
maritimum 198
natans 196
pauciflorum 198
pectinaceum 198
perfoliati 197
setaceum 198

POTENTILLA
argentea 494
Anserina 494
canadiensis 496
caroliniana 497
Comarum 498
coniferifolia 499
fioribunda 497
fruticosa 497
geoides 500
hiruta 495
Marioni 495
norvegica 495
palustres 498
pennsylvanica 499
pumila 496
sarmentosa 497
simplicissima 497
supina 498
tridentata 495

POTHOS
fetida 191
ovata 358

PRIMULA
farinosa 213
puisila 213

PRINUS
ambigua 333
labra 338
Gronovii 357
laviges 338
podofoliis 338
verticillatus 337

PROSERPINACA

PSAMMA

PSAMMA
apaniae 96
arenaria 96

PULMONARIA

PULMONARIA

PULMONARIA
<table>
<thead>
<tr>
<th>PULMONARIA</th>
<th>Page</th>
<th>RHYNCHOSPOR A</th>
<th>Page</th>
<th>SABBATTIA</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>denticulata</td>
<td>203</td>
<td>glomerata</td>
<td>55</td>
<td>angularis</td>
<td>218</td>
</tr>
<tr>
<td>maritima</td>
<td>203</td>
<td>laxu</td>
<td>57</td>
<td>calicosa</td>
<td>218</td>
</tr>
<tr>
<td>parviflora</td>
<td>203</td>
<td>longirostris</td>
<td>57</td>
<td>chloroides</td>
<td>218</td>
</tr>
<tr>
<td>sibirica</td>
<td>203</td>
<td>sparsa</td>
<td>56</td>
<td>corymbosa</td>
<td>218</td>
</tr>
<tr>
<td>virginica</td>
<td>201</td>
<td>RIBES</td>
<td>267</td>
<td>gracilis</td>
<td>217</td>
</tr>
<tr>
<td>PUBESHA</td>
<td>204</td>
<td>Cynosbati</td>
<td>269</td>
<td>paniculata</td>
<td>219</td>
</tr>
<tr>
<td>hispida</td>
<td>204</td>
<td></td>
<td>273</td>
<td>stellaris</td>
<td>217</td>
</tr>
<tr>
<td>mollis</td>
<td>205</td>
<td></td>
<td>267</td>
<td>SAGINA</td>
<td>195</td>
</tr>
<tr>
<td>PYRULA</td>
<td>431</td>
<td></td>
<td>268</td>
<td>apetala</td>
<td>195</td>
</tr>
<tr>
<td>oleifera</td>
<td>271</td>
<td></td>
<td>268</td>
<td>procmbens</td>
<td>195</td>
</tr>
<tr>
<td>PYRUS</td>
<td>485</td>
<td></td>
<td>268</td>
<td>virginica</td>
<td>185</td>
</tr>
<tr>
<td>angustifolia</td>
<td>480</td>
<td></td>
<td>268</td>
<td>SALICORNIA</td>
<td>2</td>
</tr>
<tr>
<td>arbustifolia</td>
<td>478</td>
<td></td>
<td>268</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Botryopium</td>
<td>479</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>coronaria</td>
<td>480</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>melanocarpa</td>
<td>479</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RIVINIA</td>
<td>190</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ROCHELIA</td>
<td>208</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RHAEMUS</td>
<td>263</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>alniolosis</td>
<td>263</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>catharticus</td>
<td>263</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>franguloides</td>
<td>263</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RHEXIA</td>
<td>385</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>citola</td>
<td>386</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>liniata</td>
<td>386</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>petiolata</td>
<td>387</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>virginica</td>
<td>385</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RHODODENDRON</td>
<td>423</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>arboecum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>caelebudaceum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>hispidum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>lapponicum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>maximum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>nitidum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>nudiflorum</td>
<td>425</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>viscosum</td>
<td>424</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RHODORA</td>
<td>427</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>canadensis</td>
<td>427</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RUS</td>
<td>520</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>aromaticum</td>
<td>520</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>copallium</td>
<td>520</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>glabrum</td>
<td>520</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>radicans</td>
<td>524</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>suaveolens</td>
<td>524</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Toxicodendron</td>
<td>233</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>typhinum</td>
<td>322</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Vernix</td>
<td>323</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>RHYNCHOSPOR A</td>
<td>54</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>alba</td>
<td>54</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>capillacea</td>
<td>54</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>capitellata</td>
<td>58</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>cymosa</td>
<td>56</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>fœnae</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SABATTIA</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>angulus</td>
<td>218</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>angustifolius</td>
<td>58</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>capitatus</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>capitellatus</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>cymosus</td>
<td>56</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>fuscus</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>glomeratus</td>
<td>55</td>
<td></td>
<td>269</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SCHENUS</td>
<td>Page</td>
<td>SELLUM</td>
<td>Page</td>
<td>SORBUS</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>longirostris</td>
<td>57</td>
<td>canadense</td>
<td>306</td>
<td>microcarpa</td>
<td>477</td>
</tr>
<tr>
<td>mariscoides</td>
<td>54</td>
<td>portulacastrum</td>
<td>477</td>
<td>SPAR TINA</td>
<td>69</td>
</tr>
<tr>
<td>Margaricus</td>
<td>54</td>
<td>sessile</td>
<td>478</td>
<td>cynosuroides</td>
<td>69</td>
</tr>
<tr>
<td>setaceus</td>
<td>56</td>
<td>SETARIA</td>
<td>152</td>
<td>gabra</td>
<td>70</td>
</tr>
<tr>
<td>sparsus</td>
<td>56</td>
<td>glauca</td>
<td>152</td>
<td>juneja</td>
<td>70</td>
</tr>
<tr>
<td>spatheceus</td>
<td>58</td>
<td>italica</td>
<td>153</td>
<td>polymastichya</td>
<td>69</td>
</tr>
<tr>
<td>SCHOLLERA</td>
<td>48</td>
<td>purpurascens</td>
<td>153</td>
<td>pumila</td>
<td>75</td>
</tr>
<tr>
<td>graminifolia</td>
<td>41</td>
<td>verticillata</td>
<td>153</td>
<td>SPARGULA</td>
<td>457</td>
</tr>
<tr>
<td>SCILLA</td>
<td>347</td>
<td>viridis</td>
<td>152</td>
<td>arvensis</td>
<td>457</td>
</tr>
<tr>
<td>excelsa</td>
<td>347</td>
<td>SIBBA LDIA</td>
<td>330</td>
<td>decumbens</td>
<td>457</td>
</tr>
<tr>
<td>SCIRPUS</td>
<td>43</td>
<td>procumbens</td>
<td>330</td>
<td>nodosa</td>
<td>457</td>
</tr>
<tr>
<td>aconitiflorius</td>
<td>43</td>
<td>SILENE</td>
<td>450</td>
<td>SARINOIDES</td>
<td>457</td>
</tr>
<tr>
<td>aceloaris</td>
<td>45</td>
<td>antirrhina</td>
<td>450</td>
<td>SPARGULAS</td>
<td>452</td>
</tr>
<tr>
<td>atroviolans</td>
<td>45</td>
<td>caroliniana</td>
<td>450</td>
<td>TRUM</td>
<td>452</td>
</tr>
<tr>
<td>autumnalis</td>
<td>52</td>
<td>Catesbaei</td>
<td>450</td>
<td>gramineum</td>
<td>452</td>
</tr>
<tr>
<td>americanus</td>
<td>47</td>
<td>infesta</td>
<td>449</td>
<td>lanceolatum</td>
<td>453</td>
</tr>
<tr>
<td>Brunus</td>
<td>49</td>
<td>nivea</td>
<td>449</td>
<td>SPERMACOCE</td>
<td>170</td>
</tr>
<tr>
<td>capillaceus</td>
<td>45</td>
<td>nocturna</td>
<td>451</td>
<td>diodina</td>
<td>170</td>
</tr>
<tr>
<td>capillus</td>
<td>45</td>
<td>pennsylvanica</td>
<td>450</td>
<td>SPIGELIA</td>
<td>221</td>
</tr>
<tr>
<td>capitus</td>
<td>52</td>
<td>virginica</td>
<td>450</td>
<td>marilandica</td>
<td>221</td>
</tr>
<tr>
<td>capillis</td>
<td>44</td>
<td>virgini ca</td>
<td>450</td>
<td>SPIREA</td>
<td>480</td>
</tr>
<tr>
<td>cespitosus</td>
<td>47</td>
<td>SISON</td>
<td>305</td>
<td>alba</td>
<td>481</td>
</tr>
<tr>
<td>ciliatifolius</td>
<td>52</td>
<td>aureus</td>
<td>305</td>
<td>Aruneus f.</td>
<td>482</td>
</tr>
<tr>
<td>cyperiformis</td>
<td>63</td>
<td>bulbosum</td>
<td>304</td>
<td>chamadri folia</td>
<td>482</td>
</tr>
<tr>
<td>debilis</td>
<td>43</td>
<td>canadense</td>
<td>304</td>
<td>corymbosa</td>
<td>482</td>
</tr>
<tr>
<td>echnus</td>
<td>58</td>
<td>epidendrae</td>
<td>304</td>
<td>crenata</td>
<td>482</td>
</tr>
<tr>
<td>Eriophorum</td>
<td>50</td>
<td>capillaceus</td>
<td>306</td>
<td>hypericifolia</td>
<td>483</td>
</tr>
<tr>
<td>eriophorus</td>
<td>50</td>
<td>integrerrinus</td>
<td>305</td>
<td>lobata</td>
<td>483</td>
</tr>
<tr>
<td>exaltatus</td>
<td>49</td>
<td>marginatum</td>
<td>314</td>
<td>opulifolia</td>
<td>482</td>
</tr>
<tr>
<td>ferrugineus</td>
<td>53</td>
<td>SISYRHINCIUM</td>
<td>42</td>
<td>salicifolia</td>
<td>481</td>
</tr>
<tr>
<td>glaucources</td>
<td>45</td>
<td>anceps</td>
<td>42</td>
<td>stipitata</td>
<td>484</td>
</tr>
<tr>
<td>glaucus</td>
<td>44</td>
<td>berndmiidium</td>
<td>42</td>
<td>tomentosa</td>
<td>481</td>
</tr>
<tr>
<td>glaucus</td>
<td>44</td>
<td>gramineum</td>
<td>42</td>
<td>trifoliat a</td>
<td>484</td>
</tr>
<tr>
<td>intermedius</td>
<td>55</td>
<td>GRUMIUM</td>
<td>43</td>
<td>trisfoliat a</td>
<td>483</td>
</tr>
<tr>
<td>lineatus</td>
<td>51</td>
<td>SORBUS</td>
<td>477</td>
<td>SPOROBOLUS</td>
<td>84</td>
</tr>
<tr>
<td>laevis</td>
<td>48</td>
<td>SORBUS</td>
<td>477</td>
<td>STAPHYLEA</td>
<td>325</td>
</tr>
<tr>
<td>lauretis</td>
<td>48</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>laticifolium</td>
<td>48</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>maritimus</td>
<td>50</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>macrostachys</td>
<td>50</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>minimus</td>
<td>51</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>muconatus</td>
<td>52</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>muconulatus</td>
<td>43</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>obtusus</td>
<td>45</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>palustris</td>
<td>45</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>pendulus</td>
<td>51</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>planifolius</td>
<td>46</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>polyphyllus</td>
<td>53</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>puberulus</td>
<td>46</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>pusillus</td>
<td>46</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>retroflectus</td>
<td>57</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>robustus</td>
<td>45</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>spathaceus</td>
<td>50</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>spadicus</td>
<td>53</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>subaeris</td>
<td>51</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>subterminalis</td>
<td>57</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>thyriflorus</td>
<td>48</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>triboidea</td>
<td>45</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>triquetra</td>
<td>47</td>
<td>SORBUS</td>
<td>477</td>
<td>SORBUS</td>
<td>477</td>
</tr>
<tr>
<td>tenuis</td>
<td>44</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>validus</td>
<td>48</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>SCLEANTHUS</td>
<td>448</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>annusus</td>
<td>448</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>SECALE</td>
<td>136</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>cereale</td>
<td>136</td>
<td>SOLANUM</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>SEDUM</td>
<td>463</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>portulacoides</td>
<td>463</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>telephloides</td>
<td>463</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>tennatatum</td>
<td>464</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>SELINUM</td>
<td>304</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>Aucuparia</td>
<td>477</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>glomerata</td>
<td>246</td>
<td>SOLANO M</td>
<td>235</td>
<td>STREPTOPUS</td>
<td>352</td>
</tr>
<tr>
<td>SYMPHORIA</td>
<td>Page</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>racemosa</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYMPHORICAR-PUS</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>racemosus</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vulgaris</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYMPOCARPUS</td>
<td>191</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>setosa</td>
<td>191</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYNTHERISMA</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>prevex</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ornata</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THASPIA</td>
<td>317</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tribolata</td>
<td>317</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THASPUM</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acteolium</td>
<td>313</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>atropurpureum</td>
<td>307</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aureum</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>barbinode</td>
<td>317</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THESIUM</td>
<td>271</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>umbellatum</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIARELLA</td>
<td>445</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cordifolia</td>
<td>445</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOFIELDSA</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>palustris</td>
<td>372</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pubens</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pubescens</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TERRIESIA</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRACHYNOTIA</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cyanosiroides</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>juncea</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>polystachia</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRADESCANTIA</td>
<td>384</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aristata</td>
<td>335</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rosea</td>
<td>335</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>virgincia</td>
<td>335</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>virginita</td>
<td>335</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRILENA</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRICHOCHLOA</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capillaris</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>filiformis</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>glomerata</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>longiseta</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>setosa</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sobolifera</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRICHOIDIUM</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>elatum</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>laviflorum</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>montanum</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>scabrum</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>strictum</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRICHOPO-RUM</td>
<td>43,44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>alpinum</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cyperinum</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lineatum</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRICUSPIS</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seslerioides</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIDENS</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>quinquefida</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIDENTALIS</td>
<td>382</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>americana</td>
<td>382</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>europaea</td>
<td>382</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIGLOCHIN</td>
<td>372</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>elatum</td>
<td>573</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marginatum</td>
<td>375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>palustrum</td>
<td>373</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRILLUM</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>atropurpureum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRILLIUM</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catesbeii</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cernuum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ascetum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>erythrocarpum</td>
<td>377</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foetidum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandiflorum</td>
<td>377</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pendulum</td>
<td>377</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pictum</td>
<td>375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pulmum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pulisma</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rhombiculm</td>
<td>375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sessile</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stylorum</td>
<td>376</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>undulatum</td>
<td>375</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIOLEI</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pallida</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cuprea</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIOSTEUM</td>
<td>247</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfoliatum</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRISTEM</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paustre</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>penmanyanicum</td>
<td>131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>purpurascens</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRITICUM</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aestivum</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>caninum</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>repena</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULMUS</td>
<td>298</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>americana</td>
<td>298</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aspera</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fulva</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nemoralis</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rubra</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNIOLE</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>distichophylla</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gracilis</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>latifolia</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spicata</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>URALEPS</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aristulata</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>purpurea</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>URASPERMUM</td>
<td>309</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Claytonii</td>
<td>309</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTRICULARIA</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ceratophylla</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cornuta</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gibba</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inflexa</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>macrophylla</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>minor</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pumila</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>purpurea</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>succata</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>setacea</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>striata</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>subulata</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vulgaris</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UVAULARIA</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>amplexifolia</td>
<td>353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>flavia</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandiflora</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lanceolata</td>
<td>352</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lanuginosa</td>
<td>353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perfoliata</td>
<td>357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rootans</td>
<td>355</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sessilifolia</td>
<td>352</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VACCINIIUM</td>
<td>414</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>album</td>
<td>414</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>amoenum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>corymbosum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>disomorphum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dumosum</td>
<td>414</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>frondosum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>frondosum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fuscatum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gautheroides</td>
<td>417</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>glaucum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hartellum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hispidulum</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ligustrum</td>
<td>417</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ligustrum</td>
<td>417</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>macrocarpon</td>
<td>393</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxyccocus</td>
<td>395,394</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pennsylvanicum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>resinosum</td>
<td>415</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stamineum</td>
<td>414</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tenellum</td>
<td>417</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ultigomum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>virgatum</td>
<td>416</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitis ideae</td>
<td>418</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VALERIANA</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>locusta</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>radiata</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERATRUM</td>
<td>368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>album</td>
<td>368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>luteum</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>viride</td>
<td>368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERBASCUM</td>
<td>322</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blattaria</td>
<td>223</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lychnites</td>
<td>223</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thapsus</td>
<td>223</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VERONICA</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>agrestis</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>anagallis</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>arvensis</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baeabunga</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>carinolosa</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>caroliinana</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marilandica</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>officinalis</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>peregrina</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reniformis</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>romana</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sessulata</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>serpyllifolia</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>virginita</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIBURNUM</td>
<td>317</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aceriolum</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dentatum</td>
<td>319</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>edule</td>
<td>321</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lantanoides</td>
<td>319</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lantago</td>
<td>318</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nudum</td>
<td>318</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opulus</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxyccocus</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rafinesquianum</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pruniolum</td>
<td>318</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pubescent</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pyroflum</td>
<td>318</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>squamatum</td>
<td>319</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tomentosum</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>triobum</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>villosum</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>VILFA</td>
<td>Page</td>
<td>WINDSORIA</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------</td>
<td>------</td>
<td>-------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>VIOLA ochroleuca</td>
<td>255</td>
<td>pathida</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>215</td>
<td>VILLARIA aquatica</td>
<td>251</td>
<td>palmata</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>215</td>
<td>lacunosa</td>
<td>250</td>
<td>poaeformis</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>215</td>
<td>trachysperma</td>
<td>251</td>
<td>WURMBEA</td>
<td>343</td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>VINCENTOCUCUM</td>
<td>249</td>
<td>bullata</td>
<td>343</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>VIOLA aquatica</td>
<td>257</td>
<td>XANTHORHIZA</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>arvensis</td>
<td>253</td>
<td>apifolia</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>asarifolia</td>
<td>251</td>
<td>simulcissima</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>bicolor</td>
<td>257</td>
<td>tintoria</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>barbata</td>
<td>252</td>
<td>XEROPHYLLUM</td>
<td>370</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>blanda</td>
<td>256</td>
<td>setifolium</td>
<td>370</td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>canadensis</td>
<td>250</td>
<td>XYLOSTEUM</td>
<td>244</td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>ciliata</td>
<td>252</td>
<td>ciliatum</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>clandestina</td>
<td>255</td>
<td>oblongifolium</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>concolor</td>
<td>255</td>
<td>Solonis</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>cordate</td>
<td>256</td>
<td>tartaricum</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>cucullata</td>
<td>252</td>
<td>villosum</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>256</td>
<td>debilis</td>
<td>264</td>
<td>XYSRIS</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>dentata</td>
<td>265</td>
<td>brevifolia</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>digitata</td>
<td>264</td>
<td>caroliniana</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>eriocarpa</td>
<td>266</td>
<td>flexuosa</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>hastata</td>
<td>265</td>
<td>hijicai</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>lanceolata</td>
<td>264</td>
<td>ZEOCRITON</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>256</td>
<td>Muhlenbergii</td>
<td>265</td>
<td>ZIZIPHORA</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>obliqua</td>
<td>266</td>
<td>guabella</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mariana</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>pulegioides</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Page</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrimony</td>
<td>478</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ahum-root</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American centaury</td>
<td>218</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbo</td>
<td>187</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cow-slip</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herb paris laurel</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angelica</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple</td>
<td>452</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrow-grass</td>
<td>481</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrow-wood</td>
<td>373</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td>319</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avena</td>
<td>357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balsam</td>
<td>357</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbary</td>
<td>356</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>158</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bastard-aloë</td>
<td>346</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bastard-loesestriflie</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bastard-toadflax</td>
<td>272</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beach-plum</td>
<td>470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bear-berry</td>
<td>411</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beard-grass</td>
<td>155</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver-wood</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed-straw</td>
<td>165</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bell-flower</td>
<td>236</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bell-wort</td>
<td>351</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bent-grass</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bermuda-grass</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bind-weed</td>
<td>224</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bird’s nest</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bitter-sweet</td>
<td>263</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blackberry</td>
<td>487</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black-heart</td>
<td>405</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black salt-wort</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black snake-root</td>
<td>302</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bladder campion</td>
<td>449</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bladder-nut</td>
<td>323</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bladder-wort</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue-eyed-grass</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue-grass</td>
<td>560</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bog-rush</td>
<td>152</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottle-grass</td>
<td>308</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box-elder</td>
<td>152</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brome-grass</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brook-lime</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brook-weed</td>
<td>216</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buck-bean</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buck-eye</td>
<td>384</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buck-thorn</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bull-rush</td>
<td>265</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burning-bush</td>
<td>306</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burr-grass</td>
<td>261</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butterfly-weed</td>
<td>368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Button-bush</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calamus</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calico-bush</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campion</td>
<td>359</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardinal-flower</td>
<td>422</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrot</td>
<td>449</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carolina allspice</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carolina pink-root</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalpa</td>
<td>501</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catchfly</td>
<td>222</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cat’s-tail-grass</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chessel</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chickweed</td>
<td>477</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chickweed-winter-green</td>
<td>477</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choke-berry</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choke-cherry</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginquefoil</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleavers</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club-rush</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cockle</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cock’s-foot-grass</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohosh</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cole-root</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbo-root</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn-cookle</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cornel</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton-grass</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couch-grass</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cow-parsnip</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crab-apple</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crab-grass</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cranberry</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culver’s physic</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currant</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cypress-grass</td>
<td>490</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darnel</td>
<td>211</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-flower</td>
<td>384</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day-lily</td>
<td>265</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deer-berry</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deer-grass</td>
<td>261</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devil’s-bit</td>
<td>368</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dewberry</td>
<td>285</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dock</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodder</td>
<td>385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog’s-bane</td>
<td>422</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog’s-tooth violet</td>
<td>449</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog-wood</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duck’s-meal</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elder</td>
<td>242</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elk-nut</td>
<td>309</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elm</td>
<td>501</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enchanter’s nightshade</td>
<td>222</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>False-saulete</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feather-grass</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fescue-grass</td>
<td>98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever-bush</td>
<td>467</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever-wort</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiorin-grass</td>
<td>428</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Five-finger</td>
<td>428</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flag</td>
<td>383</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flux</td>
<td>479</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flower-de-luce</td>
<td>479</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flowering ash</td>
<td>479</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forsted-chickweed</td>
<td>165</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fox-tail-grass</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fringe-tree</td>
<td>461</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gentian</td>
<td>141</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginseng</td>
<td>336</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass-wort</td>
<td>345</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goat’s-beard</td>
<td>187</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden-pert</td>
<td>461</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden-club</td>
<td>177</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden-martagon</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden-saxifrage</td>
<td>137</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good-King-Henry</td>
<td>314</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gooseberry</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goose-foot</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grape</td>
<td>393</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass-poly</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass of Parnassus</td>
<td>267</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great-burnet</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td>Page</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cromwell</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground-cherry</td>
<td>233</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground-laurel</td>
<td>428</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hackberry</td>
<td>509</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hair-grass</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardy-hack</td>
<td>481</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawthorn</td>
<td>474</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge-lyssop</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henlock</td>
<td>512</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honeysuckle</td>
<td>242</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honey-wort</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoop-ash</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse-chesnut</td>
<td>384</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse-mint</td>
<td>269</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse-weed</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian-chickweed</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian-cucumber</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian-hemp</td>
<td>275</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian-physical</td>
<td>000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian-tobacco</td>
<td>241</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ink-berry</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacob's-ladder</td>
<td>220</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judas-tree</td>
<td>441</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>June-berry</td>
<td>472</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knotwood</td>
<td>448</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knot-grass</td>
<td>460</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knot-root</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labrador-tea</td>
<td>436</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lady's-thumb</td>
<td>405</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lady's-ant</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leatherwood</td>
<td>598</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lily</td>
<td>548</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lily-of-the-valley</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lizard's-tail</td>
<td>353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loosestrife</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung-wort</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lynx-grass</td>
<td>137</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maggoty-bay-bern</td>
<td>410</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maple</td>
<td>395</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mare's-tail</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh-grass</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh-penny-wort</td>
<td>303</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh-rosemary</td>
<td>392</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh-sparrow</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh-trefol</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May-bush</td>
<td>479</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meadow-grass</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meadow-sweet</td>
<td>480</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meechoacoona</td>
<td>225</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melia-grass</td>
<td>159</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millet-grass</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moose-wood</td>
<td>398</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-ash</td>
<td>477</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-avens</td>
<td>491</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-balm</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-dittany</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-leek</td>
<td>241</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-laural</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-pink</td>
<td>229</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain-sumach</td>
<td>523</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouse-ear-chickweed</td>
<td>488</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mucklein</td>
<td>222</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nettle-tree</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New-jersey-tea</td>
<td>269</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Night-shade</td>
<td>355</td>
</tr>
<tr>
<td>Night-willow-herb</td>
<td>287</td>
</tr>
<tr>
<td>Nine-bark</td>
<td>482</td>
</tr>
<tr>
<td>Oak of Jerusalem</td>
<td>319</td>
</tr>
<tr>
<td>Oat-grass</td>
<td>296</td>
</tr>
<tr>
<td>Oil-nut</td>
<td>271</td>
</tr>
<tr>
<td>Onion</td>
<td>340</td>
</tr>
<tr>
<td>Oracle</td>
<td>292</td>
</tr>
<tr>
<td>Orchard-grass</td>
<td>125</td>
</tr>
<tr>
<td>Osego-tea</td>
<td>251</td>
</tr>
<tr>
<td>Panic-grass</td>
<td>140</td>
</tr>
<tr>
<td>Parship</td>
<td>314</td>
</tr>
<tr>
<td>Partridge-berry</td>
<td>305</td>
</tr>
<tr>
<td>Pear</td>
<td>194</td>
</tr>
<tr>
<td>Pearl-pear</td>
<td>24</td>
</tr>
<tr>
<td>Penny-royal</td>
<td>350</td>
</tr>
<tr>
<td>Persicaria</td>
<td>580</td>
</tr>
<tr>
<td>Peter's-wort</td>
<td>240</td>
</tr>
<tr>
<td>Pickereal-weed</td>
<td>543</td>
</tr>
<tr>
<td>Pimpernel</td>
<td>299</td>
</tr>
<tr>
<td>Pine-sap</td>
<td>430</td>
</tr>
<tr>
<td>Pink</td>
<td>447</td>
</tr>
<tr>
<td>Pink-root</td>
<td>222</td>
</tr>
<tr>
<td>Pipissiwe</td>
<td>182</td>
</tr>
<tr>
<td>Plantain</td>
<td>467</td>
</tr>
<tr>
<td>Plum</td>
<td>523</td>
</tr>
<tr>
<td>Poison-elder</td>
<td>234</td>
</tr>
<tr>
<td>Poison-oak</td>
<td>424</td>
</tr>
<tr>
<td>Puke</td>
<td>436</td>
</tr>
<tr>
<td>Poke-root</td>
<td>405</td>
</tr>
<tr>
<td>Pond-weed</td>
<td>190</td>
</tr>
<tr>
<td>Prickly-ash</td>
<td>398</td>
</tr>
<tr>
<td>Prickly-peck</td>
<td>543</td>
</tr>
<tr>
<td>Prim</td>
<td>353</td>
</tr>
<tr>
<td>Primrose</td>
<td>380</td>
</tr>
<tr>
<td>Privet</td>
<td>210</td>
</tr>
<tr>
<td>Quaking-grass</td>
<td>201</td>
</tr>
<tr>
<td>Raspberry</td>
<td>413</td>
</tr>
<tr>
<td>Red-bay</td>
<td>410</td>
</tr>
<tr>
<td>Red-bud</td>
<td>395</td>
</tr>
<tr>
<td>Red-elm</td>
<td>2</td>
</tr>
<tr>
<td>Red-root</td>
<td>69</td>
</tr>
<tr>
<td>Red-maple</td>
<td>303</td>
</tr>
<tr>
<td>Red-top</td>
<td>392</td>
</tr>
<tr>
<td>Red-grass</td>
<td>1</td>
</tr>
<tr>
<td>Rose</td>
<td>214</td>
</tr>
<tr>
<td>Rush</td>
<td>479</td>
</tr>
<tr>
<td>Sage</td>
<td>480</td>
</tr>
<tr>
<td>Salt-wort</td>
<td>225</td>
</tr>
<tr>
<td>Sand-cherries</td>
<td>159</td>
</tr>
<tr>
<td>Sand-myrtle</td>
<td>77</td>
</tr>
<tr>
<td>Sand-wort</td>
<td>398</td>
</tr>
<tr>
<td>Sannicle</td>
<td>477</td>
</tr>
<tr>
<td>Sassafras</td>
<td>491</td>
</tr>
<tr>
<td>Saxifrage</td>
<td>24</td>
</tr>
<tr>
<td>Scorpion-grass</td>
<td>23</td>
</tr>
<tr>
<td>Seneca-grass</td>
<td>241</td>
</tr>
<tr>
<td>Sensitive-pea</td>
<td>423</td>
</tr>
<tr>
<td>Service-tree</td>
<td>229</td>
</tr>
<tr>
<td>Shad-flower</td>
<td>523</td>
</tr>
<tr>
<td>Sheep-sorrel</td>
<td>488</td>
</tr>
<tr>
<td>Shrubby-trefol</td>
<td>222</td>
</tr>
<tr>
<td>Silk-wood</td>
<td>300</td>
</tr>
<tr>
<td>Spunaswe</td>
<td>290</td>
</tr>
<tr>
<td>Skunk-cabbage</td>
<td>355</td>
</tr>
<tr>
<td>Slippery-elm</td>
<td>287</td>
</tr>
<tr>
<td>Small-bogloss</td>
<td>482</td>
</tr>
<tr>
<td>Soap-n-ort</td>
<td>296</td>
</tr>
<tr>
<td>Soft-grass</td>
<td>151</td>
</tr>
<tr>
<td>Solomon's-seal</td>
<td>271</td>
</tr>
<tr>
<td>Sorrel-tree</td>
<td>340</td>
</tr>
<tr>
<td>Snow-berry</td>
<td>292</td>
</tr>
<tr>
<td>Speed-well</td>
<td>125</td>
</tr>
<tr>
<td>Spice-wood</td>
<td>251</td>
</tr>
<tr>
<td>Spider-wort</td>
<td>140</td>
</tr>
<tr>
<td>Spike-grass</td>
<td>314</td>
</tr>
<tr>
<td>Spikenard</td>
<td>412</td>
</tr>
<tr>
<td>Spindle-tree</td>
<td>480</td>
</tr>
<tr>
<td>Spurry</td>
<td>194</td>
</tr>
<tr>
<td>Stalk-tree</td>
<td>24</td>
</tr>
<tr>
<td>Stag's-horn</td>
<td>580</td>
</tr>
<tr>
<td>Star-grass</td>
<td>240</td>
</tr>
<tr>
<td>Star-of-Bethlehem</td>
<td>543</td>
</tr>
<tr>
<td>Stitch-wort</td>
<td>299</td>
</tr>
<tr>
<td>Stone-erop</td>
<td>430</td>
</tr>
<tr>
<td>Strawberry</td>
<td>244</td>
</tr>
<tr>
<td>Strawberry-tree</td>
<td>222</td>
</tr>
<tr>
<td>Strawberry-squash</td>
<td>182</td>
</tr>
<tr>
<td>Sugar-maple</td>
<td>467</td>
</tr>
<tr>
<td>Sun-dew</td>
<td>523</td>
</tr>
<tr>
<td>Swamp-herb</td>
<td>324</td>
</tr>
<tr>
<td>Swamp-hobble</td>
<td>324</td>
</tr>
<tr>
<td>Swamp-summer</td>
<td>354</td>
</tr>
<tr>
<td>Sweet-herb</td>
<td>386</td>
</tr>
<tr>
<td>Sweet-sickly</td>
<td>196</td>
</tr>
<tr>
<td>Sweet-flag</td>
<td>328</td>
</tr>
<tr>
<td>Sweet-pepper-bush</td>
<td>467</td>
</tr>
<tr>
<td>Sycamore</td>
<td>35</td>
</tr>
<tr>
<td>Sweetened-vernal</td>
<td>213</td>
</tr>
<tr>
<td>Thimble-berry</td>
<td>107</td>
</tr>
<tr>
<td>Thin-grass</td>
<td>9</td>
</tr>
<tr>
<td>Thorn-apple</td>
<td>499</td>
</tr>
<tr>
<td>Thrift</td>
<td>405</td>
</tr>
<tr>
<td>Tobacco</td>
<td>441</td>
</tr>
<tr>
<td>Turk's-cap</td>
<td>299</td>
</tr>
<tr>
<td>Unicorn's-horn</td>
<td>260</td>
</tr>
<tr>
<td>Upright-honeysuckle</td>
<td>35</td>
</tr>
<tr>
<td>Vernal's-pride</td>
<td>35</td>
</tr>
<tr>
<td>Vine</td>
<td>73</td>
</tr>
<tr>
<td>Violet</td>
<td>484</td>
</tr>
<tr>
<td>Virginian-stone-erop</td>
<td>359</td>
</tr>
<tr>
<td>Water-avens</td>
<td>136</td>
</tr>
<tr>
<td>Water-chickweed</td>
<td>27</td>
</tr>
<tr>
<td>Water-dock</td>
<td>297</td>
</tr>
<tr>
<td>Water-feather</td>
<td>469</td>
</tr>
<tr>
<td>Water-horehound</td>
<td>458</td>
</tr>
<tr>
<td>Water-leaf</td>
<td>453</td>
</tr>
<tr>
<td>Water-platina</td>
<td>502</td>
</tr>
<tr>
<td>Wax-work</td>
<td>408</td>
</tr>
<tr>
<td>Wheat</td>
<td>445</td>
</tr>
<tr>
<td>White-ash</td>
<td>206</td>
</tr>
<tr>
<td>White-elm</td>
<td>150</td>
</tr>
<tr>
<td>White-hellebore</td>
<td>440</td>
</tr>
<tr>
<td>Whorl-berry</td>
<td>447</td>
</tr>
<tr>
<td>Wild-allspice</td>
<td>479</td>
</tr>
<tr>
<td>Wild-chesnut</td>
<td>480</td>
</tr>
<tr>
<td>Wild-elder</td>
<td>221</td>
</tr>
<tr>
<td>Wild-garlic</td>
<td>279</td>
</tr>
<tr>
<td>Wild-indigo</td>
<td>485</td>
</tr>
<tr>
<td>Wild-indigo</td>
<td>485</td>
</tr>
<tr>
<td>Name</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------</td>
<td>------</td>
</tr>
<tr>
<td>Wild-pea</td>
<td>439</td>
</tr>
<tr>
<td>Wild-penny-royal</td>
<td>24</td>
</tr>
<tr>
<td>Wild-pink</td>
<td>451</td>
</tr>
<tr>
<td>Wild-potato</td>
<td>225</td>
</tr>
<tr>
<td>Wild-sarsaparella</td>
<td>327</td>
</tr>
<tr>
<td>Wild-timothy</td>
<td>153</td>
</tr>
</tbody>
</table>

END OF THE FIRST VOLUME.
ERRATA IN VOLUME FIRST.

Page 1, line 10, for *penduncled*, l. *peduncled*.
  10, line 4, after *pubescent*, add *leaves*.
  37, line 7, for *shorter*, l. *longer*.
  45, line 1, for *glaucescens*, l. *glaucescens*.
  60, line 4 from bottom, for *Goldly*, read *Goldie*.
  131, line 18 ————, for *Avena*, read *Aira*.
 —— line 2, for *americana*, read *americanum*; and for
     *kentuckensis*, read *kentuckense*.
  139, line 9, for *glabra*, l. *mutica*.
 —— line 16 from bottom, dele *IV*.
  136, line 7, for *subsulcate*, read *bisulcate*.
  209, bottom line, for *seeded*, l. *celled*.
  224, line 9 from bottom, for *leaves*, l. *lobes*.
  262, line 21, for *Style*, l. *Capsule*.
  272, line 9, after *erect*, insert *leaves*.
  286, transpose lines 17 and 19.
  291, line 21, for *Style*, l. *Styles*.
  303, line 24, for *umbellulata*, l. *umbellulata*.
  318, line 1, for *Cymes very sessile*, l. *Styles sessile*.
  328, line 9, for *lobes*, l. *leaves*.
  336, line 25, for *Smilacina*, l. *Polygonatum*, &c.
  376, line 19 from bottom, for *stylosum*, l. *stylosum*.
  416, line 14, for *dismorphum*, l. *disomorphum*.