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A  
**F L O R A**  
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.

—◆—  
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Wernerian Natural History Society, Edinburgh, &c.

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VOLUME I.

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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.



## P R E F A C E.



**T**HE 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 Linnæus 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 UMBELLIFERÆ are adopted with but little alteration from Sprengel, as they are elaborated by him in the 6th volume of Rœmer & 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; Wm. 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 Linnæan 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.

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CLASS I.

MONANDRIA.

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ORDER I.

MONOGYNIA.

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1. SALICORNIA. L.

**CALYX** turbinate, entire, somewhat ventricose, succulent. *Corolla* o. *Stamens* 1, 2. *Style* bifid; *seed* 1, covered by the inflated calyx. *Gen. pl.* 14. *Roemer & Schultes gen.* 31. *Juss.* p. 86. *Nutt. Gen. I.* p. 2. *Lam. Ill. t.* 4. *Nat. Ord.* ATRIPLICES. *Juss.* Stems leafless, with opposite branches. *Glass-wort. Marsh Samphire.*

1. *S. herbacea* L.: annual; stem erect, or branched; joints compressed, notched at the summits; spikes pendent; calyx truncate. *Willd. Spec. I.* p. 23. *Mich. Fl. I.* p. 1. *Big. Bost.* p. 2. *Pursh Fl. I.* p. 2. *Ell. Sk. I.* p. 3. *Roem. & Schult. I.* p. 38. *S. virginica* L. *Syst. veg.* p. 52. *Willd. Spec. I.* p. 25. *Pursh Fl. I.* p. 2. *Clayton Virg.* p. 1.

*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 Linnæus 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.

2. *S. ambigua Mich.*: perennial, procumbent, branching; joints crescent-shaped, small; spikes opposite and alternate; calyx truncate. *Elliott Sk.* l. p. 4. *Mich. Fl.* I. p. 2. *Pursh Fl.* l. p. 3. *Roem. & Schult.* l. p. 39 & 41! (*bis.*)

*Root* fibrous, creeping. *Stem* procumbent and ascending. *Flowers, calyx, and filaments,* as in the preceding. *Anthers* purplish yellow. *Germ.* short, ovate. *Styles* 2 or 0. *Stigmas* 2, obtuse, glandular. *Elliott.* l. c. ♂ or ♀.

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 a little frutescent at the base, but it was evidently a variety of *S. herbacea.*

## 2. HIPPURIS. L.

*Calyx* entire, very small. *Corolla* 0. *Style* received into a groove of the anther. *Stigma* simple. *Seed* 1. *Gen. pl.* 15. *Nutt. Gen.* I. p. 3. *Juss.* p. 18. *Ann. du Mus.* III. t. 3. f. 3. *Roem. & Schult.* *Gen.* 32. *Lam. Ill.* t. 5. Nat. Ord. NAIADES. *Juss.* *Mares-tail.*

*H. vulgaris L.*: leaves verticillate, in eights, linear-lanceolate, acute. *Willd. Spec.* l. p. 26. *Mich. Fl.* I. p. 1. *Pursh Fl.* l. p. 3. *Eng. Bot.* t. 763. *Roem. & Schult.* l. p. 41.

*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 germen. *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

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\*\* 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?

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 ORDER II.

 DIGYNIA.
 

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## 3. CALLITRICHE. L.

*Calyx* inferior, 2-leaved. *Corolla* o. *Capsule* 2-celled, 4-seeded, compressed. *Gen. pl.* 17. *Nutt. Gen.* I. p. 3. *Juss.* p. 19. *Roem. & Schult. Gen.* 39. *Lam. Ill.* t. 5. *Nat. Ord.* NAIADES. *Juss.* Leaves opposite, flowers axillary, sometimes monoicous, "seed 4, naked." *Smith. Nuttall. Water-Chickweed.*

1. *C. verna*  $\beta$ . *intermedia* Willd.: upper leaves spatulate-obovate, inferior ones linear, obtuse, and emarginate; flowers polygamous; margin of the seed obtuse. *Willd. Enum. H. Berol.* I. p. 8. *Roem. & Schult.* I. p. 46. *C. aquatica* Big. *Bost.* p. 2. *C. heterophylla* *Pursh Fl.* I. p. 3. *Elliott Sk.* I. p. 46. *C. verna* *Mich. Fl.* I. p. 2. *Muhl. Cat.* p. 1. *Walt. Car.* p. 59.

*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 stamiferous, 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. *Germen* 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.

2. *C. autumnalis* L.: leaves all linear, 1-nerved, truncated or emarginate, seeds with acute margins; flowers perfect. *Willd. Spec.* I. p. 29. *Mich. Fl.* I. p. 2. *Roem. & Schult.* I. p. 47. *C. linearis* Pursh *Fl.* I. p. 3.

*Root* annual. *Stem* floating, somewhat branched, bifistulous 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 germen, obtuse? *Capsule* very short, margin more or less acute, (membranaceous in the European plant. *Wahlenberg.*)

*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.*

3. *C. terrestris* Raf.: procumbent, diffused; leaves oblong, uniform, rather obtuse; capsule grooved on the margin. *Rafinesque in Med. Repos.* XI. p. 359. *Roem. & Schult.* I. p. 47. *Muhl. Cat.* p. 1? *Desvauz Jour. de Bot.* I. p. 223. *C. brevifolia* Pursh *Fl.* I. p. 3. *Roem. & Schult.* I. c.

*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.

*HAB.* In swamps and on the muddy borders of ponds and rivers. June—August. On the banks of the Passaic, New-Jersey. Near Babylon, Long-Island. In muddy places in New-Jersey. *Rafinesque.* Sandy barren grounds near mill-ponds. New-York to Virginia. *Pursh.* In Pennsylvania. *Muhl-enberg.*

#### 4. BLITUM. L.

*Calyx* 3-cleft. *Corolla* 0. *Seed* 1, covered by the calyx, which enlarges, and becomes a berry. *Gen. pl.* 18. *Nutt. Gen.* I. p. 4. *Roem. & Schult. Gen.* 40. *Juss. Gen.* p. 86. *Lam. Ill.* t. 59. *Nat. Ord.* ATRIPLICES. *Juss.*

1. *B. capitatum* L.: procumbent: leaves triangular-hastate; heads alternate, in a terminal leafless spike. *Mich. Fl.* I. p. 2. *Willd. Spec.* I. p. 30. *Pursh Fl.* I. p. 4. *Roem. & Schult.* I. p. 48.

*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 germen; *anther* didymous. *Style* very short; *stigmas* simple. *Seed* ovate, compressed.

HAB. In fields and waste places, rare. June. Near Williamstown, Massachusetts. *Dewey*. Resembles a *Chenopodium*. Sometimes called *Strawberry Spinach*. Introduced from Europe.

2. *B. virgatum* L.: leaves triangularly hastate; heads scattered, lateral. *Willd. Spec.* I. p. 30. *Muhl. Cat.* p. 3. *Roem. & Schult.* I. p. 48.

*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.

3. *B. maritimum* Nutt.: *calyx* membranaceous; clusters axillary, spiked, naked; leaves lanceolate, attenuated at each extremity, incisely toothed. *Nutt. Gen. Supp. Torrey Cat. Pl. N. York.* p. 1.

*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 germen. *Stamen* 1; *anther* minute, didymous. *Styles* 2, short, simple. ("Style 1." *Nutt.*) *Seed* lenticular, vertical.

HAB. In salt-marshes. Hoboken, New-Jersey. On Long-Island, near New-York. *Nuttall*. An unsightly plant, resembling an *Atriplex*.

CLASS II.  
DIANDRIA.



ORDER I.  
MONOGYNIA.



A. *Flowers complete, inferior, 1-petalled.*

†. *Fruit a drupe or nut.*

5. LIGUSTRUM. 6. CHIONANTHUS.  
7. ORNUS.

††. *Fruit a capsule.*

8. VERONICA. 12. HEMIANTHUS.  
9. LEPTANDRA. 13. CATALPA.  
10. GRATIOLA. 14. JUSTICIA.  
11. LINDERNIA. 15. UTRICULARIA.

†††. *Seeds 4, naked. (Labiatae).*

16. LYCOPUS. 19. MONARDA.  
17. CUNILA. 20. SALVIA.  
18. HEDEOMA. 21. COLLINSONIA.

B. *Flowers superior.*

†. ——— *complete.*

22. CIRCAEA.

††. ——— *incomplete.*

23. LEMNA. 24. CRYPTA.



5. LIGUSTRUM. L.

*Calyx* 4-toothed. *Corolla* 4-cleft. *Berry* 2-celled ;  
cells 2-seeded. *Gen. pl.* 23. *Roem. & Schult.*  
*Gen. I.* p. 52. *Juss.* p. 106. *Lam. Ill.* t. 7. *Nat.*  
*Ord.* JASMINEÆ. *Juss.*



*L. vulgare* L.: leaves elliptical-lanceolate, smooth; racemes compound, crowded. *Sp. pl.* p. 10. *Willd. Spec.* l. p. 41. *Eng. Bot.* t. 764. *Mich. Fl.* l. p. 3. *Pursh Fl.* l. p. 7. *Big. Bost.* p. 5.

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.

HAB. In hedges and open woods. Seldom found far from the habitations of men. Common in many places near New-York, particularly in woods on Long-Island. May. Introduced from Europe. *Prim or Privet.*

### 6. CHIONANTHUS. L.

*Calyx* 4-parted. *Corolla* deeply 4-parted, segments long and linear. *Drupe* 1-seeded. *Nut* striated. *Gen. pl.* 13. *Nutt. Gen.* l. p. 5. *Juss.* p. 105. *Roem. & Schult. Gen.* l. p. 51. *Lam. Ill.* t. IX. Nat. Ord. JASMINEÆ. *Juss.* *Fringe-tree.*

*C. virginica* L.: racemes terminal, peduncles 3-flowered; leaves acute. *Willd. Spec.* l. p. 46. *Mich. Fl.* l. p. 3. *Pursh Fl.* l. p. 7. *Elliott Sk.* l. p. 6. *Roem. & Schult.* l. p. 72. *Walt. Car.* p. 60. AMELANCHIER *virg. &c. Catesb. Car.* l. p. 68. t. 68.

α. *montana*; leaves oval-lanceolate, coriaceous, smooth; panicles dense; drupe oval. *Pursh Fl.* l. c. *C. virg. latifolia. Ait. Kew.* l. p. 23.

β. *maritima*; leaves obovate-lanceolate, membranaceous, pubescent; panicles very loose, drupe elliptical. *Pursh l. c. C. virg. angustifolia. Ait. Kew l. c.*

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 (*Persoon*); 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.

HAB. Var. α. in mountains of Pennsylvania; β. on the sea-coast, in boggy woods, New-Jersey. May—June. *Pursh.* Near Port-Elizabeth, New-Jersey, *Z. Collins, Esq.* found a tree 30 feet high; probably the var. β. *Fringe-tree. White Ash.*

### 7. ORNUS. Dalech.

*Calyx* 4-parted. *Corolla* 4-parted; petals long and ligulate. *Filaments* 4. *Nut* winged. *Pers.* l. p. 9. *Pursh Fl.* l. p. 6. *Nutt. Gen.* l. p. 6. FRAXI-

NUS sp. *L.* Nat. Ord. JASMINEÆ. *Juss.* *Flowering Ash.*

*O. americana Pursh*: leaves broad-ovate, serrated; the terminal one obovate. *Pursh Fl. I. p. 8.* *O. Europæa β. americana Pers. Syn. II. p. 105.*

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.

### 8. VERONICA. *L.*

*Calyx* 4-parted. *Corolla* rotate, 4-lobed, unequal, the lower segment narrower. *Capsule* 2-celled, obcordate; seeds few. *Gen. pl. 32. Nutt. Gen. I. 6. Juss. Roem. & Schult. Gen. I. p. 53. Lam. Ill. t. XIII. f. 1. - Nat. Ord. RHINANTHACEÆ. Juss. Speedwell.*

1. *V. officinalis L.*: spike lateral, peduncled, leaves ovate, or obovate-sabrotand, serrated, hairy; stem procumbent, rooting below. *Willd. Spec. I. p. 59. Mich. Fl. I. p. 5. Pursh Fl. I. p. 10. Elliott Sk. I. p. 8. Eng. Bot. t. 765. Roem. & Schult. I. p. 110.*

*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.

HAB. In dry woods; more rarely in meadows. Hoboken, New-Jersey. Common in the vicinity of Philadelphia. Near Albany. *Dr. L. C. Beck* and *Mr. Tracy.* June—July. Introduced?

2. *V. serpyllifolia L.*: raceme elongated, many-flowered; leaves ovate, crenate, smooth; capsule as long as the style; stem ascending. *Willd. Spec. I. p. 64. Mich. Fl. I. p. 4. Big. Bost. p. 5. Pursh Fl. I. p. 11. Elliott Sk. I. p. 8. Walt. Car. p. 60. Clayton Virg. p. 2. Eng. Bot. t. 1075. Roem. & Schult. I. p. 102.*

*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.

3. *V. Beccabunga* L.: racemes opposite; leaves elliptical, obtuse, on short petioles, subserrate, glabrous; stem procumbent, rooting at the base. *Willd. Spec. I.* p. 64. *Pursh Fl. I.* p. 11. *Muhl. Cat.* p. 2. *Eng. Bot.* t. 655. *Roem. & Schult. I.* p. 105.

*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 obtusc. *Corolla* blue. *Capsule* inflated.

HAB. In ditches and small creeks. Near Albany. *Dr. E. James. Mr. Tracy.* Williamstown, Massachusetts. *Prof. Dewey.* In Pennsylvania. *Muhlenberg.* June. *Brooklime.*

4. *V. anagallis* L.: racemes opposite; leaves lanceolate, serrate; stem erect. *Willd. Spec. I.* p. 65. *Mich. Fl. I.* p. 5. *Pursh Fl. I.* p. 11. *Elliott Sk. I.* p. 9. *Eng. Bot.* t. 721. *Roem. & Schult. I.* p. 105. *Veronica foliis inferioribus oppositis ovatis; &c.* *Cold. pl. Coldenham.* No. 1.

*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.

5. *V. scutellata* L.: racemes lateral and alternate; (rarely opposite;) pedicels divaricate; leaves linear, somewhat toothed; stem nearly erect. *Willd. Spec. I.* p. 75. *Mich. Fl. I.* p. 5. *Pursh Fl. I.* p. 11. *Big. Bost.* p. 5. *Eng. Bot.* t. 726. *Roem. & Schult. II.* p. 106. *V. caulibus procumbentibus, &c.* *Cold. pl. Coldenham.* No. 2.

*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.

6. *V. arvensis* L.: flowers solitary, subsessile; inferior leaves petioled, cordate-ovate, serrate; (stem-leaves crenate;) floral ones lanceolate, sessile, longer than the peduncles; segments of the calyx unequal; capsule obcordate, compressed. *Willd. Spec. I.* p. 73. *Mich. Fl. I.* p. 4. *Pursh Fl. I.* p. 11. *Elliott Sk. I.* p. 9. *Walt. Car.* p. 61. *Clay. Virg.* p. 2. *Eng. Bot. t.* 734. *Roem. & Schult. I.* p. 125.

*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.

7. *V. agrestis* L.: flowers solitary, peduncled; leaves petioled, cordate-ovate, serrate; segments of the calyx equal, ovate, hairy; stem procumbent, pubescent. *Willd. Spec. I.* p. 72. *Muhl. Cat.* p. 2. *Elliott Sk. I.* p. 9. *Eng. Bot. t.* 783. *Roem. & Schult. I.* p. 125.

*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.

8. *V. peregrina* L.: flowers solitary, sessile; leaves oblong, serrate, rather obtuse; stem erect. *Willd. Spec. I.* p. 76. *Mich. Fl. I.* p. 4. *Pursh Fl. I.* p. 11. *Elliott Sk. I.* p. 10. *Roem. & Schult. I.* p. 122. *V. marilandica Murr. Comm. Gott.* 1782. t. 3. *V. caroliniana Walt. Car.* p. 61. *V. carnulosa Lam. Ill. I.* p. 47. *V. romana Lin. Mant.* p. 317.

The whole plant is smooth. *Root* annual. *Stem* simple, or branched at the base. *Radical leaves* ovate, decurrent into a petiole; those on the stem sessile and much narrower. Segments of the *calyx* linear-lanceolate. *Corolla* very small, white, or pale blue. *Capsule* obcordate, compressed. *Seeds* shining.

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;

segments of the calyx cordate, ciliate, acute; stem procumbent. *Willd. Spec. I. p. 73. Muhl. Cat. p. 2. Eng. Bot. 784. Roem. & Schult. I. p. 121.*

*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.

10. *V. reniformis Raf.:* stem procumbent hispid; leaves sessile, reniform, entire, hairy, villose; flowers axillary, solitary, subsessile. *Raf. in Med. Repos. XI. p. 360. R. in Desv. Jour. de Bot. 1808. I. p. 228. Roem. & Schult. I. p. 127. (excl. syn. Pursh).*

*Root* annual, fibrous. *Stems* few, terete, villose, nearly simple, procumbent. *Leaves* alternate, subsessile. Segments of the *calyx* ovate, somewhat acute. *Corolla* white, or pale blue; segments rounded, obtuse. *Capsule* compressed, smooth. *Raf.*

*HAB.* In sandy soils. New-Jersey. Flowers in summer. *Rafinesque.*

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

### 9. LEPTANDRA. Nutt.

*Calyx* 5-parted; segments acuminate. *Corolla* tubular-campanulate; border 4-lobed, a little ringent; the lower segment narrower. *Stamens*, and at length the *pistils*, much exserted. *Capsule* ovate, acuminate, 2-celled, opening at the summit? *Nutt. Gen. I. p. 7.*

CALLISTACHYA *Rafinesq.* VERONICÆ *spec. Lin. Nat. Ord. ANTIRRHINÆ (Nutt.) RHINANTHACÆ?*

*L. virginica N.:* leaves verticillate, in fours or fives, lanceolate, serrate, petiolate. VERONICA *virginica Lin. Willd. Spec. I. p. 54. Mich. Fl. I. p. 5. Pursh Fl. I. p. 10. Elliott Sk. I. p. 10. Clayt. Virg. p. 2. Pluk. alm. t. 70. f. 2. Roem. & Schult. I. p. 67. CALLISTACHYA virginica Raf. Cat. Pl. N. York. p. 10. Eat. Man. Bot. p. 183.*

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.

HAB. In woods and fertile vallies. July—August. *Culver's Physic.*

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* suavit, genus proprium." *Roem. & Schult. l. c.*

## 10. GRATIOLA. L.

*Calyx* 5-parted, often with 2 bracts at the base. *Corolla* irregular, resupinate, 2-lipped; the upper lip 2-lobed; the lower equally 3-cleft. *Stamens* 4, two of which are sterile. *Stigma* 2-lipped. *Capsule* 2-celled, 2-valved.† *Gen. pl.* 37. *Nutt. Gen.* p. 8. *Juss.* p. 121. *Roem. & Schult. Gen.* 70. *Lam. Ill.* t. XVI. f. 1. Nat. Ord. *PERSONATÆ L. SCROPHULARIÆ Juss.* Dissepiment contrary to the valves. *Hedge Hyssop.*

1. *G. aurea Muhl.*: smooth; leaves linear-oblong, half embracing the stem, obscurely toothed; leaves of the calyx equal; sterile filaments minute. *Pursh Fl.* l. p. 12. *Muhl. Cat.* p. 2. *Big. Best.* p. 6. *Elliott Sk.* l. p. 13. *Bart. Fl. Amer. Sept.* l. p. 71. t. 20. *Roem. & Schult. l.* p. 129. *G. officinalis Mich. Fl.* l. p. 6. *G. Carolinensis Pers. Syn.* l. p. 14.

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.

\* Hæc planta tota facie a *Veronicis* diversa: et cum partis fructificationis etiam diversæ sunt, ad diversum genus referenda, vel distinctum genus constituendum. *Colden pl Coldenham. in Act. Upsal. an. 1742, p. 83.*

† "Caps. quadrivalvis, dissepimento e marginibus inflexis, tardius solubilibus." *R. Brown Prod. Fl. N. Holl.*

*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.

HAB. In wet sandy situations. In woods and on the borders of ponds on Long-Island. Common throughout the sandy swamps of New-Jersey. Near Boston. *Bigelow*. Litchfield, Connecticut. *Bra ce*. August—September. *Golden-fert*.

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.

2. *G. virginica* L.: stem pubescent, assurgent, terete; leaves smooth, lanceolate, sparingly dentate-serrate, attenuate and connate at the base; leaves of the calyx equal; sterile filaments wanting. *Torrey Cat. pl. N. York*, p. 89, (sub *G. neglect.*) "*G. virginiana* *Herb. Lin.*" *Smith. Willd. Spec. l. p. 104.* *Pursh Fl. l. p. 12.* *Walt. Car. p. 62.* *Roem. & Schult. l. p. 30.* (excl. syn. *Vahl.*) *G. foliis lanceolatis, &c. Gron. virg. p. 3.* *G. virginica* *Herb. Muhlenberg.*

*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.

HAB. In inundated meadows. July—August. Allied to *G. sphaerocarpa* *Ell.*

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. l. p. 16.* *G. acuminata* *Pursh Fl. l. p. 12.* (excl. syn.)

*Flowers* pale yellow. *Capsule* larger than in any other *Gratiola*. *Ph.*

HAB. In ditches and pools. Pennsylvania. July—August.  
*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; dissepiment parallel with the valves. *Gen. pl.* 1031. *Nutt. Gen. I.* p. 9. *Juss.* p. 122. *Lam. Ill.* t. DXXII. Nat. Ord. SCROPHULARIÆ *Juss.* Didynamia angiospermia *Lin.*

1. *L. dilatata Muhl.*: leaves dilated at the base, amplexicaul, remotely toothed; peduncles longer than the leaves, *Elliott Sk.* I. p. 16. *Muhl. Cat.* p. 61. *Cat. Pl. N. York*, p. 10. *Bart. Fl. Amer. Sept.* I. p. 109. t. 31. *L. pyxidaria Pursh Fl.* II. p. 419. *GRATIOLOA anagallidea Mich. Fl.* I. p. 6. *G. inequalis Walt. Car.* p. 61. *G. floribus pedunculatis, &c. Gron. Virg.* p. 3.

*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—September.

2. *L. attenuata Muhl.*: leaves lanceolate and obovate, narrowed at the base; peduncles shorter than the leaves, erect. *Elliott Sk.* I. p. 17. *Muhl. Cat.* p. 61. *Cat. Pl. N. York*, p. 10. *L. pyxidaria*  $\beta$ . major *Pursh Fl.* II. p. 419 (foliis repando-dentatis, pedunculis brevibus).

*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 common. July—September.



3. *L. monticola* Muhl.: stem slender, dichotomous; radical leaves spatulate; cauline ones linear, small and remote; peduncles very long, at length deflected. *Nutt. Gen. II. Supp. Muhl. Cat.* p. 61.

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.

Calyx tubular, border 4-toothed, cleft on the under side. Upper lip of the corolla obsolete; lower 3-parted, intermediate segment ligulate, much longer, closely incurved. Stamens 2; filaments bifid; lateral fork antheriferous. Capsule 1-celled, 2-valved, many seeded. *Nutt. Jour. Acad. Philad.* I. p. 119, t. 6, f. 1. *Gen. II.* p. 42. Nat. Ord. LYSIMACHIÆ Juss.

*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.*

HAB. On the gravelly banks of the Delaware, overflowed by the tide, near Philadelphia. *Nuttall*. Near New-Haven, Connecticut. *Prof. Ives.* August—September.

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.*

*Calyx* 2-parted. *Corolla* campanulate; tube ventricose; border 4-lobed, unequal. *Stamens* 2, fertile; 2—3 sterile (rare.) *Stigma* bilamellate. *Capsule* long and cylindric, 2-valved. *Dissepiment* opposite to the valves. *Seeds* with membranaceous margins. *Juss.* p. 188. *Nutt. Gen.* I. p. 10. *BIGNONIA* L. Nat. Ord. *BIGNONIÆ Juss.*

*C. cordifolia* Ell.: leaves simple, cordate, entire; flowers paniced. *Elliott Sk.* I. p. 24. *Nutt. Gen.* l. c. *C. bignonioides* Walt. *Car.* p. 64. *C. syriacifolia* Sims in *Bot. Mag.* 1094. *Pursh Fl.* I. p. 10. *BIGNONIA Catalpa* L. *Willd. Spec.* III. p. 289. *Mich. Fl.* II. p. 25. *Mich. fil. Arb.* III. p. 217. t. 6.

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* incurved, 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.

**HAB.** Borders of fields and about farms; seldom found south of the city of New-York. *July.* *Catalpa.*

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.

### 14. JUSTICIA. *L.—R. Brown.*

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

lower 3-cleft. *Anthers* 1 or 2 on each filament.\* *Capsule* attenuated, 2-celled, 2-valved. *Dissepiment* growing from the centre of each valve. *Roem. & Schult. Gen.* 79. *Nutt. Gen.* I. p. 11. JUSTICIA & DIANTHERA *Lin. Gen. pl.* 35 & 36. *Lam. Ill. t.* XII. f. 1, 2. Nat. Ord. ACANTHACEÆ *Juss.*

*J. pedunculosa Mich.:* spikes axillary; peduncles elongated, alternate; flowers crowded; leaves lanceolate. *Mich. Fl.* I. p. 7. *Pursh Fl.* I. p. 13. *Elliott Sk.* I. p. 11. *Roem. & Schult.* I. p. 154. *J. americana Vahl Enum.* I. p. 140. *Willd. Spec.* I. p. 92. DIANTHERA *americana Lin. Syst. Veg.* 64. *Gron. Virg.* p. 6. *D. ensiformis Walt. Car.* p. 63. *JUST. linearifolia Lam. Ill.* I. p. 41. *Gratiolæ affinis floridana, &c. Pluk. Amalth.* p. 114. t. 423. f. 5.

*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.

*Calyx* 2-leaved, equal. *Corolla* personate or ringent; superior lip erect; lower lip spurred at the base; palate subcordate. *Filaments* incurved, bearing the anthers within the apex. *Stigma* 2-lipped. *Capsule* 1-celled. *Gen. pl.* 41. *Nutt. Gen.* I. p. 12. *Juss.* p. 98. *Roem. & Schult. Gen.* 88. *Lam. Ill. t.* XIV. Nat. Ord. LYSIMACHIÆ *Juss.* PRIMULACEÆ *R. Brown.* *Bladder-wort.*

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

\* "Antheræ biloculares, loculis insertionē sæpe inequalibus." *R. Brown.*

ties; lower lip of the corolla 3-lobed; spur deeply emarginate. *Walt. Car.* p. 54. *Elliott Sk.* I. p. 20. *U. cecropophylla Mich. Fl.* I. p. 12. *Pursh Fl.* I. p. 15. *Vahl Enum.* I. p. 197. *Roem. & Schult.* I. p. 194. *Nutt. Gen.* I. c.

*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.

**HAB.** In ponds on Long-Island: particularly abundant near Babylon. In the lower part of Delaware, near Lewiston. *Nuttall.* Near Elizabeth-Town, New-Jersey. *Eddy.* August.

2. *U. vulgaris L.*: floating; stems submerged, dichotomous; leaves many-parted, vesiculose; scape 5—9-flowered; upper lip of the corolla entire, broad-ovate; spur conical, incurved. *Willd. Spec.* I. p. 198. *Vahl Enum.* I. p. 198. *Eng. Bot.* t. 253. *Big. Bost.* p. 6. *Pursh Fl.* I. p. 16. *Roem. & Schult.* I. p. 195. *U. macrorhiza Le Conte monog.* UTRIC. ined. *Cat. pl. N. York,* p. 11.

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, bracteated 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, crenulate 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.

**HAB.** In ponds of deep water, and sometimes in slow-flowing streams. Common throughout the Northern States. August. Allied to *U. fibrosa Walt.* but distinct.

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\* 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.

3. *U. minor* L.: spur carinate; upper lip emarginate; palate equal; throat open; leaves 3-parted, dichotomous. *Vahl Enum.* l. p. 199. *Willd. Spec.* l. p. 112. *Pursh Fl.* l. p. 15. *Eng. Bot.* t. 254. *Roem. & Schult.* l. p. 196.

*Root* filiform. *Stems* decumbent. *Leaves* smooth, bearing air-vesicles. Upper lip of the *corolla* emarginate; the lower one obovate. *Anthers* connected. *Stigma* obtuse, triangular, entire. *Roem. & Schult.* l. c.

**HAB.** In swamps and ditches of the pine-barrens of New-Jersey. August. Flowers small, deep yellow. *Pursh.* A doubtful native.

4. *U. setacea* Mich.: scape filiform, rooting, 2—3 flowered; upper lip of the *corolla* ovate; the lower distinctly 3-lobed; spur subconical, shorter than the lower lip of the *corolla*. *Mich. Fl.* l. p. 12. *Vahl Enum.* l. p. 201. *Elliott Sk.* l. p. 23. *Nutt.* l. c. l. p. 14. *Roem. & Schult.* l. p. 197. *U. subulata* *Pursh Fl.* l. p. 15. *U. pumila* *Walt. Car.* p. 64.

*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.

**HAB.** Overflowed swamps, in the pine-barrens of New-Jersey. June.

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.

5. *U. gibba* Gron.: floating; scape generally 2-flowered; spur shorter than the lower lip of the *corolla*, obtuse, gibbous in the middle. *Elliott Sk.* l. p. 22. *Gron. Virg.* p. 129. *Willd. Spec.* l. p. 113. *Vahl Enum.* l. p. 204. *Pursh Fl.* l. p. 16. *Roem. & Schult.* l. p. 199.

*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.

**HAB.** In ponds near Schenectady, New-York. *Dr. L. C. Beck.* Near Albany. *Mr. Tracy.* In the vicinity of Philadelphia, *Barton.* Pittsfield, Massachusetts. *Eaton.* July.

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

3-lobed; spur very acute, porrected. *Mich. Fl.* l. p. 12. *Pursh Fl.* l. p. 16. *Nutt. Gen.* l. p. 14. *Roem. & Schult.* l. p. 197.

*Scapæ* 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.

HAB. On calcareous rocks near the Falls of Niagara. *Eddy. —Nuttall.* Near Phillipstown, in the Highlands of New-York. *Dr. Barratt.* Throughout the Allegany Mountains, from Canada to Virginia. *Nutt.* In a marsh bordering Crooked Lake, Plainfield, Massachusetts. *Dr. Porter.* August—September. *Mr. Nuttall* thinks this species is confined to a calcareous soil.

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. 39.

*Stems* submerged. *Leaves?* few, capillary, sparingly furnished with utriculi. *Scapæ* 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.

HAB. In swamps in the pine-barrens of New-Jersey. June.

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 UTRICULARIÆ; which work we hope soon to see published.

8. *U. purpurea* *Walt.*: scapes axillary, generally 1-flowered, involucre 0.; lower lip of the corolla 3-lobed; lateral lobes cucullate on the under side; spur compressed, half as long as the corolla. *Elliott Sk.* l. p. 21. (sub *U. saccata*) *Walt. Car.* p. 64. *Pursh Fl.* l. p. 15. *Nutt. Gen.* l. p. 13. *Roem. & Schult.* l. p. 197.

*Stems* floating, 2—3 feet long; branches verticillate and pinnatifid, setaceous. *Scapes* 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 Lewis-  
town, Sussex Co. Delaware. *Nuttall*. August.

16. LYCOPUS. *L.*

*Calyx* tubular, 5-cleft or 5-toothed. *Corolla* tubu-  
lar, 4-cleft, nearly equal; upper division broader and  
emarginate. *Stamens* distant. *Seeds* 4, retuse. *Gen.*  
*pl.* 44. *Nutt. Gen.* I. p. 15. *Juss.* p. 111.  
*Roem. & Schult. Gen.* 90. *Lam. Ill.* t. XVIII.  
Nat. Ord. LABIATÆ *Juss.* *Water Horehound.*

1. *L. europæus*  $\beta$ . *angustifolius*\*: smooth; stem acutely  
quadrangular; leaves narrow-lanceolate, with large acute  
teeth; lower ones somewhat pinnatifid; segments of the ca-  
lyx acuminate, terminating in short spines, much longer than  
the seeds. *LYCOPUS angustifolius Elliott Sk.* I. p. 26.  
*L. europæus Mich. Fl.* I. p. 14. *Big. Bost.* p. 6. *Pursh*  
*Fl.* I. p. 16. *L. americanus Muhl. Cat.* p. 3. *L. exalta-*  
*tus Pursh Fl.* II. p. 727. (excl. syn?) *Elliott l. c.*  
p. 26. *L. foliis lanceolat. &c. Cold. pl. Noveborac.*  
No. 6.

*Root* perennial, creeping. *Stem* erect, 1—2 feet high, much  
branched, quadrangular, with the sides concave. *Leaves* op-  
posite, 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* di-  
dymous. *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.*  
*europæus* of the old world, though I shall for the present con-  
sider 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.

2. *L. virginicus L.*: leaves broad-lanceolate, serrate,  
narrow and entire at the base; calyx shorter than the seed,  
spineless. *Willd. Spec.* I. p. 121. *Mich. Fl.* I. p. 14.  
*Pursh Fl.* I. p. 16. *Elliott Sk.* I. p. 25. *Walt. Car.*

p. 64. *Roem. & Schult. I. p. 207. L. foliis lanceolatis, &c. Gron. Virg. p. 8.*

*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 *hæmoptysis* and other hæmorrhages.

3. *L. uniflorus Mich.*: plant small; root tuberous; stems simple; leaves oval, obtuse, obsolete to toothed; axils 1-flowered. *Mich. Fl. I. p. 14. L. pumilus Vahl Enum. I. p. 211. Pursh Fl. I. p. 16. Roem. & Schult. I. p. 207.*

*Root* tuberous; *stolons* leafy. *Stem* about 3 inches high, rather smooth. *Leaves* on petioles, with few teeth. *Flowers* axillary, solitary. *Mich. ex herb. Juss. Vahl.*

**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.*

*Calyx* cylindrical or tubular, 5-toothed, 10-striate. *Corolla* ringent: upper lip short, flat. *Fertile stamens* and *style* much exserted; *sterile stamens* very short. *Gen. pl. 21. Nutt. Gen. I. p. 15. Juss. p. 111. Lam. Ill. t. 18, f. 2, 3. ZIZIPHORA Roem. & Schult. Nat. Ord. LABIATÆ Juss.*

1. *C. mariana L.*: leaves ovate, sessile, serrate; corymbs axillary and terminal, dichotomous. *Willd. Spec. I. p. 122. Mich. Fl. I. p. 13. Pursh Fl. II. p. 406. Elliott Fl. I. p. 27. Bart. Veg. Mat. Med. t. 42. ZIZIPHORA mariana Roem. & Schult. I. p. 208. THYMUS foliis ovatis, &c. Gron. virg. p. 64. CALAMINTHA mariana, &c. Pluk. mant. p. 34. t. 344. f. 1.*

*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 fastigate 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.

HAB. In rocky and mountainous situations: sometimes in sandy woods. On the hills near Weehawk. In the pine-barrens of New-Jersey, &c. August—September. *Mountain Dittany*.

2. *C. glabella Mich.*: smooth; stem surculose; radical leaves nearly oval; stem leaves oblong-linear, all entire; flowers axillary, mostly solitary, on long peduncles. *Mich. Fl.* I. p. 13. *Vahl Enum.* I. p. 13. HEDEOMA *glabrum Pers.* II. p. 131. *Pursh Fl.* II. p. 414. *Nutt. Gen.* I. p. 16. ZIZIPHORA *glabellu Roem. & Schult.* I. p. 209.

*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 exerted.

HAB. On the limestone rocks near the Falls of Niagara. *Eddy. Nuttall.* August.

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*.

*Calyx* 2-lipped, gibbous at the base; upper lip 3-toothed, teeth lanceolate; lower lip of 2 subulate teeth. *Corolla* ringent. *Stamens*, 2 fertile, as long as the corolla; 2 sterile, short. *Pers. Syn.* II. p. 231. *Nutt. Gen.* I. p. 16. CUNILA *Lin.* Nat. Ord. LABIATÆ *Juss.*

*H. pulegioides* Pers.: leaves oblong, remotely serrate; peduncles axillary, numerous. Pers. l. c. p. 231. Pursh Fl. II. p. 414. Elliott Sk. l. p. 28. Nutt. l. c. p. 16. CUNILA *pulegioides* L. sp. pl. ed. 2, p. 50. Willd. Spec. l. p. 122. Mich. Fl. l. p. 13. Big. Bost. p. 7. Bart. Veg. Mat. Med. t. 41. ZIZIPHORA *pulegioides* Roem. & Schult. l. p. 209. MELISSA *floribus verticillatis*, &c. Gron. virg. 167.

Root fibrous, annual. Stem from a span to a foot in height, obtusely quadrangular, pubescent, branched above. Leaves narrowed into a petiole, sparingly toothed, about an inch long, punctate. Flowers on short peduncles, 4—6 in each whorl. Calyx distinct, gibbous below, hispid, 10-striate; segments of the upper lip lanceolate, very acute; those of the lower lip subulate, strongly ciliate; throat slightly villous. Corolla pale blue, about as long as the calyx. Stamens hardly exerted. Stigma a little bifid. Seeds oblong, smooth. Smell powerful, resembling that of MENTHA *pulegium*.

НАБ. On dry hills and in open barren woods. July—August.

Wild Pennyroyal.

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.

Calyx 5-toothed, tubular. Corolla ringent; upper lip linear, involving the filaments; lower lip reflected, 3-lobed. Gen. pl. 48. Nutt. Gen. I. p. 48. Juss. p. 111. Roem. & Schult. Gen. 94. Lam. Ill. t. 19. Nat. Ord. LABIATÆ Juss. Mountain Balm.

1. *M. didyma* L.: leaves ovate, acuminate, subcordate, somewhat hairy; flowers in simple or proliferous heads; exterior bracts large, coloured, lanceolate. Willd. Enum. Hort. Berol. l. p. 33. Spec. l. p. 125. Pursh Fl. I. p. 16. Roem. & Schult. l. p. 213. Bot. Mag. t. 546. *M. coccinea* Mich. Fl. l. p. 16. *M. purpurea* Lam. Ill. IV. p. 256. *M. caule acutangulo*, capitulis terminalibus, &c. Cold. Novcb. No. 7.

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.

HAB. Near Cambridge, in the State of New-York. *Dr. Stevenson*.—indigenous? Coldenham, (Orange Co.) New-York. *Colden*. In Pennsylvania. *Muhlenberg*. Williamstown, Massachusetts. *Dewey*. Oswego Tea.

*β. angustifolia*: leaves ovate-lanceolate, acuminate, and with the stem, pubescent. *M. Kalmiana Pursh Fl. I. p. 17, t. 1. Roem. & Schult. I. p. 213.*

HAB. Near the Little Falls of the Mohawk. *Cooper*. Fairfield, New-York. *Prof. Hadley*. In boggy woods in rich black soil, near Onondaga and Oswego, New-York. *Pursh*. July.

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 *Linnaeus*. 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.

2. *M. oblongata Ait.*: pubescent; heads simple, exterior bracts ovate; calyx short, throat bearded, teeth divaricate; stem obtuse-angled, hairy above; leaves oblong-lanceolate, rounded at the base. *Pursh Fl. I. p. 18. Ait. Kew. ed. 2, I. p. 51. Willd. Spec. I. p. 125. Roem. & Schult. I. p. 212.*

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.

HAB. In rocky and mountainous situations: New-Jersey. In Pennsylvania. *Muhlenberg*. Near Williamstown, Massachusetts. *Prof. Dewey*. July.

*Pursh*, who appears to have examined the genus *MONARDA* with considerable attention, separates the *M. mollis* of *Linnaeus* (*M. allophylla Mich.\**) from the present species. They are, however, united by *Muhlenberg* without any mark of doubt. (*Cat. p. 3*) The *M. mollis* of *Pursh* may be only a variety, occasioned by a difference of situation.

\* "Foliorum figura, serratura, pubescentia, &c. adeo variant, ut ex hujus varietatibus species plures statuerint!" *Mich. Fl. I. p. 16.*

3. *M. clinopodia* L.: smooth; head small, simple, terminal; exterior bracts broad-ovate, acute, entire, almost smooth; calyx short, ciliate; corolla pubescent, slender; leaves ovate-oblong, acuminate, serrate, a little hairy; stem obtuse-angled, smooth. *Pursh Fl. I. p. 18. Willd. Spec. I. p. 125, excl. syn. Gronov.* (which appertains to *CLINOPODIUM incanum*) *Enum. hort. Berol. I. p. 32. Elliott Sk. I. p. 28. Roem. & Schults. I. p. 212.*

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

4. *M. fistulosa* L.: nearly smooth; heads simple or profliferous, leafy; exterior bracts oblong, acute, glabrous; calyx long, bearded; corolla hirsute; leaves ovate, acuminate, serrate; petioles long, ciliate; stem smooth, obtuse-angled. *Pursh Fl. I. p. 18. Willd. Spec. I. p. 124. Enum. hort. Ber. I. p. 32. Wall. Car. p. 64. Elliott Sk. I. p. 29. Roem. & Schults. I. p. 211.*

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 profliferous. 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.*

5. *M. punctata* L.: somewhat smooth; flowers verticillate; bracts lanceolate, coloured, longer than the whorl; leaves lanceolate-oblong, remotely serrate; stem obtuse-angled, white, downy. *Pursh Fl. I. p. 18. Willd. Spec. I. p. 126. Wall. Car. p. 64. Elliott Sk. I. p. 30. Roem. & Schults. I. p. 214. M. lutea Mich. Fl. I. p. 16.*

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 bilabiate.* BLEPHILIA. *Rafinesque.*

6. *M. hirsuta Pursh*: whole plant very hairy; flowers small, verticillate; bracts attenuated into awns; upper teeth of the calyx very short, the others setiform; leaves ovate, on long petioles, serrate. *Pursh Fl. I. p. 19. Roem. & Schult. I. p. 214. M. ciliata Mich. I. p. 16, non Lin.* BLEPHILIA *nepetoides Raf. secund. specimen.*

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.

HAB. Near Cummington, Massachusetts. *Dr. Porter.* In Pennsylvania. *Muhlenberg.* August.

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.*

*Calyx* subcampanulate, bilabiate; upper lip 2—3 toothed; lower lip bifid. *Corolla* ringent. *Filaments* transversely affixed to a footstalk. *Gen. pl. 50. Nutt. Gen. I. p. 17 Juss. p. 111. Roem. & Schult. Gen. 96. Lam. Ill. t. XX. Nat. Ord. LABIATÆ. Juss. Sage.*

1. *S. urticifolia L.*: viscous and villous; leaves ovate-oblong, toothed, base narrowed into a petiole; calyx 3-cleft, the upper division 3-toothed. *Willd. Spec. I. p. 131. Vahl Enum. I. p. 261. Mich. Fl. I. p. 14. Elliott Sk. I. p. 32. Pursh Fl. I. p. 20. Roem. & Schult. I. p. 210. S. foliis ovato-oblongis, duplicato serratis, &c. Gron. Virg. 8.*

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

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

HAB. In New-Jersey. *Muhlenberg*. June. v. s. in herb. MUHLENB.

2. *S. lyrata* L.: radical leaves lyrate-sinuate; stem nearly leafless, retrorsely hairy; upper lip of the corolla very short. *Willd. Spec.* l. p. 128. *Vahl Enum.* l. p. 257. *Walt. Car.* p. 65. *Mich. Fl.* l. p. 14. *Pursh Fl.* l. p. 20. *Elliott Sk.* l. p. 31. *Roem. & Schult.* l. p. 257. *S. corollarum* labio superiore brevior, &c. *Gron. Virg.* 8.

*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.

HAB. In fields and borders of woods; New-Jersey and Pennsylvania. June. *Cancer-weed.*

3. *S. Claytoni* Ell.: leaves cordate-ovate, sinuate, toothed, rugose; teeth of the upper lip of the calyx connivent. *Elliott Sk.* l. p. 32. *S. verbenaca* *Muhl. Cat.* p. 3. *Clayt. Virg.* p. 5.

*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, bilabiate, 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.*

HAB. In Pennsylvania. June—October. ♂ and ♀, flowers violet. *Muhlenberg*. Appears to be a distinct species from the *S. verbenaca* of *Lin.*

## 21. COLLINSONIA. L.

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

lower lobe divided into many capillary segments. *Seeds* 4; 3 of them generally abortive. *Gen. pl.* 51. *Nutt. Gen. I.* p. 18. *Juss.* p. 112. *Roem. & Schult. Gen.* 97. *Lam. Ill. t.* XXI. *Nat. Ord.* LABIATÆ *Juss.* *Knot-root. Horse-weed.*

*C. canadensis* L.: leaves broad-cordate, ovate, glabrous; teeth of the calyx short, subulate; panicle terminal, compound. *Willd. Spec. l.* p. 152. *excl. syn. Walt. Mich. Fl. l.* p. 17. *Pursh Fl. l.* p. 20. *Elliott Sk. l.* p. 34. *Big. Bost.* p. 8. COLLINSONIA *Cold. Novb. No. 8. Lin. hort. Clif. t.* 5.

*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 subsessile. *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* exserted. *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. CIRCÆA. L.

*Calyx* 2-leaved, superior. *Corolla* 2-petalled. *Capsule* 2-celled, not opening; cells 1-seeded. *Gen. pl.* 31. *Nutt. Gen. I.* p. 18. *Juss.* p. 319. *Roem. & Schult. Gen.* 104. *Lam. Ill. t.* XVI. *Nat. Ord.* ONAGRÆ *Juss.* *Enchanter's Nightshade.*

1. *C. lutetiana* β. *canadensis* L.: stem erect; leaves ovate, remotely toothed, opaque, nearly smooth. *Mich. Fl. l.* p. 14. *Vahl Enum. l.* p. 301. *Pursh Fl. l.* p. 21. *Elliott Sk. l.* p. 7. *C. canadensis* *Muhl. Cat.* p. 2. *C. lutetiana* *Big. Bost.* p. 8. *C. canadensis latifolia* flore albo *Tourn. inst.* 301. CIRCÆA, &c. *Clayt. Virg.* p. 2.

*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.

2. *C. alpina* L.: stem branched, very smooth, often procumbent; leaves broad-cordate, membranaceous, acutely toothed, shining. *Mich. Fl.* l. p. 17. *Willd. Spec.* l. p. 53. *Vahl Enum.* l. p. 301. *Pursh Fl.* l. p. 21. *Eng. Bot.* t. 1057. *Roem. & Schult.* l. p. 271.

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 unciniate. Raceme filiform, branched below. Calyx membranaceous. Petals reddish white, narrowed at the base. Fruit pubescent, but not hispid.

HAB. On rotten prostrate trees, and on mossy rocks, in wet shady woods. Seldom found south of 42° N. latitude. Common in the northern parts of the State of New-York. August.

### 23. LEMNA. L.

Calyx 1-leaved, entire. Corolla o. Fruit a utricle. (Seed 1, lying horizontally, and affixed by its lower side.) *Hook. Fl. Scot.* l. p. 10. *Gen. pl.* 1400. *Nutt. Gen.* l. p. 18. *Roem. & Schult. Gen.* 111. *Lam. Ill.* t. DCCXLVII. LENTICULA *Micheli.* *Juss.* p. 19. Nat. Ord. NAIADES\* *Juss.* Aquatics, floating on the surface. Fronds (*Hooker*; leaves *Lin.* &c.) increasing laterally; roots calyptrated at their extremities. MONOECIA *Diandria* *Lin.*  
*Duck's-meat.*

1. *L. trisulca* L.: fronds thin, elliptico-lanceolate, caudate at one extremity, at the other serrate; roots solitary. *Hook. Fl. Scot.* l. p. 10. *Willd. Spec.* IV. p. 193. *Muhl. Cat.* p. 86. *Eng. Bot.* t. 926. *Roem. & Schult.* l. p. 282.

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 HYDROCHARIDÆÆ. "A *Jussieu* inter *FILICES* relatum." *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.

**HAB.** In pure stagnant waters. Deerfield, Massachusetts. *Dr. Cooley* and *Mr. Hitchcock*. At Saratoga Springs, New-York. *Dewey*. Pennsylvania. *Muhlenberg*.

2. *L. minor* *L.*: fronds nearly ovate, compressed; roots solitary. *Hook.* l. c. p. 11. *Willd. Spec.* IV. p. 194. *Mich. Fl.* II. p. 163. *Muhl. Cat.* p. 36. *Pursh Fl.* I. p. 22. *Eng. Bot.* t. 1095. *Gron. Virg.* p. 143. *Roem. & Schult.* I. p. 283.

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

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

3. *L. gibba* *L.*: fronds obovate, nearly plane above, hemispherical beneath; roots solitary. *Hook.* l. c. p. 11. *Willd. Spec.* IV. p. 194. *Pursh Fl.* I. p. 22. *Eng. Bot.* t. 1233. *Roem. & Schult.* I. p. 283.

*Fronde*s 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*.

4. *L. polyrrhiza* *L.*: fronds obovate-rotundate, compressed; roots numerous, fasciculate. *Hook.* l. c. *Willd. Spec.* IV. p. 195. *Pursh Fl.* I. p. 22. *Eng. Bot.* 2458. *Roem. & Schult.* I. p. 283.

*Fronde*s 3—4 lines in length, succulent, and of a firm texture; a little convex beneath, sparingly producing gemmæ. *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. *Fronde*s (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 moss. 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, carinated 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. CRYPTA. *Nuttall.*

*Calyx* 2-leaved, inferior. *Corolla* 2—3-petalled, closed. *Style* almost wanting. *Stigma* obtuse. *Capsule* 2—3-celled, 2—3-valved; cells 4—5-seeded. *Nutt. Jour. Acad. Philad. I. p. 117, t. 6, f. 1. Gen. II. Supp. PEPLIS Pursh. DWIGHTEA Ives in lit. Nat. Ord. PORTULACÆ Juss.*

*C. minima Nutt. l. c. PEPLIS americana Pursh Fl. I. p. 238. Muhl. Herb. (Nutt.)*

*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 germen; *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 cylindric, 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

around New-Haven, Connecticut. *Prof. Ives*. On the banks of the Delaware near Philadelphia. *Nuttall*. On the shores of the Hudson near Albany, New-York. *Eaton*. August.

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.  
T R I A N D R I A.



ORDER I.  
M O N O G Y N I A.



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. SCHOENUS.

41. FUIRENA.

36. RHYNCHOSPORA.

42. CENCHRUS.

37. MARISCUS.

43. LIMNETIS.

38. DULICHIMUM.

44. ORYZOPSIS.

25. FEDIA. *Gaert.*

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

usually fertile. *Gaert. de fruct. et semin.* II. p. 36. *Mich. Fl.* I. p. 18. *Nutt. Gen.* I. p. 21. *Roem. & Schult. Gen.* 120. VALERIANA *sp.* *Lin.* VALERIANELLA *De Cand.* Nat. Ord. DIPSACEÆ *Juss.* VALERIANÆ *De Cand.*

*F. radiata Mich.*: leaves spatulate-oblong, nearly entire; fruit pubescent, somewhat 4-sided, naked at the top. *Mich. l. c.* *Vahl Enum.* II. p. 21. *Pursh Fl.* I. p. 28. *Elliott Sk.* I. p. 42. *Roem. & Schult.* I. p. 363. VALERIANA *radiata Willd. Spec.* I. p. 184. *V. locusta* *r. radiata Lin. sp. pl.* 48. *V. locusta Walt. Car.* p. 66. *V. caule dichotomo, &c. Gron. Virg.* 10.

*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 corymbs, with lanceolate bracts at the base, forming a kind of involucre. *Calyx* minute, 3-4-toothed. *Corolla* pale blue, gibbous at the base; segments ovate, very obtuse. *Stamens* long, exserted. *Stigma* simple, obtuse.

HAB. In fields; near Albany. *Eaton.* In Pennsylvania. *Muhlenberg.* May. I have specimens collected by Capt. Douglass, on Gross Isle, Detroit-river.

## 26. IRIS. L.

*Corolla* 6-parted; 3 of the segments reflected, the others erect or connivent. *Style* short, or 0. *Stigmas* 3, petaloid, covering the stamens. *Capsule* 3-celled, 3-valved, many-seeded. *Gen. pl.* 79. *Nutt. Gen.* I. p. 22. *Juss.* p. 57. *Roem. & Schult. Gen.* 133. *Lam. Ill.* t. XXXIII. Nat. Ord. IRIDES. *Juss.* *Flag. Flower-de-luce.*

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

*α. sulcata*: stem slightly compressed; interior petals longer than the stigmas; germen with the angles distinctly sulcate, sides concave; capsule oblong, ventricose; angles indistinctly furrowed. *I. versicolor Willd. Spec.* I. p. 233. excl. syn. *Dill. hort. Elth.* t. 155. f. 137. *Elliott Sk.* I. p. 45. *Big. Med. Bot.* t. 16. *Walt. Car.* p. 67. *I. virginica Pursh Fl.* I. p. 29. excl. syn. *Bot. Mag.* t. 703. *Big. Bost.* p. 12. *I. americana stylo crenato, Dill. hort. Elth.* t. 155. f. 137.

*β. 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-oblong. *I. versicolor Pursh Fl. l. p. 29. Curtis 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; *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 *α.* is less common than *β.* which is abundant throughout the United States. May—June. *Common Flag.*

2. *I. virginica L.*: flowers beardless; stem solid terete; leaves very long and narrow; capsule elongated, prismatic, acute at each end. *Willd. Spec. l. p. 232? Muhl. Cat. p. 4. I. gracilis Big. Bost. p. 12. I. prismatica Pursh Fl. l. p. 30. Roem. & Schult. l. p. 476. Cat. pl. New-York, p. 12.*

*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.

**HAB.** In wet meadows and swamps. In the brackish meadows between Newark and Hackinsack. In the pine-barrens of New-Jersey abundant. In the vicinity of Boston. *Bigelow.* Near New-Haven, Connecticut. *Prof. Ives.* In Pennsylvania. *Muhlenberg.* June.

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.

3. *I. lacustris* *Nutt.*: flowers without a bearded crest; leaves ensiform, much shorter than the 1-flowered scape; petals nearly equal, attenuated on the tube; capsule turbinate, 3-sided, margined; roots tuberous. *Nutt. Gen.* I. p. 23. *Torrey* in *Sill. Jour.* IV. p. 57.

*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 Michilimacinack. *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*.

*Calyx* superior, petaloid, externally hirsute, deeply 6-parted, nearly equal. *Style* decussing; stigma minutely 3-lobed. *Capsule* globose, 3-celled; cells 3—6-seeded. *Elliott Sk.* I. p. 47. **DILATRIS** *Nutt. Gen.* I. p. 24. **HERITIERA** *Mich. Fl.* I. p. 20. **ANONYMOS** *Walt. Car.* p. 67. **Nat. Ord.** **IRIDES** *Juss.* **HÆMODOURACEÆ** *R. Brown.*

*L. tinctoria* *Ell.* l. c. **ANONYMOS tinctori** *Walt.* l. c. **HERITIERA tinctorum** *Bosc. Bull. de la Soc. philom.* n. 19. p. 145. (fide *R. & S.*) *Redouté liliac.* V. t. 247. *Gmel.*

*Syst. Veg.* p. 113. *H. Gmelini Mich. Fl. I.* p. 21. t. 4.  
*DILATRIS Heritiera Pers. Syn. I.* p. 54. *Roem. & Schult.*  
*I.* p. 483. *D. tinctoria Pursh Fl. I.* p. 30.

*Root* fibrous, perennial, of a reddish colour. *Stem* erect, simple, about 2 feet high, hairy towards the summit. *Leaves* ensiform, 8—10 inches long and 4 or 5 lines wide, smooth, sheathing at the base. *Flowers* in a terminal corymbose panicle. *Calyx* (corolla *Elliott* and others) with the 3 exterior segments linear; the others lanceolate, all of them tomentose externally, and yellow within. *Filaments* equal, (*Elliott*) inserted into the base of the inner segments of the calyx; *anthers* linear-oblong, involuted when dried. *Style* filiform, as long as the stamens. *Capsule* crowned with the persistent calyx, obsoletely triquetrous, opening at the angles; apex truncated. *Seeds* (6—7 in each cell *Walt.*) round, and somewhat compressed.

**HAB.** In the sandy swamps of New-Jersey. *Pursh.* In the same State, near Philadelphia. *Bartön.* July. *Muhlenberg,* in his Catalogue, has given New-York as a *habitat* of this plant; but I am assured by *Prof. J. Green,* that the only authority for this is a small Herbarium of his, in which was a specimen of LACHNANTHES erroneously labelled as from New-York. This collection was sent to *Muhlenberg* for examination, who noted all the localities of the specimens it contained.

*Red-root.*

The genus LACHNANTHES of *Elliott* is still retained in *DILATRIS* by *Nuttall.* With deference, however, I am obliged to differ from this excellent botanist in this instance. The former appears to have sufficient characters to constitute a distinct genus, namely, its monopetalous corolla, equal filaments, and many-seeded cells. *De Candolle* thinks the American plant differs generically from the 3 species of *Dilatria* found at the Cape of Good Hope, in the dissepiments of the capsule growing from the interior margin of the valves, as well as in the equality of the stamens. *De Cand. apud. Redoute* l. c. It also differs from ARGOLASIA, to which it has much affinity, in being *triandrous* instead of *hexandrous.*

## 28. COMMELINA. L.

*Calyx* 3-leaved. *Corolla* 3-petalled. *Stamens* 6; 3—4 sterile, and furnished with cruciform glands. *Capsule* 3-celled, 3-valved; one of the valves often abortive. *Gen. pl.* 86. *Nutt. Gen. I.* p. 27. *Juss.* p. 45. *Roem. & Schult. Gen.* 156. *Lam. Ill.* t. XXXV. *Nat. Ord. Junci Juss. COMMELINEÆ R. Brown.*

*Day-flower.*

1. *C. angustifolia Mich.:* assurgent; slender; rather smooth; petals unequal, (one very minute;) leaves linear-



lanceolate: bracts peduncled, short-cordate. *Mich. Fl.* I. p. 24. *Vahl Enum.* II. p. 265. *Pursh Fl.* I. p. 31. *Muhl. Cat.* p. 4. *Roem. & Schult.* I. p. 528. *C. erecta Willd. Spec.* I. p. 250? *C. truncata Willd. Supp. Enum. hort. Berol.* I. p. 5. *Roem. & Schult.* I. c. 523.

*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; stigma simple. *Capsule* subglobose, indistinctly 3-sided. *Seeds* 2 in each cell, oval.

**HAB.** Borders of a swamp 2 miles from Flushing, Long-Island. *Mr. P. Dudgeon.* In Pennsylvania. *Muhlenberg.* June.

2. *C. virginica L.*: petals nearly equal; stem erect, a little pubescent; leaves long-lanceolate, subpetiolate; throat bearded. *Willd. Spec.* I. p. 251. *Pursh Fl.* I. p. 31. *Elliott Sk.* I. p. 49. *Vahl Enum.* II. p. 267. *Walt. Car.* p. 68. *Roem. & Schult.* I. p. 530. *C. longifolia Mich. Fl.* I. p. 23. *C. hirtella Vahl Enum.* II. p. 166. EPHEMERUM phalangioides, &c. *Pluk. Alm.* 135. t. 174. f. 4.

*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 germen at its base. *Filaments* 3, white, longer than the corolla, inserted into the lower side of the germen at its base. *Anthers* incumbent, furrowed, somewhat sagittate, yellow. *Style* longer than the stamens. *Elliott.*

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

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.

Flowers in a roundish or oblong head. *Calyx* glumaceous, cartilaginous, 3-valved. *Corolla* 3-petalled, equal. *Stigma* 3-cleft. *Capsule* 1-celled, 3-valved. *Gen. pl.* 89. *Nutt. Gen. I.* p. 30. *Juss.* p. 44. *Roem. & Schult. Gen.* 167. *Lam. Ill. t.* XXXVI. Nat. Ord. JUNCI *Juss.* *Yellow-eyed grass.*

1. *X. caroliniana* *Walt.*: leaves linear, grass-like; scape 2-edged; head ovate, rather acute; scales round. *Walt. Car. p.* 69. *Vahl Enum. II. p.* 206. *Pursh Fl. I. p.* 33. *Roem. & Schult. I. p.* 551. *X. jupacai* *Mich. Fl. I. p.* 23. *Big. Bost. p.* 13. *X. flexuosa* *Elliott Sk. I. p.* 51. *X. foliis gladiatis* *Gron. Virg. p.* 11.

*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.

2. *X. brevifolia* *Mich.*: leaves subulate-ensiform, short; head nearly globose; interior valves of the calyx shorter than the exterior valve, slightly notched. *Mich. Fl. I. p.* 23. *Elliott Sk. I. p.* 52. *Pursh Fl. I. p.* 33. *Roem. & Schult. I. p.* 552.

*Root* perennial. *Stem* 12—18 inches high, compressed near the summit. *Leaves* 3—6 inches long, linear-subulate, much twisted. *Elliott.*

HAB. In Pennsylvania. *Muhlenberg.*

30. SCHOLLERA. *Schreb.*

*Spath* 1-flowered. *Anthers* of 2 forms. *Corolla*, tube very long; limb deeply 6-parted. *Capsule* 1-celled. *Gen. pl.* 1711. *Willd. n. act. Soc. scrut. H. Nat. III. p.* 438. (fide *R. & S.*) *Muhl. Cat. p.* 5. LEP-TANTHUS *Mich.* Nat. Ord. NARCISSI *Juss.*

*S. graminifolia* Willd. l. c. *Muhl. Cat.* l. c. *S. gramineus* Bart. *Fl. Am. Sept.* t. 54. LEPTANTHUS *gramineus* Mich. *Fl.* l. p. 25. t. 5. f. 2. *Pers. Syn.* l. p. 56. HETERANTHERA *graminea* Vahl *Enum.* II. p. 45. *Pursh Fl.* l. p. 32. COMMELINA *dubia* Jacq. *Obs. bot.* III. p. 9. t. 59. *Anonymos aquatica graminifolia.* *Clayt. Virg.* n. 314.

Root perennial. Stem floating, slender, dichotomous, rooting at the base of the lower leaves. Leaves sessile, narrow-linear, 3—6 inches long, slightly sheathing at the base. Spath short, lanceolate, terminating in a long sharp point. Tube of the corolla very long and slender, a little curved; border yellow, deeply divided, appearing as if 6-petalled; segments lanceolate, acute. Stamens 4; filaments broad and flat, inserted into the orifice of the corolla; 3 of the anthers linear, longer than the style; the other abortive, shorter than the style. Style thick; stigma obtuse, 3-lobed?

HAB. In flowing water; not uncommon. July—August.

### 31. HETERANTHERA. Ruiz & Pavon.

*Calyx* a spath. *Corolla*, tube long and slender; border 6-parted, equal. *Anthers* of 2 forms. *Capsule* 3-celled, many-seeded, opening at the angles; dissepiment contrary. *Ruiz & Pav. Fl. Peruv.* I. p. 43. t. 71. f. a. *Roem. & Schult. Gen.* 141. HETERANDRA *P. de Beauvois Trans. Amer. Phil. Soc.* IV. p. 173. LEPTANTHUS *Mich. Fl.* l. p. 24. *Nutt. Gen.* I. p. 28. *Nat. Ord. NARCISSI Juss.*

*H. reniformis* R. & P.: leaves orbicular-reniform; spath oblong, acuminate, 2—3-flowered. *Ruiz & Pavon, l. c. Roem. & Schult.* l. p. 487. *H. acuta* Vahl *Enum.* II. p. 42. *Pursh Fl.* l. p. 32. HETERANDRA *reniformis* P. de Beauv. l. c. cum icone. LEPTANTHUS *reniformis* Mich. l. c. p. 25. *L. peruviana et virginica* *Pers. Syn.* l. p. 56.

Root perennial, creeping. Stem prostrate or partly floating, branched at the base, about 3 inches long. Leaves on foot-stalks 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.

HAB. In muddy, overflowed situations. On the banks of the Passaic, &c. New-Jersey. Near Fishkill, New-York. In South-Bay, below Hudson. *Eaton*. Near New-Haven, Connecticut. *Prof. Ives*. In the vicinity of Philadelphia, common; and in the State of Delaware. *Barton*. July—August.

32. SISYRINCHIUM. *L.*

*Spatha* 2-leaved. *Corolla* (calyx *Juss.*) 6-petalled; flat, equal. *Stamens* cohering below. *Stigma* 3-cleft. *Capsule* 3-celled. *Gen. pl.* 1101. *Nutt. Gen. I.* p. 24. *Juss.* p. 57. *Roem. & Schult. Gen.* 143. *Lam. Ill.* t. DLXIX. Nat. Ord. IRIDES *Juss.* *Monoecia monadelphia* *Lin.* *Blue-eyed Grass.*

1. *S. anceps* *Cavan.*: scape 2-edged, winged, simple, nearly leafless; spath about 4-flowered, unequal, shorter than the flowers; petals mucronate. *Willd. Spec.* III. p. 579. *Pers. Syn.* I. p. 50. *Pursh Fl.* I. p. 31. *Big. Bost.* p. 161. *Roem. & Schult. I.* p. 493. *S. bermudianum* *Mich. Fl.* II. p. 33. *S. bermudianum*  $\alpha$ . *Lin. Syst. Veg.* 682. *S. gramineum* *Lam. Encyc.* I. p. 403. *Curt. Mag.* 464. *Redoutè liliac.* V. t. 282. BERMUDIANA *graminea*, &c. *Dill. hort. Elth.* t. 41. f. 49? *Sys. bermudiense*, &c. *Pluk. Alm.* 368. t. 61. f. 2.

*Root* perennial. *Stem* about a foot high, a little branched towards the top, remarkably ancipitous, 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* emarginate, 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.

2. *S. mucronatum* *Mich.*: scape simple, winged; spath coloured, one of the valves extended into a long marcescent point. *Mich. Fl.* II. p. 33. *Pers. Syn.* I. p. 50. *Pursh Fl.* I. p. 31. *Roem. & Schult. I.* p. 494. *S. cœrulcum*, &c. *Pluk. Alm.* 368. t. 61. f. 1.

*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.

**HAB.** In sandy fields. Long-Island, near Islip, &c.; also in New-Jersey, near Philadelphia. In Pennsylvania. *Muhlenberg*. June—July.

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

### 33. KYLLINGIA. L.

*Flowers* distinct, disposed in a roundish, sessile, subimbricated spike. *Calyx* 2-valved, 1-flowered. *Corolla* 2-valved, longer than the calyx. *Gen. pl.* 91. *Nutt. Gen.* I. p. 30. *Juss.* p. 37. *Roem. & Schult. Gen.* 188. *Lam. Ill.* t. XXXVIII. *Nat. Ord.* CYPEROIDEÆ *Juss.*

*K. monocephala* L.: stem filiform, 3-angled; head globose, sessile; involucrem 3-leaved, very long. *Willd. Spec.* I. p. 256. *Vahl Enum.* II. p. 379. *Muhl. Gram.* p. 3. *Elliott Sk.* I. p. 54. *Roem. & Schult. Gen.* II. p. 236.

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

**HAB.** In Pennsylvania. *Muhlenberg*. Probably distinct from the *K. monocephala* of India.

### 34. SCIRPUS. L.

*Calyx*, glumes 1-valved, 1-flowered, imbricated on all sides. *Gen. pl.* 94. *Nutt. Gen.* I. p. 32. *Juss.* p. 27. **SCIRPUS** L. *Vahl.* **ISOLEPIS** et **ELEOCHARIS** R. *Brown.* **FIMBRISTYLIS** *Vahl.* **TRICHO-PHORUM** *Pers.* *Lam. Ill.* t. XXXVIII. *Nat. Ord.* CYPEROIDEÆ *Juss.* *Club-rush,*

§. 1. *Seed surrounded with bristles at the base.*

†. *Style articulated to the seed; base dilated and persistent. Seed often lenticular. (Spike solitary.)*  
1—10. ELEOCHARIS R. Brown.

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

†††. *Style filiform, deciduous. Bristles much longer than the seed.* 18—19. TRICHOPHORUM Pers.

§. 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. FIMBRISTYLIS Vahl.

\*

1. *S. tenuis Willd.*: culm very slender, quadrangular; spike elliptical, acute at each end; glumes ovate, obtuse; stamens 3; style 3-cleft; seed rugose. *Willd. Enum. hort. Berol.* 1. p. 76. *Muhl. Gram.* p. 27. *Roem. & Schult.* II. p. 127.

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

p. 29. *S. glaucegens* Willd. Enum. hort. Berol. I. p. 76?  
Roem. & Schult. II. p. 126?

Root perennial. Culm very slender, about a foot high. Spike brownish. Glumes very obtuse and generally emarginate. Bristles 4, longer than the seed, but shorter than the tubercle.

HAB. Borders of salt marshes near New-York. July.

This species differs from the *S. tuberosus* of Michaux, which Muhlenberg remarks it should be compared with, in having an angular, instead of a round, culm, &c.

3. *S. palustris* L.: stem round, inflated; spike oblong-lanceolate; glumes somewhat obtuse; seed roundish, punctate and rugose; bristles scabrous. Willd. Spec. I. p. 291. Pursh Fl. I. p. 54. Elliott Sk. I. p. 77. Muhl. Gram. p. 28. ELEOCHARIS *palustris* Roem. & Schult. II. p. 151.

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.

4. *S. capitatus* L.: culm terete, or somewhat compressed; spike ovate, obtuse; seed oval, compressed, smooth. Sp. pl. 70. Willd. Spec. I. p. 294. excl. syn. nisi Lin. et Gron. Wall. Car. p. 70. Pursh Fl. I. p. 55. Elliott Sk. I. p. 77. Muhl. Gram. p. 30. *S. obtusus* Willd. Enum. h. Berol. I. p. 76. Roem. & Schult. II. p. 126. ELEOCHARIS *capitata* R. Brown. Roem. & Schult. II. p. 153.

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.

5. *S. acicularis* L.: culm setaceous, quadrangular; spike ovate, acute, 3—6-flowered; glumes somewhat obtuse; stamens 3; style bifid; seed obovate. Willd. Spec. I. p. 295. Vahl Enum. II. p. 215. *S. trichodes* Muhl. Gram. p. 30. Elliott Sk. I. p. 76. *S. capillaceus* Mich. Fl. I. p. 30. ELEOCHARIS *acicularis* Roem. & Schult. II. p. 154.

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. trichoides* 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. intermedius 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.

HAB. On the muddy and overflowed banks of rivers; sometimes in sandy swamps. Not rare in the vicinity of New-York. Near Deerfield, Massachusetts. *Cooley.* In Pennsylvania. *Muhlenberg.* September.

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.

HAB. In wet woods, and in bogs. Deerfield, Massachusetts. *Hitchcock* and *Cooley.* In the western parts of the State of New-York. *Stevenson.* In Pennsylvania and Delaware. *Muhlenberg.* May—June.



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.

10. *S. cespitosus* L.: culms cespitose, terete; spikes ovate, few-flowered; lower glumes bracteiform, as long as the spike; sheaths with rudiments of leaves. *Sp. pl.* 71. *Willd. Spec.* I. p. 292. *Vahl Enum.* II. p. 243. *Wahl. Fl. Lapp.* p. 13. *Eng. Bot.* t. 1029. *Roem. & Schult.* II. p. 122.

*β. callosus* 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 *germen*. Ripe seed not seen.

HAB. On the White Hills of New-Hampshire. *Bigelow* and *Boott*. July.

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.

\* \*

11. *S. americanus* Pers.: culm nearly naked, triquetrous; sides concave; spikes lateral, (1—5,) ovate, conglomerate, sessile; glumes round-ovate, mucronate; seed triquetrous, acuminate. *Pers. Syn.* I. p. 68. *Pursh Fl.* I. p. 56. *Elliott Sk.* I. p. 80. *Roem. & Schult.* II. p. 129. *S. triquetra* Mich. *Fl.* I. p. 30. *Muhl. Gram.* p. 33. *Big. Bost.* p. 14.

*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. Leavenworth*.

12. *S. debilis Muhl.*: culms cespitose, deeply striate; spikes about 3, lateral, ovate, sessile; glumes ovate, obtuse, mucronate. *Muhl. Gram.* p. 34. *Pursh Fl.* I. p. 55. *Roem. & Schult.* II. p. 128.

*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.

**HAB.** Borders of ponds, particularly in sandy soils. Long-Island, near Babylon, &c. Banks of the Connecticut River. In Pennsylvania, &c. August—September.

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

13. *S. lacustris L.*: culm terete, attenuated above, naked; panicle subterminal; spikes peduncled, ovate. *Willd. Spec.* I. p. 296. *Mich. Fl.* I. p. 31. *Pursh Fl.* I. p. 55. *Elliott Sk.* I. p. 31. *Muhl. Gram.* p. 32. *Roem. & Schult.* II. p. 135. *S. validus Vahl Enum.* II. p. 268. *Pursh Fl.* I. p. 56. *Roem. & Schult.* II. p. 138.

*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 decomposed, frequently somewhat sessile.

14. *S. acutus* *Muhl.*: culm terete, (not attenuated,) spotted; peduncles numerous, sublateral; spikes oblong; glumes pubescent, mucronate. *Muhl. Gram.* p. 33. *Big. Bost.* p. 15?

*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.

HAB. In ponds and wet swamps. Litchfield, Connecticut. *Brace.* Pennsylvania. *Muhlenberg.* June—July.

15. *S. atrovirens* *Muhl.*: culm triangular, leafy; cyme terminal, compound, proliferous; involucrem 3-leaved; spikes conglomerate, ovate, acute; glumes ovate, mucronate, pubescent. *Muhl. Gram.* p. 43. *Willd. Enum. h. Berol.* I. p. 79. *Roem. & Schult.* II. p. 143.

*Culm* obtusely triangular, about 2 feet high. *Involucrem* 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.

16. *S. brunneus* *Muhl.*: culm leafy, obtusely triangular; cyme decomposed; involucrem 3—4-leaved; spikes round-ovate, clustered in heads of about sixes; glumes ovate, obtuse. *Muhl. Gram.* p. 43. *S. exaltatus* *Pursh Fl.* I. p. 56. *Elliott Sk.* I. p. 87. *Roem. & Schult.* II. p. 143.

*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.

HAB. In water, on the borders of ponds and lakes; rare. In New-Jersey, near New-York. Deerfield, Massachusetts.

*Cooley and Hitchcock.* In Pennsylvania. *Muhlenberg.* August—September.

17. *S. macrostachyos* *Muhl.*: culm triquetrous, leafy; corymb clustered; involucre about 3-leaved, very long; spikes oblong; glumes ovate, 3-cleft, the middle segment subulate and reflected; style 3-cleft. *Muhl. Gram.* p. 45. *S. robustus* *Pursh Fl. I.* p. 56. *Roem. & Schult. II.* p. 140. *S. maritimus* *β. macrostachyos* *Mich. Fl. I.* p. 32. *S. maritimus* *Big. Bost. p. 15.* *Elliott Sk. I.* p. 86.

*Culm* acutely 3-angled, 3—4 feet high. *Leaves* smooth, carinate, taller than the culm. *Involucre* 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.

\* \* \*

18. *S. Eriophorum* *Mich.*: culm obtusely triangular, leafy; panicle decomposed, proliferous, nodding; spikes all pedunculate; bristles surrounding the seed exerted. *Mich. Fl. I.* p. 33. *S. eriophorus* *Vahl Enum. II.* p. 282. *Roem. & Schult. II.* p. 147. **ERIOPHORUM** *cyperinum* *L. Sp. pl.* 77. *Willd. Spec. I.* p. 313. *Big. Bost. p. 16.* *Walt. Car. p. 71.* **TRICHOPHORUM** *cyperinum* *Pers. Syn. I.* p. 69. *Pursh Fl. I.* p. 57. *Muhl. Gram.* p. 47. *Elliott Sk. I.* p. 91. t. 3. f. 4. **SCIRP.** *thyrsiflorus* *Willd. Enum. hort. Berol. I.* p. 78. *S. paniculatus*, &c. *Gron. Virg. p. 12.*

*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. *Involucre* 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.

19. *S. lineatus Mich.*: culm triquetrous, leafy; panicles terminal and lateral, decomposed, at length nodding; involucrem 1—2-leaved; spikes ovate; glumes lanceolate, somewhat carinate; bristles longer than the seed. *Mich. Fl. I. p. 32. Vahl Enum. II. p. 73. Pursh Fl. I. p. 56. Elliott Sk. I. p. 87. S. lineatus et pendulus Muhl. Gram. pp. 44 & 45. TRICHOPHORUM lineatum Pers. Syn. I. p. 69. ISOLEPIS lineata Roem. & Schult. II. p. 117.*

*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. *Involucrem* 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.

**HAB.** In swamps. Near Poughkeepsie, New-York. *Mr. Dudgeon*. Plainfield, Massachusetts. *Dr. Porter*. August. In sandy wet woods; New-Jersey to Carolina. *Pursh*. In Pennsylvania. *Muhlenberg*.

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. tenuis*, &c.

\* \* \* \*

20. *S. subsquarrosus Muhl.*: culm triquetrous, nearly naked, incurved; spikes 3, nearly terminal, ovate; glumes somewhat squarrose at the tip; involucrem 2-leaved, very long, unequal. *Muhl. Gram. p. 39. S. minimus Pursh Fl. I. p. 55. Elliott Sk. I. p. 82.*

*Root* fibrous, perennial? *Culms* cespitose, almost capillary, about 2 inches high, purple below. *Leaves* nearly radical, setaceous. *Involucrem* 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.

**HAB.** On the gravelly banks of rivers. On the Connecticut, near Deerfield, Massachusetts, &c. *Dr. Cooley* and *Mr. Hitchcock*. In the western parts of the State of New-York. In Pennsylvania. *Muhlenberg*. August.

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 involucre and sub-squarrose spikes.

21. *S. capillaris* *L.*: culm nearly naked, triquetrous, capillary; spikes ovate, 2—3 of them pedunculate, with an intermediate sessile one. *Lin. Mant.* 321. *Willd. Spec.* I. p. 302. *Vahl Enum.* II. p. 276. *Pursh Fl.* I. p. 37. *Muhl. Gram.* p. 36. *S. ciliatifolius* *Elliott Sk.* I. p. 82. *ISOLEPIS capillaris* *Roem. & Schult.* II. p. 118. *S. pusillus autumnalis*, &c. *Gron. Virg.* 10.

*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. *Involucre* 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.

**HAB.** In sandy fields; plentifully near New-Durham, New-Jersey, about three miles from the city of New-York. In Pennsylvania and New-England. *Muhlenberg.* Near Phillipstown, New-York. *Dr. Barratt.* August.

22. *S. autumnalis* *L.*: culm compressed, ancipitous; umbel compound; involucre 2-leaved; spikes lanceolate, acute, somewhat 4-sided. *Lin. Mant.* 180. *Willd. Spec.* I. p. 301. *Pursh Fl.* I. p. 57. *Elliott Sk.* I. p. 82. *Muhl. Gram.* p. 37. *Willd. Berl. Mag.* II. p. 287. t. 8. f. 1. (fide *R. & S.*) *S. mucronulatus* *Mich. Fl.* I. p. 31. *Roem. & Schult.* II. p. 145. *FIMBRISTYLIS autumnalis* *Roem. & Schult.* II. p. 97. *S. foliosus pusillus autumnalis*, &c. *Gron. Virg.* p. 10.

*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. *Involucre* 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.

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23. *S. ferrugineus* L.: culm compressed, scabrous above; involucrem unequally ciliate; spikes lanceolate, acute, nearly terete; glumes pubescent. *Sp. pl.* 74. *Willd. Spec.* I. p. 304. *Muhl. Gram.* p. 35. *Elliott Sk.* I. p. 85. *S. puberulus* Mich. *Fl.* I. p. 31. FIMBRISTYLIS *ferrugineus* et *puberulus* *Vahl Enum.* II. pp. 289 & 291. *Roem. & Schult.* II. pp. 97 & 99. *F. puberulus* *Pursh Fl.* I. p. 49.

*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. *Involucrem* 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.

HAB. In wet meadows, and sometimes on dry hills: in the latter situation it seldom attains the height of a span. On the Island of New-York. In Pennsylvania and New-Jersey. *Muhlenberg.* August. Apparently not distinct from the West-Indian plant.

24. *S. spadicus* L.: culm compressed, nearly naked; umbel terminal; involucrem rigid, 2-leaved, one of the leaves longer than the umbel; leaves subterete; spikes ovate-oblong, terete. *Sp. pl.* 74. *Willd. Spec.* I. p. 305. *Walt. Car.* p. 30. *Elliott Sk.* I. p. 84. *Muhl. Gram.* p. 36. FIMBRISTYLIS *spadicea* *Vahl Enum.* II. p. 294. *Pursh Fl.* I. p. 49. *Roem. & Schult.* II. p. 101. Gramen cyperoides, &c. *Sloane Hist.* I. p. 118. t. 76. f. 2.

*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.

### 35. SCHÆNUS. L. & Vahl.

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

1, (mostly naked at the base.) *Gen. pl.* 92. *Vahl Enum.* II. p. 207. *Nutt. Gen.* I. p. 33. *Roem. & Schult. Gen.* 169. *Lam. Ill.* t. XXXVIII. Nat. Ord. CYPEROIDEÆ *Juss.* *Bog-rush.*

*S. mariscoides Muhl.*: 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. *Muhl. 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 unbelled, 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. *Muhl.*

*HAB.* In bogs. *Pennsylvania.* July. *Muhlenberg.*

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.*

*Glumes* fascicled into a spike, the inferior ones empty. *Corolla* 0. *Seed* 1, crowned with the persistent style; base surrounded with bristles. *Vahl Enum.* II. p. 229. *R. Brown Prod. Fl. N. Holl.* I. p. 230. *Nutt. Gen.* I. p. 33. *Roem. & Schult. Gen.* 173. SCHÆNUS *L.* Nat. Ord. CYPEROIDEÆ *Juss.*

1. *R. alba Vahl*: spikes in corymbose fascicles; culm triangular above; leaves setaceous; seed somewhat lenticular; bristles about 10. *Vahl Enum.* II. p. 236. *Pursh Fl.* I. p. 49. *Elliott Sk.* I. p. 57. *Roem. & Schult.* I. p. 87. SCHÆNUS *albus L.* *Willd. Spec.* I. p. 267. *Mich. Fl.* I. p. 34. *Big. Bost.* p. 13. *Muhl. Gram.* p. 5.

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

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\* *Spicula* undique imbricatæ 1—2 floræ, squamis extimis vacuis. *Setæ squamulæ hypogynæ nullæ. Stylus* deciduus cum ovario inarticulatus. *Nux calva; nucleus lævis.* *R. Brown Prod.* I. p. 236.



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. SCHÆNUS *fuscus* Muhl. Gram. p. 6. RHYN. *fusca* Roem. & Schult. II. p. 38? *R. alba* β. *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. +.

3. *R. glomerata* Vahl: spikes in corymbose fascicles, very distant, in pairs; culm obtusely triangular; leaves flat; seed obovate-cuneiform, very smooth, as long as the tubercle. Vahl Enum. II. p. 234. Pursh Fl. I. p. 43. Elliott Sk. I. p. 61. Roem. & Schult. II. p. 86. SCHÆNUS *glomeratus* Lin. Sp. pl. 65. Willd. Spec. I. p. 266. (excl. syn. Thunb.) Muhl. Gram. p. 3. Walt. Car. p. 69. S. culmo triquetro, pedunculis geminis lateralibus, &c. Gron. Virg. 131. RHYN. *capitellata* Elliott Sk. I. p. 61. Vahl Enum. II. p. 235? SCHÆN. *capitellatus* Mich. Fl. I. p. 36.

*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 SCHÆNUS *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,

a little rugose. *SCHÆNUS setaceus* Muhl. Gram. p. 6. 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.

HAB. In sandy swamps in the pine-barrens of New-Jersey? In swamps, Pennsylvania. July. *Muhlenberg*.

This plant is probably quite distinct from the *SCHÆNUS 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.

5. *R. sparsa* Vahl: culm triquetrous, leafy; corymbs axillary and terminal, compound, lax; peduncles capillary; seed obovate, rugose, much longer than the tubercle. Vahl Enum. II. p. 230. Pursh Fl. I. p. 48. Elliott Sk. I. p. 62. t. 2. f. 1. Roem. & Schult. II. p. 83. *SCHÆNUS sparsus* Mich. Fl. I. p. 35. Muhl. Gram. p. 7.

*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.

HAB. In Pennsylvania. *Muhlenberg*. July. I have seen specimens from the Southern States only.

6. *R. cymosa* Ell.? culm triquetrous, leafy; cymes terminal and axillary; the terminal one much larger; seed round-ovate, compressed, transversely rugose; tubercle conical. Elliott Sk. I. p. 58? *SCHÆNUS cymosus* Willd. Spec. I. p. 265. Muhl. Gram. p. 8. *SCIRPUS polyphyllus* Pursh Fl. I. p. 57.

*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.

HAB. In swamps. Pennsylvania. July. *Muhlenberg*. My specimens are from Salem, North-Carolina.

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 species.

7. *R. laxa* Vahl: culm triquetrous; corymbs leafy, decomposed, 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. SCHÆNUS *longirostris* Mich. Fl. I. p. 35. *S. corniculatus* Lam. Ill. I. p. 132.

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 persistent, 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. Muhlenberg.

### 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 Enum. II. p. 379. Nutt. Gen. I. p. 34. Roem. & Schult. Gen. 190. SCIRPI species Lin. Nat. Ord. CYPEROIDEÆ Juss.

1. *M. retrofractus* Vahl: umbel simple; rays long; spikes obovate, retrorsely imbricate; spikelets subulate, at length bent backwards; involucre 3-leaved. Vahl Enum. II. p. 373. Pursh Fl. I. p. 53. Elliott Sk. I. p. 74. Roem. & Schult. II. p. 245. SCIRPUS *retrofractus* Lin. Sp. pl. 74. Willd. Spec. I. p. 304. Muhl. Gram. p. 40. Cyperi genus indianum, &c. Pluk. Alm. 179. t. 91. f. 4.

Culm a foot and a half high, naked, obtusely triangular, pubescent; sometimes with reflected, lacinate scales on the angles. Leaves situated at the base of the culm and about half its length, linear-lanceolate, pubescent, carinate. Involucre leaf-like, shorter than the umbel. Rays of the umbel 6—8, unequal, compressed, 2—6 inches long. Spikelets terete, collected into an obovate head, at length closely reflected backwards. Calyx of 2 membranaceous leaves, (sometimes 1-leaved,) much shorter than the flowers. Flowers closely imbricate, (generally but one fertile;) corolla ovate and lanceolate. Stamens 3. Seed oblong-linear, gray, punctulate.

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

2. *M. ovularis* Vahl: umbel simple; rays short; spikes globose; flowers spreading. Vahl Enum. II. p. 374. Pursh Fl. I. p. 58. Roem. & Schult. II. p. 244. *M. echinatus* Elliott Sk. I. p. 75. t. 3. f. 1. Cat. pl. New-York, p. 14. KYLLINGIA *ovularis* Mich. Fl. I. p. 29. SCIRPUS *echinatus* Lin. Willd. Spec. I. p. 304. Muhl. Gram. p. 40. *Cyperus floribus capitatus*, &c. Gron. Virg. 12. Gramen *cyperoides*, &c. Pluk. Alm. 179. t. 91. f. 4.

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, punctulate.

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; involucrem 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. DULICHIMUM. Richard.

Spikes somewhat racemose, axillary; spikelets linear-lanceolate, rather compressed. Glumes distichous, sheathing. Style very long, bifid; base persistent. Seed with bristles at the base. Rich. in Pers. Syn. I. p. 65. Nutt. Gen. I. p. 35. SCHÆNUS Vahl, &c. Nat. Ord. CYPEROIDEÆ Juss.

*D. spathaceum* Pers.: culm terete; leaves spreading in three directions; spikelets spreading. Pers. Syn. I. p. 65. Pursh Fl. I. p. 53. Elliott Sk. I. p. 73. t. 2. f. 3 SCHÆNUS *spathaceus* Lin. Sp. pl. ed. 2. 63. *S. angustifolius* Vahl Enum. II. p. 225. Roem. & Schult. II. p. 71. CYPERUS *spathaceus* Lin. Syst. Veg. p. 100. Willd. Spec. I. p. 289. Muhl. Gram. p. 26. Big.

*Bost.* p. 14. *SCIRPUS spathaceus Mich. Fl.* I. p. 32. *CYP.* racemis lateralibus, &c. *Gron. Virg.* 131. *Pluk. Alm.* 179. t. 301. f. 1.

*Root* perennial. *Culm* about 18 inches high, terete below, obtusely triangular above. *Leaves* linear, flat, 2—3 inches long, spreading almost horizontally in three directions. *Sheaths* or stipules (*ochreae*) cylindrical, embracing the culm on all sides. *Racemes* oblong, simple or compound, on peduncles issuing from the sheaths of the leaves. *Spikelets* 6—7-flowered. *Glumes* lanceolate, very acute. *Stamens* 3. *Style* 3-cleft. *Seed* oblong, triangular. *Bristles* 6—9, (16 *Vahl!*) retroversely hispid, longer than the seed.

**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.

*Spikelets* compressed, distinct. *Glumes* imbricated in two rows. *Corolla* 0. *Style* deciduous. *Seed* 1, naked. *Gen. pl.* 93. *Nutt. Gen.* I. p. 34. *Juss.* p. 27. *R. Brown Prod.* I. p. 50. *Roem. & Schult. Gen.* 183. *Lam. Ill.* t. 38. *Nat. Ord.* CYPEROIDEÆ *Juss.* *Cyprus-grass.*

1. *C. inflexus Muhl.*: umbel 2—3-rayed, or conglomerated and simple; involucrem 3-leaved, very long; spikelets collected into ovate heads, oblong, 8-flowered; glumes squarrose at the tip. *Muhl. Gram.* p. 16. *C. uncinatus 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. *Involucrem* 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.

**HAB.** Banks of rivers. On Otter-creek, Vermont. *Dr. James.* On the banks of the Connecticut River. *Dr. Cooley* and *Mr. Hitchcock.* Near Albany, New-York. *Mr. Tracy.* In the vicinity of Cambridge, in the same State. *Dr. Stevenson.* On Lake Champlain. *Pursh.* In Pennsylvania. *Muhlenberg.* August—September. Plant odorous.

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

2. *C. flavescens* L.: spikelets linear-lanceolate, in fascicles of 3—4; glumes obtuse; style 2-cleft; seed lenticular; involucrem 3-leaved, longer than the spikes. *Sp. pl.* 68. *Willd. Spec.* I. p. 279. *Vahl Enum.* II. p. 335. *Pursh Fl.* I. p. 52. *Elliott Sk.* I. p. 67. *Muhl. Gram.* p. 16. *Roem. & Schult.* II. p. 191.

*Root* perennial. *Culm* about a span high, triquetrous, leafy. *Leaves* few (2—3,) sheathing the base of the culm, narrow, smooth. *Involucrem* 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.

HAB. Borders of salt-marshes, and in low boggy grounds. August—September.

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; involucrem 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. cespitoso*. *Spreng. neue Entdeck.* I. p. 240.

*Root* fibrous, perennial. *Culms* cespitose, 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. *Involucrem* 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 cespitosus* 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* β. *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; involucrem 3-leaved, two of the leaves much longer than the umbel; spikelets lanceolate-oblong, much compressed, many-flowered (14—16;) glumes

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, reclining 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* unequal; the longest leaves 6 or 7 inches long. *Glumes* membranaceous, much compressed, with a distinct, chesnut-coloured margin; carina green. *Stamens* always 2. *Style* very long. *Seed* grey, smooth.

HAB. In wet salt-marshes. Hoboken and elsewhere. September.

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.

HAB. On the banks of rivers and in sandy swamps. In the pin-barrens of New-Jersey. In Pennsylvania. *Muhlenberg*. Rare. September.

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

6. *C. erythrorhizos* *Muhl.*: umbel decomposed; involucrum 3—6-leaved, very long; spikes alternate, linear, horizontal, about 12-flowered, nearly terete; style 3-cleft; seed triquetrous. *Muhl. Gram.* p. 20. *Cat. pl. New-York*, p. 13.

*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 involucre. *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.

HAB. On the borders of ponds, on the banks of rivers, &c. New-York to Pennsylvania. August—September.

7. *C. strigosus* L.: spikelets linear, compressed, acute, alternate; glumes lanceolate, nervose; umbel simple, or compound; involucrem about 6 leaved, margin pubescent; root globose. *Sp. pl.* 69. *Willd. Spec. l.* p. 81. *excl. syn.* *Mich. Fl.* l. p. 28. *Vahl Enum.* ll. p. 358. *Pursh Fl.* l. p. 52. *Elliott Sk.* l. p. 70. *Muhl. Gram.* p. 21. *Roem. & Schult.* ll. p. 214.

*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. *Involucrem* 3—6. (3—9 *Muhl.*) 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. *Rachis* flexuous. *Stamens* 3. *Style* generally 3-cleft (rarely 2-cleft.) *Seed* oblong, triquetrous.

HAB. In low wet grounds; common. August—September.

8. *C. tenuis* Swartz? spikes lanceolate, acute, 10—17-flowered; umbel simple; involucrem 3—4-leaved, longer than the rays; root tuberous. *Muhl. Gram.* p. 22. *Swartz Prod.* p. 20?

*Culm* triquetrous, slender, about a span high. *Radical leaves* about a foot high. *Rays* of the umbel unequal. *Spikes* yellowish, bracteate at the base. *Rachis* articulated. *Glumes* nervose. *Style* 3-cleft. *Muhl.*

HAB. In Pennsylvania. *Muhlenberg.*

I am not certain that I have observed this species, and have therefore adopted *Muhlenberg'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 involucrem, and a filiform culm.

9. *C. phymatodes* Muhl.: umbel simple or decomposed; involucrem 3—9-leaved; three of the leaves very long; peduncles compressed; spikelets distichous, linear; the lower ones branched, about 15-flowered; sides rather convex; glumes oblong, obtuse; radicles tuberous at the extremities. *Muhl. Gram.* p. 23. *C. repens* Elliott Sk. l. p. 69. *C. tuberosus* Pursh Fl. l. p. 52, but probably not of *Vahl.*

*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-



four. *Glumes* with scarious margins; *carina* green. *Stamens* 3. *Style* 3-cleft. *Seed* oblong, triquetrous, brownish.

HAB. In wet sandy places; on the banks of rivers and on the sea-shore. Common about Bath, on Long-Island. In Pennsylvania. *Muhlenberg*. August.

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

10. *C. compressus* L.: spikes digitate, somewhat in fours, lanceolate; glumes mucronate, broad, membranaceous. *Vahl Enum.* II. p. 324. *Willd. Spec.* I. p. 282. *excl. syn. Gron. Pursh Fl.* I. p. 51. *Elliott Sk.* I. p. 65. *Muhl. Gram.* p. 15? *Roem. & Schult.* II. p. 182.

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

HAB. In low meadows. Pennsylvania to Carolina. *Pursh*.

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.

11. *C. virens* Mich.: culm acutely triangular; umbels decomposed; spikelets ovate-lanceolate, in compact heads; involucreum very long. *Elliott Sk.* I. p. 66. *Mich. Fl.* I. p. 23. *Vahl Enum.* II. p. 353. *Pursh Fl.* I. p. 52. *Muhl. Gram.* p. 24. *Roem. & Schult.* II. p. 210.

*Culm* 1—2 feet high, most acutely triangular; the angles scarious 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. *Stamen* 1? *Style* 3-cleft. *Seed* oblong, triangular. *Elliott*.

HAB. In wet meadows and woods. Pennsylvania to Carolina. *Pursh*.

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

12. *C. mariscoides* Ell.: umbel simple or with 1—2 rays; spikelets collected into globose heads, linear, 7—8-flowered; glumes loose, obtuse. *Elliott Sk.* I. p. 67. *Sprengel neue Entdeck.* I. p. 239. *SCIRPUS cyperiformis* *Muhl. Gram.* p. 41. *S. cyperiformis* *Spreng Mant.* II. p. 30. n. 4. *Roem. & Schult.* II. p. 135. **MARISCUS**

*cyperiformis* Torr. *Cat. pl. N. York*, p. 14. *M. umbellatus* Pursh *Fl. l. p.* 59. excl. syn.

Root tuberous. Culm triquetrous, slender, 8—12 inches long, nearly naked. Leaves mostly radical, linear, carinate, rough on the margin. Involucrum 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.

HAB. On dry hills, and in barren stony soils. New-England to Carolina. July—September.

Much resembling a *MARISCUS* in habit, but is still decidedly a *CYPERUS*. It appears to have very little affinity to *SCIRPUS*.

13. *C. odoratus* L.: spikelets corymbed, subulate, remote, distichous; glumes somewhat distant; smaller umbels spreading widely, and about the length of their involucre. *Vahl Enum. II. p.* 356. *Willd. Spec. II. p.* 284. *Pursh Fl. l. p.* 52. *Roem. & Schult. II. p.* 212.

HAB. On the banks of rivers. Pennsylvania to Florida. *Pursh.*

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.

14. *C. flavicomis* Mich.: culm triquetrous; umbel compound; spikes linear-lanceolate, 7-flowered (10—12-flowered *Ell.*;) glumes obtuse; involucre very long, reflected. *Mich. Fl. l. p.* 27. *Vahl Enum. II. p.* 360. *Pursh Fl. l. p.* 53. *Elliott Sk. l. p.* 71. *Muhl. Gram. p.* 24. *Roem. & Schult. II. p.* 215.

Culm erect, smooth. Involucrum 5-leaved, very long, smooth.

Rays of the umbel unequal; *ochrea* retuse, purple. Spikes distichous, oblong, yellow, compressed, 11-flowered. Glumes obtuse, white and scarious on the margin. Style 2-cleft. Seed obovate, punctulate, black. *Muhl.*

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.

Glumes 1-valved, imbricated on all sides into a spike. Corolla 0. Seed surrounded with long dense wool. *Gen. pl.* 95. *Nutt. Gen. I. p.* 36. *Roem. &*

*Schult. Gen.* 180. *Lam. Ill.* t. XXXIX. Nat. Ord. CYPEROIDEÆ *Juss.* Cotton-grass.

† *Spike solitary.*

1. *E. alpinum* L.: culm triquetrous, somewhat scabrous, naked; leaves very short, subulate; spike oblong; woolly hairs crisped, few. *Willd. Spec.* I. p. 312. *Vahl Enum.* II. p. 388. *Wahl. Fl. Lapp.* p. 16. *Eng. Bot.* t. 311. *Roem. & Schult.* I. p. 156. *E. hudsonianum* Mich. *Fl.* I. p. 34. TRICHOPIHORUM *alpinum* Pursh *Fl.* I. p. 57. *Muhl. Cat.* p. 7. *T. alpinum* β. *hudsonianum* Pers. *Syn.* I. p. 70.

*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 bractiform, 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.

HAB. In bog-meadows. Stockbridge, Massachusetts. *Dr. Emmons.* In bogs on the mountains of Pennsylvania, Vermont, &c. *Pursh.* In New-York. *Muhlenberg.*

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.

2. *E. vaginatum* L.: culm terete below, obtusely triangular above, smooth and rigid; sheaths inflated; spike oblong-ovate; glumes scarious; wool straight, dense. *Willd. Spec.* I. p. 312. *Vahl Enum.* II. p. 388. *Wahl. Fl. Lapp.* p. 17. *Eng. Bot.* t. 373. *Roem. & Schult.* II. p. 157. *E. cespitosum* Pursh *Fl.* I. p. 57. *Host Gram.* I. t. 39.

*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. *Brace*. Near Williams College, Massachusetts. *Dewey*. On high mountain meadows. Canada to Virginia. *Pursh*.

†† *Spikes numerous*.

3. *E. polystachyon* L.: leaves flat, triquetrous at the extremities; culm nearly terete; spikes on scabrous peduncles, nodding. *Willd. Spec.* I. p. 312. *Vahl Enum.* II. p. 389. *Eng. Bot.* t. 563. *Pursh Fl.* I. p. 58. *Muhl. Gram.* p. 48. *E. tenellum* Nutt. *Gen. II. Supp.* *E. polystachyum*  $\beta$ . *Mich. Fl.* I. p. 34. *E. latifolium* Hoppe. *Roem. & Schult.* II. p. 159.

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.

HAB. In bog-meadows and sphagnous swamps. July.

4. *E. virginicum* L.: culm nearly terete below, obtusely triangular above; leaves flat, very long; spikes clustered, erect, nearly sessile; involucrum 2—3-leaved. *Sp. pl.* 77. *Willd. Spec.* I. p. 313. *Walt. Car.* p. 71. *Mich. Fl.* I. p. 34. *Vahl Enum.* II. p. 390. *Pursh Fl.* I. p. 58. *Elliott Sk.* I. p. 92. *Muhl. Gram.* p. 49. *Roem. & Schult.* I. p. 159. *E. spica compacta erecta*, &c. *Gron. Virg.* 132. *Pluk. Alm.* 179. t. 299. f. 4.

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. Stamen 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.

$\beta$ . *gracile*\*: culm very slender; leaves almost filiform.

HAB. In the Cedar Swamp near New-Durham, New-Jersey. August.

5. *E. angustifolium* Roth.: culm somewhat triangular; leaves channelled-triquetrous; peduncles very smooth. *Willd. Spec. I. p. 313. Big. Bost. p. 16?* (*E. polystachyon?*) *Pursh Fl. I. p. 58. Muhl. Gram. p. 48. Roem. & Schult. II. p. 158.*

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

HAB. Near Boston. *Bigelow. New-York and Delaware. Muhlenberg.* Resembles No. 3.

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.

*Glumes* awned, imbricated on all sides into a spike. *Corolla* † 3-valved, petaloid, cordate, awned, unguiculate. *Gen. pl. 90. Nutt. Gen. I. p. 37. R. Brown Prod. I. p. 220. Juss. p. 26. Roem. & Schult. Gen. 186. Lam. Ill. t. XXXIX. Nat. Ord. CYPEROIDEÆ Juss.*

*F. squarrosa* Mich.: spikes clustered (5—6,) ovate; culm smooth; leaves ciliate; sheaths hairy; valves of the corolla cordate-ovate. *Mich. Fl. I. p. 37. Vahl Enum. II. p. 385. Pursh Fl. I. p. 58. Elliott Sk. I. p. 53 t. 2. f. 3. Muhl. Gram. p. 50. Roem. & Schult. I. p. 234.*

*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. *Stamens* 3. *Style* 3-cleft. *Seed* triquetrous, white. *Bristles* 4—5.

HAB. In bog-meadows. New-Jersey. *Pursh* and *Muhlenberg.* August.

† Perianth, *R. Brown*,—seminal involucellum, *Nuttall*.

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

*Culm* 3—6 inches high, angular, smooth, except a little below the spikes. *Leaves* linear-lanceolate, 2—3, flat, equalling the culm, striate, naked. Margin and throat of the *sheaths* hairy. *Spikes* generally 3, often solitary, with 2 unequal leaf-like bracts at the base. *Glumes* ovate-lanceolate, terminated by short squarrose awns; the lower ones hairy. *Petals* ovate-lanceolate, embracing the seed by their bases. *Stamens* 3. *Seed* triquetrous, pedicellate, surrounded at the base with 3 or 4 retrorsely scabrous bristles.

HAB. On the overflowed sandy margin of a creek near Babylon on Long-Island, in company with *GRATIOLA aurea*, *XIRIS 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.

*Involucrum* laciniate, echinate, including about 2 spikelets. *Calyx* 2-valved, 2-flowered; the inferior flower sterile, the other perfect. *Corolla* awnless. *Style* 2-cleft. (Styles connate at the base *Trin.*) *Gen. pl.* 1574. *Nutt. Gen.* I. p. 38. *Juss.* p. 30. *Roem. & Schult. Gen.* 201. *Trin. Agrostograph.* 140. *P. de Beauv. Agrostograph.* p. 57. t. XIII. f. 7. *R. Brown Prod.* I. p. 195. *Nat. Ord. GRAMINEÆ Juss.* Flowers in a simple raceme or spike. *Burrgrass.*

*C. echinatus* L.: spike with the flowers approximated; involucre subglobose, villose; culm compressed. *Willd. Spec.* I. p. 117. *Vahl Enum.* II. p. 395. *Muhl. Gram.* p. 52. *Roem. & Schult.* II. p. 253. *C. carolinianus* *Walt. Car.* p. 79.

*Root* fibrous, annual. *Culm* erect or procumbent, 1—2 feet long, geniculate and branching at the base. *Leaves* lanceolate, smooth, carinate. *Sheaths* smooth and swelling, bearded at the throat. *Racemes* or spikes about 2 inches long, consisting of 6—10 heads. *Peduncle* angular, pubescent. *Involucrum* cartilaginous, externally beset with rigid, retrorsely hispid spines, pubescent, including 2—3 spikelets each bearing from 1 to 3 flowers; lowest floret neuter. *Calyx* unequal, ovate-lanceolate, smooth, 5-nerved. *Corolla* ovate-lanceolate, acuminate, membranaceous, longer than the calyx; inferior valve 7-nerved. *Stamens* 3. *Style* filiform, deeply 2-cleft. *Seed* 1, round-ovate, reddish brown.

HAB. In sandy arid soils. On the hills at Kingsbridge near

New-York. Common in the pine-barrens of New-Jersey. In Pennsylvania. *Muhlenberg*. August.

*β. tribuloides\**: spikes and margins of the sheaths white, pubescent. *C. tribuloides* *L. Sp. pl.* 1489. *Willd. Spec. l.* p. 317. *Mich. Fl.* I. p. 61. *Pursh Fl.* I. p. 60. *Elliott Sk.* I. p. 93. t. 4. f. 3. *Muhl. Gram.* p. 52. *Roem. & Schult.* II. p. 253. *C. capitulis spinosis tomentosus. Gron. Virg.* 122.

*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. *Involucrum* split on one side, hairy, including about 2 spikelets, each 1—2-flowered. *Calyx*, *corolla*, &c. as in the preceding.

HAB. 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.*

*Flowers* in unilateral spikes, imbricated in 2 rows. *Calyx* 2-valved, compressed, unequal. *Corolla* 2-valved, awnless, unequal. *Nectaries* collateral. *Gen. pl.* 98. *Trin. Agrost.* 37. *P. de Beauv.* l. c. p. 25. t. VII. f. 6. *Roem. & Schult. Gen.* 203. TRACHYNOTIA *Mich. Fl.* I. p. 64. LIMNETIS *Pers. Syn.* I. p. 72. *Nutt. Gen.* p. 38. DACTYLIS *Lin. Nat. Ord. GRAMINEÆ Juss.* *Marsh-grass.*

1. *S. cynosuroides Willd.*: spikes numerous, (10—40,) pedunculate, paniced, spreading; leaves broad, flat, at length convolute; calyx with a short awn on one of the glumes; style 2-cleft at the summit. *Willd. Enum. hort. Berol.* I. p. 80. *Big. Bost.* p. 16. *Roem. & Schult.* II. p. 261. *S. polystachya Muhl. Gram.* p. 53. TRACHYNOTIA *cynosuroides* et *polystachya Mich. Fl.* I. p. 64. LIMNETIS *cynosuroides* et *polystachya Pers. Syn.* I. p. 72. *Pursh Fl.* I. p. 59. DACTYLIS *cynosuroides Sp. pl.* 104. *Ait. Kew.* I. p. 103. *Walt. Car.* p. 77. *Willd. Spec.* I. p. 407. *Gramen maritimum, &c. Gron. Virg.* 135.

*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. *Spikes* 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.

HAB. On the borders of salt-marshes, and on the sea-coast; common. In meadows about Albany. *Mr. Tracy*. In Pennsylvania. *Muhlenberg*. August.

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.

2. *S. juncea Willd.*: leaves distichous, convolute, spreading; spikes few, (1—3,) pedunculate; peduncles smooth; corolla rather obtuse; styles 2. *Willd. Enum. I. p. 81. Muhl. Gram. p. 54. Big. Bost. p. 17. Elliott Sk. I. p. 94. Roem. & Schult. II. p. 263. TRACHYNOTIA juncea Mich. Fl. I. p. 64. LIMNETIS juncea Pers. Syn. I. p. 72. Pursh Fl. I. p. 59. Sp. pumila Roth. Roem. & Schult. II. p. 262.*

*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. *Spikes* 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 Muhl.*: leaves concave, erect; spikes alternate, sessile, erect, appressed; corolla nearly smooth on the keel; style cleft about half way down. *Muhl. Gram.*



I. p. 54. *Big. Bost.* p. 17. *Elliott Sk.* I. p. 95. *DACTYLIS maritima Walt. Car.* p. 77.

*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.*

*Calyx* 1-flowered, 2-valved; valves membranaceous, nearly equal, loose, obovate, awnless. *Corolla* 2-valved, coriaceous, cylindric-ovate, hairy at the base; the inferior valve awned at the tip. *Nectaries* linear, elongated. *Mich. Fl.* I. p. 51. t. IX. (*opt.*) *Nutt. Gen.* I. p. 39. *Roem. & Schult. Gen.* 205. *Trin. Agrost.* 28. *P. de Beauv. Agrost.* t. VI. f. 5. *Nat. Ord. GRAMINEÆ Juss.* Flowers paniced.

*O. asperifolia Mich.:* culm nearly naked; leaves erect, rigid, pungent at the point; flowers in a racemose panicle. *Mich. l. c. Vahl Enum.* II. p. 397. *Pursh Fl.* I. p. 60. *Roem. & Schult.* II. p. 264.

*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. *Stipule* 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.

HAB. In mountain-meadows in the interior of the Northern States. Near Deerfield, Massachusetts. *Dr. Cooley* and *Mr. Hitchcock*. Williamstown, Massachusetts. *Prof. Dewey*. April—May. On the Broad Mountains of Pennsylvania. *Pursh*.

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

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ORDER II.

D I G Y N I A.

(*Gramina.*)

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A. *Flowers all perfect.*

†. *Spikelets* (locustæ, *Beauv.*) 1-flowered.

\* *Calyx* 0.

1. LEERSIA.

\*\* *Calyx* 2-valved.

a. *Corolla without abortive rudiments at the base.*

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

α. *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.*

α. *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.*

18. CYNODON.

19. GYMNOPOGON.

2. *Glumes and corolla of nearly similar texture.*

20. PHALARIS.

21. ANTHOXANTHUM.

22. BRACHYELYTRUM.

††. *Spikelets many-flowered.*

\* *Florets all perfect.*

a. *Panicled.*

1. *Corolla unarmed.*

23. PHRAGMITES.

25. UNIOLA.

24. GLYCERIA.

26. BRIZA.

27. POA.

2. *Corolla more or less setigerous or mucronate.*

α. *Seed free.*

28. AIRA.

29. URALEPIS.

30. TRICUSPIS.

β. *Seed adnate.*

31. FESTUCA.

33. DIARRHENA.

32. CERATOCHELOA.

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.*

38. ARRHENATHERUM.

39. AVENA.

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.

B. *Flowers polygamous.*†. *Panicled.*

48. PANICUM.

49. HIEROCHLOA.

50. HOLCUS.

††. *Spiked.*\* *With an involucreum.*

51. SETARIA.

\*\* *Without an involucreum.*

52. DIGITARIA.

53. ANDROPOGON.

54. HORDEUM.

1. LEERSIA. *Swartz.*

*Calyx* 0. *Corolla* (calyx, *Trin.*) 2-valved, closed; valves compressed, boat-shaped. *Nectaries* obovate, entire, collateral. *Swartz Prod.* p. 21. *Gen. pl.* 105. (sub ASPRELLA.) *Nutt. Gen. I.* p. 43. *Trinius Agrostograph.* 34. ASPRELLA *Lam. Ill.* n. 858. *Roem. & Schult. Gen.* 208. *P. de Beauv. l. c.* t. IV. f. 2. PHALARIDIS *spp. Lin.* HOMALOCENCHRUS *Haller.* Flowers panicled. *Rice-grass.*

1. *L. virginica Willd.*: panicle simple; the lower branches diffuse; flowers appressed, monandrous, sparingly ciliate on the keel. *Willd. Spec. I.* p. 325. *Elliott Sk.* l. p. 100. *Muhl. Gram.* p. 100. ASPRELLA *virginica Roem. & Schult. II.* p. 266. *L. monandra Swartz Prod.* p. 21? *Oryza glumis carina hispida Grøn. Virg.* 153.

*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. *Stipule* 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. *Stamen* 1. (Stamens 2. *Muhl.*) *Styles* 2; *stigmas* feathered, white. *Seed* oblong.

HAB. In wet woods and along the borders of swamps. August. *White-grass.*

2. *L. oryzoides* Swartz: panicle diffuse, sheathed at the base; flowers triandrous, spreading; keel of the glumes conspicuously ciliate. Swartz *Prod.* p. 21. Willd. *Spec.* I. p. 325. Mich. *Fl.* I. p. 39. Pursh *Fl.* I. p. 62. Elliott *Sk.* I. p. 101. Big. *Bost.* p. 22. Muhl. *Gram.* p. 58. ASPRELLA *oryzoides* Lam. *Ill.* n. 858. Roem. & Schult. II. p. 266. PHALARIS *oryzoides* Lin. *Sp. pl.* p. 81.

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, nervose, very scabrous with minute hooked prickles, attenuated at the point; margin ciliate. Sheaths retrorsely very scabrous. Stipule short, retuse. 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, punctulate; 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. White-grass 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.

Flowers in unilateral spikes. Calyx 2-valved, membranaceous, equal, nearly orbicular. Corolla cartilaginous, of the size and form of the calyx. Stigmas plumose, coloured. Nectaries collateral. Gen. pl. 107. Nutt. *Gen.* I. p. 56. Juss. p. 29. P. de Beauv. t. V. f. 3. Trin. *Agrost.* 18. PASPALUS *Flugg.* Roem. & Schult. *Gen.* 216.

1. *P. ciliatifolium* Mich: culm decumbent; leaves hairy and ciliate; sheaths hairy; spikes 1—2, rather lax, indistinctly 3-rowed. Mich. *Fl.* I. p. 44. Muhl. *Gram.* p. 93. *P. ciliatum* Pursh *Fl.* I. p. 71. *P. dasyphyllum* Elliott *Sk.* I. p. 105.

*Root* perennial. *Culm* about a foot and a half long, slender, simple. *Leaves* 4<sup>o</sup>—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.

HAB. In dry sandy fields. New-York and New-Jersey. September.

2. *P. setaceum Mich.*: culm erect; leaves and sheaths villous; spike generally solitary; flowers in 2 rows. *Mich. Fl.* I. p. 43. *Elliott Sk.* I. p. 104. *Pursh Fl.* I. p. 70. *P. pubescens Muhl. Gram.* p. 92. PASPALUS *setaceus Flugg. Roem. & Schult.* II. p. 306.

*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.

HAB. In dry sandy fields. New-York and New-Jersey. Deerfield, Massachusetts. *Cooley.* Pennsylvania. *Muhlenberg.*

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

3. *P. leve Mich.*: erect; very smooth; leaves short; spikes numerous (3—6,) alternate; flowers 2-rowed, smooth. *Mich. Fl.* I. p. 44. *Elliott Sk.* I. p. 106. *Muhl. Gram.* p. 98. *Pursh Fl.* I. p. 71. PASPALUS *levis Flugg. Roem. & Schult.* II. p. 296.

*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. ciliatifolium*. *Calyx, corolla, &c.* as in No. 1.

HAB. On the banks of the Schuylkill, near Philadelphia. In Pennsylvania. *Muhlenberg.* September—October.

4. *P. stoloniferum Bosc*: spikes in elongated racemes, somewhat verticillate, spreading; flowers serrulate-ciliate, transversely rugose; leaves short, subcordate; culm procumbent at base. *Pursh Fl.* I. p. 71. *Bosc in Lin. Trans.* II. p. 83. t. 16. *Willd. Spec.* I. p. 331. *P. racemosum*

*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. *Pursh*.

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.

*Calyx* 2-valved, herbaceous. *Corolla* 2-valved, coriaceous, oblong, concave, shorter than the calyx, awnless. *Seed* 2-horned. *Nectaries* collateral. *Gen. pl.* 110. *Nutt. Gen. I. p. 43. Juss. p. 29. Roem. & Schult. Gen. 218. P. de Beauv. t. V. f. 5—6. Trin. Agrost. 27. Flowers* paniced. *Millet-grass.*

1. *M. effusum L.*: panicle diffuse, compound; branches horizontal; glumes ovate, very obtuse; corolla awnless, smooth and shining; leaves broad-linear. *Willd. Spec. I. p. 360. Smith Fl. Brit. I. p. 75. Eng. Bot. 1106. Roem. & Schult. II. p. 319.*

*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. *Stipule* 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, obsoletely 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.

2. *M. ampicarpon Pursh*: leaves linear-lanceolate, hairy, ciliate; panicle simple, contracted, bearing perfect flowers; fertile flowers in solitary elongated radical scapes, at length subterraneous. *Torrey Cat. pl. New-York, p. 90. Pursh Fl. I. p. 62. t. 2. (opt.) Roem. & Schult. II. p. 320. M. ciliatum Muhl. Gram. p. 77.*

*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, acuminate, nerved, covered with rigid hairs. *Sheaths* striate; the uppermost ones leafless. *Stipule* 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, acuminate; 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. *Stamens* 3; *anthers* purple. *Styles* 2, short; *stigmas* compound, purple. *Seed* broad-ovate, brown. *Nectaries* very short, lanceolate. — *Fertile flowers* radical. *Scapes* 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, acuminate and coriaceous; inferior glume shorter, many-nerved; superior glume similar, a little shorter. *Corolla* remarkably ventricose when the seed is mature; valves unequal, acuminate; the inferior 7-nerved, under the microscope appearing covered with minute appressed hairs; superior valve 4 nerved (midrib wanting.) No traces of *stamens*. *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 awnless, 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. *Stipule* 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, exsert, white. *Seed* oblong, acute. *Nectaries* lanceolate, shorter than the germen, ciliate.

**HAB.** On rocky hills. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. In woods near Boston. *Bigelow*. Near Schenectady, New-York. *Beck*. May.

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.*

*Calyx* membranaceous, longer than the corolla. *Corolla* cartilaginous, elliptical; inferior valve awned at the tip. *Nectaries* ovate, entire. *Seed* coated. *P. de Beauv. Agrost.* t. V. f. 10, 11. *Roem. & Schult. Gen.* 224. URACHNE *Trin. Agrost.* 30. MILII *ssp. Lin.* Flowers paniced.

*P. nigrum*\*: panicle simple; flowers racemose, ovate-lanceolate; corolla black, hairy; awn as long again as the valves. ORYZOPSIS *melanocarpa* *Muhl. Gram.* p. 79. *Cat.* p. 10. excl. syn. *Mich.* MILIUM *racemosum* *Smith* in *Rees' Cycloped.*

*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-

chusetts. *Dewey*. Near Deerfield. *Cooley* and *Hitchcock*. Kingston, New-York. *Halsey*. On the Fishkill mountains, New-York. In Pennsylvania. *Muhlenberg*. August.

It is a little remarkable that *Muhlenberg* should have confounded this plant with the *Oryzopsis 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.

*Calyx* 2-valved, membranaceous. *Corolla* 2-valved, shorter than the calyx, coriaceous, involute, subcylindric; *awn* terminal, contorted near the base. *Seed* coated. *Gen. pl.* 121. *Nutt. Gen.* I. p. 58. *Juss.* p. 30. *Roem. & Schult. Gen.* 226. *P. de Beauv.* t. VI. t. 2—4. *Trin. Agrost.* 31. Flowers paniced. *Feather-grass.*

*S. avenacea* L.: leaves setaceous; panicle spreading, somewhat secund; branches mostly in pairs, a little divided; calyx as long as the seed; awn naked. *Sp. pl.* 116. *Willd. Spec.* I. p. 442. *Pursh Fl.* I. p. 72. *Muhl. Gram.* p. 181. *Elliott Sk.* I. p. 120. *Roem. & Schult.* II. p. 334. *Walt. Car.* p. 77. *S. barbata* Mich. *Fl.* I. p. 53. *S. virginica* Pers. *Syn.* I. p. 99. *Roem. & Schult.* I. p. 334. *S. bicolor* Vahl *Symb.* II. p. 24? *Pursh Fl.* I. p. 73. ANDROPOGON folio superiore spathaceo, &c. *Gron. Virg.* 133.

*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.

HAB. In the barren sandy woods of New-Jersey. In the Highlands of New-York, near Phillipstown. *Dr. Barratt*. In Pennsylvania. *Muhlenberg*. June.

#### 6. ARISTIDA. L.

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

riaceous, involute, 3-awned at the tip; superior valve very minute or obsolete. *Nectaries* collateral. *Gen. pl.* 125. *Nutt. Gen.* I. p. 57. *Juss.* p. 29. *Roem. & Schult. Gen.* 243. *P. de Beauv.* t. VIII. f. 5. 7. 10. *Trin. Agrost.* 46. CHÆTARIA, CURTOPOGON et ARTHRATHERUM *P. de Beauv.* Flowers generally in contracted panicles.

1. *A. dichotoma Mich.*: cespitose; culm dichotomous; flowers racemose-spiked; lateral awns very short, the intermediate one contorted. *Mich. Fl.* I. p. 72. *Pursh Fl.* I. p. 72. *Elliott Sk.* I. p. 141. *Muhl. Gram.* p. 171. CURTOPOGON *dichotomus P. de Beauv. Roem. & Schult.* II. p. 398.

*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 awns 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.

2. *A. stricta Mich.*: culm and leaves straight, erect; leaves pubescent; raceme long, somewhat spiked, crowded; awns twice as long as the corolla, spreading. *Mich. Fl.* I. p. 41. *Elliott Sk.* I. p. 142. *Pursh Fl.* I. p. 72. *Muhl. Gram.* p. 174. CHÆTARIA *stricta P. de Beauv. Roem. & Schult.* II. p. 391. ARIST. *adscensionis Walt.* *Car.* p. 74.

*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.)*

3. *A. purpurascens Poir.*: culm filiform, erect, simple; leaves very narrow, flat; flowers in a long spiked panicle; awns nearly equal, twice the length of the corolla, divaricate. *Poir. Enc. Supp.* I. p. 452. *A. racemosa Muhl. Gram.* p. 172. CHÆTARIA *purpurascens P. de Beauv. Roem. & Schult.* II. p. 390.

*Root* perennial. *Culm* 2—2½ feet high. *Leaves* about a foot long, erect, very narrow, filiform towards the extremity, sca-

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.

HAB. In sandy fields and woods; abundant in the pine-barrens of New-Jersey. Deerfield, Massachusetts. *Dr. Cooley*. September—October.

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

### 7. MUHLENBERGIA. *Schreber*.

*Calyx* very minute, 2-valved, (1-valved *Schreb.*—*Muhl.*) truncate, unequal. *Corolla* 2-valved, hairy at the base, inferior valve terminating in a slender bristle. *Gen. pl.* 103. *Schreb. Gram.* t. LI. *Nutt. Gen.* I. p. 41. *Trin. Agrost.* 40. *P. de Beauv.* t. VII. f. 9. *Roem. & Schult. Gen.* 236. *DILEPYRUM Mich. Fl.* I. p. 40. Flowers panicled.

*M. diffusa Schreb.*: culm diffuse, (decumbent;) leaves linear-lanceolate, panicle branched, appressed; awns as long as the corolla. *Schreb. l. c. Willd. Spec.* I. p. 320. *Enum. hort. Berol.* I. p. 81. *Pursh Fl.* I. p. 61. *Elliott Sk.* I. p. 98. t. 5. f. 1. *Muhl. Gram.* I. p. 56. *Roem. & Schult.* II. p. 383.

*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.

*Stigmas* nearly sessile. *Mich. Fl. I.* p. 41. *Nutt. Gen. I.* p. 42. *Roem. & Schult. Gen.* 211. *P. de Beauv. Agrost. t. IV.* f. 8. CORNUCOPIÆ *Walt. AGROSTIDIS spp. Lin. & Trin. Thin-grass.*

1. *T. laxiflorum Mich.*: culm erect, leaves setaceous, and with the sheaths somewhat scabrous; panicle diffuse, capillary, with trichotomous branches; calyx unequal. *Mich. Fl. I.* p. 42, t. 8. *Big. Bost.* p. 22. *Pursh Fl. I.* p. 61, *excl. syn. Willd. Elliott Sk. I.* p. 99. *Muhl. Gram.* p. 60. *Roem. & Schult. II.* p. 282. *AGROSTIS laxa Schreb. (Muhl. & Pursh.) CORNUCOPIÆ hyemalis Walt. Car.* p. 73.

*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.

2. *T. scabrum Muhl.*: culm geniculate at the base, asurgent, branched; leaves linear-lanceolate, flat, striate, scabrous; sheaths generally smooth; panicle verticillate and divaricate; calyx unequal; corolla ovate, acute, 3-nerved. *Muhl. Gram.* p. 61. *AGROSTIS scabra Willd. Spec. I.* p. 370.

*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, capillary, scabrous, a little flexuous, incrassated beneath the calyces. *Calyx* strongly serrulate 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-

late, a little spreading; glumes nearly equal. *Pursh Fl.* I. p. 61. TRICHODIUM No. 4. (anonymous) *Muhl. Gram.* p. 62. CORNUCOPIÆ *altissima* *Walt. Car.* p. 74.

Root perennial. *Culm* 3 feet high, simple, slender, but firm, leafy. *Leaves* often growing in tufts about the root, and then very narrow and involute; those on the culm 6—8 inches long, flat. *Panicle* purple, exsert; branches in fours or sixes, a little contracted. *Glumes* of the *calyx* lanceolate, acute. *Corolla* one third shorter than the calyx, 5-nerved. *Stamens* 3. *Stigmas* plumose. *Seed* linear-oblong, acuminate.

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.

Root a tuft of fibres, perennial. *Culm* 8 inches to a foot in height, growing in small tufts, simple, filiform. *Radical leaves* 2—3 inches long, almost setaceous; those on the culm a little longer. *Sheaths* closed. *Stipule* ovate, bifid, serrate. *Panicle* elongated; branches in about fours, semiverticillate; divisions trichotomous, capillary, flexuous, hispid. *Flowers* in fascicles at the extremities of the branches. *Glumes* of the *calyx* remarkably equal, lanceolate, serrulate on the margin and keel, nerveless. *Corolla* nearly a third shorter than the calyx, awnless, ovate, 3-nerved. *Stamens* 3. *Seed* oblong, acute.

HAB. On the summit of the Fishkill mountains. New-York. July.

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.

*Calyx* 2-valved, 1-flowered, compressed, herbaceous. *Corolla* 2-valved, membranaceous, generally larger than the calyx, often hairy at the base. *Nectaries* collateral. *Seed* coated. *Gen. pl.* 111. *Nutt. Gen.* I. p. 45. *Juss.* p. 29. *Roem. & Schult. Gen.* 229. *P. de Beauv.* t. VI. f. 10, et VILFA, ACHNATHERUM, SPOROBOLUS et ASPERA ejusd. *Trin. Agrost.* 33.  
*Bent-grass.*

1. *A. stricta* Willd.: panicle elongated, straight; calyx equal; corolla smaller than the calyx; valves unequal, with an awn at the base of the outer one, longer than the flower. *Willd. Spec.* I. p. 366. *Pursh Fl.* I. p. 63. *Muhl. Gram.* p. 65. *TRICHODIUM strictum* Roem. & Schult. II. p. 281.

*Culm* erect, smooth, with black nodes. *Leaves* linear-lanceolate, scabrous on the margin. *Stipule* 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 *rupestris* *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.

2. *A. vulgaris* *Smith*: branches of the panicle smoothish, at length divaricate; outer valve of the corolla 3-nerved; stipule very short and truncate. *Schrad. Fl. Germ.* I. p. 206. *Smith Fl. Brit.* I. p. 70. *Hook. Fl. Scot.* I. p. 25. *Pursh Fl.* I. p. 63. *Muhl. Gram.* p. 70. *Big. Bost.* p. 21. *Roem. & Schult. II.* p. 350. *A. hispida* *Willd. Spec.* I. p. 370.

*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.

3. *A. alba* *L.*: branches of the panicle hispid, spreading, lax; outer valve of the corolla 5-nerved, stipule oblong. *Schrad. l. c.* p. 209. *Hook. l. c.* p. 25. *Willd. Spec.* I. p. 371. *Pursh Fl.* I. p. 64. *Muhl. Gram.* p. 69. *Elliott Sk.* I. p. 137. *Big. Bost.* p. 22. *Roem. &*

*Schult. II. p. 346. A. decumbens Muhl. Gram. p. 68.*

*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 divaricate. *Glumes* of the calyx equal, scabrous on the keel. *Corolla* shorter than the calyx. *Stamens* 3; *anthers* yellow.

**HAB.** In fields and pastures; common. June—August. Introduced.

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*.

4. *A. lateriflora Mich*: culm erect, branched above, soboliferous at the base; panicle lateral and terminal, contracted, dense: calyx acuminate; corolla longer than the calyx, equal, pubescent at the base, awnless. *Mich. Fl. I. p. 53. Pursh Fl. I. p. 64. Roem. & Schult. II. p. 353. A. mexicana Muhl. Gram. p. 67. nec L. et Willd. TRICHOCHLOÆ? 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.

**HAB.** In swamps, wet meadows, borders of woods, &c. Massachusetts to Pennsylvania. August—September.

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.

*β. filiformis\**: panicles very slender; corolla nearly equalling the calyx. *A. filiformis Muhl. Gram. p. 66. Willd. Enum. h. Berol. I. p. 95. A. foliosa Roem. & Schult. II. p. 373. TRICHOCHLOA filiformis Trin.*

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



HAB. In swamps and wet shady places. New-Jersey and Pennsylvania. September.

5. *A. sobolifera* Muhl.: culm erect, branched; panicle contracted, filiform. simple; branches appressed; corolla longer than the equal calyx, hairy at the base; valves equal, awnless, mucronate at the tip. Muhl. Gram. p. 70. Willd. Enum. h. Berol. I. p. 95. Roem. & Schult. II. p. 364. TRICHOCHLOA *sobolifera* Trin.

Root perennial, creeping. Culm soboliferous 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.

HAB. On rocky hills, and in woods. New-York and New-Jersey. Plentiful on the hills near Hoboken. In Pennsylvania. Muhlenberg. August—September.

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

6. *A. tenuiflora* Willd.: culm nearly simple, pubescent about the joints; branches (if any) appressed; stipule obsolete; panicle contracted, filiform; corolla longer than the calyx; inferior valve with an awn twice as long as the flower. Willd. Spec. I. p. 94. Hort. Berol. t. 12. (bona.) Pursh Fl. I. p. 63. Muhl. Gram. p. 63. Roem. & Schult. II. p. 372. TRICHOCHLOA *longiseta* Trin.

Root creeping, perennial. Culm 3 feet or more in height, generally simple, but sometimes a little branched, soboliferous 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. diffusa*. 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; *glumes* 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.

8. *A. compressa*\*: whole plant very smooth; culm erect, compressed, simple; panicle oblong, subcontracted, with capillary branches; calyx equal, shorter than the corolla, acute; corolla rather obtuse, smooth at the base. *Torrey Cat. pl. New-York*, p. 91.

*Root* creeping, perennial. *Culm* a foot and a half high, soboliferous 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. *Glumes* 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* —. *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. serotina*\*: culm filiform, much compressed; leaves very narrow, carinate, erect; panicle attenuate, capillary, 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. *Glumes* 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.

HAB. In sandy swamps in the pine-barrens of New-Jersey. September.

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*.

10. *A. juncea* Mich.: leaves straight and erect, convolutely setaceous; panicle oblong-pyramidal, verticillate; flowers awnless; calyx half the length of the corolla. Mich. Fl. I. p. 52. nec *Lamarck*. *Pursh* Fl. I. p. 64. *Elliott Sk.* I. p. 137. *A. indica* Muhl. Gram. p. 71.

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 obovate. Ell.

HAB. In barren sandy places; New-Jersey to Florida. *Pursh*. In Pennsylvania. *Muhlenberg* (Cat. ed. 2.) October.

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*.

11. *A. virginica* L.: culms numerous, procumbent at the base, assurgent; leaves subdistichous, involute, rigid; panicles lateral and terminal, spikeform, the lateral ones concealed; calyx equal, about as long as the corolla. Willd. Spec. I. p. 373. *Walt. Car.* p. 77. *Elliott Sk.* I. p. 139. *Muhl. Gram.* p. 74. *Roem. & Schult.* II. p. 354. *A. pungens* *Pursh* Fl. I. p. 64. excl. syn.

Root fibrous, perennial? Culms somewhat cespitose, sometimes procumbent, geniculate, simple, rigid; joints distant. Leaves 2—3 inches long, erect, hairy at the base, somewhat filiform at the point, but pungent. Sheaths swelled 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 exserted, 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* decompound, white or purple. *Seed* oval, brown, with an oblong adnate scale on one side of the base.

HAB. On sandy hills, and in fields; near Kingsbridge, New-York. Plentifully near Hoboken, New-Jersey. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. In Pennsylvania. *Muhlenberg*. September—October.

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.

13. *A. clandestina* *Spreng.*: panicle spiked, partly concealed; corolla unequal, much longer than the calyx, hairy and spotted, slightly awned; leaves very long. *Spreng. Cent.* 32. *Muhl. Gram.* p. 73. *Elliott Sk.* i. p. 138. *Roem. & Schult.* II. p. 369.

*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;

branches smooth. *Calyx* smooth; glumes carinate; one of them 3-nerved. *Corolla* twice as long as the calyx; one of the valves acuminate and somewhat awned. *Seed* oblong, brown, transparent, spotted or scaly at the base. *Muhl.*

HAB. On dry hills. Pennsylvania. *Muhlenberg*. September.

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.*

*Calyx* 2-valved, compressed, nearly equal. *Corolla* linear, compressed, shortly stipitate, naked at the base; inferior valve inclosing the superior, with a short awn near the summit. *Stamen* 1. *Style* 1. *Gen. pl.* 20. *Nutt. Gen.* I. p. 45. *Juss.* p. 29. *P. de Beauv. Agrost.* p. 31. t. VII. f. 12. *Trin. Agrost.* 43. Habit of ARUNDO. Allied to AGROSTIS. Flowers paniced.

*C. arundinacea Willd.*: panicle large, capillary, loose; leaves broad-linear; culm smooth. *Willd. Spec.* I. p. 31. *excl. syn. Forsk. Mich. Fl.* I. p. 33. *Muhl. Gram.* p. 1. *AGROSTIS Cinna Lam. Schreb. Gram.* t. 49. *Pursh Fl.* I. p. 64. *Roem. & Schult.* II. p. 373. *A. monandra (Hornem.) R. & S.* l. c. p. 374?

*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, lacerate. *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. *Desfont. Atlant. I. p. 67. Nutt. Gen. I. p. 50. Roem. & Schult. Gen. 223. P. de Beauv. 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, hairy at the base; culm branched. *Nutt. Gen. I. p. 51. P. glomeratus* *Willd. Enum. h. Berol. I. p. 87. Roem. & Schult. II. p. 326. P. setosus* *Spreng. Mant. I. p. 31. Roem. & Schult. l. c. AGROSTIS racemosa* *Mich. Fl. I. p. 53. Pursh Fl. I. p. 65. A. setosa* *Muhl. Gram. p. 68. TRICHOCHLOA glomerata et calycina* *Trin.*

Root perennial. Culm erect, compressed, smooth, with appressed branches. Leaves subdistichous, 3—5 inches long, erect, rather rigid, flat, scabrous and somewhat glaucous. Sheaths smooth, striate, closed. Stipule scarcely apparent. Panicle terminal, about 2 inches long, many-flowered, interrupted below. 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 *POLYPOGON*, the exterior valve of the corolla 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, terminating 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:—"Panicula contracta, angustata. Cal. longitudine varia, plerumque persistens. Cor. callo pilifero insidens ipsaque inferne pilis adspersa, acuminata l. rostrato-setigera. Lod. (nect.) squamæ collaterales. Stam. 1—3. Semen oblongum, tectum" *Trin l. c. 41.* He divides it into two sections. 1 *Glumis ovatis, corollâ multò brevioribus.* To this is referred the *AGROSTIS tenuiflora* *Willd.*, and *A. sobolifera* *Muhl.* 2. *Glumis angustatis acuminatis, longitudine varia;* which contains *A. mexicana* *L.*, *A. filiformis* *Willd.*, and *POLYPOGON glomeratus* *Willd.*

*Hort. Monsp.* 18. *Roem. & Schult. Gen.* 238.  
*PODOSEMUM Desv. P. de Beauv. Agrost.* p. 29.  
 t. VIII. f. 1—3. *STIPÆ spp. L.*

*T. capillaris De Cand.:* leaves convolute-filiform, smooth; panicle diffuse, capillary, very slender; pedicels longer than the awns; awns 3—4 times the length of the flower. *Roem. & Schult. II.* p. 384. *STIPA capillaris Lam. Ill.* n. 790. *S. sericea Mich. Fl. I.* p. 54. *Pursh Fl. I.* p. 73. *S. diffusa Walt. Car.* p. 78. *AGROSTIS sericea Muhl. Gram.* p. 64. *Elliott Sk. I.* p. 135.

Root perennial. Culms cespitose, erect, about 2 feet high, very slender. Leaves a foot and a half long, erect, filiform towards the apex. Stipule membranaceous. 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. Stamens 3. Stigmas purple. Seed oblong.

HAB. In the sandy pine woods of New-Jersey. Deerfield, Massachusetts. *Dr. Cooley.* September—October.

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 inexpandsa et polygona* of *De Cand.* and *Roem. & Schult. l. c.* appear to be only varieties of this species.

### 13. ARUNDO. L.

*Calyx* 2-valved, unequal, membranaceous. *Corolla* membranaceous, surrounded with hairs at the base; inferior valve mucronate, or slightly awned; superior valve sometimes with a pencil-form rudiment at the base. *Gen. pl.* 124. *Juss.* p. 32. *Trin. Agrost.* 29. *CALAMAGROSTIS Roth. P. de Beauv. t. V. f. 9. Nutt. Gen. I.* p. 45. Flowers panicked.

1. *A. canadensis Mich.:* panicle oblong, loose; glumes scabrous, pubescent, as long as the corolla; corolla awned on the back; hairs at the base equalling the valves; culm and leaves smooth. *Mich. Fl. I.* p. 73. *Pursh Fl. I.* p. 86. *Roem. & Schult. l. p. 509. A. confinis Willd. Enum. hort. Berol. I.* p. 127. (sive *Muhl.*) *Roem. & Schult.*

II. p. 507. *A. cinnoides* Muhl. Gram. p. 187. *A. agrostoides* Pursh Fl. I. p. 86. CALAMAGROSTIS mexicana Nutt. Gen. I. p. 46. excl. syn. Pers.

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.

HAB. In swamps and bog-meadows. Frequent on the small rivers which empty into the Hudson. Williamstown, Massachusetts. Dewey. Deerfield, Massachusetts. Cooley. August.

2. *A. coarctata*\*: panicle somewhat spiked, conglomerate; calyx a little longer than the corolla, carinate; corolla longer than the pappus, awned a little below the tip. AGROSTIS glauca Muhl. Gram. p. 76.† CALAMAGROSTIS canadensis Nutt. Gen. I. p. 46. excl. syn. Mich. ARUNDO stricta Spreng. Neue Entdeck. I. p. 247. excl. syn. Timm. et Ell.

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 bicarinate, 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.

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† 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. paniculâ subpatente cernua, calycibus acuminatis, pilis corollam excedentibus, arista terminali recta, calycem excedente. Folia linearia, apice setacea, convoluta, cum culmo glauco. HAB. In Amer. Septentrional." Roem. & Schult. II. p. 503.



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

**HAB.** In bog-meadows, particularly those in the vicinity of salt-water. Common in the Hackensack and Newark meadows, New-Jersey. In Pennsylvania and New-England. *Muhlenberg*. July—August. It sometimes bears *ergot*.

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.*

*Calyx* 2-valved, awnless. *Corolla* 2-valved, shorter than the calyx, surrounded with hairs at the base. *Nectaries* linear-lanceolate, longer than the seed. *Style* 3-parted; *stigmas* 3. *P. de Beauv.* t. VI. f. 1. *Roem. & Schult. Gen.* 387. **ARUNDO** *L. Trin.* **AMMOPHILA** *Host.* **CALAMAGROSTIS** *Roth.* **PHALARIS** *Nutt.* Flowers in a dense spiked panicle.

*P. arenaria* *P. de B.*: panicle spiked; calyx acute; corolla three times as long as the pappus; leaves involute. *Roem. & Schult.* II. p. 345. **ARUNDO** *arenaria* *Lin. Willd. Spec.* I. p. 457. *Smith Fl. Brit* I. p. 148. *Eng. Bot.* t. 520. *Mich. Fl.* I. p. 73. *Pursh Fl.* I. p. 87. *Muhl. Gram.* p. 88.

*Root* perennial, extensively creeping. *Culm* 2—3 feet high, erect, rigid. *Leaves* very long, smooth and glaucous, 4—5 lines wide, finely attenuated and pungent. *Sheaths* smooth. *Stipule* oblong, obtuse. *Panicle* dense and cylindrical, white,

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. CRYPISIS. *Aiton.*

*Calyx* 2-valved, membranaceous, carinate. *Corolla* longer than the calyx, which it resembles in substance and form. *Stamens* 2—3. *Nectaries* 0. *Gen. pl.* 1710. *Nutt. Gen. I.* p. 49. *Lam. Ill. t. XLII. f. 1. 2.* *Roem. & Schult. Gen.* 231. *Trin. Agrost.* 36. CRYPISIS 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. *Stipule* 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.*

*Calyx* 2-valved, equal; *glumes* generally connate at the base. *Corolla* 1-valved, utriculate, cleft on one side, awned below the middle. *Styles* often connate. *Gen. pl.* 102. *Nutt. Gen. I.* p. 51. *Juss.* p. 29.

*Roem. & Schult. Gen.* 209. *P. de Beauv. t. IV.*  
f. 5. 6. *Trin. Agrost.* 14. Panicke spiked, cylindric.  
*Fox-tail grass.*

1. *A. pratensis* L.: culm erect, smooth; spike cylindric, obtuse, lobed; calyx ciliate, somewhat villose, connate below the middle; corolla as long as the calyx. *Willd. Enum. h. Berol.* I. p. 5. *Spec. l. p. 357.* *Eng. Bot. t. 759.* *Pursh Fl.* I. p. 65. *Muhl. Gram.* p. 80. *Roem. & Schult.* II. p. 269.

Root fibrous, perennial. *Culm* simple, 2—4 feet high, terete, smooth. *Leaves* flat and smooth. *Stipule* ovate. *Spike* about an inch and a half long. *Flowers* crowded on short branches. *Calyx* acute, lower part villose and ciliate. *Corolla* sometimes a little shorter than the calyx, obliquely truncate. *Awn* twisted, scabrous, twice the length of the flower. *Stamens* 3; *anthers* yellow. *Styles* connate.

HAB. In fields and pastures. June—July. Doubtless introduced from Europe.

2. *A. geniculatus* L.: culm ascending, geniculate; spike cylindrical; glumes a little connate at the base, hairy on the back and margin; corolla truncate; styles free. *Schrad. Fl. Germ.* I. p. 173. *Willd. Spec. l. p. 358.* *Smith Fl. Brit.* I. p. 74. *Eng. Bot. t. 1250.* *Roem. & Schult.* II. p. 273. *Muhl. Gram.* p. 81. *Elliott Sk.* I. p. 111. *A. carolinianus* *Walt. Car.* p. 74.

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 exserted, simply plumose. *Nectaries* collateral, lanceolate, very minute.

HAB. In wet meadows and on the margins of ponds. Near New-York; rare. Fishkill, &c. June.

*β. aristulatus*\*: awn scarcely exserted. *A. aristulatus* *Mich. Fl.* I. p. 43. *A. subaristatus* *Pers. Syn.* I. p. 80. *Pursh Fl.* I. p. 66. *Nutt. Gen.* I. p. 52. *Roem. & Schult.* II. p. 273.

HAB. Near Boston. *Bigelow.*

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 *Trinius*, which species is thus characterized:—"A panícula 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.*

*Calyx* 2-valved, much longer than the corolla; *glumes* equal, boat-shaped, rostrate or mucronate. *Corolla* 2-valved, included in the calyx, awnless, truncate. *Gen. pl.* 109. *Nutt. Gen.* I. p. 50. *Juss.* p. 29. *Roem. & Schult. Gen.* 233. *P. de Beauv.* t. VII. f. 4. *Trin. Agrost.* 15. *Panicle* spiked, dense, cylindrical. *Cat's-tail grass.*

*P. pratense L.:* spike cylindrical; calyx mucronate-awned; keel ciliate; awn shorter than the calyx; culm erect. *Willd. Spec.* l. p. 354. *Smith Fl. Brit.* l. p. 68. *Eng. Bot.* t. 1076. *Roem. & Schult.* II. p. 378. *Pursh Fl.* l. p. 65. *Elliott Sk.* l. p. 110. *Muhl. Gram.* p. 82.

*Root* perennial, fibrous, sometimes bulbous. *Culm* 2—3 feet high, simple, smooth, terete. *Leaves* flat, 3—4 lines wide, smooth and glaucous. *Sheaths* smooth. *Stipule* obtuse, membranaceous, at length lacerate. *Spike* 3—6 inches long, cylindrical, green. *Calyx* nearly equal, 3-nerved, fringed with white hairs on the keel. *Corolla* concealed in the calyx; inferior valve larger, 5-nerved. *Stamens* 3; *anthers* purple. *Styles* distinct; *stigmas* plumose, white. *Seed* oblong.

*HAB.* In fields and pastures. June—August. Introduced from Europe.

18. CYNODON. *Richard.*

*Spikes* digitate or fascicled. *Flowers* unilateral, in a simple series. *Calyx* 2-valved; *glumes* nearly equal, spreading, acute. *Corolla* 2-valved; superior valve very narrow, surrounded by the inferior one. *Rudiment* minute, pedicellate. *Nectaries* collateral. *Rich.* in *Pers. Syn.* I. p. 85. *Nutt. Gen.* I. p. 56. *Roem. & Schult. Gen.* 248. *P. de Beauv.* t. IX. f. 1. *Trin. Agrost.* 52. DIGITARIA *Juss.* PANICUM *L.* *Bermuda grass.*

*C. Dactylon Pers.*: culm creeping, spikes digitate, (4—5,) spreading; keel of the calyx scabrous; leaves hairy on the margin and towards the base; sheaths hairy. *Pers. l. c. p. 85. Pursh Fl. l. p. 70. Roem. & Schult. II. p. 410. DIGITARIA Dactylon Elliott Sk. I. p. 133. Muhl. Gram. p. 132. PANICUM Dactylon Lin. Willd. Spec. I. p. 410.*

*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.

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

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.*

*Calyx* 2-valved, carinate, nearly equal, longer than the flower. Valves of the *corolla* nearly equal; the inferior one with a straight bristle a little below the tip. *Rudiment* aristiform. *P. de Beauv. p. 41. t. IX. f. 3. Roem. & Schult. Gen. 256. Trin. Agrost. 55. ANTHOPOGON Nutt. Gen. I. p. 83. ANDROPOGONIS sp. Mich.* Flowers irregularly alternating on setaceous spikes disposed in a panicle.

*G. racemosum P. de B. l. c. Roem. & Schult. II. p. 421. ANDROPOGON ambiguum Mich. Fl. I. p. 58. Willd. Spec. IV. p. 907. Pursh Fl. I. p. 74. Muhl. Gram. p. 285. Elliott Sk. I. p. 145. ANTHOPOGON lepturoides Nutt. l. c.*

*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 equalling the other, bifid at the tip. *Stamens* 3, exerted. *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.

*Calyx* 1-flowered, 2-valved, nearly equal, membranaceous, gibbous on the back, carinate. *Corolla* 2-valved, coriaceous, hairy at the base, shorter than the calyx. *Rudiments* opposite, sessile, resembling valves. *Nectaries* collateral. *Gen. pl.* 106. *Nutt. Gen. l.* p. 48. *Juss.* p. 29. *Roem. & Schult. Gen.* 246. *P. de Beauv. t. VII. f. 1.* PHALARIS et DIGRAPHIS *Trin. Agrost.* 56 & 60. Flowers generally in compound, ovate, or elongated, spikes.  
*Canary grass.*

1. *P. americana* Ell.: panicle oblong, spiked; glumes of the calyx boat-shaped, serrulate; corolla unequal, rudiments hairy. *Elliott Sk. l.* p. 101. *P. arundinacea* Mich. *Fl. l.* p. 43. *Pursh Fl. l.* p. 65. *Muhl. Gram.* p. 29. *P. caroliniana* Walt. *Car. p.* 74. † CALAMAGROSTIS colorata *Nutt. Gen. l.* p. 46.

*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.

HAB. In swamps and bog-meadows. Hackinsack meadows, New-Jersey. Williamstown, Massachusetts. *Dewey.* Pennsylvania. *Muhlenberg.* July.

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

† "*P. caroliniana.* *P. panicula* spicata ovata, petalis aristatis, calycibus striatis." *Walt. l. c.*

*Spec. I.* p. 326. *Smith Fl. Brit.* I. p. 62. *Eng. Bot.* t. 1310. *Roem. & Schutt.* II. p. 402.

*Root* annual. *Culm* about a foot and a half high, simple, nearly terete. *Leaves* broad-linear. *Sheaths* inflated. *Calyx* nearly twice the length of the corolla. *Corolla* smooth; valves lanceolate, acute. *Rudiments* very short, entire. *Stamens* 3. *Seed* ovate.

**HAB.** In pastures and cultivated grounds near New-York; not uncommon. July. Introduced from Europe.

## 21. ANTHOXANTHUM. L.

*Calyx* 2-valved, 1-flowered. *Corolla* 2-valved, with 2 abortive 1-valved *rudiments* at the base; one of them awned from near the base, the other from near the tip. *Stamens* 2. *Gen. pl.* 58. *Nutt. Gen.* I. p. 47. *Juss.* p. 29. *Roem. & Schult. Gen.* 115. *P. de Beauv. Agrost.* p. 64. t. XII. f. 8. *Trin. Agrost.* 4. Panicle contracted.

*A. odoratum* L.: spike ovate-oblong; flowers pubescent, subpeduncled, shorter than their awns. *Willd. Spec.* I. p. 156. *Mich. Fl.* I. p. 39. *Big. Bost.* p. 8. *Pursh Fl.* I. p. 65. *Elliott Sk.* I. p. 37. *Muhl. Gram.* p. 2. *Eng. Bot.* t. 647. *Roem. & Schult.* I. p. 237.

*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 exerted, plumose, white. *Seed* oblong, black and shining.

**HAB.** Common in meadows, fields, dry woods, &c. May—August. In shady situations the spike is frequently large and loose. Introduced from Europe. *Sweet-scented Vernal-grass.*

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.* glumæ membranacæ, trifloræ, flosculis longiores. Flosculi laterales neutri uniglumes, alio basi infra medium arista tortili plicata, alio versus apicem arista recta.

Flosculus intermedius hermaphroditus, lateralibus fere triplo brevior. *Glumæ corollinæ* obtusiusculæ, muticæ. *Stylus* basi simplex. *Stigmata* longissima. *Semen* liberum, sulcatum." *P. de B. l. c.*

## 22. BRACHYELYTRUM. *Beauv.*

*Calyx* very minute; inferior glume scarcely perceptible. *Corolla* with the inferior valve terminated by a long bristle; superior valve with a clavate rudiment at the base. *P. de Beauv. t. IX. f. 2. Trin. Agrost. 54. MUHLENBERGIA Schreb. DILEPYRUM Mich.* Panicles racemose.

*B. aristatum Beauv. Roem. & Schult. II. p. 413. MUHLENBERGIA erecta Roth. n. Beytr. l. p. 96. Schreb. Gram. t. 50. Pursh Fl. l. p. 61. Elliott Sk. l. p. 96. Muhl. Gram. p. 57. M. aristata Pers. Syn. l. p. 76. DILEPYRUM aristosum Mich. Fl. l. p. 40.* Panicle racemose.

*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. *Trinius.*

*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.*



f. 2. *Nutt. Gen. I. p. 75. Roem. & Schult. Gen. 283. Flowers paniced. Reed-grass.*

*P. communis Trin.:* calyx about 5-flowered; florets longer than the calyx. *ARUNDO Phragmites Willd. Spec. I. p. 454. Smith Fl. Brit. I. p. 144. Eng. Bot. t. 401. Pursh Fl. I. p. 86. Big. Bost. p. 26. Muhl. Gram. p. 38. Roem. & Schult. II. p. 510.*

*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.*

*Spikelets* terete, elongated. *Calyx* many-flowered, shorter than the florets. Inferior valve of the *corolla* herbaceo-membranaceous; superior valve somewhat conduplicate. *Nectaries* collateral, connate. *Stigmas* decompound. *R. Brown Prod. I. p. 179. Roem. & Schult. Gen. 338. Trin. Agrost. 76. DEVAUXIA P. de Beauv. l. c. t. XIX. f. 7. FESTUCÆ spp. Lin.* Panicle simple.

1. *G. fluitans R. Br.:* panicle secund, slightly branched; spikelets linear-terete, appressed, 8—12-flowered; florets very obtuse, 7-nerved; leaves long, flat. *R. Brown l. c. Roem. & Schult. II. p. 695. FESTUCA fluitans L. Willd. Spec. I. p. 426. Mich. Fl. I. p. 66. Big. Bost. p. 26. Pursh Fl. I. p. 84. Muhl. Gram. p. 166. POA fluitans Scopoli. Smith Fl. Brit. I. p. 95. Eng. Bot. t. 1520. Elliott Sk. I. p. 163. DEVAUXIA fluitans P. de Beauv.*

*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 obtuse, 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. *Style* 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.

2. *G. acutiflora*\*: panicle simple, elongated, appressed; spikelets linear-terete, 4—6-flowered; florets attenuated, acute, indistinctly nerved; leaves short, erect. *FESTUCA brevifolia* *Muhl. Gram.* p. 167.

*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.

HAB. In overflowed meadows; Bloomingdale, Fishkill, &c. New-York. Near Hoboken, New-Jersey. Deerfield, Massachusetts. *Cooley.* June.

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

## 25. UNIOLA. L.

*Spikelets* compressed, ancipital, many-flowered. *Calyx* 2-valved, shorter than the florets. *Corolla* 2-valved, awnless; inferior valve boat-shaped; superior valve smaller, concave on the back. *Nectaries* collateral, emarginate. *Gen. pl.* 116. *Nutt. Gen.* I. p. 69. *Juss.* p. 32. *Roem. & Schult. Gen.* 302. *Trin. Agrost.* 79. *P. de Beauv.* t. XV. f. 6. Flowers paniced. One or more of the lower florets in each spikelet abortive, 1-valved.

*Spike-grass.*

1. *U. latifolia Mich.*: leaves broad and flat; panicle loose, nodding; spikelets all on long peduncles; florets somewhat falcate, monandrous; the lowest one abortive. *Mich. Fl. I. p. 70. Pursh Fl. I. p. 82. Elliott Sk. I. p. 187. Muhl. Gram. p. 155. Roem. & Schult. II. p. 594.*

*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 geminate, 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.

**HAB.** On the Allegany Mountains, in shady woods among rocks. *Pursh.* On the banks of the Susquehanna. *Muhlentberg.* August. My specimens are from North-Carolina.

2. *U. gracilis Mich.*: panicle elongated, racemose, appressed; spikelets 3-flowered; florets spreading, straight, monandrous, the lowest one abortive. *Mich. Fl. I. p. 71. Pursh Fl. I. p. 82. Elliott Sk. I. p. 168. Muhl. Gram. p. 157. Roem. & Schult. II. p. 595. HOLCUS laxus Lin. Sp. pl. 1486. Willd. Spec. IV. p. 934.*

*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, nerved, 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.

**HAB.** In sandy swamps. Common on the sea-coast of Long-Island. In the pine-barrens of New-Jersey. August.

3. *U. spicata L.*: panicle spiked, straight; leaves involute, distichous, spreading; spikelets 5—9-flowered; florets triandrous. *Sp. pl. 104. Willd. Spec. I. p. 406. Elliott Sk. I. p. 166. Muhl. Gram. p. 157. U. spicata et distichophylla Roem. & Schult. II. pp. 595, 596. FESTUCA distichophylla Mich. Fl. I. p. 67. Pursh Fl. I. p. 84.*

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 germen. *Anthers* purple, much exerted. *Styles* and *stigmas* very long. *Nectaries* 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.

*Spikelets* cordate-ovate, many-flowered. *Calyx* paleaceous, shorter than the distichous florets. *Corolla* ventricose; inferior valve cordate, the superior nearly orbicular, very short. *Gen. pl.* 115. *Nutt. Gen.* I. p. 68. *Juss.* p. 32. *Roem. & Schult. Gen.* 289. *Trin. Agrost.* 80. *P. de Beauv.* t. XIV. f. 3. Flowers in capillary panicles. *Quaking-grass.*

*B. media* L.: panicle erect; spikelets at length cordate, about 7-flowered; calyx smaller than the florets. *Willd. Spec.* I. p. 404. *Smith Fl. Brit.* I. p. 109. *Eng. Bot.* t. 340. *Muhl. Gram.* p. 152. *Roem. & Schult.* II. p. 520.

Root perennial. *Culm* about a foot and a half high, naked 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.*

294. POA et ERAGROSTIS *Trin. Agrost.* 78 & 81.  
 POA ERAGROSTIS et MEGASTACHYA *P. de Beauv.*  
 Panicle branched and generally effuse. *Meadow-grass.*

1. *P. annua* *L.*: panicle subsecund, divaricate; spikelets ovate-oblong, 5-flowered; florets free; culm oblique, compressed; root fibrous. *Schröd. Fl. Germ.* 1. p. 304. *Willd. Spec.* 1. p. 390. *Smith Fl. Brit.* 1. p. 105. *Eng. Bot.* t. 1141. *Elliott Sk.* 1. p. 158. *Muhl. Gram.* p. 137. *Pursh Fl.* 1. p. 79. *Roem. & Schult.* II. p. 535.

*Root* annual. *Culms* cespitose, 6—8 inches long, very smooth. *Leaves* linear, carinate, smooth. *Sheaths* loose. *Stipule* ovate. *Panicle* rather crowded; branches generally solitary, at length horizontal. *Calyx* 4—5-flowered; glumes nearly equal, ovate, acuminate. *Corolla* pubescent; inferior valve obtuse, 5-nerved; superior valve shorter.

**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.

**HAB.** In shady swamps. In the pine-barrens of New-Jersey. On the Island of New-York. Deerfield, Massachusetts. *Cooley*. Williamstown. *Dewey*.

This plant I erroneously referred to *Nuttall's* genus WINDSORIA (*TRICUSPIS* *P. de Beauv.*) in the Catalogue of the Plants of New-York; but I am now convinced it is a genuine species of POA.

4. *P. aquatica*  $\beta$ . *americana*\*: panicle erect, semiverticillate, diffuse; branches flexuous, smooth; spikelets linear, 6—8-flowered; florets ovate, obtuse, free; leaves broad-linear and, as well as the sheaths, smooth. *P. aquatica* *Pursh Fl.* l. p. 80. *P. arundinacea* *M. a Bieberst. Roem & Schult.* II. p. 559.

*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. *Stipule* 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, flexuous 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.

**HAB** In wet meadows Deerfield, Massachusetts. *Cooley*. Williamstown. *Dewey*. Near Schenectady, New-York. *Dr. L. C. Beck*. Fairfield. *Hadley*. Near Montreal, Canada. *Dr. Paine*. August.

5. *P. maritima* *Huds.*: panicle branched, somewhat crowded; spikelets about 5-flowered, terete; florets rather obtuse, indistinctly 5-nerved; root creeping. *Smith Fl. Brit.* l. p. 97. *Eng. Bot.* 1140. *Willd. Spec.* l. p. 396. *Roem. & Schult.* II. p. 360. *Muhl. Gram.* p. 148.

*Root* perennial. *Culm* about a foot high, somewhat geniculate, terete. *Leaves* involute, a little glaucous, scabrous on the margin. *Stipule* 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. *Bige-low*. Resembles the European plant in every respect.

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

leaves very short; stipule acuminate. *Muhl. Gram.* p. 138. *De Cand. Syn. Fl. Gall.* 1613\*? *P. alpina*  $\beta$ . *brevifolia* *Gaud?* *P. alpina* *Pursh Fl. l.* p. 79.

*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 flexuous 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. *Muhl.*

*HAB.* On mountains and in woods. Pennsylvania. April. *Muhlenberg.*

7. *P. pungens*\*: culm compressed; leaves very short, cuspidate; panicle somewhat simple, spreading; spikelets ovate, 3—4-flowered; florets webbed, rather obtuse, obscurely 5-nerved. *P. autumnalis* *Elliott Sk. l.* p. 159? *Nutt. Gen. l.* p. 66. *P. flexuosa* *Muhl. Gram.* p. 148.

*Root* perennial. *Culm* cespitose, about a foot and a half high, partly ancipital. 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 scarious at the tip, villous at the base, indistinctly 5-nerved; 3 of the lesser nerves ciliate pubescent below. *Stamens* exerted. *Styles* sessile, complicately plumose, white. *Nutt.*

*HAB.* Around Philadelphia, in rocky situations, on the banks of the Schuylkill, &c. April. *Nuttall.*

This species I have not seen. The synonyms of *Elliott* and *Muhlenberg* are doubtful.

8. *P. pratensis* *L.*: panicle diffuse; upper leaves much shorter than the smooth sheaths; florets acute, 5-nerved, webbed at the base; stipule short, truncate; root creeping. *Schrud. Fl. Germ. l.* p. 298. *Willd. Spec. l.* p. 388. *Pursh Fl. l.* p. 78. *Roem. & Schult. II.* p. 533. *P. viridis* *Muhl. Gram.* p. 138. *Elliott Sk. l.* p. 59.

*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.

9. *P. trivialis* L.: panicle equal, diffuse; spikelets oblong ovate, about 3-flowered; florets webbed at the base, 5-nerved; culm and sheaths roughish; stipule oblong; root creeping. *Schr ad. Fl. Germ.* I. p. 296. *Willd. Spec.* I. p. 387. *Hook. Fl. Scot.* I. p. 35. *Pursh Fl.* I. p. 78. *Roem. & Schult.* II. p. 534. *P. stolonifera* Muhl. *Gram.* p. 139.

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.

HAB. In moist meadows; rare in pastures. June—August. Introduced.

10. *P. compressa* L.: panicle contracted, somewhat secund; spikelets oblong, 3—6-flowered; florets webbed; glumes nearly equal; culm oblique, compressed; root creeping. *Willd. Spec.* I. p. 397. *Smith Fl. Brit.* I. p. 99. *Eng. Bot.* t. 365. *Mich. Fl.* I. p. 69. *Pursh Fl.* I. p. 79. *Muhl. Gram.* p. 141. *Big. Bost.* p. 24. *Roem. & Schult.* II. p. 558.

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, serrulate 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.

HAB. In fields and on dry hills. June—July. *Bluc-grass.*

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

HAB. In dry woods near New-York, &c. July.

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



tip, obscurely 5-nerved; root creeping. *Schrad. Fl. Germ.* I. p. 299. *P. serotina*  $\beta$ . *palustris* *Roem. & Schult.* II. p. 553. *P. hydrophylla* *Pers. Syn.* I. p. 89. *P. palustris* *Muhl. Gram.* p. 150. *P. crocata* *Mich. Fl.* I. p. 68.

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*.

12. *P. nemoralis* *L.*: panicle attenuated, weak; branches flexuous; spikelets ovate, about 3-flowered; florets loose, slightly webbed, acute, obsoletely nerved; stipule almost wanting. *Schrad. Fl. Germ.* I. p. 301. *Willd. Spec.* I. p. 399. *Smith Fl. Brit.* I. p. 106. *Eng. Bot. t.* 1235. *Pursh Fl.* I. p. 79? *P. nemoralis*  $\alpha$ . *vulgaris* *Roem. & Schult.* II. p. 545.

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 ternate. *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.

HAB. Near Williamstown, Massachusetts. *Dewey*. Deerfield. *Cooley*. Cambridge, New-York. *Stevenson*. New-Haven, Connecticut. *Monson*.

13. *P. nervata* *Willd.*: panicle equal, diffuse; branches weak and at length pendulous; spikelets 5-flowered; florets free, conspicuously 7-nerved, obtuse. *Willd. Spec.* I. p. 389. *Pursh Fl.* I. p. 79. *Muhl. Gram.* p. 140. *Roem. & Schult.* II. p. 550. *P. striata* *Mich. Fl.* I. p. 69. *P. lineata* *Pers.* I. p. 89. *ERIZA canadensis* *Nutt. Gen.* I. p. 69. nec *Supp.*

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. *Cooley.* Plainfield. *Porter.* Williamstown. *Dewey.*

15. *P. obtusa* Muhl.: panicle ovate, contracted; spikelets ovate, tumid, 5—7-flowered; florets free; glumes scariosus; corolla ovate, smooth, obtuse; inferior valve indistinctly 7-nerved; leaves as long as the culm, and with the sheaths smooth. *Muhl. 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 scariosus. *Corolla* nearly equal; the inferior valve boat-shaped, generally very obtuse; superior valve margined, bifid at the tip. *Stamens* often 2. (*Muhl.*) *Seed* obovate, black, corrugated. *Nectaries* ovate, bifid.

HAB. In deep swamps in the pine-barrens of New-Jersey. In Pennsylvania and New-England. *Muhlenberg.* August—September.

16. *P. canadensis*\*: panicle large, effuse; branches semiverticillate, flexuous, at length pendulous; spikelets ovate, tumid, 6—8-flowered; florets free; inferior valve somewhat acute, 7-nerved; superior valve very obtuse; stamens 2. *BRIZA canadensis* Mich. *Fl. I.* p. 71. *Muhl. Gram.* p. 153. *Pursh Fl. I.* p. 82. *Nutt. Gen. II. Supp.* MEGASTACHYA *canadensis* Roem. & Schult. II. p. 593.

*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, scarious on the margin; inferior glume smaller. Inferior valve of the *corolla* ovate, distinctly nerved, naked; margins scarious; superior valve obovate, margined, not ciliate, bifid at the apex. *Stamens* always 2; *anthers* short, purple. *Styles* very short; *stigmas* purple. *Seed* oblong, brown.

**HAB.** On the margins of swamps. Near Greenwich, on the Island of New-York. In the cedar swamp near New-Durham, New-Jersey. Phillipstown, in the Highlands of New-York. *Dr. Barratt.* Williamstown, Massachusetts. *Dewey.* In the vicinity of Boston. *Bigelow.* Near Philadelphia. *Nuttall.* July—August.

17. *P. capillaris* L.: panicle very large, loose, expanding, capillary; spikelets 3-flowered, ovate, acute; florets free; culm branched at the base; leaves hairy. *Sp. pl.* 100. *Willd. Spec.* 1. p. 394. *Mich. Fl.* 1. p. 67. *Pursh Fl.* 1. p. 79. *Muhl. Gram.* p. 144. *Elliott Sk.* 1. p. 156. *Roem. & Schult.* 11. p. 552.

**Root** annual. *Culm* a foot or more in height, a little compressed, cespitose 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, scarious on the keel. *Corolla* ovate, acuminate; inferior valve 3-nerved, scarious 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.

18. *P. hirsuta* Mich.: culm erect, compressed, simple; sheaths hairy; panicle very large, capillary; branches expanding, at length reflected, bearded in the axils; spikelets oblong, about 5-flowered; corolla ciliate on the margin. *Mich. Fl.* 1. p. 68. *Pursh Fl.* 1. p. 30. *Muhl. Gram.* p. 45. *Elliott Sk.* 1. p. 157. *Roem. & Schult.* 11. p. 552.

**Root** 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* 3. *Seed* oblong, red, very small.

HAB. In sandy fields. New-Jersey. Pennsylvania. *Muhlenberg*. Litchfield, Connecticut. *Brace*. July—August.

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

*β. spectabilis\**: spikelets linear, 10—15-flowered. *P. spectabilis Pursh Fl. l. p. 81. P. refracta Muhl. p. 146. Elliott Sk. l. p. 62. P. amabilis Walt. Car. p. 80. 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 sand-fields. 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.

19. *P. pectinacea Mich.*: culm cespitose, oblique; leaves hairy at the base; panicle capillary, expanding, pyramidal, hairy in the axils; spikelets linear, 5—9-flowered; florets free, acute; superior valve of the corolla persistent. *Mich. Fl. l. p. 69. Pursh Fl. l. p. 81. Roem. & Schult. II. p. 562. P. pilosa Muhl. Gram. p. 141. P. tenella Pursh Fl. l. p. 80. Elliott Sk. l. p. 160.*

*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.

HAB. In sandy fields; sometimes in wet sandy meadows. On the Island of New-York. About Passaic Falls, New-Jersey. In Pennsylvania. *Muhlenberg*. July—August.

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.

20. *P. reptans Mich.*: dioicous; culm branched, creeping; panicle fasciated; spikelets linear-lanceolate, 12—20-flowered; florets acuminate. *Mich. Fl. l. p. 69. t. 11. Pursh Fl. l. p. 81. Muhl. Gram. p. 142. Elliott*

Sk. I. p. 163. *Humb. et Bonpl. nov. gen. et spec. I. p. 127.* (sive *R. & S.*) *P. hypnoides Lam. Ill. I. p. 165.*  
 MEGASTACHYA reptans et hypnoides *P. de Beauv. Roem. & Schult. II. p. 589.*

*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.

HAB. In shady swamps on the banks of rivers; rare near New-York. On the banks of the Connecticut, near Deerfield, Massachusetts. *Cooley.* Near Hudson, New-York. *Abbott.* July—August. A very delicate and elegant grass.

*β. cæspitosa\**: culm very short, cespitose; spikelets much crowded, oblong.

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.

21. *P. Eragrostis L.*: panicle equal, spreading, the lower branches hairy in the axils; spikelets linear-lanceolate, 9—15-flowered; florets obtuse; root fibrous. *Willd. Spec. I. p. 392.* *Schrad. Fl. Germ. I. p. 287.* *Pursh Fl. I. p. 80.* *Elliott Sk. I. p. 161.* ERAGROSTIS poavides *P. de Beauv. Roem. & Schult. II. p. 574.* BRIZA *Eragrostis Muhl. Gram. p. 154.* *B. caroliniana Walt. Car. p. 79.* POA obtusa *Nutt. Gen. I. p. 67.*

*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, flexuose, 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.

HAB. In sandy fields, on road-sides, &c. July—August. Common around New-York.

28. KÆLERIA.† *Persoon.*

*Calyx* 2—4-flowered, shorter than the florets. Inferior valve of the *corolla* mucronate, or with a short bristle a little below the tip. *Pers. Syn.* I. p. 97. *Nutt. Gen.* I. p. 74. *Roem. & Schult. Gen.* 320. *P. de Beauv.* t. XVII. f. 4. *AIRA Trin. Agrost.* 91. *AIRÆ spp. L. & C. GRAPHEPHORUM P. de B.* Panicle spiked.

1. *K. pennsylvanica De Cand.*: leaves flat, and with the sheaths softly 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 Spreng.*

*Root* perennial. *Culm* erect, about 2 feet high, simple; nodes black and contracted. *Leaves* 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, lancoolate; 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*. *Stamens* 3; *anthers* purple. *Stigmas* plumose, purple.

**HAB.** In woods; particularly in rocky situations. May—June.

*A. nitida Spreng. Mant.* I. p. 32. seems to be only a variety of this species.

2. *K. truncata\**: leaves flat, smooth; panicle oblong, racemose; calyx 2-flowered, with a third abortive floret, unequal; inferior glume a little scabrous, obtuse; corolla glabrous. *A. truncata Muhl. Gram.* p. 83. *A. triflora Elliott Sk.* I. p. 153. *A. pallescens Kitaib. Roem. & Schult.* II. p. 685. *A. melicoides Mich. Fl.* I. p. 62? *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.

*β. 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*, (*AIRA purpurea* *Walt. et Elliott*;) but the latter is distinguished by the bristle of the corolla being as long as the flowers.

### 30. TRICUSPIS. *Beauvois*.

*Spikelets* terete, tumid, many-flowered. *Calyx* 2-valved, carinate, shorter than the florets. Inferior valve of the *corolla* tricuspidate by the projecting carina and margins; base and sides villose; superior valve emarginate. *Nectaries* obtuse, entire. *P. de Beauv.* t. XV. f. 10. TRIDENS *Roem. & Schult. Gen.* 306. WINDSORIA *Nutt. Gen. I.* p. 70. POÆ *spp. Mich., Ell., Trin., &c.* Panicle compound.

*T. seslerioides*\*: panicle expanding and flexuous; spikelets all pedunculate, about 6-flowered, lanceolate; inferior valve of the corolla ovate, 5-toothed. *POA seslerioides Mich. Fl. I.* p. 68. *Muhl. Gram.* p. 149. *P. quinquefida Pursh Fl. I.* p. 31. *Elliott Sk. I.* p. 164. WINDSORIA *poæformis Nutt. Gen. I.* p. 70. TRIDENS *quinquefida Roem. & Schult. II.* p. 599. TRIODIA *cuprea Jacq. Eclóg. gram. fasc. II.* p. 21. t. 16. (fide *R. & S. et Spreng.*) *POA flava L. Sp. pl.* 100. *Willd. Spec. I.* p. 390. *Roem. & Schult. II.* p. 551. *P. laxa Lam. Ill. I.* p. 183. *P. subverticillata Pers. Syn. I.* p. 92.

*Root* perennial. *Culm* 4—5 feet high, a little compressed below, erect, very smooth. *Leaves* a foot or 18 inches long, smooth, flat, nervose; the lowest ones somewhat distichous. *Sheaths* shorter than the joints, very smooth, except at the throat, which is bearded. *Stipule* 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, scarious, 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 exerted, 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 mountain meadows of Pennsylvania, where it yields most excellent crops twice a-year. *Pursh*. August. *Red-top*.

The genus TRICUSPIS resembles the TRIODIA of *R. Brown* in many respects, but the latter differs in having a simple contracted 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 compressed, many-flowered. *Calyx* unequal, carinate, shorter than the florets. *Corolla* somewhat terete; superior valve acute, mucronate, or with a short bristle at the tip; superior valve bidentate. *Seed* adnate. *Gen. pl.* 119. *Nutt. Gen.* I. p. 72. *Trin. Agrost.* 92. FESTUCA, SCHEENODORUS 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, monandrous *Willd. Spec.* I. p. 422? *Mich. Fl.* I. p. 66. *Pursh Fl.* I. p. 83. *Muhl. Gram.* p. 160. *Elliott Sk.* I. p. 169. *F. quadriflora* *Walt. Car.* p. 81.

*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; superior valve membranaceous, lanceolate. *Styles* very short; *stigmas* plumose, white. *Seed* oblong, acute. *Elliott.*

HAB. In sandy soils of New-Jersey; growing with *AIRA fræcox*. *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.

2. *F. tenella* Willd.: panicle spiked, very simple, secund; spikelets mostly 9-flowered; bristles shorter than the subulate florets; culm filiform, angular above; leaves setaceous. Willd. *Spec.* l. p. 419. *Hort. Enum. h. Berol.* l. p. 113. *Pursh Fl.* l. p. 83. *Elliott Sk.* l. p. 168. *Muhl. Gram.* p. 159. *F. bromoides* Mich. *Fl.* l. p. 66. *F. octoflora* Walt. *Car.* p. 81. SCHENODORUS *tenellus* Roem. & Schult. II. p. 707.

*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. *Stipule* 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, punctulate. *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.

3. *F. duriuscula* L.: panicle secund, oblong, contracted; spikelets 5—6-flowered, nearly terete; florets terminated by short bristles; root fibrous. *Schrad. Fl. Germ.* l. p. 228. *Willd. Spec.* l. p. 421. *Smith Fl. Brit.* l. p. 115. *Eng. Bot.* t. 470. *Pursh Fl.* l. p. 82. *Muhl. Gram.* p. 163. *Elliott Sk.* l. p. 171.

*Root* perennial. *Culm* a foot or 18 inches high. *Leaves* narrow, very acute, somewhat scabrous. *Stipule* 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.*

I. p. 420. *Muhl. Gram.* p. 163. *Roem. & Schult.* II. p. 724.

*Root* perennial. *Culm* a foot and a half high, erect, pubescent; geniculate, red on the lower part. *Leaves* very long, linear and setaceous, nerved, smooth and glaucous. *Stipule* very short. *Panicle* contracted, erect, or somewhat nodding; the lower branches in pairs; the upper ones solitary. *Spikelets* lanceolate, terete, pedicellate, 4—6-flowered. *Calyx* unequal; glumes lanceolate, smooth; one of them 3-nerved. Valves of the *corolla* lanceolate; the inferior one terminated by a long, scabrous, straight bristle. *Stamens* 3. *Muhl.*

*HAB.* In dry soils. Pennsylvania. June. *Muhlenberg.* Glumes red after flowering.

Of this species I have never seen a North-American specimen. The description of *Muhlenberg* applies better to *F. glauca* than to *F. rubra*, of which, according to *Hooker*, it is only a variety. *F. obtusa Spreng. Mant.* I. p. 34, (*SCHENODORUS obtusus Roem. & Schult.* II. p. 710.) appears to be the plant of *Muhlenberg* described above.

5. *F. elatior L.*: panicle spreading, much branched, loose; spikelets ovate-lanceolate, 4—5-flowered; florets slightly armed; leaves flat; root creeping. *Schräd. Fl. Germ.* I. p. 333. *Willd. Spec.* I. p. 425? *Smith Fl. Brit.* I. p. 124. *Eng. Bot.* t. 1593. *Big. Bost.* p. 25. *Pursh Fl.* I. p. 83. *Muhl. Gram.* p. 164. *SCHENODORUS elatior Roem. & Schult.* II. p. 699.

*Root* perennial. *Culm* 3—4 feet high, terete, smooth. *Leaves* a foot or more long, wanting 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 scarios 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. *Stamens* 3; *anthers* large, yellow. *Styles* very short; *stigmas* simply plumose, white. *Nectaries* ovate, white. *Seed* obovate.

*HAB.* In wet meadows; common. June.

6. *F. pratensis Huds.*: panicle spreading, branched; spikelets linear, many-flowered, acute; leaves linear; root fibrous. *Schräd. Fl. Germ.* I. p. 332. *Smith Fl. Brit.* I. p. 123. *Eng. Bot.* t. 1592. *SCHENODORUS pratensis P. de Beauv. Roem. & Schult.* II. p. 698.

*Root* perennial. *Culm* 1—2 feet high, erect, terete, smooth. *Leaves* and *sheaths* very smooth. *Stipule* obsolete. *Panicle* 2—6 inches long, subsecund; branches short, nearly simple; *spikelets* 7—8-flowered, terete. *Calyx* very unequal; the superior glume much larger, scarios on the margin, obscurely nerved. Inferior valve of the *corolla* more or less acute, (never

mucronate,) scarious 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.

7. *F. ? nutans Willd.*: panicle diffuse, at length nodding; branches long, geminate, naked below; spikelets ovate, 3—5-flowered; florets somewhat obtuse, unarmed, nerveless. *Willd. Enum. h. Berol.* l. p. 116. *Spreng. Mant.* l. p. 34. *Pursh Fl.* l. p. 84. *Muhl. Gram.* p. 165. *Elliott Sk.* l. p. 172. *Roem. & Schult.* II. p. 275.

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. *Stipule* 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 scarious, 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 scarious; 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 scarious margin to the corolla.

8. *F. fascicularis Lam.*: culm procumbent, geniculate; panicle subsecund; branches straight, spike-like; spikelets appressed, 8—10-flowered; florets armed; leaves very long. *F. polystachya Mich. Fl.* l. p. 66. *Willd. Enum. h. Berol.* l. p. 117. *Pursh Fl.* l. p. 83. *Elliott Sk.* l. p. 109. *F. procumbens Muhl. Gram.* p. 160. *DIPLOCHNE fascicularis P. de Beauv. Roem. & Schult.* II. p. 615. *BROMUS poaformis Spreng. Mant.* l. p. 34. *R. & S.* II. p. 653. *FEST. multiflora Walt. Car.* p. 81.

Root annual, consisting of fascicles of simple fibres. *Culm* about a foot long, much branched from the base, with short joints. *Leaves* much longer than the culm, narrow, subulate towards the extremity, prominently 5-nerved, somewhat scabrous. *Sheaths* long and loose, compressed, smooth. *Stipule* a finely lacinated membrane. *Panicle* erect; branches expanding, composed of many simple spiked racemes. *Spikelets* secund, on short peduncles, terete when moistened. *Glumes* linear-

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 *Lamarck* on account of its priority. This species is nearly allied to *F. fusca*, a native of Palestine, and with that plant constitutes the genus *DIPLOCHNE*† of *Beauv.*

9. *F. clandestina* *Muhl.*: panicle partly concealed in the sheaths; branches solitary, simple; spikelets 10-flowered, florets awned. *Muhl. Gram.* p. 162.

*Culm* about a span high, smooth. *Leaves* linear, nerved. *Sheaths* long. *Stipule* acuminate. *Spikelets* sessile and pedunculate. *Calyx* lanceolate, acuminate, smooth. Valves of the *corolla* unequal; the inferior terminated by a short bristle; the superior smaller, bifid. *Muhl.*

HAB. In New-York. *Muhlenberg.* Resembles *F. duriuscula.* +

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

### 32. CERATOCCHLOA. *Beauv.*

*Spikelets* lanceolate, subancipital, many-flowered. *Calyx* shorter than the imbricated florets. Inferior valve of the *corolla* compressed, mucronate below the tip; superior valve somewhat conduplicate. *Style* 2—3-parted. *P. de Beauv.* l. c. p. 75. t. XV. f. 7. *Roem. & Schult. Gen.* 303. *Trin. Agrost.* 93. *FESTUCÆ sp. Willd., &c.* Panicle simple.

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

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† *DIPLOCHNE.* *Cal.* 7—9 florus, valvula superior apice mucronata. *Cor.* valvula inferior bilaciniata, inter lacinias setigera, superior subtruncata, emarginata. *Nectaria* obtusa. *Stigmata* plumosa subaspergilliformia. *Semen* haud sulcatum. *Panicula* simplex ramosissima, ramis alternis filiformibus. *P. de Beauv.* p. 80. t. XVI. f. 9.

rets acuminate, unarmed; sheaths bearded at the throat, the lower ones hairy; root fibrous. *Roem. & Schult. II.* p. 596. *FESTUCA unioloides Willd. Enum. h. Berol. I.* p. 115. *Hort. Berol. I.* p. 3. t. 3. *Pursh Fl. I.* p. 84. (No. 4, specific name omitted) *Muhl. Gram. p.* 161. *Elliott Sk. I.* p. 171.

*Root* annual or perennial. *Culm* a foot and a half high. *Leaves* linear-lanceolate, pubescent, nerved. *Stipule* ovate. *Panicle* small; branches in pairs. *Spikelets* oblong-lanceolate; pedicels hairy. *Glumes* nearly equal, lanceolate, acuminate, striate. *Corolla* unequal, lanceolate, acuminate, margined. *Stamens* 3. *Muhl.*

**HAB.** In rich bottom lands. Pennsylvania to Carolina. July—August. *Pursh.*

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.*

*Calyx* 2-valved, very unequal, 2—5-flowered, rigid; glumes acuminate, mucronate. *Corolla* cartilaginous; inferior valve entire, broader, cuspidate; superior valve much shorter, emarginate. *Seed* coated, as long as the superior valve of the corolla. *Nectaries* ovate, ciliate. *P. de Beauv. t.* XXV. f. 2. *Roem. & Schult. Gen.* 117. *Trin. Agrost.* 5. *DIARRHENA Raf. in lit.* *FESTUCÆ sp. Mich.* *Panicle* very simple.

*D. americana P. de B. Roem. & Schult. I.* p. 289. *D. festucoides Raf. in Med. Rep. II.* p. 352. (sine descript.) *FESTUCA diantra Mich. Fl. I.* p. 67. t. 10. *Willd. Enum. h. Berol. I.* p. 116. *Nutt. Gen. I.* p. 72. *Pursh Fl. I.* p. 83.

*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 3-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 *UNIOLEA*, particularly *U. gracilis*, which species appears to connect it with *CERATOCHLOA*.

## 34. DACTYLIS. L.

*Spikelets* aggregated into a unilateral head, many-flowered. *Calyx* shorter than the florets; one of the glumes larger, carinate and pointed. Inferior valve of the *corolla* carinate, emarginate, mucronate; superior valve somewhat conduplicate. *Sp. pl.* 117. *Nutt. Gen.* I. p. 73. *Juss.* p. 31. *P. de Beauv.* t. XVII. f. 5. *Roem. & Schult. Gen.* 321. *Trin. Agrost.* 94. Orchard-grass.

*D. glomerata* L.: panicle secund, glomerate; leaves carinate. *Willd. Spec.* l. p. 408. *Smith Fl. Brit.* l. p. 111. *Eng. Bot.* t. 335. *Pursh Fl.* l. p. 84. *Muhl. Gram.* l. p. 36. *Elliott Sk.* l. p. 155.

*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. *HAB.* Common in fields, meadows, &c. May—June. Naturalized: a native of Europe.

## 35. DANTHONIA. De Cand.

*Calyx* 2—5-flowered, longer than the florets; glumes cuspidate. *Corolla* bearded at the base; inferior valve 2-toothed, with a twisted awn between the teeth; superior valve obtuse, entire. *P. de Beauv.* l. c. p. 92. t. XVIII. f. 7. *Nutt. Gen.* I. p. 71. *Roem. & Schult. Gen.* 332. *Trin. Agrost.* 97. *AVENÆ spp. L., Mich., &c.* Panicle spiked.

*D. spicata* P. de B.: panicle simple, appressed; spikelets 7—9, about 7-flowered; inferior valve of the corolla hairy; leaves subulate; lower sheaths hairy at the throat. *Roem. & Schult.* II. p. 690. *Nutt. Gen.* l. c. *AVENA spicata* L. *Sp. pl.* 119. *Willd. Spec.* l. p. 453. *Pursh Fl.* l. p. 86. *Muhl. Gram.* p. 134.

*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; *anthers* 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 setaceous points of the superior valve. The genus DANTHONIA is nearly allied to TRisetum, 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.

1. *T. palustre\**: panicle contracted, nodding, somewhat verticillate; calyx 2—3-flowered; florets smooth, acuminate; the inferior one awnless; inferior valve of the superior floret bicuspidate, awned below the tip. *AVENA palustris Mich. Fl.* I. p. 72. *Pursh Fl.* I. p. 86. *Muhl. Gram.* p. 186. *Roem. & Schult.* II. p. 623. *AIRA pallens Muhl. l. c.* p. 84. *Spreng. Mant.* I. p. 33. *Elliott Sk.* I. p. 151. *Roem. & Schult.* II. p. 673.

*Root* perennial. *Culm* 1—2 feet high, erect; nodes contracted.

*Leaves* flat, 2—3 inches long, and, with the sheaths, smooth. *Stipule* short, retuse. *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 TRisetum, but it certainly is nearer that genus than to AIRA. In the *awn* it resembles AVENA; but the corolla having 2 distinct, though short, bristles at the extremity, I have referred it to the genus TRisetum of *Pearson*.

2. *T. purpurascens*\*: panicle very simple, somewhat racemose, few-flowered; calyx 3-flowered; glumes very unequal, 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 mountains. *Eaton*. Near Montreal, Canada. *Paine*.

### 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.* 120. *Nutt. Gen.* I. p. 73. *Juss.* p. 32. *Roem. & Schult. Gen.* 325. *P. de Beauv.* t. XVII. f. 9. *Trin. Agrost.* 103. Panicle compound, generally 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 somewhat hairy. *Willd. Spec.* I. p. 428. *Smith Fl. Brit.* I. p. 125. *Eng. Bot.* t. 1171. *Big. Bost.* p. 26. *Pursh Fl.* I. p. 85. *Elliott Sk.* I. p. 172. *Muhl. Gram.* p. 168. *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. Interior 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.

2. *B. mollis* L.: panicle erect, contracted; spikelets oblong-ovate, somewhat compressed, pubescent; bristle straight, as long as the corolla; leaves very softly pubescent. *Schrad. Fl. Germ.* l. p. 151. *Willd. Spec.* l. p. 429. *Smith Fl. Brit.* l. p. 127. *Eng. Bot.* t. 1073. *Pursh Fl.* I. p. 85. *Muhl. Cat.* p. 12. *Roem. & Schult.* II. p. 636.

*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.

HAB. In fields and pastures near New-York. In Pennsylvania and New-York. *Muhlenberg.* June. Naturalized. This species is omitted in *Muhlenberg's Descript. Uber. Gram.* although it is enumerated in his *Catalogue*.

3. *B. purgans* L.: panicle nodding; spikelets lanceolate, terete; florets hairy; bristle straight; leaves smooth; sheaths hairy. *Sp. pl.* 113. *Willd. Enum. h. Berol.* I. p. 120. *Spec.* l. p. 431. *Pursh Fl.* l. p. 85. *Muhl. Gram.* p. 170. *Elliott Sk.* l. p. 173. *Roem. & Schult.* II. p. 642.

*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.

*Sp. pl.* 113. *Willd. Spec.* I. p. 433 *Pursh Fl.* I. p. 85. *Elliott Sk.* I. p. 173. *Muhl. Gram.* p. 169. *B. canadensis Mich. Fl.* I. p. 65? *Roem. & Schult.* II. p. 638.

*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. *Muhl.*

HAB. On the banks of rivers in Pennsylvania. June. *Muhlenberg.*

5. *B. pubescens Muhl.*: panicle at length nodding; spikelets lanceolate, terete; florets pubescent; leaves and lower sheaths pubescent. *Willd. Enum. h. Berol.* I. p. 120. *Muhl. Gram.* p. 169. *Roem. & Schult.* II. p. 642.

*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. *Muhl.*

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 L.?* *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 Michx?* *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*.

### 38. 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.

1. *A. avenaceum P. de B.:* panicle equal, nodding; awn as long again as the flower; culm geniculate, smooth; root nodose. *Roem. & Schult. II. p. 496.* AVENA *elatior L. Willd. Spec. I. p. 443. Muhl. Gram. p. 185.* HOLCUS *avenaceus Smith Fl. Brit. I. p. 90. Eng. Bot. t. 813. Hook. Fl. Scot. I. p. 28.*

*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. 85. Elliott Sk. I. p. 174. TRI-*

SETUM *pennsylvanicum* P. de Beauv. Roem. & Schult. II. p. 658.

*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.*

HAB. In Pennsylvania. *Muhlenberg.* In fields and open woods. New-England to Carolina; frequent. July. *Pursh.*

What I formerly considered as the *AVENA pennsylvanica* of *Linnaeus* is my *TRISETUM furfurascens*. 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.

*Calyx* membranaceous, many-flowered, generally longer than the florets. *Corolla* generally bearded at the base; inferior valve bilacinate, with a twisted awn on the back. *Seed* coated. *Gen. pl.* 122. *Nutt. Gen. I.* p. 74. *Roem. & Schult. Gen.* 238. *P. de Beauv. t. XVIII. f. 5. Trin. Agrost.* 116. Panicle spreading or racemose. *Oat-grass.*

*A. præcox* P. de B.: panicle in a dense raceme; florets as long as the calyx; awn exerted; leaves setaceous. *Roem. & Schult. II.* p. 667. *AVENA præcox* L. *Willd. Spec. I.* p. 380. *Smith Fl. Brit. I.* p. 87. *Eng. Bot. t.* 1296. *Pursh Fl. I.* p. 77. *Muhl. Gram. p.* 86.

*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

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† 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 pennsylvanica*, except that the branches of the panicle are not alternate, but fasciated, 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.

HAB. In sandy fields. New-Jersey, near Philadelphia, and throughout the pine-barrens. June.

39a. AIRA. L.

*Calyx* 2—3-flowered, longer than the florets. Inferior valve of the *corolla* eroded or many-toothed, awned on the back below the middle. AIRA et DESCHAMPSIA *P. de Beauv.* t. XVIII. f. 4 et 5. *Roem. & Schult. Gen.* 329 et 330. DESCHAMPSIA *Trin. Agrost.* 117. AIRÆ *spp. L., Nutt., &c.* Panicle compound, generally spreading. *Hair-grass.*

1. *A. flexuosa* L.: panicle spreading, trichotomous; branches flexuous; calyx a little shorter than the florets, and about the length of the awn; leaves setaceous; culm nearly naked. *Willd. Spec. l.* p. 378. *Eng. Bot.* t. 1519. *Pursh Fl.* l. p. 377. *Muhl. Gram.* p. 85. *Elliott Sk.* l. p. 151. *Roem. & Schult.* II. p. 678.

*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.

2. *A. cespitosa* L.: panicle diffuse; florets about the length of the calyx; awn short, straight; leaves flat. *Willd. Spec. l.* p. 378. *Pursh Fl.* l. p. 77. *Muhl. Gram.* p. 85. DESCHAMPSIA *cespitosa* *P. de Beauv.* *Roem. & Schult.* II. p. 685.

*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.

HAB. In swamps and bog-meadows. New-Jersey. Pennsylvania and New-England. *Muhlenberg.* June.

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 exerted.

*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 Pursh*: panicle small, fastigate, 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.* l. p. 76. *CATABROSA pumila Roem. & Schult.* II. 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.

*Spikelets* sessile on a rachis, many-flowered. *Calyx* of one glume. Inferior valve of the *corolla* herbaceous-membranaceous, mucronate, or with a short bristle at the tip. *Gen. pl.* 126. *Nutt. Gen.* I. p. 89. *Juss.* p. 31. *Roem. & Schult. Gen.* 346. *P. de Beauv.* t. XX. f. 3. *Trin. Agrost.* 67. *Spike* compound. *Calyx* in the uppermost spikelets 2-valved.

*Darnel.*

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

† *CATABROSA.* Cal. 2—5-florus, flosculis brevior ut et valvula corollina inferior subtruncata, eroso-denticulata, superior fere trifida. *Nectaria* lanceolata. *Germe*n submarginatum. *Stigmata* subaspergilliformia. *Semen* bicornis. *Panicula* subcomposita. *P. de Beauv. Agrost.* p. 96. t. XIX. f. 8.

*Spec. I.* p. 461. *Muhl. Gram.* p. 196. *Big. Bost.* p. 27. *Roem. & Schult. II.* p. 747. *L. vulgare Smith Fl. Brit. I.* p. 148. *Eng. Bot. t.* 315.

*Root* creeping. *Culm* a foot and a half high, terete, smooth. *Leaves* broad-linear, smooth and shining. *Stipule* very short, truncate. *Spike* about 6 inches long, composed of spikelets arranged on opposite sides of a compressed flexuous rachis. *Spikelets* 7—9-flowered. *Calyx* lanceolate, smooth, nervose. Inferior valve of the *corolla* 5-nerved, acute. *Stamens* 3; *anthers* pale yellow.

**HAB.** In meadows and on road-sides; common. May—June. Naturalized. Habit of *TRITICUM repens*.

2. *L. temulentum L.*: florets shorter than the calyx, as long as the bristle at their extremity; root annual; culm scabrous above. *Willd. Spec. I.* p. 462. *Smith Fl. Brit. I.* p. 150. *Eng. Bot. t.* 1124. *Muhl. Cat.* p. 13. *Roem. & Schult. II.* p. 749.

*Root* fibrous. *Culm* about 2 feet high. *Leaves* broad-linear, scabrous on the margin. *Sheaths* smooth. *Stipule* 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.

**HAB.** In New-England and Pennsylvania. July. *Muhlenberg.*

#### 41. ELEUSINE. *Gaertner.*

*Spikes* digitate, unilateral. *Calyx* membranaceous, 4—6-flowered; glumes obtuse, unequal. *Corolla* membranaceous, unequal, unarmed; inferior valve carinate, the superior concave on the back. *Seed* triangular, transversely rugose. *Gaert. de Fruct. et Sem. t. I.* f. 12. *Nutt. Gen. I.* p. 75. *Roem. & Schult. Gen. 298.* *Lam. Ill. t. XLVIII.* f. 3. *P. de Beauv. t. XV.* f. 3. *Trin. Agrost.* 70. **CYNOSURUS L.**

*E. indica Lam.*: spikes straight, erect, in pairs or quaternate; rachis linear; spikelets lanceolate, about 5-flowered; culm compressed, declined. *Lam. Ill. l. c. Mich. Fl. I.* p. 64. *Willd. Enum. h. Berol. I.* p. 113. *Pursh Fl. I.* p. 87. *Muhl. Gram.* p. 133. *Elliott Sk. I.* p. 175. *Roem. & Schult. II.* p. 582. **CYNOSURUS indicus L.** *Willd. Spec. I.* p. 417. *Walt. Car.* p. 82.

*Root* annual, (perennial *Ell.*) *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. *Stipule* very short, dentate. *Spikes* 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, Yurd-grass, &c.*

#### 42. TRITICUM. L.

*Flowers* spiked. *Spikelets* sessile on the teeth of the *rachis*, 3—4-flowered, the 2 inferior florets opposite, fertile; the upper ones often abortive. *Glumes* broad, boat-shaped, mucronate or armed. Inferior valve of the *corolla* terminating in a *bristle*; superior valve subconduplicate. *Nutt. Gen.* I. p. 88. *Roem. & Schult. Gen.* 348. *P. de Beauv.* t. XX. f. 4. *Trin. Agrost.* 105. TRITICI *spp.* L. *Wheat.*

*T. æstivum* L.: spike parallel, compressed; glumes 4-flowered, ventricose; bristles generally much longer than the florets. *Willd. Spec.* I. p. 476. *Pursh Fl.* I. p. 90. *Roem. & Schult.* II. p. 761.

*Root* annual. *Culm* 3—4 feet high. *Leaves* broad-linear, smooth. *Stipule* membranaceous, short, truncate. *Spike* 3—6 inches long; *rachis* articulated. *Glumes* broad, and enveloping the florets, mucronate. Inferior valve of the *corolla* terminating in a scabrous *bristle* 2—3 inches long.

HAB. In neglected fields; scarcely naturalized. June.

#### 43. AGROPYRON. Gaertner.

*Flowers* spiked. *Spikelets* sessile on the teeth of the *rachis*; 3—9-flowered. *Glumes* lanceolate, carinate. Inferior valve of the *corolla* mucronate, or terminating in a subulate *bristle*. *P. de Beauv.* l. c. p. 101. t. XX. f. 42. *Roem. & Schult. Gen.* 347. *Trin. Agrost.* 107. TRITICI *spp.* L.

1. *A. repens* P. de B.: spikelets oblong, 5-flowered; glumes subulate, many-nerved; florets acuminate; leaves flat; root creeping. *Roem. & Schult.* II. p. 754. TRITICUM *repens* L. *Willd. Spec.* I. p. 481. *Smith Fl. Brit.* I. p. 158. *Eng. Bot.* t. 909. *Muhl. Gram.* p. 195. *Big. Bost.* p. 27.

Root articulated, white, extensively creeping. *Culm* about 2 feet high. *Leaves* broad-linear, scabrous on the upper surface, sometimes a little glaucous. *Sheaths* smooth. *Stipule* very short, truncate. *Spike* 3—4 inches long. *Rachis* flexuous, jointed, compressed. *Calyx* nearly equal, acute; *florets* alternate. Inferior valve of the *corolla* smooth, nerved, mucronate, sometimes with a short *bristle* at the tip; superior valve shorter, emarginate, ciliate on the sides. *Stamens* 3; *anthers* large, pale yellow.

HAB. In fields and cultivated grounds; common. July. Introduced? *Couch-grass*.

2. *A. caninum* R. & S.: spikelets about 5-flowered, compressed; glumes 3-nerved, and, as well as the florets, armed with a bristle at the tip; root fibrous. *Roem. & Schult.* II. p. 756. *TRITICUM caninum* Sp. pl. 86. *Smith Fl. Brit.* I. p. 159. *Eng. Bot.* t. 1372. *Muhl. Gram.* p. 196. *ELYMUS caninus* Willd. *Spec.* I. p. 469.

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.

HAB. In Delaware. *Muhlenberg*. Probably introduced.

#### 44. SECALE. L.

*Flowers* spiked. *Spikelets* sessile on the teeth of the *rachis*, 2—3-flowered; the terminal floret abortive. *Calyx* 2-valved; glumes subulate, opposite, shorter than the florets. Inferior valve of the *corolla* terminating in a long *bristle*. *Gen. pl.* 127. *Nutt. Gen.* I. p. 88. *Roem. & Schult. Gen.* 350. *P. de Beauv.* t. XX. f. 6. *Trin. Agrost.* 106. *Rye*.

*S. cereale* L.: glumes and bristles scabrous-ciliate; corolla smooth. *Willd. Spec.* I. p. 471. *Pursh Fl.* I. p. 90. *Roem. & Schult.* II. p. 773.

Root annual or biennial. *Culm* 3—4 feet high. *Leaves* broad-linear, smooth. *Spike* 4—6 inches long. *Glumes* ciliate, subulate. Inferior valve of the *corolla* 3-nerved, terminating in a long scabrous *bristle*.

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.

*Gen. pl.* 128. *Nutt. Gen.* I. p. 86. *Roem. & Schult. Gen.* 351. *P. de Beauv.* t. XX. f. 7 et 11. *Trin. Agrost.* 108. Calyx almost wanting in *E. Hystrix*.  
*Lyme grass.*

1. *E. virginicus* L.: spike erect, coarctate; spikelets in pairs, 2—3-flowered; florets smooth; glumes lanceolate, nerved. *Willd. Enum. h. Berol.* I. p. 131. *Spec.* I. p. 469. *Mich. Fl.* I. p. 65. *Big. Bost.* p. 28. *Pursh Fl.* I. p. 89. *Elliott Sk.* I. p. 180. *Muhl. Gram.* p. 176. *Roem. & Schult.* II. p. 776. *E. carolinianus* *Walt. Car.* p. 82. HORDEUM flosculis omnibus hermaphroditis, &c. *Gron. Virg.* p. 13.

*Root* perennial. *Culm* 3—4 feet high, erect, smooth, terete. *Leaves* flat, 8—10 inches long, nearly half an inch broad, bright green. *Stipule* nearly obsolete. *Spike* stiffly erect, thick. *Glumes* lateral, a little connate and thickened at the base, forming a sort of *involucrum* around the spikelets, with several elevated nerves on the external surface; the extremity produced into a subulate *bristle*. Inferior valve of the *corolla* oblong-lanceolate, naked; superior valve a little shorter, emarginate, concave on the back, scabrous on the margin and towards the extremity. *Bristle* of the inferior florets longer than the calyx. *Stamens* 3. *Germen* bearded at the tip.

HAB. On the banks of rivers; abundant on the Island of New-York and at Hoboken. July—August.

2. *E. canadensis* L.: spike nodding at the extremity, patulous; spikelets 3—5-flowered; florets hairy; glumes linear-subulate. *Willd. Enum. h. Berol.* I. p. 131. *Spec.* I. p. 468. *Pursh Fl.* I. p. 39. *Muhl. Gram.* p. 178. *Roem. & Schult.* II. p. 776. *E. philadelphicus* *Lin. Amoen. acad.* IV. p. 266.

*Root* creeping. *Culm* 3—4 feet high. *Leaves* flat and smooth, dark green. *Sheaths* sometimes a little pubescent on the margin. *Stipule* very short. *Spike* about 6 inches long, generally a little pendulous at the extremity. *Spikelets* spreading; the lower ones sometimes ternate. *Glumes* marked on the outside with 3 or 4 elevated nerves, terminating in a bristle shorter than that of the florets. Inferior valve of the *corolla* strigosely hairy; superior valve obtuse.

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

β. *glaucifolius*\*: leaves glaucous. *E. glaucifolius* *Willd. Enum. h. Berol.* I. p. 13. *Pursh Fl.* I. p. 89. *Muhl. Gram.* p. 177. *Roem. & Schult.* II. p. 776.

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

3. *E. villosus* Muhl.: spike a little nodding at the extremity, patulous; rachis and florets hispid-pilose; spikelets geminate, 2—3-flowered; glumes linear, pilose-ciliate, 2-nerved, shorter than the florets. *Willd. Enum. h. Berol.* I. p. 131. *Muhl. Gram.* p. 175. *Pursh Fl.* I. p. 89. *Roem. & Schult.* II. p. 776.

*Root* fibrous, perennial. *Culm* 2—3 feet high. *Leaves* 8—10 inches long, 4—5 lines broad, smooth. Lower *sheaths* strigose-hirsute; 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.

*HAB.* On dry hills along the banks of rivers. Hoboken, New-Jersey, &c. July.

4. *E. Hystrix* L.: spike erect; spikelets diverging; calyx 0. *Sp. pl.* 124. *Willd. Spec.* I. p. 471. *Elliott Sk.* I. p. 181. *Muhl. Gram.* p. 178. *Roem. & Schult.* II. p. 779.

*Root* 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.

*HAB.* On rocky hills. Hoboken, New-Jersey. In the Highlands of New-York. Williamstown, Massachusetts. *Dewey.* In Pennsylvania. *Muhlenberg.* July.

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.

*Calyx* 2—4-flowered, loose, membranaceous. *Florets* as long as the glumes; one or more of the superior ones abortive and incomplete. *Corolla* unarmed, coriaceous-membranaceous. *Nectaries* connate. *Seed* free. *Gen. pl.* 113. *Nutt. Gen.* I. p. 63. *Juss.* p. 31. *Roem. & Schult. Gen.* 290. *P. de Beauv. t.* XIV.

f. 4, 5. *Trin. Agrost.* 126. Panicle racemose, subsecund. *Melic-grass.*

*M. speciosa Muhl.*: smooth; panicle loose, erect, few-flowered; branches simple; florets obtuse. *Muhl. Amer. Phil. Trans.* III. p. 160. *Gram.* I. p. 87. *Willd. Enum. h Berol.* I. p. 102. *Roem. & Schult.* II. p. 526. *M. altissima β. Willd. Spec.* I. p. 385. *M. glabra Mich. Fl.* I. p. 62. *Pursh Fl.* I. p. 77. *Elliott Sk.* I. p. 154. *M. glabra Walt. Car.* p. 77.

*Root* perennial. *Culm* 3—4 feet high. *Leaves* linear, flat, pubescent beneath. *Stipule* membranaceous, lacerate. *Panicle* a little secund; 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. *HAB.* On mountains in Pennsylvania. June. *Muhlenberg.* My specimens are from North-Carolina.

#### 47. ATHEROPOGON. *Muhl.*

*Spikes* in a unilateral raceme. *Calyx* 2-valved, membranaceous, 2-flowered; inferior glume setiform. *Perfect floret* 2-valved; inferior valve 3-toothed, or 3-bristled; superior valve bifid. *Abortive floret* pedicellate, 2-valved, 3-bristled. *Muhl. ap. Willd. Spec.* IV. p. 937. *Nutt. Gen.* I. p. 77. *Roem. & Schult. Gen.* 251. *BOUTELOUA Lagas. Gen. et Spec. nov.* IV. p. 5. *ACTINOCHLOA* et *DINEBÆ* spp. *P. de Beauv.* *TRIÆNA Humb. & Bonp.* *EUTRIANA Trin. Agrost.* p. 125.

*A. apludoides Muhl.*: spikes racemose, distant, pendulous; perfect floret with the inferior valve tricuspidate; lateral bristles in the abortive floret half the length of the terminal one. *Muhl. l. c. Gram.* p. 287. *Pursh Fl.* I. p. 75. *Spreng. pug.* I. p. 8. *Nutt. Gen.* I. p. 78. *Torrey in Sill. Jour.* IV. p. 58. *Roem. & Schult.* II. p. 414. *CHLORIS curtispindula Mich. Fl.* I. p. 59. *Willd. Spec.* IV. p. 927. *EUTRIANA curtispindula Trin.*

*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*.

#### 48. PANICUM. *L.*

*Calyx* 2-valved, 2-flowered; the inferior glume often very small. *Florets* dissimilar; the *lower one* abortive, or antheriferous, 1—2-valved; the inferior valve resembling in texture the glumes; the superior membranaceous. *Perfect floret* with cartilaginous valves, unarmed. *Gen. pl.* 108. *Nutt. Gen.* I. p. 52. *R. Brown Prod.* I. p. 189. *Roem. & Schult. Gen.* 260. *P. de Beauv.* t. X. f. 1—5. *Trin. Agrost.* 147. *ECHINOCHLOA* *P. de B.* Flowers generally in a compound racemose panicle. Glumes of the calyx sometimes nearly equal. *Panic-grass.*

1. *P. Crus galli* *L.*: racemes alternate and in pairs, compound; rachis 5-angled; glumes terminating in hispid bristles; sheaths glabrous. *Willd. Spec.* I. p. 337. *Smith Fl. Brit.* I. p. 65. *Eng. Bot.* t. 876. *Mich. Fl.* I. p. 46. *Big. Bost.* p. 19. *Pursh Fl.* I. p. 66. *Muhl. Gram.* p. 105. *Elliott Sk.* I. p. 114. *ECHINOCHLOA Crus galli* *P. de Beauv.* *Roem. & Schult.* II. p. 478.

*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 unarmed glumes. Introduced. *Cock's-foot grass.*

2. *P. hispidum* *Muhl.*: panicle compound, nodding; racemes alternate; glumes terminating in hispid bristles; sheaths hispid. *Muhl. Gram.* p. 107. *P. Crus galli*  $\beta$ . *hispidum* *Elliott Sk.* I. p. 114. *P. Walteri* *Pursh Fl.* I. p. 66. nec *Muhl. & Ell.* *P. muricatum* *Mich. Fl.* I. p. 47?

*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 unarmed.

**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.

3. *P. clandestinum* *L.*: culm with short axillary branches; leaves broad-lanceolate, cordate at the base; sheaths hispid, enclosing the short panicles; abortive floret neutral, 2-valved; superior valve obtuse. *Sp. pl.* 86. *Willd. Spec.* I. p. 351. *Muhl. Gram.* p. 110. *Roem. & Schult.* II. p. 442. *P. latifolium*  $\beta$ . *clandestinum* *Pursh Fl.* I. p. 63.

*Root* perennial, fibrous. *Culm* 2—3 feet high, erect and rigid, leafy; branches appressed. *Leaves* 3—4 inches long, 1 inch broad, expanding, strongly nerved, scabrous on the margin, ciliate at the base. *Sheaths* hispid, with horizontal hairs arising from little papillæ 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.

**HAB.** In moist shady places, borders of woods, &c. On the Island of New-York. July.

5. *P. latifolium* L.: culm generally simple, bearded at the joints; leaves oblong-lanceolate, smooth, or, with the sheaths, somewhat pubescent; panicle terminal, a little exsert, simple, pubescent; spikelets oblong-ovate; abortive floret antheriferous, 2-valved; superior valve subherbaceous, nearly as long as the inferior, acute. *Sp. pl.* 86. *Willd. Spec.* I. p. 350. *Mich. Fl.* I. p. 49. *Big. Bost.* p. 20. *Pursh Fl.* I. p. 68. *Muhl. Gram.* p. 109. *Elliott Sk.* I. p. 119. *Walt. Car.* p. 73. *Roem. & Schult.* II. p. 440. *P. virginianum* lato brevique folio, &c. *Moris. Hist.* III. p. 196. §. 3. t. 5. f. 4. *P. Walteri* Poir. *Enc. Supp.* IV. p. 282. *R. & S.* II. p. 885.

*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 nerved. *Abortive floret* with 3 perfect stamens. *Perfect floret* acute. *Stamens* 3. *Seed* white.

**HAB.** In woods and shady thickets. June—July.

6. *P. scoparium* Lam.: whole plant softly villous; leaves lanceolate; panicle erect, compound, setaceous, much branched; spikelets turgid, ovate, pubescent. *Lam. Enc.* IV. p. 744. *Mich. Fl.* I. p. 49. *Pursh Fl.* I. p. 68. *Elliott Sk.* I. p. 119. *Muhl. Gram.* p. 109. *Roem. & Schult.* II. p. 444.

*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 neuter, 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. *Elliott*.

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 subherbaceous, shorter than the inferior. *Muhl. Gram.* p. 116. *Elliott Sk.* I. 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, decomposed; 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 decomposed and smooth.

8. *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.

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

9. *P. pubescens* Lam.: erect, much branched, leafy, softly pubescent; leaves lanceolate, ciliate; panicle small, few-flowered, free; spikelets subglobose-obovate, pubescent. *Mich. Fl.* I. p. 49. *Lam. Enc.* V. p. 743. *Pursh Fl.* I. p. 68. *Muhl. Gram.* p. 116. *Elliott Sk.* I. p. 124? *Roem. & Schult.* II. p. 446.

*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, subsolitary, alternate, hairy, divided. *Spikelets* pyriform, nerved, pubescent. Inferior glume of the *calyx* small. *Muhl.*

HAB. In woods and fields. Pennsylvania. June. *Muhlenberg.*

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 *Descript. 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.

HAB. Near Deerfield, Massachusetts. *Cooley.*

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.* l. 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. defauperatum*, is the same as his. It is not a very distinct species.

12. *P. dichotomum* L. : culm much branched and dichotomous above; branches fasciculate; leaves very numerous, lanceolate, smooth; panicle simple, capillary, lax; abortive floret neutral; superior valve minute, bifid. *Willd. Spec. I. p. 346.* *Pursh Fl. I. p. 367.* *Elliott Sk. I. p. 124.* *Muhl. Gram. p. 112.* *Roem. & Schult. II. p. 430.* *P. paniculis simplicibus, culmo ramoso dichotomo Gron. Virg. 133.*

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.

13. *P. nitidum* Lam. : culm slender, simple, erect, smooth; sheaths bearded at the throat; leaves very few, remote, broad-linear; panicle capillary, rather crowded, compound, smooth; spikelets minute, obtuse, ovate, slightly pubescent; inferior glume very small. *Lam. Ill. 899.* *Enc. Meth. IV. p. 749.* *Mich. Fl. I. p. 49.* *Pursh Fl. I. p. 67.* *Roem. & Schult. II. p. 446.*

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

ζ. *barbatum*: culm simple, smooth; nodes hairy; leaves linear-lanceolate; sheaths smooth, except on the margin; panicle subsimple, smooth; flowers minutely pubescent. *P. discolor* Muhl. Gram. p. 114. Spreng. Mant. I. p. 31. Roem. & Schult. II. p. 447.

HAB. α. in the pine-barrens of New-Jersey, and on the Island of New-York. A foot and a half high. β. near Quaker-bridge New-Jersey. June. Two feet high. γ. near New-York. About a foot high. δ. in dry woods, &c. New-York. ε. in meadows; common. ζ. in woods and meadows. June A foot high.

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

erect; leaves very long; panicles lateral and terminal, pyramidal, spreading; branches racemiferous; spikelets appressed; abortive floret neutral, valves nearly equal. *Muhl. Gram.* p. 119. *Spreng. pug.* II. p. 4. *Roem. & Schult.* II. p. 456. *P. agrostidiforme* *Lam. Ill.* 895. *Enc. Meth.* IV. p. 748. (fide *R. & S.*) *P. elongatum* *Pursh Fl.* I. p. 69. *Roem. & Schult.* II. p. 452. nec *Poir. Enc. Supp.* IV. p. 278.

*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. *Stipule* 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.

15. *P. virgatum* *L.*: whole plant very smooth; panicle diffuse, very large; flowers acuminate; valves of the abortive floret nearly equal. *Sp. pl.* 87. *Willd. Spec.* I. p. 352. *Mich. Fl.* I. p. 48. *Muhl. Gram.* p. 120. *Elliott Sk.* I. p. 120. *Roem. & Schult.* II. p. 443. *Gron. Virg.* 153.

*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*.

16. *P. anceps* *Mich.*: culm compressed; sheaths ancipitous, pilose; panicle with nearly simple branches; spikelets subracemose, much acuminate; abortive floret neutral; superior valve bifid. *Mich. Fl.* I. p. 48. *Pursh Fl.* I. p. 69. *Elliott Sk.* I. p. 118. *Roem. & Schult.* II. p. 444. *P. rostratum* *Muhl. Gram.* p. 121. *Willd. Enum. h. Berol.* II. p. 1032. *P. pennsylvanicum* *Spreng.*

*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.

HAB. In fields. Pennsylvania. July—August. *Muhlenberg*. My specimens are from the Southern States.

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.* I. p. 69.

HAB. On the banks of the Delaware, Pennsylvania. July. *Pursh*.

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.

18. *P. verrucosum* Muhl.: culm slender, decumbent and geniculate, branched below, and with the leaves smooth; panicle much spreading, few-flowered; flowers verrucose; abortive floret 1-valved. *Muhl. Gram.* p. 113. *P. debile* Elliott *Sk.* I. p. 129.

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, opaque. Stamens 3. Styles 2.

HAB. In swamps among shrubbery. Common about Islip, Long-Island. Near Long-branch, New-Jersey Cooper. August.

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

19. *P. proliferum* Lam.: culm assurgent geniculate at base, very smooth; panicles terminal and axillary, smooth; spikelets racemose; abortive floret 1-valved. *Lam. Enc.* IV. p. 747. *Pursh Fl.* I. p. 68. *Roem. & Schult.* II. p. 431. *P. dichotomiflorum* Mich. *Fl.* I. p. 48. *P. geniculatum* Muhl. *Gram.* p. 123. *Elliott Sk.* I. p. 117. *P. miliaceum* Walt. *Car.* p. 72.

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.

20. *P. capillare* L.: culm nearly simple sheaths very hairy; panicle large, capillary expanding, loose; spikelets on long peduncles, acuminate, smooth; abortive floret 1-valved. *Syst. veg.* 106. *Willd. Spec.* 1. p. 349. *Mich. Fl.* 1. p. 47. *Lam. Ill.* 907. *Big. Bosl.* p. 19. *Pursh Fl.* 1. p. 67. *Muhl. Gram.* p. 124. *Walt. Car.* p. 72. *P. strigosum Elliott Sk.* 1. p. 126?

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 when old. Spikelets acute. Glumes acuminate purple; the inferior 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.

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

HAB. In dry woods near New-York. August.

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.

#### 49. HIEROCHLOA. Gmelin.

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

*eral florets* antheriferous, triandrous. *Central floret* perfect, diandrous (rarely triandrous) *Gmel. Fl. Sib.* I. p. 100. *R. Brown Prod.* I. p. 209. *P. de Beauv. Agrost. t. XII. f. 5. Roem. & Schult. Gen.* 284. *Trin. Agrost.* 66. *TORRESIA Ruiz. & Pav. et P. de B. HOLCI spp. L. &c.* Flowers in ovate, contracted panicles.

1. *H. borealis R. & S.*: panicle subsecund, a little spreading; peduncles smooth; florets unarmed; inferior valve of the corolla ciliate on the margin; root creeping. *Roem. & Schult. H.* p. 513. *Hook. Fl. Scot.* p. 28. *H. repens P. de Beauv. HOLCUS borealis Schrad. Fl. Germ.* I. p. 252. *H. odoratus L. Willd. Spec.* IV. 935. *Mich. Fl.* I. p. 56. *Big. Bost.* p. 245. *H. fragrans Willd. l. c. p.* 936. *Pursh Fl.* I. p. 78. *HIEROCHLOA fragrans R. & S.* II. p. 514.

*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. *Stipule* 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 Wah. Fl. Lupp.* p. 31. t. 2. *H. monticola Bigelow.*



*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, lacinated 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. *Anthems* linear. *Nectaries* minute, lacinate. *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, lacinate.

**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.

*Calyx* 2-flowered; glumes membranaceous, somewhat boat-shaped, mucronate. *Florets* polygamous; the inferior sessile, perfect, unarmed; superior floret antheriferous, or neuter, pedicellate, awned on the back, near the middle. *Gen. pl.* 1565. *Nutt. Gen. I.* p. 63. *P. de Beauv. t. XVII. f. 10.* *Roem. & Schult. Gen.* 326. *Trin. Agrost.* 128. Flowers in contracted panicles. *Soft grass.*

*H. lanatus* L.: panicle equal; florets shorter than the calyx, the superior with a recurved awn; root fibrous. *Willd. Spec.* IV. p. 933. *Muhl. Gram.* p. 274. *Pursh Fl. I.* p. 78.

*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.*

*Spikelets* surrounded by an *involucrum* of 2 or more bristles. *Calyx* 2-flowered; glumes unequal, herbaceous. *Inferior floret* abortive, 1-2-valved herbaceous. *Superior floret* perfect, glumes cartilaginous. *P. de Beauv. Agrost.* p. 51. t. XIII. f. 3. *Roem. & Schult. Gen.* 272. *Trin. Agrost.* 138. PENNISETUM *Nutt. Gen.* I. p. 54. PANICI *spp. L. Inflorescence* a compound cylindrical spike.

1. *S. viridis P. de B.*: spike cylindrical; involucrum of 4-10 fasciculate bristles, scabrous upward; spikelets geminate; perfect floret smooth; sheaths pubescent. *Roem. & Schult. II.* p. 488. PANICUM *viride L. Willd. Spec.* I. p. 335. *Pursh Fl. I.* p. 66. *Muhl. Gram.* p. 102.

*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* punctulate, not rugose.

HAB. In cultivated grounds; rare. July—August. Introduced from Europe, as are all the following.

*Wild Timothy.*  
*Bottle Grass.*

2. *S. glauca P de B.*: spike cylindrical; involucrum of many fascicled bristles, scabrous upward; perfect floret transversely rugose. *Roem. & Schult. II.* p. 490. PANICUM *glaucum. L. Willd. Spec.* I. p. 335. *Mich. Fl. I.* p. 46. *Big. Bost.* p. 18. *Pursh Fl. I.* p. 66. *Elliott Sk. I.* p. 112. *Muhl. Gram.* p. 100. *P. alopecuroideum Walt. Car.* p. 72.

*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.

HAB. In fields and cultivated grounds. July—August. Introduced.

*Bottle Grass.*

*β. purpurascens* : sheaths hairy ; glumes and bristles of the involucre hairy. *Elliott Sk.* I. p. 113. sub *Panicum*. *Panicum* No. 4. (anonymos.) *Muhl. Gram.* p. 101. *SET. purpurascens* *Humb. & Bonp. et Roem. & Schult.* II. p. 491.

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

3. *S. verticillata* *P. de B.* : spike subverticillate ; bristles of the involucre 2, retrorsely scabrous ; spikelets solitary ; corolla of the perfect floret nearly smooth. *Roem. & Schult.* II. p. 488. *Panicum verticillatum* *L. Willd. Spec.* I. p. 334. *Muhl. Gram.* p. 402. *Pursh Fl.* I. p. 66. *Big. Bost.* p. 18.

*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 *involucre* generally purple, about twice the length of the flowers. *Calyx* smooth ; inferior glume ovate, obtuse. *Abortive floret* neuter ; superior valve distinct, entire.

**HAB.** In sandy cultivated grounds ; rare. Introduced. Near Boston. *Bigelow.* Litchfield, Connecticut. *Brace.* In Pennsylvania. *Muhlenberg.* July.

4. *S. italica* *P. de B.* : spike compound, interrupted at the base, nodding ; spikelets conglomerate ; involucre many times longer than the flowers ; rachis tomentose. *Roem. & Schult.* II. p. 493. *Panicum italicum* *L. Willd. Spec.* I. p. 336. *Muhl. Gram.* p. 103. *Elliott Sk.* I. p. 113. *Walt. Car.* p. 72.

*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. *Involucre* 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.*

*Spikes* linear, unilateral, generally digitate or fasciculate. *Spikelets* in pairs on short bifid pedicels. *Calyx* 1—2-valved, 2-flowered ; inferior glume often inconspicuous. *Inferior floret* abortive, 1-valved, herbaceous. *Superior floret* perfect ; valves coriaceous. *P. de Beauv. Agrost.* p. 50. t. X. f. 12. *Per s. Syn.* I.

p. 84. *Nutt. Gen. I. p. 58. Juss. p. 29. Roem. & Schult. Gen. 266. PANICI spp. L. Trin. &c. SYNTHESISMA Walt. Car. p. 76. Crab-grass. Crop-grass.*

1. *D. sanguinalis Scop.*: spikes numerous, fasciculate, a little spreading; leaves and sheaths somewhat hairy; spikelets oblong; florets pubescent on the margin. *Pers. Syn. I. p. 84. Mich. Fl. I. p. 45. Pursh Fl. I. p. 69. Muhl. Gram. I. p. 120. Elliott Sk. I. p. 121. PANICUM sanguinale L. Willd. Spec. I. p. 342. Eng. Bot. t. 849. Big. Bost. p. 19. SYNTHESISMA praecox Walt. Car. p. 76.*

*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. *Crab-grass.*

2. *D. glabra R. & S.*: spikes digitate, subalternate, (3—4.) spreading; leaves and sheaths smooth; spikelets ovate, crowded; calyx equal to the abortive floret, both hairy. *Roem. & Schult. II. p. 471. D. humifusa Pers. Syn. I. p. 45. D. Ischaemum Schreb. Muhl. Gram. p. 121. D. paspalodes Mich. Fl. I. p. 46. Pursh Fl. I. p. 70. R. & S. II. p. 472. PANICUM glabrum Gaud.*

*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.

*HAB.* In sandy fields; common near New-York. In Pennsylvania. *Muhlenberg.* August—September.

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*.

3. *D. serotina Mich.*: decumbent; leaves and sheaths very pubescent; spikes numerous, setaceous; spikelets all pedicellate; inferior glume very minute. *Mich. Fl.* I. p. 46. *Pursh Fl.* I. 70. *Muhl. Gram.* p. 130. *D. villosa Elliott Sk.* I. p. 132. *SYNTHERISMA serotina Walt. Car.* p. 77. *PASPALUS serotinus Flugg.?* *Roem. & Schult.* II. p. 305.

*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.*

*HAB.* IN New-York. *Muhlenberg.* +

4. *D. filiformis Ell.*: culm erect, filiform; leaves somewhat glabrous; spikes 2—4, filiform erect; spikelets in threes, all pedicellate; calyx 1-valved, as long as the abortive floret, pubescent. *Elliott Sk.* I. p. 132. *Muhl. Gram.* p. 131. *D. pilosa Mich. Fl.* I. p. 45? *Pursh Fl.* I. p. 69. *PANICUM filiforme L. Willd. Spec.* I. p. 360. *PASPALUS filiformis Flugg.* *Roem. & Schult.* II. p. 304.

*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.

*Flowers* spiked. *Spikelets* in pairs, polygamous; the inferior one *abortive*, (antheriferous or neuter,) on a bearded pedicel; *glumes* and *corolla* frequently very minute or wanting. Superior spikelet sessile, 1-flowered, *perfect*; *glumes* subcoriaceous; corolla 2-valved, shorter than the calyx, membranaceous; the inferior valve generally awned. *Gen. pl.* 1566. *Nutt. Gen.* I. p. 160. *Juss.* p. 30. *Roem. & Schult. Gen.* 379. *P. de Beauv.* t. XXIII. f. 24 *Trin. Agrost.* 159. *ANATHERUM*, and *CYMBOPOGON P. de B.*  
*POLLINIA Sprengel.* *Beard-grass.*

1. *A. scoparium* Mich.: spikes simple, lateral and terminal, pedunculate, in pairs; rachis hairy; abortive floret neutral; valves awned. *Mich. Fl.* I. p. 57. *Pursh Fl.* I. p. 74. *Elliott Sk.* I. p. 146. *A. purpurascens* Muhl. *Gram.* p. 282. *Willd. Spec.* IV. p. 913. *POLLINIA scoparia* Spreng. *pug.* II. p. 13. *Roem. & Schult.* II. p. 832.

*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 glume distinctly 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.

**HAB.** In dry barren and rocky soils. August. *Broom-grass.*

2. *A. virginicum* L?: culm compressed; superior leaves and sheaths smooth; spikes short, 2—3 from each sheath, partly concealed at the base; rachis subterete; abortive flower a mere pedicel without valves; perfect flower monandrous; awn straight. *Sp. pl.* 1482. *Willd. Spec.* IV. p. 916. *Muhl. Gram.* p. 277. *Pursh Fl.* I. p. 275. *A. dissitiflorum* Mich. *Fl.* I. p. 57. *Elliott Sk.* I. p. 159. *Willd. l. c.* p. 914. *Pursh l. c.* *Roem. & Schult.* II. p. 817. *ANATHERUM virginicum* Spreng. *pug.* II. p. R. & S. II. p. 809. *CINNA lateralis* Walt. *Car.* p. 59.

*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.

3. *A. macrourum* Mich.: spikes fasciculate, in dense lateral and terminal fastigiate panicles; flowers monandrous; awn straight; abortive floret without valves. *Mich. Fl.* I. p. 75. *Willd. Spec.* IV. p. 916. *Muhl. Gram.* p. 278. *Elliott Sk.* I. p. 150. *Roem. & Schult.* II. p. 817.

*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.

4. *A. furcatum* Muhl.: spikes digitate, generally by fours; abortive flower stamiferous, awnless, resembling the perfect one, the awn of which is subcontorted. Muhl. Gram. p. 231. Willd. Spec. IV. p. 919. Pursh Fl. I. p. 75. Elliott Sk. I. p. 150. Roem. & Schult. II. p. 821.

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 POLLINI† of Sprengel, which has been separated from ANDROPOGON by this learned botanist. In the structure of its flowers it strongly resembles the *A. purpurascens*.

5. *A. nutans* L.: panicle oblong, branched, nodding; spikelets by pairs; calyx hairy, rufescent; awn contorted. Sp. pl. 1480. Willd. Spec. IV. p. 906. Pursh Fl. I. p. 74. Big. Bost. p. 245. Muhl. Gram. p. 284. Elliott Sk. I. p. 144. Roem. & Schult. II. p. 812. *A. avenaceum* Mich. Fl. I. p. 58. Willd. l. c. p. 907. R. & S. II. p. 313.

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.

† POLLINIA. Valvula calycina uniflora, bivalvis, basi pilosa, aristata masc. et hermaphrod. conformes, illa pedicellata, haec sessilis.—Ab ANDROPOGONE ob aristas flosculorum masculorum diversum. Spreng. pug. II p. 10.

*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.

*Spikelets* 3 at each joint of the *rachis*, 1-flowered, all perfect, or the lateral ones abortive. *Glumes* (involucrum *Trin.* &c.) lateral, subulate. *Perfect flower*: *Corolla* 2-valved; inferior valve terminating in a bristle. *Seed* coated. *Sp. pl.* 129. *Nutt. Gen.* I. p. 87. *P. de Beauv.* t. XXI. f. 1, 2. *Roem. & Schult. Gen.* 361. *Trin. Agrost.* 48. Habit very much resembling that of *ELYMUS*. *Barley.*

*H. jubatum* L.: lateral flowers abortive, neuter; bristles of the calyx and corolla 6 times as long as the flowers. *Sp. pl.* p. 126. *Willd. Spec.* I. p. 476, (excl. syn. *Schreb. et Buxb.*) *Ait. Kew.* I. p. 180. *Big. Bost.* p. 28. *Pursh Fl.* I. p. 89. *Roem. & Schult.* II. p. 792.

*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 *Trin.*) 2-valved; inferior valve lanceolate, obscurely 3-nerved, terminating in a very long bristle; superior valve shorter, acute, 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*.



## ORDER III.

## TRIGYNIA.

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

## 99. HOLOSTEUM. L.

*Calyx* 5-leaved, coloured within. *Petals* 5, 2-parted. *Capsule* 1-celled, bursting at the summit. *Gen. pl.* 136. *Nutt. Gen. I.* p. 89. *Juss.* p. 299. *Roem. & Schult. Gen.* 391. *Lam. Ill. t. LI. f. 1.* *Gaert. fruct. t.* 130. *Nat. Ord. CARYOPHYLLEAE Juss.*

*H. succulentum* L.: leaves elliptic, fleshy. *Amoen. acad.* III. p. 21. *Willd. Spec. I.* p. 489. *Pursh Fl. I.* 90. excl. syn. *Walt.* ALSINE foliis ellipticis succulentis. *Cold. Novaborac.* 9.†

HAB. In Coldenham, New-York. *Colden.*

This is an exceedingly doubtful plant. It is supposed by *Nuttall* to be the *ARENARIA feploides* 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 Muhlenbergian Herbarium there is a specimen labelled HOLOSTEUM, without a specific name, which is certainly *S. media*. *Walter's* POLYCARPON *uniflorum*,‡ which *Pursh* refers to HOLOSTEUM *succulentum*, appears to be quite a different plant: perhaps *SESUVIUM pedunculatum*.

## 100. MOLLUGO. L.

*Calyx* 5-leaved, coloured within. *Corolla* 0. *Capsule* 3-celled, 3-valved. *Gen. pl.* 139. *Nutt. Gen.*

† CAL. *Perianthium* pentaphyllum: foliis ovato-lanceolatis, persistentibus. COR. *Petala* quinque, calyce minorā, ad unguem bifida. STAM. *Filamenta* tria, corolla breviora, inter divaricationes stigmatis assurgentia. *Anthera* globulares, magnae, rubentes. PIST. *Germen* ovatum. *Stylus* brevissimus. *Stigma* trifidum; ramulis horizontaliter reflexis, et inter se angulos aequales perficentibus. PER. *Capsula* conica, unilocularis. SEM. plurima, globularia.—*Folia* bina opposita, obverse elliptica, integra, glabra, succulenta. *Caulis* repens. OBS. Haec planta facillime stamina dejicit: sed nunquam plura quam tria observavi.

‡ *P. uniflorum*: foliis succulentis ellipticis humisparsis, pedunculis lateralibus unifloriis. *Walt. Car.* p. 83.

I. 90. *Juss.* p. 300. *Roem. & Schult. Gen.* 396. *Lam. Ill.* t. LII. Nat. Ord. CARYOPHYLLEAE *Juss.* *Indian Chickweed.*

*M. verticillata* L.: leaves verticillate, cuneiform, acute; stem branched, depressed; peduncles 1-flowered. *Willd. Spec.* l. p. 492. *Mich. Fl.* l. p. 77. *Big. Bost.* p. 29. *Pursh Fl.* l. p. 92. *Elliott Sk.* l. p. 183. *Walt. Car.* p. 83. *Gron. Virg.* 14. *Roem. & Schult. II.* p. 871. *ALSINE* *Spergula*, &c. *Pluk. Mant.* t. 332. f. 4. (bona.)

*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 germs; *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.

*Calyx* 3-leaved. *Petals* 3. *Styles* 0; *stigmas* 3, plumose. *Capsule* 3-celled, 3-valved, with as many interior valves opposite the others; *cells* 1-seeded. *Gen. pl.* 142. *Nutt. Gen.* I. p. 90. *Juss.* p. 303. *Roem. & Schult. Gen.* 393. *Lam. Ill.* t. L. *Stamens* sometimes more than 3.

1. *L. major* L.: plant hirsute on every part; leaves oblong-lanceolate, mucronate; panicle leafy, pyramidal; branches flowering towards their extremities; flowers in fasciculate racemes, second, on short pedicels. *Amoen. acad.* III. p. 11. t. 4. f. 1. *Willd. Spec.* 495. *Mich. Fl.* l. p. 76. *Big. Bost.* p. 29. *Pursh Fl.* l. p. 91. *Walt. Car.* p. 83. *Lam. Ill.* l. c. f. 2. *L. villosa.* *Elliott Sk.* l. p. 184.

*Root* perennial. *Stem* erect, about a foot high, shooting out radical prostrate branches. *Leaves* sometimes quite villous. *Flowers* about the size of a mustard seed and very numerous, oblong, seldom expanding, each with 2-lanceolate bracts at the base. *Petals* linear. *Stamens* 3—9. *Seeds* ovate, acute.

**HAB.** In sandy woods and on dry hills; common. August.

2. *L. minor* L.: whole plant nearly glabrous; stem asurgent; leaves linear-lanceolate, acute; panicle leafy;

branches elongated; flowers on short pedicels. *Amoen. acad.* III. p. 10. t. 1. f. 4. *Willd. Spec.* I. p. 495. *Pursh Fl.* I. p. 91. *Big. Bost.* p. 29. *Lam. Ill.* l. c. f. 1. *Walt. Car.* p. 33. *Roem. & Schult.* II. p. 859. *CAPRARIA foliis integerrimis Clayt. Virg.* 75.

*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.

3. *L. racemulosa Mich.*: plant covered with an adpressed pubescence; stem erect, with slender, paniculate branches above; leaves linear, acute, ciliate; flowers rather remote, alternate; racemes naked. *Mich. Fl.* I. 77. *Pursh Fl.* I. p. 91. *Poir. Enc. Meth.* III. p. 340. *Roem. & Schult.* II. p. 860.

*HAB.* In sandy fields; New-Jersey to Carolina. *Pursh.* +  
I suspect this plant is not distinct from the preceding species.

4. *L. thymifolia Ph.*: whitish villose on every part; stem erect; leaves linear, acute; panicle leafy, elongated; branches short; flowers small, in lateral and terminal fascicles; pedicels very short. *Pursh Fl.* I. p. 91. *Mich. Fl.* I. p. 77. *Roem. & Schult.* II. p. 359.

*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. *Nut* triquetrous, bony, 3-celled. *Gen. pl.* 134. *Nutt. Gen.* I. p. 91. *Juss.* p. 68. *Gaert. fruct.* I. p. 115. t. 24. *Lam. Ill.* t. 30. *Roem. & Schult. Gen.* 401. *Nat. Ord.* ONAGRÆ *Juss.* HALORAGÆE *R. Brown.*

1. *P. palustris L.*: leaves linear-lanceolate, serrate; the lower ones pinnatifid. *Act. Ups.* 1741. p. 81. *Willd. Spec.* I. p. 483. *Lam. Ill.* l. p. 214. *Mich. Fl.* I. p. 76. *Pursh Fl.* I. p. 92. *Big. Bost.* p. 30. *Elliott Sk.* I. p. 31. *Walt. Car.* p. 84.

*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. *Lam. Ill.* I. p. 214. t. 50. f. 1. *Pursh Fl.* I. p. 92. *Elliott Sk.* I. p. 192. *Roem. & Schult.* II. p. 874. *P. palustris* β. *Mich. Fl.* I. p. 76.

*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.

HAB. Sandy swamps in the pine barrens of New-Jersey. In Pennsylvania. *Muhlenberg.* August.

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

CLASS IV.  
TETRANDRIA.



ORDER I.  
MONOGYNIA.

A. *Flowers superior.*

†. *Monopetalous.*

- |                    |                   |
|--------------------|-------------------|
| 103. CEPHALANTHUS. | 108. HEDYOTIS.    |
| 104. DIPSACUS.     | 109. HOUSTONIA.   |
| 105. GALIUM.       | 110. MITCHELLA.   |
| 106. SPERMACOCE.   | 111. LINNÆA.      |
| 107. DIODIA.       | 112. SANGUISORBA. |

††. *Polypetalous.*

- |              |                |
|--------------|----------------|
| 113. CORNUS. | 114. LUDWIGIA. |
|--------------|----------------|

†††. *Apetalous.*

115. ISNARDIA.

B. *Flowers inferior.*

†. *Monopetalous.*

- |                |                |
|----------------|----------------|
| 116. PLANTAGO. | 119. SWERTIA.  |
| 117. BARTONIA. | 120. FRASERA.  |
| 118. EXACUM.   | 121. OBOLARIA. |

††. *4-petalled.*

- |                |              |
|----------------|--------------|
| 122. AMMANNIA. | 123. PTELEA. |
|----------------|--------------|

†††. *Apetalous.*

- |                    |                  |
|--------------------|------------------|
| 124. RIVINA.       | 125. ALCHEMILLA. |
| 126. SYMPLOCARPUS. |                  |

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

2-partite.) *Receptacle* globose, hairy. *Gen. pl.* 147. *Nutt. Gen.* I. p. 92. *Juss.* p. 209. *Lam. Ill.* t. LIX. *Roem. & Schult. Gen.* 428. Nat. Ord. RUBIACEAE *Juss.* Flowers in globose heads. *But-ton-bush.*

*C. occidentalis* L.: leaves opposite or ternate. *Willd. Spec.* I. p. 543. *Mich. Fl.* I. p. 87. *Pursh Fl.* I. p. 114. *Big. Bost.* p. 33. *Elliott Sk.* I. p. 186. *Walt. Car.* p. 31. *Roem. & Schult.* III. p. 103. *Gron. Virg.* 15. *Cold. Novob.* 12. SCABIOSA dendroides, &c. *Pluk. Alm.* 336. t. 77. f. 4. (*mala.*)

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* angular, 2-celled; (4-celled, not opening. *Willd. Pericarp* 0; *seed* solitary. *Lin.* &c.) "cells semibivalve; 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.

*Flowers* in an ovate or roundish capitulum.—*Common calyx* (involucrum) many-leaved, foliaceous; *pro-pper* superior, of one leaf. *Corolla* tubular, 4-cleft. *Seed* solitary. *Receptacle* conic, paleaceous. *Pappus* cyathiform. *Gen. pl.* 148. *Nutt. Gen.* I. p. 92. *Juss.* p. 194. *Lam. Ill.* t. LVI. *Roem. & Schult. Gen.* 405. Nat. Ord. DIPSACEAE *Juss.* *Teasel.*

*D. sylvestris* L.: leaves rarely connate; scales of the receptacle straight; involucrum curved upward. *Willd. Spec.* I. p. 544. *Pursh Fl.* I. p. 96. *Eng. Bot.* 1031. *Roem. & Schult.* III. p. 42.

*Root* biennial. *Stem* 3—4 feet high, angular and prickly. *Leaves* oblong-lanceolate, opposite, sinuately serrate. *Heads* of flowers

oval, pedunculate, generally terminal, pale blue, or nearly white. *Scales* of the receptacle longer than the flowers.

HAB. In old fields on the Island of New-York; rare. July. On the edges of fields and on water sides; Pennsylvania to Virginia. *Pursh*. Doubtless introduced from Europe.

105. GALIUM. *L.*

*Calyx* 4-toothed. *Corolla* monopetalous, rotate, 4-cleft. *Seeds* 2, globose. *Gen. pl.* 162. *Nutt.* *Gen. I.* p. 93. *Juss.* p. 196. *Lam. Ill. t. LX.* *Roem. & Schult. Gen.* 481. Nat. Ord. RUBIACEAE *Juss.* Leaves verticillate. *Bed-straw.* *Cleavers.*

\* *Fruit smooth.*

1. *G. verum L.*: leaves about 8 in a whorl, linear, grooved, scabrous; flowers in dense panicles. *Willd. Spec.* I. p. 590. *Eng. Bot* 660. *Big. Bost.* p. 36. *Roem. & Schult.* III. p. 233.

*Root* perennial. *Stem* erect, branched, slender, pubescent. *Leaves* reflected downward, scabrous; margin involute. *Flowers* yellow.

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

2. *G. trifidum L.*: stem procumbent, scabrous downward; leaves linear, obtuse, scabrous of the margin and midrib; those of the stem in fives; of the branches in fours; flowers in terminal fascicles, pedicels short; corolla generally 3-cleft. *Willd. Spec.* I. p. 585. *Pursh Fl.* I. p. 108. *Elliott Sk.* I. p. 194. *Walt. Car.* p. 86. *Roem. & Schult.* III. p. 220. *G. Claytoni Mich. Fl.* I. p. 78.

*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; *stigma* globose.

HAB. In low wet places; very common. June—August.

*β. latifolium*: leaves obovate-cuneate.

HAB. In similar situations with the preceding.

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

3. *G. tinctorium* L. : stem diffuse, smoothish; leaves linear, somewhat acute; slightly scabrous; those of the stem in sixes; of the branches in fours; peduncles elongated, mostly 3-flowered. *Sp. pl.* 153. *Willd. Spec.* I. p. 586. *Pursh Fl.* I. p. 102. *Big. Bost.* p. 36? *Roem. & Schult.* III. p. 222.

*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 cauline leaves, with us, seldom occur more than five in a whorl. According to *Kalm* the roots are used by the Indians for dyeing a red colour.

4. *G. asprellum* Mich. : stems diffuse, much branched, retrorsely aculeate; leaves in fives and sixes, lanceolate, acuminate, aculeate on the nerves and margin; pedicels short. *Mich. Fl.* I. p. 78. *Pursh Fl.* I. p. 103. *Big. Bost.* p. 36. *Roem. & Schult.* III. p. 222.

*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.*

5. *G. Aparine* L. : leaves 6 or 8 in a whorl, obovate-lanceolate, hispid above; margin and keel prickly; stem flaccid, retrorsely aculeate; fruit with uncinatè bristles. *Willd. Spec.* I. p. 597. *Pursh Fl.* I. p. 103. *Big. Bost.* p. 37. *Eng. Bot.* t. 816. *Roem. & Schult.* III. p. 257.

*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 setaceously ciliate; floriferous branches larger than the whorls, divaricate and



dichotomous; pedicels 2-flowered; fruit with uncinatè bristles. *Pursh Fl. I. p. 103. Roem. & Schult. III. p. 248.*

HAB. In meadows and on the edges of woods; frequent. New-England to Virginia. June—August. *Pursh.*

This species I have never seen, unless I have mistaken it for a variety of *G. Aparine*, from which, by the description, it appears to differ but little.

7. *G. micranthum Ph.*: stem much branched, divaricate, retrorsely aculeate; leaves short, lanceolate, mucronate, smooth; margin and keel aculeate; flowering branches divaricate; pedicels 2-flowered. *Pursh Fl. I. p. 103. Roem. & Schult. III. p. 248.*

Root perennial. Flowers white, very numerous and exceedingly small. It produces generally but one seed. *Ph.*

HAB. In mountain swamps; Canada to New-York. July. Resembles *G. uliginosum* very much. *Pursh.* With this species I am unacquainted.

8. *G. triflorum Mich.*: stem procumbent, smoothish; leaves in fives and sixes, obovate-lanceolate, mucronate, smooth, scarcely ciliate on the margin; floriferous branches elongated, 3-flowered at the extremity; flowers pedicellate; fruit small, hispid. *Mich. Fl. I. p. 80. Pursh Fl. I. p. 104. Elliott Sk. I. p. 197. Roem. & Schult. III. p. 256. Willd. h. Berol. I. t. 66. G. cuspidatum Muhl. Cat. p. 15. & Herb. Elliott l. c.*

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.

HAB. In moist shady thickets; not rare. July—August. Nearly allied to *G. suaveolens* of *Wahlenberg*.

9. *G. pilosum Ait.*: stem nearly simple, elongated, ascending, with remote joints, hispid; leaves in fours, oval, mucronate, very hairy on every part, nerveless; flowering branches elongated, nearly simple, 3-flowered at the extremity; fruit hairy. *Ait. Kew. ed. 1. I. p. 45. Willd. Spec. I. p. 599. Pursh Fl. I. p. 104. Elliott Sk. I. p. 196. Roem. & Schult. III. p. 260.*

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 uncinatè bristles.

HAB. In dry woods; rarely in meadows; not common. July—August. Resembles the *G. rotundifolium* of Europe.

*Muhlenberg* and *Elliott* refer to this species the *G. puncticulosum*† 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.

10. *G. circaezans* *Mich.*: stem erect, smooth; leaves in fours, oval, obtuse, smooth; margin and nerves ciliate; peduncles divaricate, few-flowered; flowers remote, subsessile; fruit nodding, with hooked bristles. *Mich. Fl.* I. p. 80. *Pursh Fl.* I. p. 104. *Elliott Sk.* I. p. 197. *G. circaoides* *Roem. & Schult.* III. p. 256. *G. brachiatum* *Muhl. Cal.* p. 15. *Big. Bost.* p. 37. *G. boreale* *Walt. Car.* p. 37. APARINE foliis quaternis, &c. *Gron. virg.* 16.

*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.

HAB. In shady rocky woods. June—July.

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. circaezans*. 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 subciliate; peduncles divaricate; fruit sessile, nodding, covered with hooked bristles. *G. circaezans*  $\beta$ . *lanceolatum* *Cal. 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

† *G. puncticulosum*: caulibus imperceptibili pube asperiusculis: foliis quaternis, ovalibus, obtusis, inermibus, margine nervisque minutim pubescentibus, punctis subpellucidis quasi pertusis: floribus purpureis: fructibus lappulaceis. *Mich. Fl.* I. p. 80.

inches long and half an inch broad, a little acuminate, or tapering to a point, of a thin and membranaceous texture, (not punctulate); nerves and midrib smooth. *Peduncles* long, terminal, trichotomous and divaricate. *Corolla* brownish-purple; *segments* acuminate. *Fruit* closely sessile.

HAB. In stony woods, Bloomingdale, &c., New-York. Litchfield, Connecticut. *Brace*. Williamstown, Massachusetts. *Dewey*.

Nearly allied to the preceding species, of which I formerly considered it a variety. Having, however, found it to be constant in its characters, I am convinced it is quite distinct.

12. *G. bermudianum* L? : stem much branched, scarcely pubescent; leaves in fours, ovate, obtuse, smooth, with pellucid dots; margin and nerves pubescent; flowering branches elongated; fruit uncinately hispid. *Pursh Fl.* I. p. 104. *Sp. pl.* p. 153? *Roem. & Schult.* III. p. 254.

*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*.

HAB. In Pennsylvania. June. *Muhlenberg*. +

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*.

13. *G. boreale* L. : stem straight and erect, branched, very smooth; branches short; leaves in fours, linear-lanceolate, generally obtuse, 3-nerved; margin involute and scabrous; flowers in a terminal panicle, divaricate; fruit minutely and uncinately hispid. *Willd. Spec.* I. p. 595. *Pursh Fl.* I. p. 104. *G. strictum* *Cat. pl. New-York*, p. 23. *Eat. Man.* ed. 2. p. 287. *G. septentrionale* *Roem. & Schult.* III. p. 253.

*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 swelled. *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.

HAB. In sandy pine woods in the northern and western parts of the State of New-York. Near the Falls of Niagara. *Eddy*. In Pennsylvania, &c. *Pursh*.

The North-American plant exactly resembles specimens in my Herbarium from Sweden.

#### 106. SPERMACOCE. *L.*

*Calyx* 4-toothed. *Corolla* infundibuliform, 4-cleft. *Capsule* 2-celled, not 2-parted; cells 1-seeded, bidentate. *Seeds* with inflected margins. *Gen. pl.* 155. *Nutt. Gen. I.* p. 94. *Juss.* p. 197. *Lam. Ill.* t. LXII. f. 2. *Roem. & Schult. Gen.* 485. Nat. Ord. RUBIACEÆ *Juss.* Flowers axillary.

*S. diodina Mich.*: stem diffuse, terete, hairy; leaves linear-lanceolate, nearly smooth; margin and keel serrulate; stipules with numerous long bristles; flowers axillary, sessile, solitary, alternate; fruit hairy. *Mich. Fl. I.* p. 72. *Pursh Fl. I.* p. 105. *Elliott Sk. I.* p. 139. *Roem. & Schult. III.* p. 282.

*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.*

*Calyx* deeply 2-cleft, persistent. *Corolla* tubular-infundibuliform, 4-cleft. *Capsule* 2-celled; cells 1-seeded. *Gen. pl.* 158. *Nutt. Gen. I.* p. 94. *Juss.* 197. *Lam. Ill.* t. LXIII. *Roem. & Schult. Gen.* 487. Nat. Ord. RUBIACEÆ *Juss.* Habit of the preceding genus.

*D. virginica L.*: smooth; stem procumbent, nearly terete; leaves lanceolate; corolla smooth within; fruit oblong, smooth. *Willd. Spec. I.* p. 580. *Pursh Fl. I.* p. 105.

*Elliott Sk.* I. p. 190. *Mich. Fl.* p. 81. *Roem. & Schult.* III. p. 284. *D. teres Walt. Car.* p. 87.

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 DIDIA, as characterized in the books, appears to differ but little from SPERMACE, except in the calyx being 2-parted instead of 4-toothed. *Michaux* remarks of SPERMACE *diodina*, "DIDIA esset, nisi calyx 4-fidus obstaret."

### 108. HEDYOTIS. L.

Calyx 4-toothed or 4-parted. Corolla infundibuliform, 4-parted. Capsule 2-celled, opening transversely at the top, many-seeded; dissepiment contrary to the valves. *Gen. pl.* 153. *Juss.* p. 198. *Roem. & Schult. Gen.* 469. Nat. Ord. RUBIACEÆ *Juss.*

*H. glomerata Ell.*: stem assurgent; leaves lanceolate, pubescent, attenuated at the base; flowers fascicled, axillary and terminal. *Elliott Sk.* I. p. 188. *H. auricularia Walt. Car.* p. 85. *H. uniflora Lam. Ill.* I. p. 271? *H. virginica Spreng. pug.* II. p. 34. *Roem. & Schult.* III. p. 199. *OLDENLANDIA uniflora Lin. Willd. Spec.* I. p. 674. *O. glomerata Mich. Fl.* I. p. 83. *Pursh Fl.* I. p. 102. *Muhl. Cat.* p. 16.

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, spinulous, 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*. *Seeds* many in each cell, angular.

**HAB.** In a small wood about a mile from Brooklyn, on the Jamaica 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 *Genera 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 *Willd.* (ut sup.) belong to *ISNARDIA palustris*.

### 109. HOUSTONIA. L.

*Calyx* 4-toothed. *Corolla* infundibuliform, 4-cleft. *Capsule* half superior, 2-celled, 2-valved, many-seeded, opening transversely. *Gen. pl.* 161. *Nutt. Gen.* I. p. 94. *Juss.* p. 197. *Lam. Ill.* t. LXXIX. f. 2. *Roem. & Schult. Gen.* 479. *POIRETIA Gmel.* Nat. Ord. GENTIANAE *Juss.*† (olim RUBIACEÆ.)

1. *H. coerulea* L.: stem erect, setaceous, dichotomous; radical leaves spatulate-ovate; peduncles elongated, 1-flowered; segments of the corolla acute. *Willd. Spec.* I. p. 583. *Lam. Ill.* t. 79. f. 1. *Pursh Fl.* I. p. 106. (α.) *Big. Bost.* p. 35. *Elliott Sk.* I. p. 192. *Nutt. Gen.* I. p. 95. *Roem. & Schult.* III. p. 207. *Bot. Mag.* t. 370. *H. Linnæi* α. *elatior Mich. Fl.* I. p. 85. *ANONYMOS erecta Walt. Car.* p. 86. *Pluk. Mant.* p. 45. t. 97. f. 9. *Gron. Virg.* 15.

*Root* perennial. *Stem* numerous, 4—8 inches high, erect, slender, quadrangular, dichotomous; branches erect. *Radical leaves* spatulate, 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

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. *Venus' pride.*

2. *H. longifolia Mich.*: leaves narrow-lanceolate, tapering at each extremity; flowers terminal, subsessile; stem branched, smooth. *Willd. Spec. I. p. 583. Big. Bost. p. 35. Elliott Sk. I. p. 192. Roem. & Schult. III. p. 208. H. angustifolia Mich. Fl. I. p. 85. Pursh Fl. I. p. 106. R. & S. I. c.*

*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.

HAB. On mountains and rocky hills. Catskill, Troy, &c. New-York. Near Boston. *Bigelow.* In Pennsylvania. *Muhlenberg.*

3. *H. purpurea Willd.*: stem erect, branched above, pubescent at the joints; leaves sessile, ovate or lanceolate; fascicles of flowers terminal, corymbose. *Willd. Spec. I. p. 584. Pursh Fl. I. p. 107. Elliott Sk. I. p. 193. Roem. & Schult. III. p. 208. Gron. Virg. p. 15. H. varians Mich. Fl. I. p. 86. HEDYOTIS umbellata Walt. Car. p. 85. KNOXIA purpurea Lam. Ill. I. p. 259.*

*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. *Elliott.*

HAB. In dry woods. Pennsylvania to Carolina. *Pursh.* In Pennsylvania and Maryland. *Muhlenberg.* July.

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 ovate; the uppermost ones spatulate, 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.

5. *H. pubescens Raf.*: leaves cuneiform, acute, pubescent; the inferior ones semipetiolate, lanceolate; superior ones semioval, sessile; panicle trichotomous, terminal. *Raf. in Med. Rep.* V. p. 250. *Desv. Journ. de Bot.* I. p. 320. *Roem. & Schult.* III. p. 209.

HAB. In Pennsylvania and Ohio. *Rafinesque.* †

#### 110. MITCHELLA. L.

Flowers by pairs upon the same germen.—*Calyx* 4-toothed. *Corolla* infundibuliform; tube cylindric; limb 4-parted, spreading, villous on the inner side. *Stamens* scarcely exerted. *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. RUBIACEÆ *Juss.*

*M. ripens L. Sp. pl.* 161. *Willd. Spec.* I. p. 617. *Mich. Fl.* I. p. 86. *Big. Bost.* 34. *Pursh Fl.* I. p. 101. *Elliott Sk.* I. p. 198. *Roem. & Schult.* III. p. 189. LONICERA foliis subovatis, germine bifloro, &c. *Gron. Virg.* p. 22. CHAMAEDAPHNE *Mitch. Gen.* 27. *Syringa baccifera*, &c. *Pluk. Amalth.* p. 198. t. 444. f. 2, *Catesb. Car.* t. 20.

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 germen, 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 RUBIACEÆ, yet resembles in some respects SYMPHORIA and LINNÆA of the Nat. Ord. CAPRIFOLIA.

111. LINNÆA. *Gronovius.*

*Calyx* double; that of the fruit 2-leaved, inferior, of the flower 5-parted, superior. *Corolla* turbinate, sub-campanulate, 5-lobed, equal. *Stamens* somewhat didynamous. *Stigma* globose. *Berry* dry, 3-celled, (only one of the cells bearing a single perfect seed. *Wahl.*) *Sp. pl.* 1037. *Nutt. Gen.* I. p. 96. *Juss.* p. 211. *Lam. Ill.* t. DXX. Nat. Ord. CAPRIFOLIA *Juss.*

*L. borealis* *Gron.* *Willd. Spec.* I. p. 340. *Pursh Fl.* II. p. 415. *Nutt. Gen.* l. c. *Muhl. Cat.* p. 61. *Eng. Bot.* t. 1297.

*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.*)

HAB. In mountain woods, almost always under the shade of evergreens. *Dewey.* Deerfield. *Hitchcock* and *Cooley.* On the Catskill Mountains. *Knevels.* In the Highlands of New-York. *Burratt, &c.* On the mountains of New-York and Pennsylvania; near Wiscasset, Maine; and near the White Lake on the mountains of New-Jersey. *Pursh.* July.

The North-American plant resembles in every respect the European. *Nuttall* remarks that LINNÆA 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-

celled. *Gen. pl.* 190. *Nutt. Gen.* I. p. 108. *Juss.* p. 336. *Lam. Ill.* t. LXXXV. f. 4. *Roem. & Schult. Gen.* 476. Nat. Ord. ROSACEÆ *Juss.* Leaves pinnate; flowers capitate. TETRANDRIA *digynia Mich., Nutt., &c.* *Great Burnet.*

1. *S. canadensis L.*: spikes cylindrical, very long; stamens much longer than the corolla. *Willd. Spec.* I. p. 654. *Mich. Fl.* I. p. 100. *Pursh Fl.* I. p. 116. *Elliott Sk.* I. p. 206. *Roem. & Schult.* III. p. 206. PIMPINELLA maxima canadensis, &c. *Corn. Canad.* 174. t. 74. *Moris. hist.* III. p. 264. §. 8. t. 18. f. 12. (fide *Lin.*)

*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. *Stipules* 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 germen, 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 *fimbriate stigma*. It appears to be intermediate between SANGUISORBA† and POTERIIUM.

2. *S. media L.*: spikes cylindrical; stamens longer than the corolla; (calyx subciliate.) *Willd. Spec.* I. p. 654. *Enum. h. Berol.* I. p. 163. *Pursh Fl.* I. p. 116. *Elliott Sk.* I. p. 206. *Poir. Enc. Supp.* VI. p. 498. *Moris.*

† 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; stigmata 2 simplicia. Semina 2 intra 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.

*hist.* III. p. 264. f. 8. t. 18. f. 2. (fide *Lin.*) *Roem. & Schult.* III. p. 206.

*Stem* smooth, substrate, (not angular,) about 2 feet high. *Leaflets* ovate-lanceolate, obtuse, smooth, hoary beneath. *Spike* an inch long, red. *Poirct*, l. c.

**HAB.** In wet meadows; principally on the mountains. Canada to Carolina. July—August. *Pursh.* +

A doubtful species. The plant described by *Willdenow* and *Poirct*, is probably only a garden variety of *S. canadensis*.

### 113. CORNUS. L.

*Flowers* sometimes aggregated in a 4-leaved involucre.—*Calyx* 4-toothed. *Petals* 4. *Drupe* with a 2-celled nut. *Gen. pl.* 194. *Nutt. Gen.* I. p. 98. *Juss.* p. 214. *Lam. Ill.* t. LXXIV. f. 1. *Roem. & Schult. Gen.* 513. Nat. Ord. CAPRIFOLIA *Juss.* Small trees or shrubs, generally with opposite leaves. *Dog-wood.*—*Cornel.*

\* *Flowers* capitate, surrounded by an involucre.

1. *C. canadensis* L.: herbaceous; upper leaves verticillate, veined; leaves of the involucre ovate, acuminate; drupe globose. *Sp. pl.* 172. *Willd. Sp.* I. p. 661. *VHer. Corn.* no. 2. t. 1. *Bot. Mag.* t. 330. *Mich. Fl.* I. p. 91. *Pursh Fl.* I. p. 107. *Big. Bost.* p. 37. *Elliot Sk.* I. p. 207. *Roem. & Schult.* III. p. 319.

*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 *involucre* an inch in diameter. Leaves of the involucre 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* subtrubinate, hairy; *style* longer than the *stamens*; *stigma* simple. *Berry* small, red.

**HAB.** In mountain meadows and in woods; frequent in swamps where evergreens abound. In the Cedar Swamp, New-Durham. On the Catskill and Shawangunk Mountains, and in the Highlands of New-York. Fairfield, N. Y. *Prof. Hadley.* Near Boston. *Bigelow.* In Pennsylvania. *Muhlenberg.* Also in many other places. May—June.

A handsome little plant, nearly allied to *C. suecica* of Eu-

rope. I have a variety found near Ogdensburg, New-York, by *J. A. Vanden Heuvel*, Esq. in which the leaves of the involucre are narrowed at the base, and the flowers indistinctly corymbose.

2. *C. florida* L.: arborescent; leaves ovate, acuminate; involucre large, with obcordate leaflets. *Sp. pl.* I. p. 661. *Herit. Corn.* p. 4. no. 3. *Mich. Fl.* I. p. 91. *Mich. f. Arb.* t. 78. *Pursh Fl.* I. p. 108. *Big. Bost.* p. 38. *Elliott Sk.* I. p. 207. *Bart. Veg. Mat. Med.* I. t. 3. *Big. Am. Med. Bot.* II. t. 73. *Walt. Car.* p. 88. *Gron. Virg.* p. 17. *Cates. Car.* p. 27. t. 27. *Bot. Mag.* t. 27. *Roem. & Schult.* III. p. 319.

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. *Involucre* 2 or 3 inches in diameter, white, sometimes with a tinge of red, at first folded round the flowers; leaflets callous 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. *Drufc* oval, scarlet. *Common Dog-wood.*

**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.*

3. *C. sericea* *Herit.*: branches expanded; leaves ovate, acuminate, silky ferruginous beneath; cymes depressed, woolly. *Herit. Corn.* n. 6. t. 2. *Willd. Spec.* I. p. 663. *Pursh Fl.* I. p. 108. *Elliott Sk.* I. p. 208. *Bart. Veg. Mat. Med.* I. t. 9. *Roem. & Schult.* III. p. 320. *C. lanuginosa* *Mich. Fl.* I. p. 92. *C. alba* *Walt. Car.* p. 88. *C. cærulea* *Lam. Enc.* II. p. 116.

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. *Drufc* ovate, bright blue.

**HAB.** On the banks of rivers and in shady moist thickets. June.

4. *C. sanguinea* L.: branches straight; leaves ovate,

green on both sides; cymes expanding. *PHerit. Corn.* p. 5. *Willd. Spec.* I. p. 662. *Pursh Fl.* I. p. 109? *Elliott Sk.* I. p. 208? *Eng. Bot.* t. 249. *Roem. & Schult.* III. p. 320.

A shrub 8—12 feet high; branches smooth, generally dark purple, pubescent when young. *Leaves* broad, frequently oval, abruptly acuminate, nearly smooth on the upper surface. *Cymes* expanding, when old almost divaricate. *Ell. Berries* dark brown. *Pursh.*

**HAB.** Near the lakes of Canada and New-York. June—July. *Pursh.* +

5. *C. circinata PHerit.*: branches verrucose; leaves broad-oval, (orbicular) acuminate, white-downy beneath; cymes depressed. *PHerit. Corn.* p. 7. t. 3. *Willd. Spec.* I. p. 663. *Pursh Fl.* I. p. 108. *Big. Bost.* p. 39. *Roem. & Schult.* III. p. 321. *C. tomentulosa Mich. Fl.* I. p. 91. *C. rugosa Lam. Enc.* II. p. 115.

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.

6. *C. alba PHerit.*: branches recurved, smooth; leaves ovate, acute, pubescent, hoary beneath; cymes depressed. *PHerit. Corn.* p. 6. *Willd. Spec.* I. p. 662. *Pursh Fl.* I. p. 109. *Big. Bost.* p. 38. *Roem. & Schult.* III. p. 321. *C. stolonifera Mich. Fl.* I. p. 92.

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. *Mitchaux.*

7. *C. paniculata PHerit.*: branches erect; leaves ovate acuminate, hoary beneath; cymes panicled. *PHerit. Corn.* p. 9. t. 5. *Willd. Spec.* I. p. 664. *Pursh Fl.* I. p. 109. *Big. Bost.* p. 39. *Elliott Sk.* I. p. 209. *Roem. & Schult.* III. p. 322. *C. racemosa Lam. Enc.* II. p. 116.

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 paniced, 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.

3. *C. stricta* Lam. : branches straight, fastigate; leaves ovate, green on both sides, somewhat naked; cymes paniced. *PHerit.* p. 9. t. 5. *Lam. Enc.* III. p. 116. *Willd. Spec.* I. p. 664. *Pursh Fl.* I. p. 109. *Elliott Sk.* I. p. 209. *Roem. & Schult.* III. p. 322. *C. fastigiata Mich. Fl.* I. p. 92. *C. sanguinea Walt. Car.* p. 88.

A shrub 8—15 feet high, stoloniferous, branching; branches opposite, glabrous, generally red, roughened by irregular protuberances. *Leaves* ovate-lanceolate, acuminate, entire, glabrous, but sparingly sprinkled with short hair. *Cymes* naked, fastigate. *Flowers* fragrant. *Petals* ovate-lanceolate. *Ell. Drupe* blue. *Ph.*

HAB. On the banks of rivers; Canada to Carolina. *Pursh.* In Pennsylvania. *Muhlenberg.* 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.

9. *C. alternifolia* L. : leaves alternate. *Lin. Supp.* p. 125. *Willd. Spec.* I. p. 664. *PHerit. Corn.* p. 10. t. 6. *Mich. Fl.* I. p. 93. *Pursh Fl.* I. p. 109. *Elliott Sk.* I. p. 210. *Roem. & Schult.* III. p. 323.

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.

*Calyx* 4-parted, persistent. *Corolla* 4-petalled or 0. *Capsule* quadrangular, 4-celled, inferior, many-seeded. *Gen. pl.* 204. *Nutt. Gen.* I. p. 97. *Juss.* p. 319. *Lam. Ill.* t. 77. f. 3. *Roem. & Schult. Gen.* 515. *Nat. Ord.* ONAGRÆ *Juss.* *Bastard Loose-strife.*

1. *L. macrocarpa Mich.* : stem erect, branched, nearly smooth; leaves attenuate, narrow-lanceolate, pale beneath; peduncles axillary, 1-flowered; capsules globose-quadrangular, winged. *Mich. Fl.* I. p. 89. *Pursh Fl.* I. p. 110. *Roem. & Schult.* III. p. 326. *L. alternifolia Lin. Sp.*

pl. p. 173. *Willd. Spec. I.* p. 672. *Elliott Sk. I.* p. 217. *L. ramosissima Walt. Car.* p. 89. *L. aurantiaca Raf. Med. Rep. VI.* p. 358. *R. & S. III.* p. 328. *Pluk. Abn. t.* 203. f. 2. *Amal. t.* 444. f. 1.

*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 germen, ovate, much acuminate, ciliate. *Corolla* yellow; *petals* caducous, 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.

**HAB.** In swamps. July—August.

2. *L. pilosa Walt.*: stem erect, branched, hairy, leaves alternate, oblong, sessile; peduncles 1-flowered, axillary; capsules globose-quadrangular, winged. *Walt. Car.* p. 89. *Elliott Sk.* p. 216. *L. hirsuta Lam. Enc. III.* p. 587. *Willd. Spec. I.* p. 672. *Pursh Fl. I.* p. 110. *L. hirtella Raf. Med. Rep. XI.* p. 359. *Roem. & Schult. III.* p. 327. *ISNARDIA hirsuta R. & S. III.* p. 477.

*Root* perennial. *Stem* generally but little branched, slender, 2 feet high, strigosely 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 germen. *Petals* yellow, obovate, about as long as the calyx. *Capsule* hairy, as large as in *L. macrocarpa*, slightly winged.

**HAB.** In ditches and pools; on sandy soils. New-Jersey to Carolina. July—August. *Pursh.* In New-Jersey. *Muhlenberg.* In woods near Baltimore. *Rafinesque.*

I have seen no specimens of this plant from the Northern States; mine, from which the above description was taken, are from South-Carolina.

3. *L. uniflora Raf.*: stem straight, simple; leaves alternate, lanceolate, acute, glabrous; flower terminal; petals longer than the calyx. *Raf. in Med. Rep. V.* p. 356. *Roem. & Schult. III.* p. 328.

**HAB.** In New-Jersey. *Rafinesque.* + Probably *L. macrocarpa.*

#### 115. ISNARDIA. *L.*

*Calyx* campanulate, 4-cleft. *Corolla* 0. *Capsule* 4-celled, quadrangular, surrounded by the base of the calyx. *Gen. pl.* 207. *Nutt. Gen. I.* p. 98. *Juss.*

p. 333. *Lam. Ill. t. LXXVII. f. 2.* Nat. Ord. ONAGRÆ *Juss.*† (olim SALICARIAE.)

*I. palustris L.*: creeping and shining; leaves opposite, ovate-lanceolate, petiolate; flowers axillary, solitary, sessile; capsule subovate, slightly angled. *Willd. Spec. I. p. 680. Big. Bost. p. 40. Roem. & Schult. II. p. 476. LUDWIGIA nitida Mich. Fl. I. p. 87. Pursh Fl. I. p. 111. L. palustris Elliott Sk. I. p. 211. L. apetala Walt. Car. p. 89.*

Root fibrous, perennial, (annual, *L., Pursh, &c.*) Plant swimming, or creeping on wet ground, succulent, branching. Leaves smooth, shining. Flowers very small, solitary, with 2 bracts at the base. Segments of the calyx ovate, acuminate, shorter than the germen. Corolla 0, (with rudiments of petals, *Pursh.*) Stamens shorter than the calyx; anthers subrotund. Style short; stigma capitate. Capsule crowned with the persistent calyx, many-seeded.

HAB. In stagnant waters, ditches, &c. June.

#### 116. PLANTAGO. *L.*

*Calyx* 4-cleft. *Corolla* 4-cleft; limb reflected. *Stamens* mostly exserted, very long. *Capsule* 2-celled, opening all round transversely. *Gen. pl. 186. Nutt. Gen. I. p. 99. Juss. p. 90. Lam. Ill. t. LXXXV. f. 3.* Nat. Ord. PLANTAGINES *Juss.* Plantain.

*I. P. cordata Lam.*: leaves ovate, cordate, very broad, subdentate, smooth; spike very long; flowers subimbricated; the inferior ones scattered; bracts ovate, obtuse. *Lam. Enc. V. p. 369. Ill. p. 338. Jacq. Eclog. fasc. VIII. p. 106. t. 72. (fide R. & S.) Pursh Fl. I. p. 98. Muhl. Cat. p. 15. Roem. & Schult. III. p. 114. P. kentuckensis Mich. Fl. I. p. 94.*

*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. *Capsule*



*sule* ovate, a third longer than the calyx. *Seeds* 2 in each cell, oblong, compressed, brown.

HAB. In wet meadows; along creeks. On the Island of New-York. Near Fishkill. June. In Pennsylvania. *Muhlenberg*.

2. *P. major* L.: leaves ovate, smoothish, subdentate, generally shorter than the petioles; scape terete; spike cylindrical, slender; flowers closely imbricated; capsules many-seeded. *Willd. Spec. I.* p. 641. *Smith Fl. Brit. I.* p. 182. *Eng. Bot. t.* 1558. *Pursh Fl. I.* p. 98. *Big. Bost. p.* 33. *Elliott Sk. I.* p. 201. *Roem. & Schult. III.* p. 111.

*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* exerted, pubescent. *Capsule* oblong, acute; dissepiment plane.

HAB. In fields, waste grounds, &c.; very common. May—August. Introduced. *Common Plantain.*

3. *P. media* L.: leaves ovate, pubescent, longer than the petioles; scape terete; spike short, cylindric; cells of the capsule 1-seeded. *Willd. Spec. I.* p. 642. *Smith Fl. Brit. I.* p. 183. *Eng. Bot. t.* 1559. *Muhl. Cat.* p. 15. *Roem. & Schult. III.* p. 115.

*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.

HAB. In fields. On the Island of New-York? In Pennsylvania. *Muhlenberg*. July.

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.

4. *P. virginica* L.: hairy-pubescent; leaves lanceolate-ovate, subdenticulate; spike cylindrical, with remote flowers; scape angular. *Willd. Spec. I.* p. 644. *Mich. Fl. I.* p. 94. *Pursh Fl. I.* p. 98. *Elliott Sk. I.* p. 201. *Roem. & Schult. III.* p. 121.

*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

elongated. *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.

HAB. On dry hills and in sandy fields. Common on the Island of New-York, and in New-Jersey.

5. *P. lanceolata* L.: leaves lanceolate, acute at each end; spike short, ovate-cylindrical; scape angular; capsule 2-seeded. *Willd. Spec.* I. p. 643. *Pursh Fl.* I. p. 98. *Smith Fl. Brit.* I. p. 184. *Eng. Bot.* t. 507. *Big. Bost.* p. 34. *Elliott Sk.* I. p. 202. *Roem. & Schult.* III. p. 115.

*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.

6. *P. maritima* L.: leaves linear, grooved, fleshy, hairy near the base; scape terete; spike cylindrical; bracts rather acute. *Willd. Spec.* I. p. 647. *Smith Fl. Brit.* I. p. 184. *Eng. Bot.* t. 175. *Mich. Fl.* I. p. 94. *Big. Bost.* p. 34. *Pursh Fl.* p. 99. *Muhl. Cat.* p. 15. *Roem. & Schult.* III. p. 131. *P. pauciflora* *Pursh* l. c. *P. oliganthos* *R. & S.* III. p. 122.

*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; scape 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?

Root annual. Leaves numerous, about an inch long. Scape 2—3 inches long. Flowers subimbricated. Segments of the calyx rigid, ovate, acute, carinate. Capsule globose, 2-seeded. **HAB.** On a hill near the new water-works, Philadelphia. In the exsiccated anal on the road to Lemon-Hill. *Barton.* Is it a variety of *P. interrupta* of *Lamarck* and *Elliott*?

8. *P. maxima* *Jacq.*: leaves ovate, subdenticulate, 9-nerved; spike cylindrical, imbricated; scape terete. *Jacq. Col.* I. p. 82. *Icon. rar.* I. t. 28. (vide *Willd. Spec.* I. p. 642.) *Roem. & Schult.* III. p. 114. *P. cucullata* *Lam. Enc.* V. p. 370. *Pursh Fl.* I. p. 98.

**HAB.** In wet rocky situations. Maine. July—August. *Pursh.* Also a native of Siberia. Perhaps the synonym of *Pursh* relates to *P. cordata*.

117. BARTONIA. *Muhlenberg.*

Calyx 4-parted, appressed. Corolla subcampanulate, 4-parted; segments somewhat erect. Stigma thick, glandular, somewhat bifid. Capsule 1-celled, 2-valved, many-seeded, surrounded by the persistent calyx and corolla. *Muhl. ap. Willd. Act. Soc. Amic. Nat. Cur.* III. p. 444. *Cat.* p. 15. CENTAURELLA *Mich. Fl.* I. p. 97. *Nutt. Gen.* I. p. 101. *Roem. & Schult. Gen.* 440. CENTARIUM *Pers. Syn.* I. p. 137. ANDREWSIA *Spreng.* (vide *Bart.*) *Nat. Ord. GENTIANÆ* *Juss.*

*B. tenella* *Muhl.*: culm somewhat branched; peduncles opposite, the lower ones branched; segments of the corolla oval, acute, scarcely longer than the calyx; style very short. *Muhl. ll. cc. Pers. Syn.* I. p. 141. CENTAURELLA *paniculata* *Mich. Fl.* I. p. 98. t. 12. f. 1. *Elliott Sk.* I. p. 204. *C. autumnalis* *Pursh Fl.* I. p. 100. *Roem. & Schult.* III. p. 162. CENTARIUM *autumnale* *Pers. Syn.* I. p. 137. SAGINA *virginica* *Willd. Spec.* I. p. 719.

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.

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.

### 118. EXACUM. L.

*Calyx* deeply 4-parted. *Corolla* 4-cleft; tube globose. *Capsule* subsulcate, 2-celled, many-seeded, opening at the summit; cells 2-seeded. *Gen. pl.* 185. *Nutt. Gen. I.* p. 101. *Juss.* p. 142. *Lam. Ill. t.* LXXX. *Roem. & Schult. Gen.* 437. Nat. Ord. GENTIANÆ *Juss.*

*E. pulchellum Ph.*: *calyx* 4-parted; segments subulate; panicle corymbose; peduncles filiform. *Pursh Fl. I.* p. 100. *Roem. & Schult. III.* p. 159.

HAB. Near the sea-coast of New-Jersey; rare. August. Flowers rose-coloured. Resembles *E. filiforme*.

### 119. SWERTIA. L.

*Calyx* flat, 4—5-parted. *Corolla* 4-parted; segments spreading, with 2 nectariferous ciliate pores at the base of each. *Style* short; *stigmas* 2. *Capsule* 1-celled, 2-valved, acuminate. *Gen. pl.* 449. *Nutt. Gen. I.* p. 102. *Juss.* p. 142. *Lam. Ill. t.* CIX. *Roem. & Schult. Gen.* 1112. HALENIA *Borkh.* Nat. Ord. GENTIANÆ *Juss.* PENTANDRIA *digynia L., Willd., &c.* Felwort.

1. *S. deflexa Sm.*: *corolla* campanulate, with deflexed horns at the base; leaves ovate; branches short. *Smith in Rees' Cyclop. Goldie in Edin. Phil. Jour.* VI. p. 321. *S. corniculata Pursh Fl. I.* p. 100., nec *L. Muhl. Cat.* p. 29. *Mich. Fl. I.* p. 97. *S. Michauxiana Roem. & Schult. VI.* p. 130.

*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.*

2. *S. pusilla* Pursh: corolla rotate, twice as long as the calyx; stem simple, 1-flowered; leaves oblong. Pursh Fl. I. p. 101. Roem. & Schult. VI. p. 131.

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.

*Calyx* deeply 4-parted. *Corolla* 4-parted, spreading; segments oval, with a bearded orbicular gland in the middle of each. *Capsule* compressed, partly margined, 1-celled. *Seeds* few, imbricated, elliptic, with a membranaceous margin. Walt. Car. p. 87. Mich. Fl. I. p. 97. Nutt. Gen. I. p. 102. Roem. & Schult. Gen. 439. Nat. Ord. GENTIANÆ Juss.

*F. caroliniensis* Walt. l. c. p. 88. Pers. Syn. I. p. 137. *F. Walteri* Mich. Fl. I. p. 97. Pursh Fl. I. p. 101. Elliott Sk. I. p. 205. Bart. Veg. Mat. Med. II. t. 35. *F. verticillata* Muhl. Cat. p. 17.

*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. *Germen* oblong, attenuated into a short style; *stigma* bifid. *Capsule* much compressed, oval, acuminate with the persistent style. *Seeds* 6—8.

HAB. On West-Canada Creek, New-York. Prof. Hadley. On the borders of the lakes in Pennsylvania and New-York. July. Pursh, Nuttall. American Columbo.

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 FRASERA 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

clefts of the corolla. *Stigma* bifid. *Capsule* ovate, 1-celled, 2-valved, many-seeded. *Gen. pl.* 1044. *Nutt. Gen. I.* p. 103. *Juss.* p. 101. *Nat. Ord. GENTIANÆ Juss. (Nutt.) olim PEDICULARES.*

*O. virginica L.:* *Willd. Spec.* III. p. 326. *Gron. Virg.* p. 74. *Pursh Fl.* II. p. 431. *Elliott Sk.* II. p. 134. *Nutt. Gen.* l. c.

*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.

**HAB.** In shady forests. Near Philadelphia. *Dr. W. Barton.* Near West-Chester, Pennsylvania. *Dr. Darlington.* April—May.

The genus OBOLARIA has, I think, been very properly removed to the GENTIANÆ by *Nuttall.*

## 122. AMMANNIA. L.

*Calyx* 1-leaved, campanulate, plicate, 8-toothed, inferior. *Corolla* 4-petalled or 0, inserted upon the calyx. *Capsule* 4-celled, many-seeded. *Gen. pl.* 206. *Nutt. Gen. I.* p. 103. *Juss.* p. 333. *Lam. Ill. t. LXXVII. f. 1.* *Nat. Ord. SALICARIÆ Juss.*

1. *A. ramosior L.:* stem erect, thick, subterete; leaves lanceolate, dilated at the base; lower flowers compactly verticillate. *Mich. Fl.* I. p. 99. *Willd. Spec.* I. p. 678. *Pursh Fl.* I. p. 107. *Elliott Sk.* I. p. 218. *Roem. & Schult.* III. p. 302.

*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 germen, 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.

2. *A. humilis Mich.*: stem procumbent at the base, branched, slender, quadrangular; leaves lanceolate, attenuated at the base; flowers solitary. *Mich. Fl.* I. p. 99. *Pursh Fl.* I. p. 107. *Elliott Sk.* I. p. 219. *Roem. & Schult.* III. p. 302. *A. ramosior Walt. Car.* p. 88.

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. Germen 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.

HAB. On the borders of a pond in a wood on Long-Island, three miles from Brooklyn. August. Near New-Haven, Connecticut. *Prof. Ives.* Borders of Jamaica-pond, Brooklyn; near Boston. *Nuttall.*

*Mr. Elliott* remarks, that the petals in this species are inserted into the summit of the germen; a character which I did not observe in any of the specimens I examined.

### 123. PTELEA. L.

Calyx 4-parted. Petals 4, spreading. Stigmas 2. Samara compressed, orbicular, 2-celled, 2-seeded. *Gen. pl.* 1505. *Nutt. Gen.* I. p. 104. *Juss.* p. 375. *Lam. Ill. t.* LXXXIV. f. 3. *Roem. & Schult. Gen.* 491. Nat. Ord. TEREBINTACEÆ *Juss.*

*P. trifoliata L.*; leaves ternate; flowers in panicles, polygamous. *Willd. Spec.* I. p. 670. *Mich. Fl.* I. p. 99. *Pursh Fl.* I. p. 107. *Elliott Sk.* I. p. 210. *Walt. Car.* p. 88. *Duham. Arb.* II. t. 43. *Roem. & Schult.* III. p. 291.

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; *petale* 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.

**HAB.** In shady moist hedges, and on the edges of woods among rocks. New-York to Carolina. June. *Pursh*. On Lake Erie, near Presque Isle. *Nuttall*. *v. v. in hort*—*v. s. sp. Carolin.* *Shrubby trefoil.*

*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.

*Calyx* 4-parted, persistent. *Petals* 0. *Berry* 1-seeded. *Seed* lentiform, scabrous. *Stamens* 8—4—12. *Gen. pl.* 219. *Nutt. Gen.* I. p. 104. *Juss.* p. 84. *Lam. Ill.* t. LXXXI. f. 2. *Roem. & Schult. Gen.* 566. Nat. Ord. ATRIPLICES *Juss.*

*R. laevis* L.: racemes simple; leaves ovate, acuminate, glabrous, flat; stem terete. *Willd. Spec.* I. p. 694. *Nutt. Gen.* I. c. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 456.

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.

*Calyx* 8-cleft; segments spreading, alternately smaller. *Corolla* 0. *Style* lateral, from the base of the germen. *Fruit* surrounded by the calyx. *Gen. pl.* 222. *Nutt. Gen.* I. p. 106. *Juss.* p. 337. *Lam. Ill.* t. LXXXIII. f. 3. *Roem. & Schult. Gen.* 574. Nat. Ord. ROSACEÆ *Juss.* *Lady's mantle.*



*A. alpina* L.: leaves digitate, serrate at the extremity, white and satiny beneath. *Willd. Spec.* I. p. 698. *Smith Fl. Brit.* I. p. 190. *Eng. Bot.* t. 244. *Pursh Fl.* I. p. 112. *Roem. & Schultt.* III. p. 470.

HAB. On the peaks of high mountains in Vermont and New-Hampshire. *Pursh.*

I have seen no North-American specimens.

126. SYMPLOCARPUS. *Salisbury*.†

*Spath* ventricose, ovate, acuminate. *Spadix* subglobose, covered with perfect flowers. *Calyx* deeply 4-parted, persistent; segments cucullate, truncate, becoming thick and spongy. *Petals* 0. *Style* pyramidal, 4-sided; *stigma* simple, minute. *Seeds* solitary, immersed in the spongy receptacle. *Nutt. Gen.* I. p. 105. *Rich? Synop. Gen.* p. 17. *POTHII* sp. *Mich., R. & S., &c.* *DRACONTII* sp. *L., Willd., &c.* *ICTODES* *Big. Am. Med. Bot.* II. p. 41. Nat. Ord. *AROIDEÆ* *Juss.*

*S. foetida* *Nutt.* l. c. *Bart. Veg. Mat. Med.* t. 10. & 11. *ICTODES foetidus* *Big.* l. c. t. 24. *POTHOS foetida* *Mich. Fl.* II. p. 186. *Pursh Fl.* II. p. 398. *Bot. Mag.* t. 836. *Big. Bost.* p. 39. *Roem. & Schultt.* III. p. 455. *DRACONTIUM foetidum* *L. Sp. pl.* 1372. *Willd. Spec.* II. p. 288. *D. foliis subrotundis concavis* *Cold. Novemb.* 214. *Gron. Virg.* 141. *Catesb. Car.* II. p. 71. t. 71.

*Root* verticillately fibrous, truncate; fibres very thick and fleshy. *Leaves* appearing as the *spath* 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 tessellated. *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.

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† 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 *Asafætida*.

## ORDER II.

## DIGYNIA.

## 127. HAMAMELIS. L.

*Calyx* 4-cleft, with 3 bracts (involucrum, L.) at the base. *Petals* 4, linear, very long. *Nut* coriaceous, 2-celled, 2-horned, cleft at the top. *Seed* 1 in each cell. *Gen. pl.* 226. *Nutt. Gen. I.* p. 107. *Juss.* p. 228. *Lam. Ill. t. LXXXVIII. f. 1.* *Roem. & Schult. Gen.* 589. Nat. Ord. BERBERIDES *Juss.* RUBIACEÆ (*R. & S.*) *Witch Hazel.*

*H. virginica* L.: leaves obovate, acute, dentate, cordate, with the sinus small. *Willd. Spec. I.* p. 701. *Michx. Fl. I.* p. 100. *Pursh Fl. I.* p. 116. *Big. Bost.* p. 40. *Elliott Sk. I.* 219. *Wang. Amer.* p. 89. t. 29. f. 62. *Gron. Virg.* 139. *Cold. Novob.* p. 18. *Roem. & Schult. III.* p. 483. *H. monóica, díica, et androgyña, Walt. Car.* p. 255.

† "The seed of the SYMPLOCARPUS 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 viviparous. The embryo is seated in a small umbilical or hemispherical depression, in the upper end of what may be called a vitellus rather than a perisperm, judging from its functions; the callus or seminal tubercle is roundish and turbinate, 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 caudex 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. *Germen* villous; *styles* very short; *stigmas* simple, obtuse. *Nu* (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." *Juss.*

**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. l. c.*

A shrub every way smaller than the common *H. virginica*, with the branches nearly erect. *Calyx* somewhat coloured and diaphanous. *Petals* bright yellow.

**HAB.** Mountains in Pennsylvania. *Nuttall.*

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 *AMENTACEÆ*, to which the name *FOTHERGILLÆ* may be given.†

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### ORDER III.

## T E T R A G Y N I A.

- |              |                   |
|--------------|-------------------|
| 128. ILEX.   | 130. POTAMOGETON. |
| 129. SAGINA. | 131. RUPPIA.      |

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128. ILEX. *L.*

*Calyx* minute, 4—5-toothed. *Corolla* rotate, 4-parted, or 4-petalled. *Style* 0; *stigmas* 4. *Berry* 4-seed-

† Vid. *Nutt. Gen. l. c.*

ed. *Gen. pl.* 232. *Nutt. Gen.* I. p. 109. *Juss.* p. 579. *Lam. Ill.* t. LXXXIX. f. 1. *Roem. & Schult. Gen.* 598. Nat. Ord. RHAMNI *Juss.* Flowers often dioecious or polygamous. *Holly.*

1. *I. opaca Ait.*: leaves ovate, acute, spinous, smooth, flat; fascicles of flowers loose, on the base of the younger branches; peduncles compound. *Ait. Kew.* ed. 1. l. p. 169. *Willd. Spec.* I. p. 708. *Mich. Fl.* II. p. 228. *Pursh Fl.* I. p. 117. *Big. Bost.* p. 41. *Roem. & Schult.* III. p. 487. *I. Aquifolium Walt. Car.* p. 241

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.

HAB. In sandy woods. In the pine barrens of New-Jersey. On the north side of Long-Island, in various places. June. Quincy, Cohasset, &c. Massachusetts. *Bigelow.* Near New-Haven, Connecticut. *Ives.*

2. *I. canadensis Michx.*: leaves deciduous, ovate, very entire, smooth; peduncles subsolitary, (or fasciculate,) very long, 1-flowered; fruit obtusely subquadrangular. *Michx. Fl.* II. p. 229. t. 49. *Pursh Fl.* I. p. 118. *Poir. Enc. Supp.* III. p. 66. *Roem. & Schult.* III. p. 493.

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.

HAB. On mountains and rocky hills; seldom found within 30 or 40 miles of the sea-shore. May—June. On the Catskill Mountains, New-York. *Knevels.* Williamstown, &c., Massachusetts. *Dewey.* In New-Jersey and Pennsylvania. *Muhlenberg.*

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. *Jussieu*, however, says, "Corolla 4-partita, seu 4-petala, petalis ungue lato cohærentibus." I have never seen the leaves toothed, as they are represented in *Michaux's* figure.

## 129. SAGINA. L.

*Calyx* 4-leaved. *Petals* 4. *Capsule* 4-celled, 4-valved, many-seeded. *Gen. pl.* 236. *Nutt. Gen.* I. p. 109. *Juss.* p. 300. *Roem. & Schult. Gen.* 604. *Nat. Ord. CARYOPHYLLÆ Juss.* *Pearl-wort.*

1. *S. procumbens* L.: perennial; stem procumbent, smooth; petals very short. *Smith Fl. Brit.* I. p. 199. *Eng. Bot.* 157. *Willd. Spec.* I. p. 718. *Pursh Fl.* I. p. 119. *Muhl. Cat.* p. 18. *Elliott Sk.* I. p. 221. *Roem. & Schult.* III, p. 497.

*Root* fibrous (annual, L., &c.) *Stem* rooting, branched and spreading, 2—4 inches long. *Leaves* linear-subulate, opposite, connate at the base, about the root crowded. *Peduncles* axillary, solitary, longer than the leaves. *Leaves* of the *calyx* spreading, ovate, obtuse. *Petals* scarcely more than half the length of the calyx, entire, sometimes wanting. *Capsule* longer than the calyx.

**HAB.** On the borders of creeks and about springs, among rocks. Near Weehawk, New-Jersey. July. *T.* In the neighbourhood of New-Haven, Connecticut; Stockbridge, Massachusetts; and about Troy, New-York. *Eaton.*

The *habitat* of this plant differs from the European species, which occurs in dry soils. In every other respect they agree precisely.

2. *S. apetala* L.: annual; stem erect, pubescent; leaves cuspidate; flowers alternate; petals very minute or 0. *Willd. Spec.* I. p. 719. *Smith Fl. Brit.* I. p. 199. *Hook. Fl. Scot.* p. 60. *Eng. Bot.* 331. *Muhl. Cat.* p. 18. *Roem. & Schult.* III, p. 493.

*Root* fibrous. *Stems* numerous, erect, filiform, slightly pubescent. *Leaves* subulate, cuspidate or almost aristate. *Flowers* on long slender peduncles. *Petals* nearly obsolete. *Capsule* nearly as long again as the *calyx*.

**HAB.** In dry sandy fields; New-Jersey; particularly abundant in the pine barrens. May—June. In Pennsylvania. *Muhlenberg.*

## 130. POTAMOGETON. L.

*Calyx* 4-leaved. *Corolla* 0. *Anthers* sessile, alternating with the divisions of the calyx. *Nuts* 4, 1-seed-

ed, sessile. *Gen. pl.* 234. *Hook. Fl. Scot.* p. 48. *Nutt. Gen.* I. p. 111. *Juss.* p. 19. *Lam. Ill. t.* LXXXIX. f. 3. *Roem. & Schult. Gen.* p. 609. *Nat. Ord. NAIADES Juss.* Aquatic plants. Leaves sheathing; flowers on axillary and terminal spikes.  
*Pond-weed,*

\* *Upper leaves floating.*

1. *P. natans* L.: upper leaves floating, coriaceous, oblong-ovate, on long peduncles, (subcordate;) lower ones membranaceous, lanceolate, tapering to a footstalk. *Willd. Spec.* I. p. 712. *Smith Fl. Brit.* I. p. 193. *Eng. Bot.* 1822. *Pursh Fl.* I. p. 120. *Big. Bost.* p. 41. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 503. *P. natans* β. *Mich. Fl.* I. p. 101.

*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. *Nuts* ovate, acute, compressed.

**HAB.** In lakes and slow-flowing waters. July—August.

2. *P. fluitans* L.: upper leaves floating, coriaceous, oblong-lanceolate, petiolate, tapering at the base; lower ones linear, sessile. *Willd. Spec.* I. p. 713. *Smith Fl. Brit.* I. p. 194. *Eng. Bot.* t. 1286. *Pursh Fl.* I. p. 120. *Elliott Sk.* I. p. 221. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 504. *P. foliis lanceolato-oblongis, &c. Gron. Virg.* 139.

*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*.

3. *P. heterophyllum* Schreb.: upper leaves floating, petiolate, elliptical; lower ones crowded, sessile, linear. *Willd. Spec.* I. p. 713. *Smith Fl. Brit.* I. p. 194. *Eng. Bot.* t. 1285. *Pursh Fl.* I. p. 120. *Elliott Sk.* 1. p. 222? *Roem. & Schult.* III. p. 506. *P. hybridum Mich. Fl.* I. p. 101.

Resembles *P. fluitans*, 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.

4. *P. diversifolium* Bart.: upper leaves floating, elliptical, petiolate, 5-nerved; inferior ones filiform; spike axillary, almost sessile, few-flowered. *Bart. Comp. Fl. Phil.* I. p. 96. *P. setaceum* Pursh *Fl.* I. p. 120. *P. capillaceum* Poir. *Enc. Supp.* IV. p. 535? *Roem. & Schult.* III. p. 507.

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.

HAB. In ponds and small streams. Plentiful in the pine barrens of New-Jersey. June. Plainfield, Massachusetts. Porter. Litchfield, Connecticut. Brace.

A very delicate and handsome species, quite distinct from the *P. setaceum* of Europe.

\* \* Leaves all submersed.

5. *P. perfoliatum* L.: leaves amplexicaul, cordate, ovate, *Willd. Spec.* I. p. 713. *Smith Fl. Brit.* I. p. 194. *Eng. Bot.* t. 168. *Mich. Fl.* I. p. 101. *Pursh Fl.* I. p. 120. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 507.

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.

6. *P. lucens* L.: leaves ovate-lanceolate, petiolate. *Willd. Spec.* I. p. 714. *Smith Fl. Brit.* I. p. 194. *Eng. Bot.* t. 376. *Mich. Fl.* I. p. 101. *Pursh Fl.* I. p. 120. *Muhl. Cat.* 17. *Roem. & Schult.* III. p. 509.

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.

7. *P. crispum* L.: leaves lanceolate, tapering, sessile, undulate and serrate. *Willd. Spec.* I. p. 714. *Smith Fl. Brit.* I. p. 195. *Eng. Bot.* t. 1012. *Pursh Fl.* I. p. 121. *Roem. & Schult.* III. p. 511.

*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.*

8. *P. compressum* L.: leaves linear, obtuse, sessile; stem compressed. *Willd. Spec.* I. p. 715. *Smith Fl. Brit.* I. p. 196. *Eng. Bot.* t. 418. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 512.

*Stem* much branched, thick. *Leaves* 2 inches long, and about 2 lines broad, obtuse, or abruptly acuminate. *Peduncles* compressed. *Flowers* 4—6.

HAB. In slow-flowing streams. July—August.

9. *P. pauciflorum* Ph.: leaves sessile, narrow-linear, flat; spike capitate, 4-flowered; stem slender, terete. *Pursh Fl.* I. p. 121. *Elliott Sk.* I. p. 222. *Roem. & Schult.* III. p. 516. *P. gramineum.* *Mich. Fl.* I. p. 102.

*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.

10. *P. pectinatum* L.: leaves setaceous, distichously approximate, sheathing; stipules almost wanting; spike few-flowered, interrupted. *Willd. Spec.* I. p. 715. *Smith Fl. Brit.* I. p. 197. *Eng. Bot.* t. 323. *Pursh Fl.* I. p. 121. *Roem. & Schult.* III. p. 513. *P. murinum* *Mich. Fl.* I. p. 102. *P. exstipulatum* *Muhl. Cat.* p. 17?

*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.

*Calyx* and *Corolla* 0. *Seeds* 4, pedicellate. *Gen. pl.* 235. *Nutt. Gen.* I. p. 111. *Juss.* p. 19. *Lam. Ill.* t. XC. f. 1. *Roem. & Schult. Gen.* 611. *Nat. Ord. NAIADES* *Juss.* FLUVIALES *Rich. (Hook.)* An aquatic plant. *Flowers* on a spadix.



arising from the sheathing base of the leaves, which performs the office of a spathe.

*R. maritima* L. *Willd. Spec.* I. p. 717. *Smith Fl. Brit.* I. p. 198. *Eng. Bot.* t. 136. *Hook. Fl. Scot.* p. 59. *Mich. Fl.* I. p. 102. *Pursh Fl.* I. p. 121. *Muhl. Cat.* p. 17. *Roem. & Schult.* III. p. 518.

*Root* perennial. *Stem* very slender, much branched. *Leaves* setaceous, flat, 2—3 inches long; *sheaths* long, inflated, membranaceous. *Spadix* at first included in the sheaths, 2-flowered. *Anthers* large, sessile, bursting horizontally. *Germens* minute, situated between the anthers; *stigmas* sessile. After flowering the spadix becomes very much elongated, and (in tide water) spirally twisted. *Seeds* (*drupes*, *Hook.*) ovate, acuminate, gibbous, on pedicels about an inch long.

**HAB.** In salt water ditches, and in shallow bays. Common about Hoboken, New-Jersey. July.

The North-American plant resembles, in every respect, the European.

CLASS V.  
PENTANDRIA.



ORDER I.  
MONOGYNIA.

A. *Seeds 4, naked. (ASPERIFOLIE.)*

\* *Seeds fixed to the bottom of the calyx.*

- |                    |                |
|--------------------|----------------|
| 132. PULMONARIA.   | 135. ECHIUM.   |
| 133. LITHOSPERMUM. | 136. MYOSOTIS. |
| 134. ONOSMODIUM.   | 137. LYCOPSIS. |

\*\* *Seeds fixed to a central column.*

- |                   |                |
|-------------------|----------------|
| 138. CYNOGLOSSUM. | 139. ROCHELIA. |
|-------------------|----------------|

B. *Flowers 1-petalled, inferior. Seeds in a pericarp.*

\* *Fruit a capsule.*

*α. Capsule 1-celled.*

- |                   |                    |
|-------------------|--------------------|
| 140. ANAGALLIS.   | 145. VILLARSIA.    |
| 141. LYSIMACHIA.  | 146. HOTTONIA.     |
| 142. PRIMULA.     | 147. SAMOLUS.      |
| 143. DODECATHEON. | 148. SABBATIA.     |
| 144. MENYANTHES.  | 149. HYDROPHYLLUM. |

*β. Capsule 2-(3)-celled.*

- |                 |                   |
|-----------------|-------------------|
| 150. PHACELIA.  | 153. NECOTIANA.   |
| 151. SPIGELIA.  | 154. HYOSCYAMUS.  |
| 152. VERBASCUM. | 155. CONVULVULUS. |
| 156. IPOMEA.    |                   |

*γ. Capsule 3—5-celled.*

- |                  |                 |
|------------------|-----------------|
| 157. PHLOX.      | 159. DIAPENSIA. |
| 158. POLEMONIUM. | 160. DATURA.    |
| 161. AZALEA.     |                 |

\*\* *Fruit a berry.*

- |                |               |
|----------------|---------------|
| 162. PHYSALIS. | 163. SOLANUM. |
|----------------|---------------|

C. *Flowers 1-petalled, superior.*

\* *Fruit a capsule.*

164. CAMPANULA.            165. DIERVILLA.  
166. LOBELIA.

\*\* *Fruit a berry.*

167. LONICERA.            169. SYMPHORIA.  
168. XYLOSTEUM.        170. TRIOSTEUM.

D. *Flowers 5-petalled, inferior.*

\* *Fruit a capsule.*

171. ITEA.            174. CLAYTONIA.  
172. IMPATIENS.      175. CEANOETHUS.  
173. VIOLA.            176. EUONYMUS.  
177. CELASTRUS.

\*\* *Fruit a berry.*

178. RHAMNUS.            179. VITIS.  
180. CISSUS.

E. *Flowers 5-petalled, superior.*

181. RIBES.

F. *Flowers incomplete.*

182. HAMILTONIA.        184. ANYCHIA.  
183. THESIUM.            185. GLAUX.

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132. PULMONARIA. L.

*Calyx* prismatic, pentagonal, 5-toothed. *Corolla* infundibuliform; border 5-lobed; orifice naked. *Seeds* imperforate at the base. *Gen. pl.* 244. *Lehm. Asperifol.* p. 3. *Nutt. Gen.* I. p. 115. *Juss.* p. 130. *Lam. Ill. t.* XCIII. *Roem. & Schult. Gen.* 629. *Nat. Ord. BORAGINEÆ Juss.* *Lung-wort.*

*P. virginica* L. : smooth ; stem erect ; calyx much shorter than the tube of the corolla ; radical leaves obovate-oblong, obtuse ; those on the stem narrower. *Willd. Spec.* I. p. 769. *Enum. h. Berol.* I. p. 182. *Bot. Mag. t.* 160. *Mich. Fl.* I. p. 131. *Pursh Fl.* I. p. 130. *Elliott Sk.* I. p. 228. *Walt. Car.* p. 91. *Roem. & Schult. IV.* p. 55. *LITHOSPERMUM pulchrum* *Lehm. Asperif.* p. 207. *P. calyce*

tubo corollæ brevior, &c. *Gron. Virg.* 20. *Pluk. Phyt.* t. 227. f. 6.

*Root* perennial. *Stem* angular, a little branched towards the top. Lower *leaves* about 3 inches long, more or less obovate, very obtuse, 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, exerted; *stigma* simple.

**HAB.** On the banks of rivers. Near Albany, New-York. *Eaton.* In Pennsylvania. May. *Muhlenberg.*

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.*

*Calyx* 5-parted; segments acute, carinate. *Corolla* infundibuliform; border 5-lobed; orifice naked. *Stamens* included within the tube of the corolla. *Stigma* obtuse, bifid. *Seeds* imperforate at the base, indurated, shining. *Gen. pl.* 241. *Lehm. Asperifol.* p. 3. *Nutt. Gen.* I. p. 113. LITHOSPERMUM *L.*, BATSCHIA *Gmel.*, PULMONARIÆ *spp. L.*, &c. *Nat. Ord.* BORAGINEÆ *Juss.* *Gromwell.*

1. *L. arvensis L.*: stem erect, branched; leaves linear-lanceolate, rather acute, veinless, hairy; calyx nearly as long as the corolla, with spreading segments; seeds rugose. *Willd. Spec.* I. p. 751. *Lehm. Asperif.* p. 321. *Eng. Bot.* t. 123. *Pursh Fl.* I. p. 131. *Elliott Sk.* I. p. 225. *Roem. & Schult.* IV. p. 43.

*Root* annual. Plant hispidly pilose. *Stem* 8—12 inches high, much branched from the root. *Leaves* sessile; the lower ones ligulate, obtuse. *Flowers* solitary, axillary, nearly sessile. *Calyx* with linear, acute segments. *Corolla* small, white with a tinge of red. *Seeds* brown, rugose when ripe.

**HAB.** In corn fields and waste places; common. April—July. Introduced.

2. *L. officinale L.*: stem erect, much branched; leaves lanceolate, acute, nerved, scabrous above, hairy beneath; calyx as long as the tube of the corolla; seeds smooth. *Willd. Spec.* I. p. 751. *Lehm. Asperif.* p. 310. *Eng. Bot.* t. 134. *Muhl. Cat.* p. 18. (excl. syn. *Mich.*) *Roem. & Schult.* IV. p. 42.

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.

HAB. Plainfield, Massachusetts. *Porter*. Litchfield, Connecticut. *Brace*. In Pennsylvania and New-York. May. *Muhlenberg*. Introduced?

*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. PULMONARIA *maritima* *L. Willd. Spec. I.* p. 770. *Eng. Bot. t.* 368. *P. parviflora* *Mich. Fl. I.* p. 131. *Pursh Fl. I.* p. 56. *R. & S. l. c.* p. 56.

Root perennial. Stem diffuse, much branched. Leaves minutely acuminate. Peduncles lateral, 1-flowered. Corolla subcampanulate, blue.

HAB. On the sea-shore of New-England. July. *Pursh*.

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. 291. PULMONARIA *denticulata* *Roem. & Schult. IV.* p. 746. *P. sibirica* *Pursh Fl. I.* p. 729. (excl. syn.) *Muhl. Cat.* p. 18.

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 exerted; stigma very minute. *Lehm.*

HAB. In New-York. June. *Muhlenberg*. Resembles PULMONARIA *virginica*. *Pursh*.

5. *L. canescens* *Lehm.*: stem, erect, simple, villose; leaves oblong, obtuse, silky above, subvillose beneath; tube of the corolla as long again as the calyx. *Lehm. Asperif.* p. 305. BATSCHIA *canescens* *Mich. Fl. I.* p. 130. t. 14. *Pursh Fl. I.* p. 132. *Elliott Sk. I.* p. 227. *Roem. & Schult. IV.* p. 53. & 743. ANCHUSA *canescens* *Muhl. Cat.* p. 18. *A. virginica* *L. Sp. pl. I.* p. 191. *Willd. Spec. I.* p. 758. *A. floribus sparsis, caule glabro.* *Gron. Virg.* p. 24;

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.

HAB. Near Fairfield, New-York. Prof. Hadley. In Pennsylvania. June. Muhlenberg.

The root of this plant is the *Puccoon* of the Indians, and is used by them for painting a beautiful red. *L. sericea* *Lehm.* l. c. p. 306., 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*.

6. *L. hirtum* *Lehm.*: plant hirsute; floral leaves ovate; those on the stem oblong; calyx with long lanceolate segments. *Lehm. Asperif.* p. 304. *BATSCHIA caroliniensis* *Gmel. Syst. Veg. I.* p. 315. *Roem. & Schult. IV.* p. 52. *B. Gmelini Mich. Fl. I.* p. 130. *Pursh Fl. I.* p. 132. *Elliott Sk. I.* p. 227. *ANCHUSA hirta Muhl. Cat.* p. 18. *ANONYMOS caroliniensis Walt. Car.* p. 91.

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.*

Calyx deeply 5-parted; segments linear. Corolla subcampanulate; border ventricose, half 5-cleft; segments connivent, acute; orifice naked. Style much exserted. Seeds ovate, shining, imperforate at the base. *Mich. Fl. I.* p. 132. *PURSHIA Spreng. Lehm. Asperif.* p. 4. *ONOSMODIUM Mich. LITHOSPERMI spp. L. Nat. Ord. BORAGINEÆ Juss.*

1. *O. hispidum Mich.*: plant hispid; leaves obovate-lanceolate, papillose-punctate; segments of the corolla subulate. *Mich. Fl. I.* p. 132. *Elliott Sk. I.* p. 226. *Roem. & Schult. IV.* p. 57. *LITHOSPERMUM virginianum L. Willd. Spec. I.* p. 752. *Walt. Car.* p. 91. *PURSHIA*

*hispidum* *Lehm. Asperif.* p. 382. *L. corallarum laciniis acuminatis hirsutis*, *Gron. Virg.* 140.

*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 papillæ. *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.** On dry hills, particularly in calcareous soils. Kingsbridge, New-York. Near New-Haven, Connecticut. *Eaton.* In Pennsylvania. *Muhlenberg.* August.

2. *O. molle Mich.*: whole plant white-villose; leaves oblong-oval, somewhat triply-nerved; segments of the corolla semi-oval. *Mich. Fl.* I. p. 133. *Pursh Fl.* I. p. 132. *Roem. & Schult.* IV. p. 397. LITHOSPERMUM *molle* *Muhl. Cat.* p. 18. *L. carolinianum Lam. Ill.* p. 397. PURSHIA *mollis Lehm. Asperif.* p. 383.

**HAB.** In the western countries, from Pennsylvania to Tennessee. *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 FIGAREA *tridentata Ph.*

### 135. ECHIUM. *L.*

*Calyx* 5-parted; segments subulate, erect. *Corolla* subcampanulate; tube very short; border unequally 5-lobed; the lower segment acute and reflexed; orifice pervious. *Stigma* bifid. *Seeds* tuberculate, imperforate at the base. *Lehm. Asperif.* p. 4. *Gen. pl.* 251. *Nutt. Gen.* I. p. 116. *Juss.* p. 130. *Lam. Ill.* t. XCIV. *Roem. & Schult. Gen.* 624. *Nat. Ord. BORAGINEÆ Juss.* *Viper's Bugloss.*

*E. vulgare L.*: stem tuberculate-hispid; leaves linear-lanceolate, hispid; spikes lateral; stamens longer than the corolla. *Lehm. Asperif.* p. 449. *Willd. Spec.* p. 737. *Eng. Bot.* t. 181. *Pursh Fl.* I. p. 130. *Muhl. Cat.* p. 19. *Roem. & Schult.* IV. p. 23.

*Root* biennial. *Stem* 2—3 feet high, branched towards the top. *Leaves* sessile, obuse, entire, hispid and papillose; radical ones petiolate. *Spikes* numerous, secund, recurved. *Flowers* sessile, with leafy bracts at the base. *Corolla* brilliant blue, when first expanded reddish-purple. *Stamens* exerted; *anthers* minute. *Style* filiform, 2-cleft at the apex.

HAB. On hill sides. Near New-Brunswick, New-Jersey. May—July. In Pennsylvania. *Muhlenberg*. Introduced? *Blue-weed*.

## 136. MYOSOTIS. L.

*Calyx* 5-parted, or 5-cleft. *Corolla* hypocrateriform; segments very obtuse; orifice closed with connivent scales. *Lehm. Asperif.* p. 79. *Gen. pl.* 240. *Nutt. Gen.* p. 112. *Juss.* p. 131. *R. Brown Prod.* I. p. 494. *Roem. & Schult. Gen.* 644. *Nat. Ord.* BORAGINEÆ *Juss.* *Scorpion-grass.*

1. *M. palustris Roth.*: leaves lanceolate, a little scabrous with appressed hairs; peduncles divergent when in fruit, twice as long as the 5-toothed spreading calyx; border of the corolla flat, longer than the tube. *Lehm. Asperif.* p. 38. *Pursh Fl.* I. p. 133. *M. scorpioides Willd. Spec.* I. p. 746. *Muhl. Cat.* p. 18. *Roem. & Schult. IV.* p. 101. *M. scorpioides*  $\delta$ . *palustris L. Sp. pl.* 183.

*Root* perennial, creeping. *Stem* a foot high, slender, very smooth, a little branched towards the top. *Leaves* lanceolate, narrowed 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 centre. *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

† *M. laxa*: caule filiformi laxo, foliis obovato-lanceolatis obtusis subglabris, racemis ebracteatis longissimis, pedicellis in fructu divergentibus longissimis calyce patente obtuso multo-longioribus, corollis parvis. *Lehm. l. c.* p. 33.



long as the tube. *Lehm. Asperif.* p. 90. *Willd. Spec.* I. p. 747. *Pursh Fl.* I. p. 133. *Muhl. Cat.* p. 18. *Roem. & Schult.* IV. p. 103. *M. scorpioides* *α. arvensis* *L. Sp. pl.* 188. *Mich. Fl.* I. p. 129. *M. verna* *Nutt. Gen. Supp.* LYCOPSIS *virginica* *Pursh Fl.* I. p. 133? excl. syn.

*Root* annual. Whole plant covered with a gray pubescence. *Stem* simple or with a few branches, 4—8 inches high. *Leaves* oblong-lanceolate, rather acute. *Racemes* long. *Flowers* on short petioles. *Calyx* covered with spreading hairs; segments acute. *Corolla* white, very small. *Seeds* smooth and shining.

**HAB.** In sandy woods. New-York and New-Jersey. June.

### 137. LYCOPSIS. *L.*

*Calyx* 5-cleft. *Corolla* infundibuliform; tube incurved; orifice closed with ovate connivent scales. *Seeds* perforated at the base. *Gen. pl.* 250. *Nutt. Gen.* I. p. 116. *Juss.* p. 131. *Lam. Ill.* t. XCII. *Roem. & Schult. Gen.* 638. Nat. Ord. BORAGINEÆ *Juss.* *Small Bugloss.*

*L. arvensis* *L.*: leaves lanceolate, semiamplexicaul, repand-denticulate, very hispid; racemes leafy; calyx erect. *Willd. Spec.* I. p. 780. *Eng. Bot.* t. 938. *Pursh Fl.* I. p. 132. *Muhl. Cat.* 19. *Roem. & Schult.* IV. p. 72. *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.

**HAB.** In sandy fields. Near Cambridge, New-York. *Dr. Stevenson.* Williamstown, Massachusetts. *Dewey.* Scarcely different from *ANCHUSA*, except in the tube of the corolla being curved.

### 138. CYNOGLOSSUM. *L.*

*Calyx* 5-parted. *Corolla* short infundibuliform; orifice closed with connivent scales. *Seeds* depressed, fixed to a central colum. *Gen. pl.* 243. *Lehm. Asperif.* p. 70. *Nutt. Gen.* I. p. 114. *Juss.* p. 131. *Lam. Ill.* t. XII. f. 1. *Roem. & Schult. Gen.* 639. Nat. Ord. BORAGINEÆ *Juss.* *Hound's tongue.*

1. *C. officinale* L.: leaves broad-lanceolate, attenuate at the base, sessile, downy; stamens included. *Willd. Spec.* I. p. 760. *Lehm. Asperif.* p. 152. *Eng. Bot.* t. 921. *Pursh Fl.* I. p. 123. *Big. Bost.* p. 47. *Roem. & Schult.* IV. p. 74.

*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.

2. *C. virginicum* L.: leaves oval-oblong, acute, hairy; upper ones cordate and amplexicaul at the base; corymb on a large naked peduncle. *Lin. Sp. pl.* p. 134. *Willd. Spec.* I. p. 762? *Lehm. Asperif.* p. 156. *C. amplexicaule Mich. Fl.* I. p. 132. *Pursh Fl.* I. p. 133. *Elliott Sk.* I. p. 228. *Roem. & Schult.* IV. p. 77. *C. foliis amplexicaulibus Gron. Virg.* p. 24.

*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-spreading; segments ovate-lanceolate. *Seeds* rough.

*HAB.* In moist shady woods. Hudson, New-York. *Also* Williamstown, Massachusetts. *Dewey.* In Pennsylvania. *Muhlenberg.* May.

### 139. ROCHELIA. *Roem. & Schult.*

*Calyx* 5-parted. *Corolla* hypocrateriform; orifice closed by connivent scales. *Seeds* fixed to a central column, echinate, compressed. *Roem. & Schult. Gen.* 645. ECHINOSPERMUM *Lehm.* MYOSOTIS *spp.* L. *Nat. Ord.* BORAGINÆ *Juss.*

1. *R. Lappula* R. & S.: stem branched above; leaves lanceolate, with incumbent hairs; corolla longer than the calyx; border erect-spreading; seeds with 2 rows of hooked prickles on the margin. *Roem. & Schult.* IV. p. 109. MYOSOTIS *Lappula* L. *Willd. Spec.* I. p. 749. *Mich. Fl.* I. p. 129. *Pursh Fl.* I. p. 134. ECHINOSPERMUM *Lappula* *Lehm. Asperif.* p. 121.

*Root* annual. *Stem* about a foot high, branched above in a paniculate manner. *Leaves* linear-lanceolate, very hairy. *Flowers* erect when in fruit. *Calyx* deeply 5-parted; segments linear, acute. *Corolla* minute, blue. *Seeds* not depressed, rough with hooked prickles.

HAB. On road sides; generally in damp soils; very common in the northern and western parts of the State of New-York. July—August.

2. *R. virginiana* R. & S.: leaves oblong-lanceolate, acuminate, scabrous above; racemes divaricate; flowers nodding when in fruit; seeds densely covered with hooked prickles. *Roem. & Schult.* IV. p. 103. *MYOSOTIS virginiana* L. *Willd. Spec.* I. p. 748. *Mich. Fl.* I. p. 129. *Pursh Fl.* I. p. 134. *Elliott Sk.* I. p. 224. *ECHINOSPERMUM virginicum* L. *Chm. Asperif.* p. 117.

*Root* biennial. *Stem* 2 feet high, hairy, divaricately branched at the summit. *Leaves* 3 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.

HAB. On shady rocky hills. Hoboken, &c. New-Jersey. July.

140. ANAGALLIS. L.

*Calyx* 5-parted. *Corolla* rotate, 5-lobed. *Filaments* hirsute at the base. *Capsule* globose, bursting all round transversely, many-seeded. *Gen. pl.* 270. *Nutt. Gen.* I. p. 122. *Juss.* p. 95. *Lam. Ill.* t. 101. *Roem. & Schult. Gen.* 652. Nat. Ord. LYSIMACHIÆ *Juss.* PRIMULACEÆ *R. Brown.* *Pimpernel.*

*A. arvensis* L.: stem procumbent; leaves ovate, sessile, dotted beneath; segments of corolla dilated, crenate-glandular. *Smith Fl. Brit.* I. p. 230. *Eng. Bot.* t. 529. *Pursh Fl.* I. p. 135. *Big. Bost.* p. 48. *Elliott Sk.* I. p. 235. *A. arvensis* β. *Lin. Willd. Spec.* I. p. 821. *A. phanicea* *Lam. Roem. & Schult.* IV. p. 116.

*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, scarious on the margin. *Corolla* scarlet, longer than the calyx.

HAB. In sandy fields and cultivated grounds. June—July. Introduced.

141. LYSIMACHIA. L.

*Calyx* 5-cleft. *Corolla* rotate, (and subcampanulate), 5-cleft. *Capsule* 1-seeded, 5 or 10-valved. *Gen.*

pl. 269. *Nutt. Gen.* I. p. 121. *Juss.* p. 95. *Lam. Ill. t. CI. Roem. & Schult. Gen.* 653. *Nat. Ord.* LYSIMACHIÆ *Juss.* *Loosestrife.*

1. *L. stricta* *Ait.*: raceme terminal, very long, lax; leaves opposite, lanceolate, sessile; *Ait. Kew.* l. p. 199. *Willd. Spec.* I. 818. *Big. Bost.* p. 49. *Roem. & Schult.* IV. p. 122. *L. racemosa* *Lam. Enc.* III. p. 571. *Mich. Fl.* l. p. 128. *Pursh Fl.* l. 135. *L. bulbifera* *Curt. Mag.* t. 104.

*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 6—8 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.

*HAB.* In low, overflowed grounds. July—August.

2. *L. quadrifolia* *L.*: leaves verticillate, in fours and fives, ovate-lanceolate, acuminate; peduncles axillary, 1-flowered, in fours; segments of the corolla oval, entire, often obtuse. *Willd. Spec.* I. p. 118. *Pursh Fl.* l. p. 135. *Big. Bost.* p. 49. *Elliott Sk.* l. p. 233. *Roem. & Schult.* IV. p. 123. *L. hirsuta* *Mich. Fl.* l. p. 124. *L. punctata* *Walt. Car.* p. 92.

*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.

*HAB.* In wet meadows and thickets. June—July.

3. *L. ciliata* *L.*: stem nearly smooth; leaves opposite, on long petioles, subcordate-ovate, acuminate; petioles ciliate; peduncles subgeminat; flowers nodding. *L. Sp. pl.* p. 210. *Mich. Fl.* l. p. 126. *Pursh Fl.* l. p. 136. *Big. Bost.* p. 48. *Elliott Sk.* l. p. 233. *Roem. & Schult.* IV. p. 127. *Walt. Car.* p. 92. *L. quadrifolia*  $\beta$ . *ciliata* *Willd. Spec.* I. p. 818.

*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.

4. *L. hybrida Mich.*: stem smooth; leaves opposite, petiolate, lanceolate, acute at each extremity; petioles ciliate; flowers nodding; peduncles axillary; corolla crenulate. *Mich. Fl.* l. p. 126. *Pursh Fl.* l. p. 136. *Roem. & Schult.* IV. p. 126. *L. heterophylla Nutt. Gen.* I. p. 121. *L. angustifolia Willd. Enum. h. Berol.* l. p. 195.

*Root* perennial. *Stem* 2 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.

HAB. In swamps and on the muddy banks of rivers. Common in the Newark meadows, New-Jersey. July—August.

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.

5. *L. longifolia Ph.*: stem branched, smooth; leaves opposite, sessile, linear, very long, upper ones in fours; peduncles in fours, subterminal, 1-flowered; segments of the corolla ovate, acuminate, serrulate. *Pursh Fl.* l. p. 135. *Roem. & Schult.* IV. p. 121. *L. quadrifolia Sims. Bot. Mag.* t. 660. *Ait. Kew. ed.* 2. II. p. 315. *Elliot Sk.* I. p. 234.

*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.

HAB. In wet woods, near ponds. Pennsylvania to Virginia. *Pursh.*

I have seen no northern specimens of this plant. *Muhlenberg* considers it a variety of *L. quadrifolia*, yet it appears to me very distinct.

6. *L. capitata* Ph.: stem subsimple, punctate; leaves opposite, sessile, broad-lanceolate, punctate; peduncles axillary, elongated; flowers in dense subglobose heads, 6—7-parted. *Pursh Fl. I.* p. 135. *Roem. & Schult.* IV, p. 123. *L. thyrsiflora?* *Mich. Fl. I.* p. 127.

*Root* perennial. *Stem* a foot and a half high, sometimes a little branched about the middle, smooth or subvillose, 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.

7. *L. revoluta* Nutt.; stem quadrangular, branched; leaves opposite, sessile, long-linear; margin revolute; peduncles 1-flowered, subterminal, nodding. *Nutt. Gen. I.* p. 122.

*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.

**HAB.** On rocks about the Falls of Niagara. *Eddy* and *Cooper.* August. Always on calcareous soil. *Nuttall.* In habit, much resembling *HYPERICUM galioides* of *Lam.*

#### 142. PRIMULA. L.

Flowers in an involucrate umbel. *Calyx* tubular,

5-toothed. *Corolla* hypocrateriform; tube cylindrical, orifice naked; border 5-lobed; lobes emarginate. *Capsule* 1-celled, opening with 10 teeth. *Gen. pl.* 258. *Nutt. Gen.* I. p. 119. *Juss.* p. 96. *Lam. Ill. t.* XCVIII. *Roem. & Schult. Gen.* 658. Nat. Ord. LYSIMACHIÆ *Juss.* *Primrose.*

*P. farinosa* β. *americana*\*: leaves obovate-spathulate, repandly crenate-dentate, pulverulent beneath; umbel many-flowered; peduncles spreading; border of the corolla flat, as long as the tube, with obtuse obcordate segments. *P. farinosa Torrey in Sill. Jour.* IV. p. 59. *Nutt. Gen.* I. p. 119. *Muhl. Cat.* p. 19. *P. pusilla Goldie in Edin. Phil. Jour.* VI. p. 322. *Hook. Exot. Bot. t.* .

*Root* perennial, fibrous. *Leaves* an inch or more in length, crowded, very obtuse, covered beneath with a yellowish green powder, sometimes nearly entire. *Stem* 6—10 inches long, smooth. *Umbel* 8—10-flowered, fastigiate. *Leaves* of the involucre 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*, l. 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.

*Calyx* 5-cleft. *Corolla* 5-parted; segments reflected. *Filaments* very short; *anthers* connivent. *Capsule* 1-celled, oblong, opening at the apex. *Gen. pl.* 261. *Nutt. Gen.* I. p. 119. *Juss.* p. 97. *Lam.*

*Ill. t. XCIX. Roem. & Schult. Gen. 656. Nat. Ord. LYSIMACHIÆ Juss. American Cowslip.*

1. *D. Meadia L.*: leaves oblong-oval, repandly toothed; umbel many-flowered, lax; bracts oval. *Willd. Spec. I. p. 103. Curt. Mag. t. 12. Mich. Fl. I. p. 123. Pursh Fl. I. p. 136. Roem. & Schult. IV. p. 131.*

*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 involucre* (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, connivent into a rostrum. *Style* filiform, longer than the stamens; *stigma* simple.

*HAB.* On river sides, in rocky situations; Pennsylvania to Virginia. *May. Pursh.*

2. *D. integrifolium Mich.*: leaves oblong-oval, subspathulate; umbel few-flowered, straight; bracts linear. *Mich. Fl. I. p. 876. Pursh Fl. I. p. 136. Roem. & Schult. IV. p. 132.*

*Flowers* pale blue, smaller than in the preceding species. *Pl.*

*HAB.* On the Allegany Mountains, in shady woods, near rivers. *Pursh.*

#### 144. MENYANTHES. L.

*Calyx* 5-parted. *Corolla* infundibuliform; border spreading, 5-lobed, equal, hairy within. *Stigma* capitate, sulcate. *Capsule* 1-celled, 2 valved; valves seminiferous on the sides. *Gen. pl. 263. Nutt. Gen. I. p. 120. Juss. p. 98. Lam. Ill. t. C. f. 1. Roem. & Schult. Gen. 665. Nat. Ord. LYSIMACHIÆ Juss. GENTIANÆ (R. Brown, Hooker.) Buck-bean or Marsh Trefoil.*

*M. trifoliata L.*: leaves ternate. *Willd. Spec. I. p. 311. Smith Fl. Brit. I. p. 225. Eng. Bot. t. 495. Mich. Fl. I. p. 125. Pursh Fl. I. p. 139. Big. Bost. p. 50. Roem. & Schult. IV. p. 117.*

*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*.

*Calyx* 5-parted. *Corolla* rotate, 5-lobed; segments bearded at the base, with their margins inflected. *Glands* (nectaries) 5, alternating with the stamens. *Stigma* 2-lobed. *Capsule* 1-celled, 2-valved, many-seeded. *Gmel*: *Syst. Veg.* I. p. 447. *R. Brown* *Prod.* I. p. 457. *Nutt. Gen.* I. p. 120. *Roem. & Schult. Gen.* 660. MENYANTHES *spp.* *L.* NYMPHOIDES *Tourn.* Nat. Ord. GENTIANÆ *Juss.* (*R. Brown.*)

*V. lacunosa* *Vent.*: leaves reniform, subpeltate, slightly crenate; lacunose beneath; petioles bearing the flowers; corolla smooth. *Vent. choix de plants* p. 10. *Pursh Fl.* I. p. 139. *V. aquatica* *Gmel.* l. c. *Roem. & Schult.* IV. p. 180. *V. trachysperma* *Elliott Sk.* I. p. 230. MENYANTHES *trachysperma* *Michx.* *Fl.* I. p. 126. ANONYMOS *aquatica* *Walt.* *Car.* p. 109.

Root perennial. Plant floating. *Stem* (or rather petioles) very long, filiform, smooth. *Leaves* cordate-reniform, about an inch in diameter, coriaceous, obscurely crenate; sinus at the base narrow. *Flowers* somewhat umbellate, bursting from the petiole near the leaf. *Pedicels* slender, unequal. Segments of the *calyx* ovate-lanceolate. *Corolla* subcampanulate, yellowish white, twice the length of the corolla, marcescent; segments oblong, obtuse. *Filaments* very short; *anthers* sagittate, yellow. *Nectaries* hairy-pedicellate. *Style* very short; *stigma* slightly 2-lobed, glandular. *Capsule* ovate, nearly as long as the calyx. *Seeds* scabrous.

HAB. In ponds and lakes; rarely in flowing water. Long-Island and New-Jersey. In Crooked Pond, Plainfield, Massachusetts. *Porter.* In Sand-Lake, near Albany, New-York. *Eaton.* In Pennsylvania. *Muhlenberg.*

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*

globose. *Capsule* 1-celled, globose, acuminate. *Gen. pl.* 265. *Nutt. Gen.* I. 120. *Juss.* p. 95. *Lam. Ill. t. C.* *Roem. & Schult. Gen.* 664. *Nat. Ord.* LYSIMACHIÆ *Juss.* *Water-feather.*

*H. inflata* L.: scape articulæte, with the internodes and lower part inflated; flowers verticillate, pedunculate. *Elliott Sk.* I. p. 231. *Nutt. Gen.* I. 120. *H. palustris Pursh Fl.* I. p. 120. *Muhl. Cat.* p. 19.

*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.*

HAB. In stagnant waters of New-Jersey. *Pursh.* Near New-Haven, Connecticut. *Ives.* In Pennsylvania. *Muhlenberg.*

#### 147. SAMOLUS. L.

*Calyx* 5-cleft, half superior. *Corolla* hypocrateriform, 5-lobed, with 5 intermediate scales, (sterile stamens, *R. Brown.*) *Capsule* half inferior, 1-celled, 5-toothed, many-seeded; receptacle unconnected. *Gen. pl.* 294. *R. Brown Prod.* I. p. 428. *Nutt. Gen.* I. p. 121. *Juss.* p. 97. *Lam. Ill. t. CI.* *Roem. & Schult. Gen.* 852. *Nat. Ord.* LYSIMACHIÆ *Juss.*† *Brook-weed or Water Pimpernel.*

*S. Valerandi* L.: stem erect; leaves obovate; racemes elongated, loose, many-flowered. *Willd. Spec.* I. p. 927. *Smith Fl. Brit.* I. p. 259. *Eng. Bot. t.* 703. *Mich. Fl.* I. p. 109. *Pursh Fl.* I. p. 158. *Elliott Sk.* I. p. 263. *Walt. Car.* p. 100. *Roem. & Schult. V.* p. 1.

*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

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† According to *R. Brown*, SAMOLUS differs from PRIMULACEÆ (*Lysimachia Juss.*) in having the capsule with its base, at least, inferior, 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. *Adanson*.

*Calyx* 5—12-parted. *Corolla* rotate, 5—12-parted. *Stigmas* 2, spiral. *Anthers* at length revolute. *Capsule* 1-celled, 2-valved. *Adans. Parad. Lond. t. 32. Pursh Fl. I. p. 123. Nutt. Gen. I. p. 134. Roem. & Schult. Gen. 662. CHIRONIÆ spp. L., Mich., &c. Nat. Ord. GENTIANÆ Jus s.*

1. *S. campanulata*\*: leaves sublinear; calyx as long as the corolla. *CHIRONIA campanulata L. Sp. pl. 272. Willd. Spec. I. p. 1067. Muhl. Cat. p. 23. C. gracilis Mich. Fl. I. p. 146 ?† SAB. gracilis Pursh Fl. I. p. 137 ?*

“*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 *Leconte* 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 obovate. *Pursh Fl. I. p. 137. Roem. & Schult. IV. p. 174. S. gracilis Elliott Sk. I. p. 284. CHIRONIA stellata Muhl. 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, setacco-elongatis, 1-floris; foliis lineari-setaceis; calyce setaceo, corollæ subæquali. *Mich. l. c.*

HAB. In salt marshes; common near New-York, and on the sea-coast of Long-Island and New-Jersey. August.

3. *S. angularis* Ph.: stem quadrangular, somewhat winged; leaves ovate, amplexicaul; peduncles elongated, corymbed; segments of the calyx lanceolate, much shorter than the corolla. *Pursh Fl. I. p. 137. Elliott Sk. I. p. 285. Roem. & Schult. IV. p. 174. CHIRONIA angularis L. Willd. Spec. I. p. 1067. Mich. Fl. I. p. 146. Walt. Car. p. 95.*

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.*

4. *S. calycosa* Ph.: stem erect, few-flowered; leaves oblong; flowers solitary, 7—9-parted; calyx foliaceous, longer than the corolla. *Pursh Fl. I. p. 138. Elliott Sk. I. p. 185. Roem. & Schult. IV. p. 174. CHIRONIA calycosa Mich. Fl. I. p. 147. C. dichotoma Walt. Car. p. 95.*

Root biennial? Stem a foot high, very leafy, with few spreading branches. Leaves an inch and a half long, sessile, rather acute, distinctly 3-nerved. Flowers terminating the branches. Calyx generally 7-parted, a little longer than the corolla; segments lanceolate, very acute. Corolla rose-coloured; segments subspatulate.

HAB. In wet meadows; New-York to Carolina. *Pursh. In Maryland. Muhlenberg.*

I suspect this plant has not been found so far north as stated by *Pursh*. My specimens are from Georgia.

5. *S. chloroides* Ph.: stem weak; leaves lanceolate, erect; branches few, 1-flowered; flowers 7—12-parted; segments of the calyx linear, shorter than the corolla. *Pursh Fl. I. p. 138. Elliott Sk. I. p. 286. Roem. & Schult. IV. p. 174. CHIRONIA chloroides Mich. Fl. I. p. 147. C. dodecandra Walt. Car. p. 95. CHLORA dodecandra L. Syst. Veg. p. 299. Willd. Spec. II. p. 341.*

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

Hackinsack, also on Long-Island. In Maryland. *Muhlenberg*. August.

6. *S. corymbosa* Bald.: leaves ovate, closely sessile; stem acutely angled; flowers corymbed; segments of the calyx subulate, much shorter than the (white) corolla. *Elliott Sk.* I. p. 283. *S. paniculata* a. *Pursh Fl.* I. p. 133. *CHIRONIA lanceolata* Walt. *Car.* p. 95? *C. venosa* Muhl. *Cal.* p. 23?

*Root* perennial. *Stem* about a foot high, erect, simple below, with 2 of the sides convex. *Leaves* distant, about an inch long, obscurely 3-nerved; lower ones obtuse; upper ones acute. *Corymb* few-flowered. *Calyx* one-third the length of the corolla; segments subulate. *Corolla* white, generally 5-parted, but sometimes only 4-parted; segments lanceolate, rather acute.

*HAB.* In swamps, near Quaker Bridge, in the pine-barrens of New-Jersey. August—September.

This species is nearly allied to *S. paniculata*, and was probably confounded with it by *Michaux*, but I think *Elliott* has well distinguished it.

#### 149 HYDROPHYLLUM. L.

*Calyx* 5-parted. *Corolla* subcampanulate, 5-cleft, with 5 longitudinal margined melliferous grooves on the inside. *Stamens* exerted. *Stigma* bifid. *Capsule* globose, 1-celled, 2-valved, 4-seeded, with 3 of the seeds abortive. *Gen. pl.* 267. *Nutt. Gen.* I. p. 117. *Juss.* p. 129. *Lam. Ill.* t. XCVII. f. 12. *Roem. & Schult. Gen.* 649. *Nat. Ord.* BORAGINÆ *Juss.* *Water-leaf.*

1. *H. virginicum* L.: stem nearly smooth; leaves pinnatifid and pinnate; segments oval-lanceolate, with deep serratures; fascicles of flowers conglomerate; peduncles larger than the petioles. *Willd. Spec.* I. p. 814. *Lam. Ill.* I. c. *Mich. Fl.* I. p. 134. *Pursh Fl.* I. p. 134. *Elliott Sk.* I. p. 232. *Roem. & Schult.* IV. p. 113.

*Root* perennial. *Stem* a foot and a half high, a little branched near the top. *Leaves* about 2, on long petioles, large and flat, irregularly pinnatifid; lower leaflets distinct. Clusters of flowers on long axillary peduncles, much crowded, recurved. Segments of the calyx linear, shorter than the corolla, hispid. *Corolla* white, with purplish veins; segments ovate, obtuse. *Stamens* much exerted; *filaments* bearded; *anthers* oblong, incumbent. *Seeds* 4, one of them large and round, the others abortive.

*HAB.* In shady rocky woods. May—June.

2. *H. canadense* L.: somewhat hairy; leaves angularly sub-5-lobed, remotely serrate; peduncles shorter than the petioles. *Willd. Enum. h. Berol.* I. p. 194. *Spec.* I. p. 815. *Lam. Ill.* I. c. *Mich. Fl.* I. p. 133. *Pursh Fl.* I. p. 133. *Roem. & Schult.* IV. p. 113.

*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.

3. *H. appendiculatum* Mich.: very hairy; radical leaves subpinnatifid; cauline ones angularly lobed; sinuses of the calyx with minute oval appendages. *Mich. Fl.* I. p. 134. *Pursh Fl.* I. p. 134. *Roem. & Schult.* IV. p. 114.

*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.*

*Calyx* 5-parted. *Corolla* subcampanulate, 5-cleft, with 5 longitudinal margined melliferous grooves on the inside. *Stamens* exserted. *Style* filiform; *stigmas* 2. *Capsule* 2-celled, 2-valved, 4-seeded; each of the valves septiferous in the centre. *Juss.* p. 129. *Mich. Fl.* I. p. 134. *Nutt. Gen.* I. p. 116. *Roem. & Schult. Gen.* 678. *Nat. Ord.* BORAGINÆ *Juss.*

1. *P. bipinnatifida* Mich.: stem erect; leaves pinnatifid; segments incisely lobed; racemes mostly bifid, oblong, many-flowered; divisions of the corolla entire. *Mich. Fl.* I. p. 134. t. 16. *Pursh Fl.* I. p. 140. *Muhl. Cat.* p. 19. *Roem. & Schult.* IV. p. 189.

*Root* perennial? *Plant* hairy. *Stem* about a foot high, terete,

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 Alleghany Mountains. Pennsylvania to Virginia. May—June. *Pursh*.

2. *P. fimbriata Mich.*: stem ascending, hairy; leaves with undivided lobes; segments of the corolla fimbriate. *Mich. Fl.* I. p. 134. excl. syn. *Pluk. Pursh Fl.* I. p. 140. *Elliott Sk.* I. p. 236. *Muhl. Cat.* p. 19. *Roem. & Schult.* IV. p. 190.

*Root* perennial, (annual, *Pursh*.) Plant hairy. *Stem* about a foot high, procumbent at the base. *Leaves* alternate; upper ones pinnatifid, sessile; lower ones pinnate. *Racemes* short, at first revolute. Segments of the *calyx* hispid. *Corolla* "beautiful blue," (*Pursh*), "white," *Mich*.

HAB. In alluvial soils, throughout the western parts of Pennsylvania and Ohio. *Nuttall*.

3. *P. parviflora Ph.*: stem diffuse, pubescent; leaves subsessile, pinnatifid; segments oblong, rather obtuse, entire; racemes solitary; pedicels short; segments of the corolla round, very entire. *Pursh Fl.* I. p. 140. *Muhl. Cat.* p. 19. *Roem. & Schult.* IV. p. 190. *POLEMONIUM dubium Willd. Spec.* I. p. 837. *P. foliis inferioribus hastatis superioribus lanceolatis. Gron. Virg.* p. 29. *Pluk. Alm.* t. 245. f. 5.

*Root* annual. *Stem* 6—8 inches high, slender, a little branched. *Leaves* alternate, about an inch long; upper surface covered with appressed hairs; radical ones petiolate, lobed. *Flowers* in terminal racemes, one-fourth as large as in *P. bipinnatifida*. *Pedicels* about half an inch long. Segments of the *calyx* oblong, rather obtuse. *Corolla* pale blue, (white, *Muhl.*) as long again as the calyx, naked internally? *Stamens* scarcely exerted; *filaments* smooth. *Capsule* subrotund, hairy, 2-celled, 2-valved, 6—8-seeded? *Seeds* angular, scabrous.

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

*Calyx* 5-parted. *Corolla* infundibuliform; border

5-cleft, equal. *Anthers* convergent. *Capsule* didymous, 2-celled, 4 valved, many-seeded. *Gen. pl.* 272. *Nutt. Gen. I.* p. 134. *Juss. p.* 143. *Lam. Ill. t.* 107. *Roem. & Schult. Gen.* 679. Nat. Ord. GENTIANÆ *Juss.* *Carolina Pink-root.*

*S. marilandica L.:* stem simple, quadrangular; leaves all opposite, sessile, ovate-lanceolate. *Willd. Spec. I.* p. 325. *Bot. Mag. t.* 80. *Mich. Fl. I.* p. 147. *Pursh Fl. I.* p. 139. *Elliott Sk. I.* p. 236. *Big. Med. Bot. II.* p. 142. t. 14. *Bart. Veg. Mat. Med. II.* t. 31. *Roem. & Schult. IV.* p. 191.

*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 secund 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.

HAB. In Pennsylvania and Maryland. June. *Muhlenberg.*  
A celebrated anthelmintic.

## 152. VERBASCUM. L.

*Calyx* 5-parted. *Corolla* rotate, 5-lobed, unequal. *Stamens* declined, generally bearded. *Stigma* simple. *Capsule* 2-celled, with inflected valves, many-seeded. *Gen. pl.* 331. *Nutt. Gen. I.* p. 133. *Juss. p.* 124. *Lam. Ill. t.* CXVII. f. 2. *Roem. & Schult. Gen.* 703. Nat. Ord. SOLANÆÆ *Juss.* *Mullein.*

1. *V. Thapsus L.:* leaves decurrent, woolly on both sides; raceme spiked, dense; two of the stamens glabrous. *Willd. Spec. I.* p. 1001. *Smith Fl. Brit. I.* p. 249. *Eng. Bot. t.* 549. *Pursh Fl. I.* p. 142. *Big. Bost. p.* 52. *Elliott Sk. I.* p. 274. *Roem. & Schult. IV.* p. 325.

*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.

2. *V. Blattaria* L.: leaves amplexicaul, oblong, smooth, serrate; peduncles 1-flowered, solitary. *Willd. Spec.* I. p. 1005. *Smith Fl. Brit.* I. p. 253. *Eng. Bot.* t. 393. *Mich. Fl.* I. p. 148. *Pursh Fl.* I. p. 142. *Elliott Sk.* I. p. 274. *Roem. & Schult.* IV. p. 347.

*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:—

*α. alba*: leaves toothed; flowers white.

*β. lutea*: leaves doubly serrate; flowers yellow. *V. Claytoni Mich. Fl.* I. p. 148?

3. *V. Lychnitis* L.: leaves oblong-cuneiform, naked above; stem angular, paniced. *Willd. Spec.* I. p. 1103. *Smith Fl. Brit.* I. p. 250. *Eng. Bot.* t. 58. *Pursh Fl.* I. p. 142. *Walt. Car.* p. 95. *Elliott Sk.* I. p. 274. *Roem. & Schult.* IV. p. 341.

*Leaves* very woolly beneath. *Flowers* pale yellow.

*HAB.* On the banks of the Delaware, near Philadelphia. *Pursh.*

### 153. NICOTIANA. L.

*Calyx* tubular, 5-cleft. *Corolla* infundibuliform; border plicate, 5-cleft. *Stamens* inclined. *Stigma* capitate. *Capsule* 2-celled, 2—4-valved. *Gen. pl.* 334. *R. Brown Prod.* I. p. 447. *Nutt. Gen.* I. p. 134. *Juss.* p. 125. *Lam. Ill.* t. CXIII. f. 1. *Roem. & Schult. Gen.* 700. *Nat. Ord. Solanæ Juss.* *Tobacco.*

*N. rustica* L.: stem terete; leaves petiolate, ovate, very entire; tube of the corolla cylindrical, longer than the calyx. segments round. *Lehm. Hist. Nicot.* p. 13. *Willd. Spec.* I. p. 258. *Nutt. Gen.* I. p. 132. *Roem. & Schult.* IV. p. 319.

*Root* annual. Plant viscose-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-

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. *Nuttall*.

## 154. HYOSCYAMUS. L.

*Calyx* tubular; border 5-cleft. *Corolla* infundibuliform, 5-lobed, irregular; lobes entire. *Stamens* inclined. *Capsule* 2-celled, operculate. *Gen. pl.* 333. *Nutt. Gen. I.* p. 131. *Juss.* p. 124. *Lam. Ill. t. CXVII. f. 1.* *Roem. & Schult. Gen.* 698. Nat. Ord. SOLANÆ *Juss.* *Henbane.*

*H. niger* L.: leaves amplexicaul, sinuate; flowers subsessile; corolla reticulate. *Willd. Spec. I.* p. 1010. *Smith Fl. Brit. I.* p. 254. *Eng. Bot. t.* 591. *Pursh Fl. I.* p. 141. *Big. Med. Bot. II.* p. 161. t. 17. *Roem. & Schult. IV.* p. 308.

*Root* annual or biennial. Whole plant hispidly pilose and fœtid. *Stem* branched, terete. *Leaves* ovate; radical ones subpinnatifid. *Flowers* in terminal recurved leafy spikes. *Calyx* subcampanulate, ventricose below, reticulate. *Corolla* dingy yellow, with brown reticulate veins. *Anthers* large, oblong.

HAB. On road sides and among rubbish. Near Westchester, New-York. In Pennsylvania. *Muhlenberg.* June. Introduced. A powerful narcotic.

## 155. CONVULVULUS. L.

*Calyx* 5-parted, naked, or with 2 bracts at the base. *Corolla* campanulate, plicate. *Stigmas* 2. *Capsule* 2—3-celled, with as many valves; cells 1—2-seeded. *Gen. pl.* 287. *Nutt. Gen. I.* p. 123. *Juss.* p. 133. *Lam. Ill. 2.* 104. f. 2. *Roem. & Schult. Gen.* 690. Nat. Ord. CONVULVULI *Juss.* *Bind-weed.*

1. *C. arvensis* L.: stem climbing; leaves saggitate, with the leaves acute; peduncles mostly 1-flowered; bracts acute, remote from the flowers. *Willd. Spec. I.* p. 844. *Smith Fl. Brit. I.* p. 232. *Eng. Bot. t.* 312. *Pursh Fl. I.* p. 144. *Big. Bot.* p. 50. *Muhl. Cat.* p. 21. *Gron. Virg.* p. 27. *Roem. & Schult. IV.* p. 256.

*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. HAB. In Maine. *Prince*. Near Boston. *Bigelow*. In Pennsylvania. *Muhlenberg*.

2. *C. Sepium L.*: stem climbing; leaves sagittate, very acute; lobes truncate; bracts close to the flower, acute, longer than the calyx; peduncles quadrangular, 1-flowered. *Sp. pl.* p. 218. *Willd. Spec.* I. p. 844. *Smith Fl. Brit.* I. p. 233. *Eng. Bot.* t. 313. *Big. Bost.* p. 50. *C. repens Sp. pl.* p. 158. *Mich. Fl.* I. p. 137. *Elliott Sk. I.* p. 233. *Walt. Car.* p. 93. CALYSTEGIA *Sepium R. Brown Prod.* I. p. 483. *Pursh Fl.* I. p. 142. *Roem. & Schult.* IV. p. 182. CONV. *lactescens, foliis sagittatis, &c. Gron. Virg.* p. 28.

*Root* perennial, descending deep into the earth. *Stem* a little climbing, or trailing, pubescent. *Leaves* cordate-sagittate, pubescent; lobes often obliquely truncate. *Peduncles* longer than the leaves. *Bracts* cordate-ovate, resembling an exterior calyx, acuminate. *Corolla* large, white, tinged with rose-colour. *Stigmas* globose, white. *Capsule* 3-celled, 3-valved.

HAB. In hedges and among bushes; in low grounds. June—July. *Great Bind-weed.*

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.

3. *C. panduratus L.*: stem climbing; leaves cordate, entire or lobed, panduriform; peduncles long; flowers fasciculate; calyx smooth; corolla tubular-campanulate. *Willd. Spec.* I. p. 850. *Mich. Fl.* I. p. 138. *Pursh Fl.* I. p. 144. *Elliott Sk.* I. p. 254. *Bart. Veg. Mat. Veg.* t. 23. *Walt. Car.* p. 93. *Roem. & Schult.* IV. p. 262.

*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.

HAB. In sandy fields; among bushes. Kingsbridge, New-York. In Pennsylvania. *Muhlenberg*. *Wild potato. Mechoacanna. Man of the earth.*

4. *C. spithameus L.*: stem erect or trailing; leaves oval or oblong, subcordate, pubescent; peduncles 1-flowered, generally longer than the leaves. *Sp. pl.* p. 225. *Willd. Spec.* I. p. 873. *Elliott Sk.* I. p. 251. *Walt. Car.* p. 93. *C. stans Mich. Fl.* I. p. 136. CALYSTEGIA *tomentosa*

et *spithamea* Pursh Fl. I. p. 143. Roem. & Schult. IV. p. 184.

Root perennial. Stem erect or spreading, pubescent, 1—3 feet long. Leaves oblong, generally obtuse, sometimes acuminate. Peduncles rarely shorter than the leaves. Bracts much longer than the calyx, ovate-cordate. Segments of the calyx lanceolate. Corolla white. Stigmas oblong.

HAB. In dry woods. About 3 miles from Brooklyn, Long-Island, on the Jamaica road. In the pine barrens of New-Jersey. In the western parts of the State of New-York. Stevenson and Hadley, &c. June.

I cannot distinguish any essential difference between *C. spithameus* 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. IPOMÆA. L.

Calyx 5-cleft, naked. Corolla infundibuliform or campanulate, 5-plaited. Stigma capitate. Capsule 2—3-celled, many seeded. Gen. pl. 288. Nutt. Gen. I. p. 124. Juss. p. 134. Lam. Ill. t. CIV. Roem. & Schult. Gen. 689. Nat. Ord. CONVULVULI Juss.

1. *I. purpurea* Lam.: leaves cordate, entire; peduncles 2—3-flowered; pedicels incrassated, nodding; capsule smooth. Lam. Ill. 2129. Pers. Syn. I. p. 183. Pursh Fl. I. 146. Roem. & Schult. IV. p. 232. CONVULVULUS *purpureus* L. Willd. Spec. I. p. 352. Bot. Mag. t. 113. Elliott Sk. I. p. 252.

Root annual. Stem hairy, twining and climbing to a great height. Leaves exactly cordate, acuminate. Peduncles sometimes 1-flowered. Calyx with hairy lanceolate segments. Corolla large, beautiful blue and purple, sometimes almost white. Fruit nodding.

HAB. In cultivated grounds and waste places. Pennsylvania. *Muhlenberg*. July—August. Doubtless introduced.

2. *I. lacunosa* L.: stem smooth; leaves cordate, acuminate, angular at the base; peduncles short, generally 1-flowered; calyx hairy; corolla tubular, short; capsule hairy. Willd. Spec. I. p. 381. Mich. Fl. I. p. 140. Pursh Fl. I. p. 145. Elliott Sk. I. p. 259. Roem. & Schult. IV. p. 259.

Root annual. Flowers white, with a purple rim.

HAB. In Pennsylvania. August—September. *Muhlenberg*.

3. *I. Nil L.*: stem hairy; leaves cordate, 3-lobed; peduncles short. 1—3-flowered; calyx very villous; segments acuminate. *Pursh Fl. I. p. 146. Elliott Sk. I. p. 259.*  
**CONVOLVULUS Nil L. Willd. Spec. I. p. 851. Mich. Fl. I. p. 139.**

*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. *Muhlenberg.* 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.*

*Calyx* deeply 5-cleft; segments connivent. *Corolla* hypocrateriform; border 5-lobed, flat; tube more or less curved. *Stamens* very unequal; *filaments* inserted into the tube of the corolla above the middle. *Capsule* subrotund, 3-celled; cells 1-seeded. *Seeds* oblong, concave externally; *albumen* large; radicle twice as long as the cotyledon. *D. Don, in Edin. Phil. Jour. VII. p. 287. Gen. pl. 284. Nutt. Gen. I. p. 125. Juss. p. 136. Lam. Ill. t. CVIII. Roem. & Schult. Gen. 716. Nat. Ord. POLEMONIA Juss.*

1. *P. paniculata L.*: stem erect, smooth; leaves lanceolate, flat; corymb paniculate; segments of the corolla rounded. *Ait. Kew. I. p. 205. Willd. Spec. I. p. 839. Mich. Fl. I. p. 144. Pursh Fl. I. p. 148. Elliott Sk. I. p. 242. Roem. & Schult. IV. p. 357.*

*Root* perennial. *Stem* 2—3 feet high. *Leaves* broad-lanceolate, acuminate, scabrous on the margin. *Corymbs* numerous, many-flowered. *Calyx* subprismatic; segments finely attenuated. *Corolla* purple; tube pubescent.

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

2. *P. pyramidalis Smith*: erect, smooth; stem scabrous; leaves cordate-ovate, acuminate; panicle fastigiate, pyramidal; segments of the corolla cuneate, truncate; teeth of the calyx somewhat erect, lanceolate, acute. *Smith Exot. Bot. II. p. 55. t. 87. Pursh Fl. I. p. 148. Elliott Sk. I. p. 248. Muhl. Cat. p. 20. Roem. & Schult. IV. p. 358. P. latifolia Mich. Fl. I. p. 143?*

Root perennial. Stem as tall as in *P. paniculata*, spotted with red. Leaves opposite, sessile, very entire; upper ones lanceolate. Corolla beautiful purple. Teeth of the calyx short. Stigma bifid, with submarginate segments. *Smith*.

HAB. In mountain meadows. Pennsylvania to Carolina. *Pursh*, *Muhlenberg*. August.

3. *P. maculata* L.: erect; stem scabrous and spotted; leaves oblong-lanceolate, smooth, scabrous on the margin; panicle oblong, many flowered; segments of the corolla rounded; teeth of the calyx acute; recurved. *Willd. Spec. I.* p. 840. *Mich. Fl. I.* p. 143. *Pursh Fl. I.* p. 149. *Elliott Sk. I.* p. 244? *Roem. & Schult. IV.* p. 357.

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.

HAB. In rich moist meadows. New-Jersey. In Pennsylvania. *Muhlenberg*. New-England to Carolina. *Pursh*. June. Perhaps distinct from the southern plant.

$\beta$ . *suaveolens*: stem not spotted; corolla white. *P. suaveolens* *Ait. Kew.* l. p. 206. *Pursh Fl. I.* p. 149. *Roem. & Schult. IV.* p. 358. *P. maculata*  $\beta$ . *candida* *Mich. Fl. I.* p. 143.

HAB. In Pennsylvania. *Muhlenberg*.

*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.

4. *P. aristata* *Mich.*: stem erect, weak, viscid-pubescent; leaves linear-lanceolate; panicle lax, fastigate; segments of the corolla obovate; tube curved, pubescent; teeth of the calyx very long, subulate. *Mich. Fl. I.* p. 144. *Pursh Fl. I.* p. 150. *Elliott Sk. I.* p. 246. *Roem. & Schult. IV.* p. 361.

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 smother variety of *P. filosa*; and, indeed, it does not appear to be very distinct.

5. *P. divaricata* L.: stem low, pubescent, decumbent; leaves oval-lanceolate; upper ones alternate; branches divaricate, loose, few-flowered; segments of the corolla obovate; teeth of the calyx subulate linear. *Willd. Spec.* I. p. 841. *Bot. Mag.* t. 163. *Mich. Fl.* I. p. 144. *Elliott Sk.* I. p. 248. *Pursh Fl.* I. p. 150. *Torrey in Sill. Jour.* IV. p. 59. *Roem. & Schult.* IV. p. 360.

*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.

**HAB.** Near Ogdensburg, St. Lawrence County, New-York. *J. Vanden Heuvel*, Esq. In Pennsylvania. *Muhlenberg.* June.

6. *P. reptans* Mich.: pubescent, with creeping stolons; radical leaves spathulate-obovate; stem leaves oval-lanceolate; corymb few-flowered, divaricate; segments of the corolla obovate; teeth of the calyx subulate, reflexed. *Mich. Fl.* I. p. 144. *Elliott Sk.* I. p. 248. *Roem. & Schult.* IV. p. 362. *P. stolonifera* *Bot. Mag.* t. 563. *Pursh Fl.* I. p. 150.

*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.

**HAB.** On the Allegany Mountains. *Rafinesque.* In Pennsylvania. *Muhlenberg.* In Maryland. *Elliott.* June.

7. *P. subulata* L.: cespitose, pubescent; leaves linear-subulate, rigid, ciliate, corymbs few-flowered; segments of the corolla cuneate, emarginate; calyx with subulate teeth about as long as the tube of the corolla. *Willd. Spec.* I. p. 842. *Bot. Mag.* t. 411. *Mich. Fl.* I. p. 45. *Pursh Fl.* I. p. 151. *Elliott Sk.* I. p. 249. *Roem. & Schult.* IV. p. 363.

*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.

**HAB.** On rocky hills. New-Jersey. In Pennsylvania and New-York. *Muhlenberg.* April—May. *Mountain-pink.*

8. *P. setacea* L.: cespitose, pubescent; leaves fasciculate, subulate, ciliate, rigid; flowers few, terminal, somewhat

umbelled; segments of the corolla cuneate, emarginate; teeth of the calyx subulate, much shorter than the tube of the corolla. *Willd. Spec. I. p. 842. Bot. Mag. t. 415. Pursh Fl. I. p. 151. Elliott Sk. I. p. 249. Roem. & Schult. IV. p. 364.*

*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 corymbs. *Corolla* large, "pale rose-coloured, with a purple star in the centre." *Ell., Ph.*

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

Resembles very much the preceding species.

### 158. POLEMONIUM. L.

*Calyx* campanulate, 5-cleft. *Corolla* campanulate-rotate; border 5-lobed, erect; tube short, closed by 5 stamiferous valves. *Filaments* bearded at the base. *Capsule* subrotund, 3-celled; cells many-seeded; valves membranaceo-crustaceous. *Seeds* oblong, somewhat triangular, with a large *albumen*; *radicle* as long again as the cotyledon. *D. Don, in Edin. Phil. Jour. VII. p. 287. Gen. pl. 289. Nutt. Gen. I. p. 127. Juss. p. 136. Lam. Ill. t. CVI. Roem. & Schult. Gen. 717. Nat. Ord. POLEMONIA Juss.* Leaves alternately pinnate, with a terminal leaflet.

*Jacob's-ladder.*

*P. reptans L.*: leaves pinnate; leaflets about 7; flowers terminal, nodding. *Willd. Spec. I. p. 886. Mich. Fl. I. p. 142. Pursh Fl. I. p. 151. Elliott Sk. I. p. 261. Nutt. Gen. l. c. Roem. & Schult. IV. p. 365.*

*Root* perennial, creeping. *Stem* erect, slender, about a foot high, much branched, smooth. *Leaves* nearly smooth; leaflets often opposite, ovate-lanceolate, 3-nerved, acute. *Flowers* terminal, somewhat corymbose. *Pedicels* 1—2-flowered. *Calyx* about one-third as long as the corolla; segments ovate, acute. *Corolla* blue (sometimes white, *Mich.*); lobes very short, obtuse. *Stamens* shorter than the corolla, unequal; *filaments* dilated at the base; *anthers* roundish. *Style* a little longer than the stamens; *stigma* 3-cleft.

**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*



compressed, inserted into the summit of the tube, and alternating with the segments of the corolla. *Capsule* 3-celled, 3-valved, many-seeded. *Gen. pl.* 255. *Nutt. Gen. I.* p. 122. *Juss.* p. 135. *Lam. Ill.* t. CII. *Roem. & Schult. Gen.* 712. PYXIDANTHERA *Mich. Fl. I.* p. 152. Nat. Ord. CONVOLVULI *Juss.*

1. *D. lapponica L.*: cespitose; leaves spatulate, smooth; flowers pedunculate; anthers simple. *Lin. Fl. Lapp.* p. 88. t. 1. f. 1. *Willd. Spec. I.* p. 795. *Wahl. Fl. Lapp.* p. 58. t. 9. *Roem. & Schult. IV.* p. 356. *D. obtusifolia Salisb. parad. Lond.* 104. *Pursh Fl. I.* p. 147.

*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.

HAB. On the White-Hills of New-Hampshire, near the summit. *Peck* and *Bigelow*. June.

2. *D. barbulate Ell.*: creeping; leaves cuneate-lanceolate, pubescent at the base; flowers sessile; anthers beaked at the base. *Elliott Sk. I.* p. 229. *D. cuneifolia Salisb. parad. Lond.* 105. *Pursh Fl. I.* p. 148. PYXIDANTHERA *barbulate Mich. Fl. I.* p. 152. *Roem. & Schult. IV.* p. 356.

*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 spatulate. *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.

HAB. In the pine barrens of New-Jersey; abundant. On the White-Hills of New-Hampshire. *Peck*. In Pennsylvania. *Muhlenberg*. May—June.

## 160. DATURA. L.

*Calyx* tubular, angular, deciduous; base orbicular,

persistent. *Corolla* infundibuliform, plicate. *Capsule* ovate, 2-celled, 4-valved; cells 2-parted. *Gen. pl.* 332. *Nutt. Gen.* I. p. 130. *Juss.* p. 125. *Lam. Ill. t.* CXIII. *Roem. & Schult. Gen.* I. p. 694. *Nat. Ord. SOLANÆ Juss.* *Thorn-apple.*

*D. Stramonium L.:* capsule spiny, erect; leaves ovate, smooth, angular-dentate. *Willd. Spec.* I. p. 1008. *Smith Fl. Brit.* I. p. 254. *Eng. Bot. t.* 1288. *Pursh Fl.* I. p. 141. *Big. Bost.* p. 51. *Elliott Sk.* I. p. 275. *Tully in Sill. Jour.* VI. p. 258. *Roem. & Schult.* IV. p. 305.

*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.* In waste grounds, road-sides, &c.; every where. July—September. Introduced.

*β. Tatula\*:* stem and flowers purple. *D. Tatula L. Willd. Spec.* I. p. 1008. *Pursh Fl.* I. p. 141. *Elliott Sk.* I. p. 277. *Tully l. c.* *Roem. & Schult.* IV. p. 305.

*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.

*Calyx* 5-parted. *Corolla* short, campanulate, 5-cleft. *Stamens* equal, shorter than the corolla; *anthers* opening longitudinally. *Style* straight, included. *Capsule* 5-celled, 5-valved, opening at the top. *D. Don, in Edin. Phil. Jour.* VI. p. 48. *AZALEÆ spp. L. LOISELEURIA Desv. Journ. de Bot. Ann.* III. p. 35. *Roem. & Schult. Gen.* 705. *Nat. Ord. RHODODENDRA. Juss.*

*A. procumbens* L. *Fl. Lapp.* 9. t. 6. f. 2. *D. Don* l. c. *Pursh Fl.* 1. p. 154. *Muhl. Cat.* p. 20. LOISELEURIA *procumbens* *Desvaux* l. c. *Roem. & Schult.* IV. p. 353.

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 corymbs; *pedicels* short. *Calyx* red; segments lanceolate. *Corolla* bright rose-coloured, small, as long again as the calyx; 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.

HAB. On the White-Hills of New-Hampshire. *Peck* and *Bigelow.* July. On the Catskill Mountains, New-York. *D. Douglass.*

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.

*Calyx* 5-toothed. *Corolla* campanulate-rotate. *Stamens* connivent. *Berry* 2-celled, covered by the inflated calyx. *Gen. pl.* 336. *Nutt. Gen.* I. p. 130. *Juss.* p. 126. *Lam. Ill.* t. CXVI. f. 2. *Roem. & Schult. Gen.* 828. Nat. Ord. SOLANÆ *Juss.*  
*Winter-cherry. Ground-cherry.*

1. *P. obscura Mich.* ? : pubescent; stem prostrate, divaricate; leaves broad-cordate, subsolitary, unequally and coarsely toothed; flowers solitary, nodding; calyx very hairy. *Mich. Fl.* 1. p. 149? *P. pruinosa Elliott Sk.* I. p. 279.

*Root* annual. *Stem* spreading on the ground, generally with 2 principal branches. *Leaves* on long petioles, often with much smaller ones in the axils, acute, with coarse subrepand 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, viscous, enclosed in the persistent calyx.

HAB. In dry woods, and on hills. Hoboken, New-Jersey, &c. August.

2. *P. viscosa L.* : leaves by pairs, subcordate-oval, repand, obtuse, subtomentose; stem herbaceous, paniculate above; fruit-bearing calyx pubescent. *Willd. Spec.* I. p.

1021. *Mich. Fl.* l. p. 149. *Pursh Fl.* l. p. 157. *Elliott Sk.* I. p. 279. *Roem. & Schult.* IV. p. 672.

*Root* annual. *Stem* erect, 2—3 feet high, dichotomous, glabrous below; the young branches pubescent and viscid. *Leaves* alternate, generally one at each division of the stem, lanceolate, acuminate, toothed, repand, slightly viscous and sprinkled with hairs; petiole 2—3 inches long. *Flowers* solitary in the divisions of the stem; peduncles one inch long, erect when the flower expands, afterwards nodding. *Calyx* campanulate, 10-nerved, concave, pubescent at the base. *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. *Ell.*

**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.

3. *P. pennsylvanica* L.: leaves ovate, subrepand, obtuse, nearly naked; stem herbaceous, branched; peduncles solitary, a little longer than the petioles. *Willd. Spec.* l. p. 1021. *Pursh Fl.* l. p. 157. *Elliott Sk.* l. p. 278. *Roem. & Schult.* IV. p. 673.

*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 petioles. *Calyx* subcylindrical, slightly angular, retuse at the base. *Corolla* yellow, not spotted at the base. *Stamens* yellow. *Berry* globose, small, red. *Lin.*

**HAB.** On road sides, among rubbish. Pennsylvania to Canada. *Pursh, Muhlenberg.* July—September.

4. *P. lanceolata* Mich.: leaves geminate, oval-lanceolate, entire, narrowed at the base into a petiole; stem herbaceous, dichotomous; calyx villous. *Mich. Fl.* l. p. 149. *Pursh Fl.* l. p. 157. *Elliott Sk.* I. p. 278. *Roem. & Schult.* IV. p. 673.

*Root* perennial, creeping. *Stem* 1—2 feet high, densely pubescent. *Leaves* generally in pairs, about 3 inches long, very entire, on petioles 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.

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

I have seen no northern specimens of this plant. Mine are from Georgia.

*P. philadelphica* of *Lamarck*, which is stated by *Pursh* to inhabit the United States, from New-England to Virginia, appears to be scarcely distinct from *P. obscura* of *Michaux*.

163. SOLANUM. L.

*Calyx* 5—10-parted, persistent. *Corolla* rotate, 1-petalled, 5—6-lobed. *Anthers* oblong, opening at the top by 2 pores. *Berry* 2—6-celled. *Dunal. Hist. Solan.* p. 115. *SOLANI spp. L. Nutt. Gen. I.* p. 127. *Roem. & Schult. Gen.* 826. *Nat. Ord. SOLANEÆ Jus.* *Nightshade.*

1. *S. Dulcamara L.*: stem fruticose, flexuous, without thorns; leaves ovate-cordate; superior ones hastate; corymbs opposite the leaves. *Dun. Sol.* p. 140. *Willd. Spec. I.* p. 1028. *Smith Fl. Brit. I.* p. 256. *Eng. Bot. t.* 565. *Pursh Fl. I.* p. 156. *Big. Bost. p.* 53. *Med. Bot. II.* p. 169. t. 18. *Roem. & Schult. IV.* p. 581.

*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.

2. *S. nigrum ε. virginianum L.*: stem herbaceous, without thorns, angular, toothed; leaves ovate, obtusely toothed and wavy; flowers subumbelled. *Willd. Spec. I.* p. 1053. *Pursh Fl. I.* p. 156. *Elliott Sk. I.* p. 280. *S. nigrum Big. Bost. p.* 53. *S. alatum Moench Meth. p.* 474. (fide *Pers.*) *S. pterocaulis Dun. Solan. p.* 153. *Roem. & Schult. IV.* p. 588.

*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.

3. *S. carolinense L.*: stem annual, aculeate; leaves ovate-oblong, tomentose, hastate and sinuate-angular, acuminate; racemes simple, lax. *Dun. Sol. p.* 227. *Willd.*

*Spec. I.* p. 1043. *Mich. Fl.* I. p. 150. *Pursh Fl.* I. p. 156. *Muhl. Cat.* p. 23. *Elliott Sk.* I. p. 282. *Roem. & Schult.* IV. p. 652. *Dill. Elth.* p. 362. t. 269. f. 348.

*Root* perennial. *Stem* suffruticose, but annual, erect, branched, about a foot high, armed with sharp expanding prickles. *Leaves* prickly along the midrib and larger veins on both sides, covered with a stellate pubescence. *Racemes* lateral, few-flowered, often longer than the leaves. *Calyx* prickly, with acuminate segments. *Corolla* large, white, or pale blue; segments ovate, acute. *Berries* globose, yellow.

**HAB.** In Pennsylvania and Maryland. *Muhlenberg.* June.

#### 164. CAMPANULA. L.

*Calyx* mostly 5-cleft. *Corolla* campanulate, 5-cleft. *Filaments* dilated at the base. *Stigma* 3—5-cleft. *Cap-sule* 3-(rarely 5-)celled, opening by lateral pores. *Gen. pl.* 290. *Nutt. Gen.* I. p. 136. *Juss.* p. 164. *Lam. Ill.* t. CXXIII. *Roem. & Schult. Gen.* 877. *Nat. Ord.* CAMPANULÆ *Juss.* *Bell-flower.*

1. *C. rotundifolia* L.: glabrous; radical leaves reniform-cordate, crenate; cauline ones linear, entire; panicle lax, few-flowered. *Willd. Spec. I.* p. 892. *Smith Fl. Brit.* I. p. 235. *Eng. Bot.* t. 866. *Mich. Fl.* I. p. 108. *Pursh Fl.* I. p. 159. *Roem. & Schult.* V. p. 94.

*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.

2. *C. amplexicaulis* Mich.: stem simple, erect; leaves cordate, crenate, amplexicaul; flowers axillary, sessile, glomerate. *Mich. Fl.* I. p. 108. *Elliott Sk.* I. p. 262. *Roem. & Schult.* V. p. 155. *C. perfoliata* L. *Willd. Spec. I.* p. 915. *Pursh Fl.* I. p. 116. *Big. Bost.* p. 54. *Walt. Car.* p. 100.

*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-

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. 338?

*Root* perennial. *Stem* 2 feet high, simple, terete, smooth. Lower *leaves* ovate, more or less cordate; cauline 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.

4. *C. acuminata* Michx.: nearly smooth; stem straight, erect; leaves lanceolate, attenuated to a long point, subserrate; spike fasciculate, many-flowered; corolla subrotate. *Michx. Fl.* I. p. 108. *Pursh Fl.* I. p. 159. *Elliott Sk.* I. p. 202. *Roem. & Schult.* V. p. 113. *C. nitida* Ait. *Kew. ed.* 1. I. p. 221? nec *Pursh Fl. Supp.* II. p. 731.

*Root* perennial. *Stem* erect, 2—3 feet high, terete, glabrous. *Leaves* remotely serrate, attenuate at the base, thin, very smooth. *Flowers* generally by threes in the axil of each leaf; *pedicels* very short. *Corolla* blue. *Stamens* shorter than the corolla. *Style* much exserted. *Ell.*

HAB. On the high mountains of Pennsylvania and Virginia. *Pursh.*

5. *C. aparinoides* Ph.: stem slender, branched, acutely subtriangular; angles, with the margin and nerve of the leaves retrorsely aculeate; leaves linear-lanceolate, smooth above; peduncles few, terminal, filiform, flexuous, 1-flowered. *Pursh Fl.* I. p. 159. *Roem. & Schult.* V. p. 133. *C. erinoides* Muhl. *Cat.* p. 22. *Big. Bost.* p. 154. *Elliott*

*Sk.* I. p. 263. *C. flexuosa Mich.* *Fl.* I. p. 109? *C. aspera*  
*Donn Cat.* (fide *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.

**HAB.** In wet meadows. Near Elizabeth-Town, New-Jersey. *Eddy.* On the banks of the Hudson in various places. Near Boston. *Bigelow.* In Pennsylvania. *Muhlenberg, &c.* June—August.

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.*

*Calyx* oblong, 5-cleft, bracteate at the base. *Corolla* infundibuliform, 5-cleft, spreading. *Stigma* capitate. *Stamens* a little exserted. *Capsule* naked, oblong, 4-celled, many-seeded. *Juss.* p. 211. *Nutt. Gen.* I. p. 139. *Lam. Ill. t. CL.* *Roem. & Schult. Gen.* 879. LONICERÆ *sp. Lin., &c.* Nat. Ord. CAPRIFOLIA *Juss.*

*D. Tournefortii Mich.* *Fl.* I. p. 107. *Roem. & Schult.* V. p. 159. *D. humilis Pers. Syn.* I. p. 214. *D. lutea Pursh Fl.* I. p. 162. *D. canadensis Muhl. Cat.* p. 23. *Willd. Enum. h. Berol.* I. p. 222. *Big. Bost.* p. 56. *Elliott Sk.* I. p. 273. LONICERA *Diervilla L.* *Willd. Spec.* I. p. 989.

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.* 1363. *R. Brown Prod.* I. p. 561. *Nutt. Gen.* II. p. 75. *Juss.* p. 165. *Lam. Ill. t.* DCCXXIV. *Roem. & Schult. Gen.* 873. Nat. Ord. LOBELIACEÆ *Juss.* † olim CAMPANULACEÆ.

1. *L. Dortmanna L.*: leaves linear, 2-celled, fleshy, obtuse; scape nearly naked; flowers racemed, remote. *Willd. Spec.* I. p. 938. *Eng. Bot. t.* 140. *Mich. Fl.* II. p. 153. *Pursh Fl.* II. p. 446. *Muhl. Cat.* p. 22. *Big. Bost. p.* 36. *Roem. & Schult. V.* p. 37. *L. paludosa Nutt. Gen.* II. p. 75. *R. & S. l. c.*

*Root* perennial, consisting of numerous matted fibres. *Leaves* immersed, 1—2 inches long, growing in a tuft about the root, obtuse, 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. *Pedicels* 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 Gladiole.*

*HAB.* In fresh water ponds and deep swamps. Near Boston. *Bigelow.* Chester, Massachusetts. *Emmons.* In New-Jersey. *Muhlenberg.* In deep sphagnous swamps, from Sussex county, in Delaware, to Georgia. *Nuttall.* July.

The North-American plant is scarcely a distinct species. On comparing it with my European specimens, I could perceive no important difference. In the latter, the inferior segments 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 spatulate; raceme lax, few-flowered, leafy; peduncles longer than the fruit, with 2 minute bracts near the flower; capsule attenuate at the base. *Willd. Spec.* I. p. 939. *Mich. Fl.* II. p. 153. *Pursh Fl.* II. p. 446. *Nutt. Gen.* II. p. 76. *Walt. Car.* p. 218. *Roem. & Schult. 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

capsule. *Corolla* half an inch long, delicate blue; segments very acute. *Capsule* obovate, 2-celled, surrounded by the calyx.

HAB. On rocks along the banks of rivers in the northern and western parts of the State of New-York, &c. July—August.

3. *L. Nuttallii* R. & S.: stem erect, minutely scabrous, simple, or with filiform branches; leaves oblong-linear, denticulate; flowers in slender racemes, distant; peduncles coloured, shorter than the flower, with minute bracts near the base; capsule obtuse below. *Roem. & Schult. V. p. 39.* *L. gracilis* Nutt. *Gen. II. p. 77.* *L. Kalmii* Bart. *Fl. Amer. Sept. t. 34. f. 1.* *Elliott Sk. I. p. 264.*

*Root* biennial, (apparently perennial, Nutt.) *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.: stem erect, simple, pubescent; leaves oblong, pubescent, obtuse, nearly entire; radical ones spatulate; raceme virgate, naked; segments of the calyx subulate, nearly as long as the tube of the corolla. *Mich. Fl. II. p. 153.* *Pursh Fl. II. p. 447.* *Elliott Sk. I. p. 265.* *Roem. & Schult. V. p. 48.* *L. pallida* Muhl. *Cat. p. 22.* *Big. Bost. p. 55.* *Elliott Sk. I. c?* *L. goodenoides* Willd. *Hort. Berol. I. p. 30. t. 30.* *L. spicata* Lam. *Enc. III. p. 587.* RAPUNTIIUM foliis oblongis villosis, &c. *Gron. Virg. p. 135.*

*Root* perennial. *Stem* erect, a foot and a half, or 2 feet high, almost always simple. *Radical leaves* spatulate, 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 Mühlenberg.

5. *L. puberula* Mich.: pubescent; stem erect, simple; leaves oblong-oval, obtuse, repand-serrulate; spike secund,

leafy at the base; segments of the calyx longer than the tube of the corolla, ciliate. *Mich. Fl.* II. p. 152. *Pursh Fl.* II. p. 447. *Elliott Sk.* I. p. 267. *Roem. & Schult.* V. p. 55.

*Root* perennial. *Stem* 2 feet high, somewhat angular. *Radical leaves* obovate; stem leaves oblong or 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 obovate. *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.

**HAB.** In Pennsylvania and Maryland. *Muhlenberg.* September.

6. *L. siphilitica* L.: stem erect, rather hairy; leaves ovate-lanceolate, unequally serrate; raceme leafy; calyx hairy, with the sinuses reflexed. *Willd. Spec.* I. p. 945. *Mich. Fl.* II. p. 151. *Pursh Fl.* II. p. 447. *Elliott Sk.* I. p. 256. *Roem. & Schult.* V. p. 51.

*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.

7. *L. inflata* L.: stem hairy, branched; leaves ovate-lanceolate; racemes leafy, somewhat paniculate; capsules inflated. *Willd. Spec.* I. p. 946. *Mich. Fl.* II. p. 152. *Pursh Fl.* II. p. 448. *Big. Bost.* p. 55. *Veg. Mat. Med.* I. p. 177. t. 19. *Bart. Med. Bot.* I. t. 16. *Walt. Car.* p. 218. *Roem. & Schult.* V. p. 53.

*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, nerved and reticulate.

**HAB.** In fields and pastures. August. *Indian tobacco*  
Plant acrid, resembling tobacco in taste.

8. *L. Cardinalis* L.: stem erect; leaves oblong-lanceolate, serrate; raceme secund, somewhat leaty; stamens longer than the corolla. *Willd. Spec.* 1. p. 944. *Bot. Mag.* t. 320. *Mich. Fl.* II. p. 151. *Pursh Fl.* II. p. 448. *Big. Bost.* p. 55. *Elliott Sk.* 1. p. 268. *Walt. Car.* p. 218. *Roem. & Schult.* V. p. 50.

*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-subulate. *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 involucre or *indusium*.

*HAB.* In swamps and wet thickets. July—August. *Cardinal flower.*

### 167. LONICERA. L.

*Calyx* 5-toothed. *Corolla* with the tube elongated; border 5-cleft, generally unequal. *Stamens* exserted. *Stigma* globose. *Berry* distinct, 3-celled, many-seeded. *LONICERÆ* spp. L., &c. *CAPRIFOLIUM* Tourn. *Juss.* p. 212. *Lam. Ill.* t. CL. f. 1. *Roem. & Schult. Gen.* 926. *Nat. Ord.* CAPRIFOLIA *Juss.*  
*Honey-suckle or Woodbine.*

1. *L. hirsuta* Eaton: spikes verticillate, terminal, subcapitate, glandulous-pubescent; leaves broad-ovate and obovate, pubescent and ciliate, glaucous beneath; upper ones connate-perfoliate, nearly smooth. *Eaton Man. Bot.* ed. 3. p. 341. *CAPRIFOLIUM pubescens* Goldie in *Edin. Phil. Jour.* Apr. 1822. *Hook. Exot. Bot.* t. 27.

*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 hairy; *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.

HAB. Near Williams College, Massachusetts. *Eaton*. Middlebury, Vermont. *Mr. J. Rice*. On West Canada Creek, New-York. *Hadley*. In the western parts of the State of New-York. *Mr. Crawe*. June.

I strongly suspect this is only a variety of *L. flava* Bot. Mag. t. 1318, (*CAPRIFOL. 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.

2. *L. flava Sims*: spikes verticillate, capitate, terminal; corolla somewhat ringent; segments oblong, obtuse; leaves ovate, glaucous beneath, with a cartilaginous margin; upper ones connate-perfoliate. *Sims in Bot. Mag.* 1318. *CAPRIFOLIUM flavum Elliott Sk. I. p. 271.* *C. Fraseri Pursh Fl. I. p. 160.* *Roem. & Schult. V. p. 262.*

*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*.

HAB. On the Catskill Mountains, New-York, &c. June—July. *Pursh*.

3. *L. parviflora Lam.*: spikes verticillate, capitate; leaves deciduous, glaucous beneath, all of them connate-perfoliate; corolla ringent, gibbous at the base; filaments bearded. *Lam. Enc. I. p. 728.* *CAPRIFOLIUM parviflorum Pursh Fl. I. p. 161.* *Elliott Sk. I. p. 272.* *C. bracteosum Mich. Fl. I. p. 105.* *C. dioicum Roem. & Schult. V. p. 260.* *LON. dioica L. Ait. Kew. I. p. 230.* *Willd. Spec. I. p. 983.* *L. media Mur. Comm. Got. 1776. p. 28. t. 3.*

*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, reflected; 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.

4. *L. grata* Ait.: flowers verticillate, terminal; leaves perennial, obovate, glaucous beneath; upper ones connate-perfoliate. *Ait. Kew.* I. p. 231. *Willd. Spec.* I. p. 984. CAPRIFOLIUM *gratum* Pursh *Fl.* I. p. 161. *Elliott Sk.* I. p. 272. *Roem. & Schult.* V. p. 262.

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.

HAB. In the Cedar Swamp of New-Durham, about 3 miles from Hoboken, New-Jersey. On the mountains, rambling among rocks, in shady, moist situations; New-York to Carolina; rare. *Pursh.*

I have not seen this plant in flower.

5. *L. sempervirens* Ait.: spikes somewhat naked, verticillate, terminal; leaves oblong, glaucous beneath; upper ones connate-perfoliate; corolla nearly equal, with the tube above ventricose. *Ait. Kew.* I. p. 230. *Willd. Spec.* I. p. 983. *Bot. Mag.* t. 781. *Walt. Car.* I. p. 131. CAPRIFOLIUM *sempervirens* Mich. *Fl.* I. p. 105. *Pursh Fl.* I. p. 160. *Elliott Sk.* I. p. 271. *Roem. & Schult.* V. p. 263.

*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.*

HAB. On stony dry woods. New-York to Carolina. May—August. *Pursh.*

#### 168. XYLOSTEUM. *Tournefort.*

Flowers by pairs on the summit of the same peduncle. *Calyx* 5-toothed, with 2 connate bracts at the base. *Corolla* 5-cleft, subequal or bilabiate. *Berries* by pairs, more or less connate, 2-celled, many-seeded. *Juss.* p. 212. *Nutt. Gen.* I. p. 138. *Lam. Ill.* t. CL. f. 2. LONICERA *Roem. & Schult. Gen.* LONICERÆ *spp.* *Lin.* Nat. Ord. CAPRIFOLIA *Juss.*

1. *X. ciliatum* Ph.: leaves ovate and subcordate, ciliate, the younger ones villous beneath; tube of the corolla calcarate at the base, ventricose above; segments short, acute; style exserted. *Pursh Fl. I.* p. 161. *X. tartarica Mich. Fl. I.* p. 106. *LONICERA ciliata Muhl. Cat.* p. 22. *Roem. & Schult. V.* p. 256.

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.

HAB. On mountains. On the Catskill Mountains, &c., New-York. Common in New-England. May—June.

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 exserted style, in the ovate berries, &c.

2. *X. villosum Mich.*: berries coadunate; leaves oblong and oval, obtuse; the younger ones, with the corolla, villous; peduncles much shorter than the flower. *Mich. Fl. I.* p. 106. *Pursh Fl. I.* p. 161. *X. Solonis Eat. Man. Bot.* p. 518. *X. oblongifolium Gold. in Edin. Phil. Mag. Apr.* 1822. *LONICERA villosa Muhl. Cat.* p. 22. *Roem. & Schult. V.* p. 256.

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 exserted, bearded; *anthers* linear-oblong, yellow. *Style* longer than the stamens; *stigma* small. *Berries* red or purple, 6—8-seeded.

HAB. Near Williams College, Massachusetts. *Eaton*. Pittsfield, Massachusetts. *Porter*. At the foot of the White-Hills, New-Hampshire. *Dr. S. Smith*. Near Trenton, New-Jersey. *Dudgeon*. In New-York and Pennsylvania. *Muhlenberg*. May. In the Highlands of New-York. *Barratt*.

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. *Persoon.*—*Pursh.*

*Calyx* minute, 4-toothed, with 2 small bracts at the base. *Corolla* subcampanulate, short, 5-cleft, nearly equal. *Stamens* scarcely exerted. *Stigma* globose. *Berry*, crowned with the persistent calyx, 4-celled, 4-seeded, 2 of the cells sometimes abortive. *Pers. Syn.* I. p. 214, *subgenus.* *Nutt. Gen.* I. p. 138. SYMPHORICARPUS *Dill. Juss.* p. 211. *Lam. Ill.* t. CL. *Roem. & Schult. Gen.* 904. Nat. Ord. CAPRIFOLIA *Juss.* *Peter's-wort.*

1. *S. glomerata Ph.*: racemes axillary, capitate, conglomerate. *Pursh Fl.* I. p. 162. *Nutt. Gen.* I. c. SYMPHORICARPUS *vulgaris Mich. Fl.* I. p. 106. *Willd. Enum. h. Berol.* I. p. 221. *Muhl. Cat.* p. 22. *Roem. & Schult.* V. 222. LONICERA *Symphoricarpus L. Willd. Spec.* I. p. 989.

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.

HAB. In Pennsylvania. *Muhlenberg.*

2. *S. racemosa Ph.*: racemes terminal; corolla bearded within. *Pursh Fl.* I. p. 162. *Nutt. Gen.* I. p. 139. *Bart. Fl. Am. Sept.* I. t. 19. SYMPHORICARPUS *racemosus Mich. Fl.* I. p. 107. *Muhl. Cat.* p. 22. *Roem. & Schult.* V. p. 222.

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; *germen* 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.

*Calyx* 5-cleft; segments linear, nearly as long as the corolla. *Corolla* tubular, 5-lobed, subequal, gibbous at the base. *Stamens* included. *Stigma* capitate, lobed. *Berry* 3-celled, 3-seeded, crowned with the calyx. *Gen. pl.* 300. *Nutt. Gen.* I. p. 139. *Juss.* p. 211. *Gært. de fruct.* I. t. 26. *Lam. Ill.* t. CL. *Roem. & Schult. Gen.* 903. Nat. Ord. CAPRIFOLIA *Juss.* *Fever-wort.*

*T. perfoliatum* L.: leaves oval, acuminate, abruptly narrowed at the base, connate, pubescent beneath; margin undulate; axils 1—3 flowered; flowers (purple) sessile. *Willd. Spec.* I. p. 990. *Pursh Fl.* I. p. 162. *Big. Bost.* p. 55. *Med. Bot.* I. p. 90. t. 19. *Bart. Veg. Mat. Med.* t. 4. *Elliott Sk.* I. p. 269. *Roem. & Schult.* V. p. 221. *T. majus* Mich. *Fl.* I. p. 107. *Triosteospermum*, latiore folio, &c. *Dill. Elth.* 394. t. 293. f. 378.

*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 striæ externally.

HAB. In rocky woods, and on mountains; rare. In woods on Long-Island, near Brooklyn. On the hills between Hoboken and Weehawk, New-Jersey, &c. June.

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.

*Calyx* minute, 5-cleft. *Petals* 5, linear, reflexed, spreading, inserted upon the calyx. *Stigma* capitate, 2-lobed. *Capsule* 2-celled, 2-valved, many-seeded. *Seeds* attached to the inflexed margins of the valves. *Gen. pl.* 381. *Mich. Fl.* I. p. 156. *Nutt. Gen.*

I. p. 144. *Juss.* p. 159. *Lam. Ill.* t. CXLVII.  
f. 2. *Roem. & Schult. Gen.* 981. Nat. Ord.  
SAXIFRAGÆ *Juss.* (*Mich.*)

*I. virginica* L. *Willd. Spec.* I. p. 1146. *Duham.*  
*Arb.* I. p. 219. t. 126. *Mich. Fl.* I. p. 157. *Pursh Fl.*  
I. p. 171. *Elliott Sk.* I. p. 293. *Walt. Car.* p. 102.  
*Roem. & Schult. V.* p. 408.

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.

HAB. On the margin of swamps in the pine barrens of New-Jersey; particularly abundant at Quaker Bridge. In Delaware. *Muhlenberg.* June.

### 172. IMPATIENS. L.

*Calyx* 2-leaved, deciduous. *Corolla* irregular. *Nectary* cucullate, calcarate. *Anthers* cohering at the apex. *Capsule* 5-valved, bursting elastically. *Gen. pl.* 1365. *Nutt. Gen.* I. p. 145. *Lam. Ill.* t. DCCXXV. *Roem. & Schult. Gen.* 972. BALSAMINA *Juss.* p. 270. Nat. Ord. PAPAVERACEÆ *Juss.* (olim GERANIA.) *Balsam.*

1. *I. pallida* *Nutt.*: peduncles solitary, 3—4-flowered; nectary obtusely conic, dilated, shorter than the petals; spur recurved, very short; flowers sparingly punctate; leaves rhombic-ovate, mucronately toothed. *Nutt. Gen.* I. p. 146. *I. nolitangere* *Pursh Fl.* I. p. 171. *Mich. Fl.* II. p. 149. (α.) *Elliott Sk.* I. p. 303. *I. aurea* *Muhl. Cat.* p. 26?

*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.

2. *I. fulva* Nutt.: peduncles solitary, 3—4-flowered; nectary acutely conic, longer than the petals; spur resupinate, emarginate, nearly as long as the galea; flowers with crowded spots; leaves rhombic-ovate, obtuse, mucronately toothed. *Nutt. Gen. I. p. 146. I. biflora* Walt. *Car. p. 219. Willd. Spec. 1175. Elliott Sk. I. p. 304. Roem. & Schult. V. p. 349. I. nolitangere* β. *Mich. Fl. II. p. 149. I. maculata* Muhl. *Cat. p. 26.*

Plant glaucous and diaphanous. *Capsule* 5-angled, 3—5-seeded. *Seeds* prisnatic, with 4 angles. *Cotyledons* flat, carneous, cupreous green. *Perisperm* none. *Nuttall.*

HAB. In wet shady places. August.

I have followed *Mr. Nuttall* in considering these two species of IMPATIENS as distinct, but, must acknowledge that they frequently appear to border on each other. They are both nearly allied to *I. nolitangere* of Europe.

### 173. VIOLA. L.

*Calyx* deeply 5-cleft, produced at the base. *Corolla* 5-petalled, irregular; upper petal corniculate at the base. *Anthers* connivent, cohering. *Capsule* 1-celled, 3-valved. *Gen. pl. 1364. Nutt. Gen. I. p. 147. Juss. p. 294. Lam. Ill. DCCXXV. Roem. & Schult. Gen. 973. Nat. Ord. CISTI* *Juss. VIOLACEÆ* *Vent. Violet.*

\* *Stemless.*

† *Flowers blue.*

1. *V. pedata* L.: leaves pedate, nearly smooth, about 7-parted; segments linear-lanceolate, entire; stigma large, obliquely truncate, and perforate at the apex. *Willd. Spec. I. p. 1160. Schweinitz Monog. Viol. in Sill. Jour. V. p. 50. Bot. Mag. t. 89. Bot. Rep. t. 153. Mich. Fl. II. p. 151. Pursh Fl. I. p. 171. Big. Bost. p. 60. Elliott Sk. I. p. 300. Nutt. Gen. I. p. 147. Walt. Car. p. 219. Roem. & Schult. V. p. 351. V. digitata* *Pursh l. c.*

*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-

triangular, smooth. *Seeds* small, globular, attached to the valves along the middle.

HAB. On rocky hills and in dry woods. May.

2. *V. palmata* L.: pubescent; leaves cordate, (rarely entire) palmate or hastate-lobed; lobes crenate and toothed, the middle one much the largest; 2 lateral petals bearded; stigma margined, depressed. *Willd. Spec.* I. p. 1159. *Schw. Viol.* l. c. p. 51. *Pursh Fl.* I. p. 172. *Muhl. Cat.* p. 25. *Elliott Sk.* I. p. 300. *Nutt. Gén.* I. p. 147. *Roem. & Schult.* V. p. 350.

*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, sub-ciliate. *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.

3. *V. sagittata* Ait.: leaves oblong, acute, cordate-sagittate, serrate, incised at the base; flowers inverted; inferior petal smooth, the rest bearded. *Ait. Kew.* III. p. 287. *Schw. Viol.* l. c. p. 56. *Willd. Spec.* I. p. 1160. *Pursh Fl.* I. p. 172. *Big. Bost.* p. 60. *Elliott Sk.* I. p. 299. *Nutt. Gén.* I. p. 147. *Roem. & Schult.* V. p. 352. *V. dentata Pursh* l. c.

*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 cucullate; the 3 lower,

and sometimes the 2 upper, pubescent. Segments of the *calyx* glabrous, lanceolate, acute. *Stigma* rostrate, depressed horizontally, distinctly margined around. *Nutt.*

**HAB.** In sandy fields of New-Jersey; also on the banks of the Schuylkill. *Nuttall.*

4. *V. ovata Nutt.*: leaves ovate, subcordate, crenate, often lacerately toothed at the base, pubescent on both sides; petiole margined; segments of the *calyx* oblong-lanceolate, hairy. *Nutt. Gen. I. p. 148. Schw. Viol. l. c. p. 58. Roem. & Schult. V. p. 359. V. primulifolia Pursh Fl. nec Willd. V. ciliata Muhl. Cat. p. 25. fide Schw. V. ——— Smith in Rees' Cyclop.*

*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. *Scape* longer or shorter than the leaves, hairy; *bracts* linear, opposite. *Flower* nodding, middle-sized, bright blue; *petals* obovate, lateral ones bearded with white, inferior one nearly naked. *Stigma* recurved, somewhat rostrate.

**HAB.** On dry hills; common. April—May.

5. *V. cucullata Ait.*: very smooth; leaves cordate, cucullate at the base, serrate; stipules linear; inferior and lateral petals bearded. *Ait. Kew. III. p. 288. Schw. Viol. l. c. p. 60. Willd. Spec. I. p. 1161. Bot. Mag. t. 1795. Pursh Fl. I. p. 172. Big. Bost. p. 60. Elliott Sk. I. p. 298. Nutt. Gen. I. p. 148. Roem. & Schult. V. p. 355. V. papilionacea Pursh Fl. I. p. 173?*

*Leaves* somewhat reniform-cordate, sometimes acute, dentate-serrate, generally longer than the petioles. *Scape* terete; *bracts* subopposite, subulate. *Flowers* bright blue or violet, oblique; superior *petals* smooth, the rest bearded; beard rigid, cylindrical. *Spur* 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.

6. *V. obliqua Ait.*: smooth; leaves cordate, acute, flat, crenate-serrate; flowers obliquely bent; lateral petals bearded; inferior one acute, carinate; stipules lanceolate. *Ait. Kew. III. p. 288. Schw. Viol. l. c. p. 60. Willd. Spec. I. p. 1161. Pursh Fl. I. p. 172. Muhl. Cat. p. 25. Roem. & Schult. V. p. 355.*

*Leaves* slightly cucullate at the base; petioles long, smooth. *Stipules* acuminate, ciliate. *Scape* 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.

7. *V. villosa* *Walt.*: leaves reniform-cordate, flat, very pubescent; segments of the *calyx* auriculate at the base; stigma deflexed; margin cupuliform. *Walt. Car.* p. 219. *Schw. Viol.* l. c. p. 61. *Elliott Sk.* I. p. 297. *Nutt. Gen.* I. p. 148. *V. barbata* *Muhl. Cat.* p. 25. (fide *Schw.*)

*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.

$\beta$ . *cordata* *Nutt.*: leaves cordate, rather acute; segments of the *calyx* scarcely produced at the base. *Nutt. l. c.* *V. cordata* *Schw. Viol.* l. c. p. 62. *V. sororia* *Willd. Hort. Berol.* l. t. 72. *Pursh Fl.* I. p. 173.

*Leaves* appressed 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* obovate; 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.

8. *V. rotundifolia* *Mich.*: leaves orbicular-ovate, cordate, slightly crenate, nearly smooth; sinus closed; petiole pubescent; (flowers yellow); lateral petals bearded; segments of the *calyx* obtuse; spur nearly obsolete. *Mich. Fl.* II. p. 150. *Elliott Sk.* I. 298. *Nutt. Gen.* I. p. 149. *Roem. & Schult. V.* p. 358.

*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. *Flower* middle-sized; *petals* broad-ovate, very obtuse or slightly emarginate; the 2 lateral ones bearded, marked with 3 brown striæ; lowest petal short, with many striæ, 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 *Pursh* with his *V. clandestina*, from which it is entirely distinct.

† † † *Flowers somewhat regular, small, white.*

9. *V. lanceolata* L.: leaves very smooth, lanceolate, attenuated into a petiole at the base, rather obtuse, subserrate; petals beardless. *Willd. Spec. excl. syn. Gmel. Schw. Viol. l. c. p. 64. Mich. Fl. II. p. 150. Pursh Fl. I. p. 172. Big. Bost. p. 59. Elliott Sk. I. p. 296? Nutt. Gen. I. p. 150. Roem. & Schult. V. p. 354.*

*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 Sibirica*, 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 margined, 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.

11. *V. primulifolia* L.: leaves oblong, subcordate, abruptly decurrent on the petiole; nerves beneath, and the scape, subpubescent; lateral petals bearded. *Willd. Spec. I. p. 1162. Schw. Viol. l. c. p. 64. Elliott Sk. I. p.*

297. excl. syn. *Ph. Nutt. Gen. I. p. 149. Gron. Virg.*  
 135. *Roem. & Schult. V. p. 359.*

*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. *Scape* 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.

12. *V. blanda Willd.*: leaves broad-cordate, slightly pubescent above; sinus rounded; petiole smooth; flowers beardless. *Willd. Hort. Berol. t. 24. Schw. Viol. l. c. p. 65. Pursh Fl. I. p. 172. Big. Bost. p. 59. Elliott Sk. l. p. 298. Nutt. Gen. I. p. 149. Roem. & Schult. V. p. 358.*

*Leaves* nearly flat, membranaceous, nearly quite smooth, often reniform-cordate, sometimes rather acute, remotely crenate-toothed; petiole slightly margined, longer than the leaves. *Stipules* subulate, small. *Scape* 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.

13. *V. clandestina Ph.*: leaves suborbicular, rather obtuse, smoothish, crenate-serrate, with glandular serratures; sinus closed, cordate; stolons floriferous; petals linear, scarcely longer than the calyx. *Pursh Fl. I. p. 173. Schw. Viol. l. c. p. 65. Roem. & Schult. V. p. 358.*

Cespitose. *Leaves* large, thin, sprinkled with hair on the upper surface. *Stipules* ovate, short. *Scape* 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. *Schw.*

HAB. On the high mountains of Pennsylvania, in shady beech woods. June—September. *Pursh.*

I strongly suspect this plant is only a variety of *V. blanda*, 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. blanda* 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 floriferous stolons are not unfrequent in this tribe of the VIOLEÆ, 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.*

14. *V. canadensis* L.: nearly smooth; leaves cordate, acuminate, serrate; peduncles shorter than the leaves; petals oblong, narrow; stipules ovate-lanceolate, entire. *Ait. Kew.* III. p. 280. *Schw. Viol.* l. c. p. 68. *Willd. Spec.* I. p. 1166. *Mich. Fl.* II. p. 150. *Pursh Fl.* I. p. 174. *Elliott Sk.* I. p. 301. *Nutt. Gen.* I. p. 150. *Roem. & Schult.* V. p. 375.

*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.

**HAB.** In moist rocky woods; generally on mountains. Canada to Carolina. May—July.

15. *V. ochroleuca* *Schw.*: stem somewhat erect, branched, smooth; leaves round-cordate; upper ones a little acuminate; stipules oblong-lanceolate, dentate-ciliate; stigma tubular, recurved, pubescent at the summit. *Schw. Viol.* l. c. p. 69. *V. striata* *Ait. Kew.* III. p. 290? *Pursh Fl.* I. p. 174? *Muhl. Cat.* p. 25. *Nutt. Gen.* I. p. 150. *Roem. & Schult.* V. p. 376.

*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.

16. *V. Muhlenbergii*\*: stem weak, assurgent; leaves reniform-cordate, the upper ones a little acuminate, crenate-serrate, smooth; stipules lanceolate, serrate-ciliate; nectary produced; stigma tubular, rostrate. *V. asarifolia* and *uliginosa* *Muhl. Cat.* p. 25. *V. uliginosa* *Schw. Viol. l. c.* p. 72. *V. debilis* *Pursh Fl. I.* p. 174. excl. syn. *Nutt. Gen. I.* p. 150.

*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.

*HAB.* In sphagnum swamps, and on the banks of creeks, in shady places. Abundant in the Cedar Swamp near New-Durham, New-Jersey, &c. May.

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 *Pursh* 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*.

17. *V. rostrata* *Muhl.*: smooth; stem diffuse, erect; leaves cordate, the upper ones acute, serrate; stipules lanceolate, serrate-ciliate; petals beardless; nectary longer than the corolla. *Pursh Fl. I.* p. 174. *Schw. Viol. l. c.* p. 72. *Muhl. Cat.* p. 25. *Nutt. Gen. I.* p. 150. *Roem. & Schult. V.* p. 373.

*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.

18. *V. pubescens* Ait. : villous-pubescent ; stem erect, naked below ; leaves broad-cordate, toothed ; stipules ovate, subdentate. Ait. *Kew.* III. p. 290. Schw. *Viol.* l. c. p. 74. Willd. *Spec.* l. p. 1169. Big. *Bost.* p. 61. Pursh *Fl.* I. p. 174. Nutt. *Gen.* I. p. 150. Roem. & Schult. *V.* p. 377. *V. pennsylvanica* Mich. *Fl.* II. p. 149.

*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.

β. *eriocarpa* Nutt. : capsule densely villous. Nutt. l. c. *V. eriocarpa* Schw. *Viol.* l. c. p. 75?

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.

19. *V. hastata* Mich. : smooth ; stem simple, leafy above ; leaves hastate, on very short petioles ; stipules minute, ciliate-denticulate. Mich. *Fl.* II. p. 149. Schw. *Viol.* l. c. p. 77. Pursh *Fl.* l. p. 174. Elliott *Sk.* l. p. 302. Nutt. *Gen.* I. p. 150. Roem. & Schult. *V.* p. 371.

*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.

HAB. On the Alleghany Mountains. Rafinesque. In Pennsylvania. Muhlenberg.

20. *V. tenella* Muhl. : stem triquetrous ; leaves rotund-

spathulate, smooth, subdentate; superior ones lanceolate, entire; stipules large, pinnatifid. *Muhl. Cat.* p. 25. *V. bicolor* *Pursh Fl.* I. p. 175. *Schw. Viol.* l. c. p. 78. *Nutt. Gen.* I. p. 151. *Roem. & Schult. V.* p. 383. *V. arvensis* *Elliott Sk.* I. p. 302. *V. arvensis*  $\beta$ . *bicolor* *Hoff. Fl. Germ.* II. p. 170?

*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 striæ. Segments of the *calyx* ovate-lanceolate, ciliate, auriculate at the base. *Stigma* turbinate, urceolate, pubescent at the sides. *Capsule* subglobose, smooth.

**HAB.** On dry rocky hills. Bergen, New-Jersey. In Pennsylvania. *Muhlenberg.* Near Bethlehem, Pennsylvania. *Schweinitz.* May.

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.

21. *V. concolor* *Fost.*: stem straight, erect; leaves cuneate-lanceolate; stipules subulate, entire; peduncles very short, 2—3-flowered; petals connivent, emarginate; spur 0. *F. Foster, in Lin. Trans.* VI. p. 309. t. 28. *Schw. Viol.* l. c. p. 79. *Pursh Fl.* I. p. 175. *Elliott Sk.* I. p. 303. *Nutt. Gen.* I. p. 151. *Roem. & Schult. V.* p. 307. *IONIDIUM Sprengelianum* *R. & S. V.* p. 401. *SOLEA stricta* *Spreng. pug.* I. p. 22. excl. syn. *Vent.*

*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* subciliate. *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 VIOLÆ, and indicates the propriety of removing it to the genus *IONIDIUM* of *Ventenat.* It greatly resembles *I. strictum.*

#### 174. CLAYTONIA. *Gronovius.*

*Calyx* 2-leaved. *Petals* 5, emarginate. *Stigma*

3-cleft. *Capsule* 1-celled, 3-valved, 3—5-seeded. *Seeds* reniform. *Gen. pl.* 402. *Nutt. Gen. I.* p. 152. *Juss.* p. 314. *Lam. Ill. t.* CLIV. *Roem. & Schult. Gen.* 992. *Nat. Ord.* PORTULACÆ  
*Juss.*

*C. virginica* L.: leaves linear-lanceolate; petals obovate, retuse; leaves of the calyx somewhat acute; root tuberous. *Ait. Kew. I.* p. 284. *Willd. Spec. I.* p. 1185. *Bot. Mag. t.* 941. *Mich. Fl. I.* p. 160. *Pursh Fl. I.* p. 175. *Elliott Sk. I.* p. 306. *Bart. Fl. Am. Sept. t.* 51. *Gron. Virg. 25.* *Roem. & Schult. V.* p. 433.

*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 racemè; *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.

*β. latifolia*\*: leaves ovate-lanceolate; leaves of the calyx obtuse. *C. virginica β.* *Ait. Kew. l. c?* *C. caroliniana Mich. Fl. I.* p. 160?

**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. Barratt*. 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. Nuttall* considers as the *C. spathulifolia*, 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.

*Calyx* turbinate, 5-cleft. *Petals* 5, saccate and arched, with long claws. *Stigmas* 3. *Capsule* triloccous, 3-celled, 3-seeded, 3-parted, opening on the inner side. *Gen. pl.* 361. *Nutt. Gen. I.* p. 153.

*Juss.* p. 380. *Lam. Ill.* t. CXXIX. f. 2. *Roem. & Schult. Gen.* 944. Nat. Ord. RHAMNI *Juss.*  
*New-Jersey tea. Red-root.*

1. *C. americanus L.*: leaves ovate-oblong, serrate, trip-ly-nerved, tomentose-pubescent beneath; panicles axillary, on long peduncles. *Willd. Spec.* I. p. 1114. *Enum. h. Berol.* I. p. 254. *Duham. Arb.* I. p. 138. t. 51. *Bot. Mag.* t. 1479. *Mich. Fl.* I. p. 154. *Pursh Fl.* I. p. 167. *Big. Bost.* p. 57. *Walt. Car.* p. 101. *Roem. & Schult. V.* p. 295.

*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.

2. *C. herbaceus Raf.*: leaves oval, subserrulate, smooth; panicles thyrsoid, axillary and terminal. *Raf. in Med. Rep.* XI. p. 360. *EjUSD. in Desv, Journ. de Bot.* I. p. 227. *C. perennis Pursh Fl.* I. p. 167. *Roem. & Schult. V.* p. 297.

*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.*

*Gen. I.* p. 154. *Juss.* p. 377. *Lam. Ill. t. CXXXI.* *Roem. & Schult. Gen.* 1002. *Nat. Ord. RHAMNI Juss.* Often one-fourth part of the fructification is suppressed. *Spindle-tree.*

1. *E. americanus L.*: branches smooth, quadrangular; leaves sessile, elliptical-lanceolate, smooth, acute, serrate; peduncles 3-flowered, terete; flowers 5-cleft; fruit verrucose-muricate. *Willd. Spec. I.* p. 1132. *Enum. h. Berol. I.* p. 256. *Mich. Fl. I.* p. 155. *Pursh Fl. I.* p. 168. *Elliott Sk. I.* p. 292. *Walt. Car. p.* 102, *Gron. Virg. 17.* *Roem. & Schult. V.* p. 466.

A shrub 3—4 feet high, erect, with opposite, spreading, quadrangular branches. *Leaves* about 2 inches long, opposite, on very short petioles. *Peduncles* axillary, trichotomous. *Calyx* small, 5-parted; segments acute. *Corolla* flat, greenish-yellow, tinged with purple; *petals* obovate-obuse. *Filaments* very short, inserted opposite the segments of the calyx; *anthers* didymous. *Style* short; *stigma* obtuse. *Capsule* succulent, 5-angled, crimson. *Seeds* covered with a scarlet pulpy arillus.

**HAB.** In shady woods; rare. New-York to Carolina. **June.**  
*Burning-bush. Strawberry-tree.*

*β. sarmentosus Nutt.*: stem sarmentose. *Nutt. I. c.*

Subsempervirent. *Stem* often radicans, about 2 feet high, acutely quadrangular. *Leaves* sessile, opaque, 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.*

**HAB.** In shady moist forests, among rocks. Near Philadelphia. **Barton, July.**

2. *E. atropurpureus Jacq.*: leaves petiolate, oblong-lanceolate, acuminate, serrate; peduncles divaricate, many-flowered; flowers 4-cleft; fruit smooth. *Willd. Spec. I.* p. 1132. *Enum. h. Berol. I.* p. 256. *Jacq. Hort. Vind. II.* p. 155. t. 120. *Pursh Fl. I.* p. 168. *Elliott Sk. I.* p. 293. *Roem. & Schult. V.* p. 466.

*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.

**HAB.** In shady woods; New-Jersey and Pennsylvania. **June.**

3. *E. obovatus Nutt.*: stem prostrate, rooting; surculi

erect, obtusely quadrangular, with 4 elevated lines; leaves broad-obovate, obtuse, acute at the base, sessile, acutely serrulate; peduncles 3-flowered; stamens 4—5. *Nutt. Gen. I. p. 155.*

*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-obovate, 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.*

*HAB.* In shady fir swamps, between Waterford and Franklin, Pennsylvania. June. *Nuttall.*

Nearly allied to *E. americanus*, but distinct.

### 177. CELASTRUS. *L.*

*Calyx* 5-lobed, flat. *Corolla* 5-petalled. *Stamens* seated around a 5-toothed glandulous disk. *Style*, or *theca*, obtusely triangular, 3-celled, 3-valved; valves septiferous in the centre; cells 1—2-seeded. *Seeds* covered with a 4-cleft coloured arillus. *Gen. pl. 472. Nutt. Gen. I. p. 155. Juss. p. 378. Lam. Ill. t. CXXX. Roem. & Schult. Gen. 986. Nat. Ord. RHAMNI Juss.* Shrubs; leaves alternate, minutely stipulate; flowers sometimes dioecious. *Staff-tree.*

*C. scandens L.:* stem climbing, unarmed; leaves oblong, acuminate, serrate; racemes terminal; flowers dioecious. *Willd. Spec. l. p. 1125. Duham. Arb. l. p. 223. t. 94. Mich. Fl. l. p. 154. Pursh Fl. l. 167. Big. Bost. p. 57. Roem. & Schult. V. p. 418.*

*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, setaceously 3—5 cleft. *Racemes* terminal, few-flowered; *pedicels* articulated. *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.

HAB. In woods and thickets. June. *Bitter-sweet*. *Wax-work*.

178. RHAMNUS. L.

*Calyx* urceolate, 4—5 cleft. *Petals* 4—5, opposite the stamens, (sometimes abortive.) *Stamens* 4—5. *Stigma* 2—4-cleft. *Berry* 3—4-seeded. *Gen. pl.* 358. *Nutt. Gen.* I. p. 152. *Juss.* p. 980. *Lam. Ill.* t. CXXVIII. *Roem. & Schult. Gen.* 943. *Nat. Ord.* RHAMNI *Juss.* *Buck-thorn.*

1. *R. alnifolius* *VHerit.*: unarmed; leaves oval, acuminate, serrulate, pubescent on the nerves beneath; flowers dioecious; peduncles 1-flowered, aggregate; calyx acute; fruit turbinate. *VHerit. Sert. Ang.* p. 5. *Willd. Spec.* I. p. 1100. *Roem. & Schult. V.* p. 286. excl. syn. *Pursh. R. franguloides Mich. Fl.* I. p. 153. *Pursh Fl.* I. p. 166. *R. & S. l. c.*

A small shrub, with smooth grayish-brown branches. *Leaves* alternate, about an inch and a half long, on short petioles, nerved and reticulate. *Flowers* small, greenish, in short axillary fascicles. *Berries* black.

HAB. On rocky hills; rare; near the sea-coast. May.

2. *R. catharticus* L.: spines terminal; flowers generally 4-cleft, polygamo-dioecious; leaves ovate; stem erect; berries 4-seeded. *Willd. Spec.* I. p. 1093. *Smith Fl. Brit.* I. p. 263. *Eng. Bot.* t. 1629. *Roem. & Schult. V.* p. 276.

A small tree or large shrub, with spreading branches and grayish bark. *Leaves* fasciculate and opposite, on petioles one-third their length, nervose, an inch and a half long; margin crosely 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.

HAB. On mountains and in woods. Abundant in Williamstown, and other parts of New-England, apparently indigenous. *Dewey.* In the most retired parts of the Highlands of New-York. *Barratt.* *Buck-thorn.*

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.

*Calyx* minute, 5-toothed. *Petals* 5, cohering at their apex, deciduous. *Stigma* sessile, obtuse, capitate. *Berry* 1-celled, 5-seeded. *Seeds* subcordate. *Gen. pl.* 396. *Nutt. Gen.* I. p. 142. *Juss.* p. 267. *Lam. Ill. t.* CXLV. *Roem. & Schult.* *Gen.* 945. Nat. Ord. VITES *Juss.* The North-American species are polygamous and dioecious.  
*Vine.*

1. *V. Labrusca* L.: leaves broad-cordate, angularly sub-3-lobed, cinereous-tomentose beneath; racemes small; berries large. *Willd. Spec.* 1181. *Mich. Fl.* II. p. 130. *Pursh Fl.* I. p. 169. *Big. Bost.* p. 58. *Roem. & Schult. V.* p. 316.

*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 *Bland'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.

2. *V. vulpina* L.: leaves cordate, acuminate, incisely toothed, smooth on both sides; racemes loose, many-flowered; berries small. *Sp. pl.* 293. *Willd. Spec.* I. p. 1181. *Roem. & Schult. V.* p. 317. *V. cordifolia* *Mich. Fl.* II. p. 331. *Pursh Fl.* I. p. 169. *R. & S. V.* p. 319.

*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.

HAB. In woods and on river banks; common. June. Berries ripen in November.

*Winter-grape.*

*Pursh* has placed the *V. vulpina* as a synonym of *æstivalis*, which has the leaves tomentose beneath, while, in the former, they are described by *Linnaeus* as being smooth on both sides.

3. *V. æstivalis Mich.*: leaves broad cordate, 3—5-lobed, ferruginous-tomentose beneath; sinuses rounded; racemes oblong; berries small. *Mich. Fl.* II. p. 230. *Pursh Fl.* I. p. 169. *Roem. & Schult. V.* p. 317. *V. intermedia Muhl. Cat.* p. 26.

*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.

HAB. On the banks of rivers in rocky situations. June. Berries ripen in August.

*Summer-grape.*

*β. sinuata Ph.*: leaves sinuate-palmate. *Pursh Fl.* I. 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 Vahl*.

4. *V. riparia Mich.*: leaves unequally incisely toothed; shortly 3-lobed, pubescent on the margin, nerves, and petiole. *Mich. Fl.* II. p. 169. *Pursh Fl.* I. p. 169. *Roem. & Schult. V.* p. 319. *V. odoratissima Donn Cat.*

*Flowers* of an exquisitely fine smell, somewhat resembling *Rh. SEDA odorata. Ph.*

HAB. On the gravelly shores of rivers, and on islands. Pennsylvania to Carolina. *Pursh.*

According to *Pursh*, 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 grape*.

## 180. CISSUS. L.

*Calyx* minute, 4—5-toothed. *Petals* 4—5, unconnected above, spreading, deciduous. *Germs* surrounded with a glandulous disk. *Berry* 2-celled, 2—4-seeded. *Gen. pl.* 79. *Nutt. Gen.* I. p. 145.

*Juss.* p. 267. *Lam. Ill.* t. 84. f. 1. *Roem. & Schult. Gen.* 511. *AMPELOPSIS Mich. Fl. I.* p. 139. *R. & S. Gen.* 946. Nat. Ord. VITES *Juss.* Flowers perfect, sometimes tetrandrous.

1. *C. hederacea Pers.*: stem climbing and rooting; leaves quinate-digitate, smooth; leaflets petiolate oblong, acuminate toothed; racemes cymose, dichotomous; nectary 0. *Pers. Syn. I.* p. 143. *Pursh Fl. I.* p. 170. *Elliott Sk. I.* p. 305. *Nutt. Gen. I.* p. 144. *VITIS hederacea Willd. Spec. I.* p. 1182. *Big. Bost.* p. 53. *V. quinquefolia Lam. Ill.* 2815. *HEDERA quinquefolia Lin. Hort. Clif.* p. 74. *Walt. Car.* p. 102. *AMPELOPSIS quinquefolia Mich. Fl. I.* p. 160. *Roem. & Schult. V.* p. 321.

*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, cucullate, 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*.

*β. hirsuta Ph.*: leaves pubescent on both sides; leaflets ovate, acuminate, coarsely toothed. *Pursh Fl. I. c.* *AMPELOPSIS hirsuta Muhl. Cat.* p. 26. *Donn Cat.* ed. 10. p. 83. *Roem. & Schult. V.* p. 321.

**HAB.** On the Alleghany Mountains. *Pursh.* In New-York. *Muhlenberg.*

This variety, *Pursh* thinks, may be a distinct species, but not having seen the flowers, he could not establish its characters.

2. *C. Ampelopsis Pers.*: leaves cordate, acuminate, toothed and angular; nerves beneath pubescent; racemes twice bifid. *Pers. Syn. I.* p. 142. *Pursh Fl. I.* p. 170. *Elliott Sk. I.* p. 305. *AMPELOPSIS cordata Mich. Fl. I.* p. 159. *Roem. & Schult. V.* p. 321.

*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. *Pursh*.

### 181. RIBES. L.

*Calyx* superior, campanulate, 5-cleft. *Petals* and *stamens* inserted upon the calyx. *Style* 2-cleft. *Berry* many-seeded. *Gen. pl.* 390. *Nutt. Gen. I.* p. 140. *Juss. p.* 310. *Lam. Ill. t.* CXLVI. *Roem. & Schult. Gen.* 1015. *Nat. Ord. GROSSULARIÆ De Cand. CACTI Juss.* *Currant* and *Gooseberry*.

\* *Stems without thorns.* RIBESIA.

1. *R. floridum* *VHerit.*: unarmed; leaves punctate both sides, acutely 3-lobed, pubescent; racemes pendulous; calyx tubular; bracts longer than the pedicels. *Willd. Spec. I.* p. 1156. *Pursh Fl. I.* p. 164. *Roem. & Schult. V.* p. 499. *R. recurvatum* *Mich. Fl. I.* p. 109. *Pursh Fl. l. c.* *R. pennsylvanicum* *Lam. Enc. III.* p. 47.

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.

2. *R. albinervium* *Mich.*: leaves short, acutely lobed, smoothish; nerves white; racemes recurved; berries smooth; *Mich. Fl. I.* p. 110. *Pursh Fl. I.* p. 163. *Roem. & Schult. V.* p. 497.

*Flowers* small, greenish yellow. *Berries* red. *Ph.*

HAB. On the Catskill Mountains, New-York. April—May.  
*Pursh.*

3. *R. trifidum Mich.*: leaves moderately lobed, smooth above, pubescent beneath; racemes loose, pubescent; flowers rather flat, with the segments of the calyx subtrifid; petals spatulate, obtuse; berries hairy. *Mich. Fl.* I. p. 110. *Pursh Fl.* I. p. 163. *Roem. & Schult.* V. p. 494.

*Branches* weak. *Leaves* with subacute lobes. *Flowers* smaller than in *R. rubrum*. *Calyx* pale green. *Petals* purple, spatulate, round obtuse. *Berries* red. *Mich.*

HAB. On the mountains of Pennsylvania. April—May. *Pursh.*

4. *R. rigens Mich.*: branches straight; leaves acutely lobed and dentate, reticulate-rugose, pubescent beneath; racemes rather loose, many-flowered, becoming stiffly erect; berries hispid. *Mich. Fl.* I. p. 110. *Pursh Fl.* I. p. 163. *Roem. & Schult.* V. p. 294.

*Branches* ash-coloured. *Leaves* on long petioles, about 5-lobed, slightly ciliate. *Racemes* 6—10-flowered; *pedicels* and short subulate *bracts* hispid. *Calyx* purple; segments obovate, obtuse. *Corolla* purple. *Style* deeply 2-parted. *Berries* red, glandularly hispid.

HAB. On mountains in Williamstown, &c., Massachusetts. May. *Dewey.* On the Pennsylvania Mountains. *Pursh.*

5. *R. prostratum VHerit.*: branches reclined-prostrate; leaves lobed, smoothish; the younger ones pubescent; branches somewhat erect; calyx rather flat; petals deltoid; bracts minute; berries hispid. *Pursh Fl.* I. p. 163. *VHerit. Stirp.* I. p. 3. t. 2. *Roem. & Schult.* V. p. 495. *R. glandulosum Ait. Kew.* I. p. 279. *Willd. Spec.* I. p. 1154.

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.

HAB. On the West River Mountain, New-Hampshire, among rocks. May. *Hitchcock.* Pennsylvania. *Pursh.*

I am doubtful whether the plant above described is the *R. prostratum* of *VHeritier* 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.

\* \* *Stems thorny.* GROSSULARIA.

6. *R. hirtellum Mich.*: spines subaxillary; branches somewhat hispid; leaves small, half 3-cleft; lobes subdentate; peduncles 1-flowered; berries smooth. *Mich. Fl. I.* p. 111. *Pursh Fl. I.* p. 165. *Roem. & Schult. V.* p. 501.

HAB. Among rocks on the Alleghany Mountains. Canada to Virginia. May—June. Berries red. *Pursh.*

7. *R. gracile Mich.*: spines subaxillary; leaves on slender petioles, pubescent on both sides; lobes acute, dentate, incised; peduncles slender, erect, about 2-flowered; calyx tubular campanulate; berries smooth. *Mich. Fl. I.* p. 111. *Pursh Fl. I.* p. 165. *Roem. & Schult. V.* p. 561.

*Shrub* 2—3 feet high, erect. *Spines* generally solitary, rarely in pairs. *Leaves* moderately 3-lobed; lobes incisely toothed, softly pubescent, particularly on the under surface, which is of a paler colour. *Raceme* 2—3-flowers; *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 colour, but generally turning purplish or brown.

HAB. On mountains and rocky hills. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. Williamstown, Massachusetts. *Dewey*. On the Catskill Mountains, New-York. *Brace*.

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 exserted, 2—3-cleft. *Berries* ovate, purplish-brown, aculeate-hispid.

This may possibly be *R. Cynosbati*, but the subaxillary spikes are solitary.

8. *R. triflorum Willd.*: spines subaxillary; leaves smooth, 3—5-lobed, incisely toothed; peduncles about 3-flowered; pedicels elongated; bracts very short; petals spatulate, undulate; style hairy, exserted, deeply 2-cleft; berries smooth. *Willd. Hort. Berol. I.* p. 61. t. 61. *Pursh Fl. I.* p. 165. *Roem. & Schult. V.* p. 501.

*Shrub* 3—4 feet high, with spreading curved branches; *spines*

short, sometimes wanting. *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* exerted. *Style* deeply divided into 2 filiform segments. *Berries* small, pale red.

HAB. On mountains. Common in New-England. In the Highlands of New-York. *Barratt*.

9. *R. oxycanthoides* L.: larger spines subaxillary; smaller ones scattered over the stem; leaves smooth; leaves dentate; peduncles short, about 2-flowered; berries smooth. *Willd. Spec. I. p. 1159. Lam. Enc. III. p. 351. Pursh Fl. I. p. 165. Roem. & Schult. V. p. 506.*

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.*

HAB. On rocks. New-York. *Pursh.* In Pennsylvania. *Muhlenberg.*

10. *R. lacustre* Ph.: subaxillary; spines compound; stem on every part hispid-aculeate; leaves lobed beyond the middle; petioles villous; berries racemose, hispid. *Pursh Fl. I. p. 165. Poir. Enc. Meth. II. p. 856. Nutt. Gen. I. p. 140. Roem. & Schult. V. p. 506. R. oxycanthoides* β. *lacustris* Pers. *Syn. I. p. 252. R. oxycanthoides Mich. Fl. I. p. 111.*

*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.

HAB. In mountain swamps. On the Catskill Mountains, New-York. *Knevels.* Williamstown, Massachusetts. *Dewey.* Deerfield, Massachusetts. *Cooley.*

11. *R. Cynosbati* Jacq.: subaxillary spines in pairs; leaves with short lobes, incisely toothed, softly pubescent; racemes nodding, few-flowered; calyx erect-campanulate; berries aculeate. *Mich. Fl. I. p. 111. Willd. Spec. I. p. 1159. Pursh Fl. I. p. 166. Roem. & Schult. V. p. 506.*

*Flowers* green. *Berries* dark brown, and full of thorns. *Ph.*



HAB. On the sides of hills and rocks on the Alleghany Mountains. April—June. *Pursh*. In Pennsylvania. *Muhlenberg*.

182. HAMILTONIA. *Muhlenberg*.

Polygamous. PERFECT FLOWER. *Calyx* turbinate-campanulate, 5-cleft. *Corolla* 0. *Nectary* with the disk 5-toothed. *Style* 1; *stigmas* 2—3, sublenticular; *germen* immersed in the nectary. *Drupe* pyriform, 1-seeded, enclosed in the adhering base of the calyx. STAMINIFEROUS FLOWER resembling the perfect, except in wanting the pistil. *Muhl. in Willd. Spec. IV. p. 1114. Nutt. Gen. I. p. 156. PYRULARIA Mich. Fl. I. p. 231. Roem. & Schult. Gen. 1058. Nat. Ord. ÆLEAGNI Juss? SANTALACEÆ R. Brown (Nutt.) Oil-nut.*

*H. oleifera Muhl. in Willd. Spec. l. c. Pursh Fl. I. p. 178. t. 3. Nutt. Gen. l. c. PYRULARIA pubera Mich. Fl. II. p. 233. Roem. & Schult. V. p. 575.*

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 germen has probably more than one seed. *Nutt.*

HAB. On the margins of mountain rivulets, in the central and highest parts of the chain. Pennsylvania. May—June. *Nuttall* and *Pursh* Oil-nut or Elk-nut.

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.

*Anthers* attached to the calyx by a tuft of filaments. *Nut* 1-seeded, covered with the persistent calyx. *R. Brown Prod.* I. p. 533. *Gen. pl.* 410. *Lam. Ill.* t. CXLII. *Roem. & Schult. Gen.* 1061. COMANDRA *Nutt. Gen.* I. p. 157. Nat. Ord. ÆLEAGNI *Juss.* ("olim, nunc *Incertæ sedis.*") *Juss. Ann. Mus.* V. p. 222. SANTALACEÆ *R. Brown. Bastard toad-flax.*

*T. umbellatum L.*: stem erect, oval-lanceolate; fascicles of flowers terminal, subcorymbed. *Willd. Spec.* I. p. 1124. *Pursh Fl.* I. p. 177. *Big. Bost.* p. 61. *Elliot Sk.* I. p. 311. *Roem. & Schult.* V. p. 581. *T. corymbulosum Mich. Fl.* I. p. 112. COMANDRA *umbellata Nutt. l. c.*

*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 glanduliferous 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*

3—5, distinct, without intermediate setæ. *Stigma* subcapitate. *Utriculus* 1-seeded, covered by the calyx. *Mich. Fl.* I. p. 113. *Roem. & Schult. Gen.* 1029. *QUERIA L. Nutt. Gen.* I. p. 158. Nat. Ord. CARYOPHYLLÆ *Juss.* ILLECEBREÆ *R. Brown.*

*A. dichotoma Mich.:* stem erect or spreading, dichotomously branched; leaves lanceolate, smooth, acute; flowers about as long as the stipules. *Mich. Fl.* I. p. 113. *Pursh Fl.* I. p. 176. *Roem. & Schult. V.* p. 523. *A. canadensis Elliott Sk.* I. p. 307. *QUERIA canadensis L. Willd. Spec.* I. p. 494. *Nutt. Gen.* I. c. *Gron. Virg:* 14.

*Root* annual, fibrous, (perennial, *L., Muhl., 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.*

*β. 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. Nuttall.*

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.*

*Calyx* campanulate, 5-lobed, coloured. *Corolla* 0. *Capsule* globose, acuminate, 1-celled, 5-valved, 5-seeded. *Gen. pl.* 408. *Nutt. Gen.* I. p. 161. *Juss.* p. 333. *Lam. Ill.* t. CXLI. *Roem. & Schult. Gen.* 1026. Nat. Ord. SALICARIÆ *Juss.* now of the PRIMULACÆ. *Black Salt-wort.*

*G. maritima L.:* *Willd. Spec.* I. p. 1210. *Smith Fl. Brit.* I. p. 268. *Eng. Bot.* t. 13. *Mich. Fl.* I. p. 114.

*Pursh Fl.* I. p. 176. *Muhl. Cat.* p. 26. *Roem. & Schult.* V. p. 514.

*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* obtuse, 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.

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ORDER II.

DIGYNIA.

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A. *Flowers monopetalous, inferior.*

\* *Follicles* 2.

186. APOCYNUM.      188. GONOLOBUS.

187. PERIPLŌGA.    189. ASCLEPIAS.

\*\* *Fruit capsular.*

190. GENTIANA.      191. CUSCUTA.

B. *Corolla 5-petalled, inferior.*

192. HEUCHERA.

C. *Corolla 5-petalled, superior.*

193. PANAX.

D. *Flowers incomplete.*

194. ATRIPLEX.      196. SALSOLA.

195. CHENOFODIUM.    197. ULMUS.

198. CELTIS.

E. UMBELLIFERÆ.

*According to the System of Sprengel.*

a. *Umbels subcapitate.*

199. ERYNGIUM.      200. SANICULA.

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 decomposed.)*

202. SISON.

203. CNIDIUM.

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. Involucrem 0.*

207. MYRRHIS.

g. *Fruit subovate, costate, sulcate. Universal and partial involucra various.*

208. SIUM.

209. CONIUM.

210. LIGUSTICUM.

h. *Fruit compressed, flat, often winged. Involucra various.*

211. HERACLEUM.

213. ANGELICA.

212. PASTINACA.

214. THAPSIÀ.

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186. APOCYNUM. L.

*Calyx* very small, 5-cleft. *Corolla* campanulate; border with 5 short spreading or revolute lobes. *Anthers* sagittate, connivent, cohering to the stigma by the middle. *Glandular teeth* 5, acute, alternating with the stamens, and opposite the segments of the corolla. *Styles* obsolete; *stigma* dilated and conical at the apex. *Follicles* 2, long, linear. *Seeds* comose. *R. Brown* in *Mem. Wern. Soc.* I. p. 67. *Nutt. Gen.* I. p. 161. *Lam. Ill.* t. CLXXVI. f. 2. *Roem. & Schult. Gen.* 742. *Nat. Ord.* APOCINEÆ *R. Brown*; (part of APOCINEÆ *Juss.*) Lactescent herbs. *Dog's-bane.*—*Indian-hemp.*

1. *A. androsæmifolium* L.: leaves ovate, smooth on both sides; cymes lateral and terminal, smooth; tube of the corolla longer than the calyx. *Willd. Spec.* I. p. 1259. *R. Brown* in *Wern. Trans.* I. p. 68. *Mich. Fl.* I. p. 121. *Pursh Fl.* I. p. 179. *Big. Bost.* p. 61. *EjUSD. Med. Bot.*

II. p. 148. t. 36. *Elliott Sk.* I. p. 314. *Walt. Car.*  
p. 107. *Roem. & Schult.* IV. p. 403.

*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.

2. *A. pubescens* R. Br.: stem erect; leaves ovate, hoary-pubescent beneath; cymes pubescent; corolla longer than the calyx; border erect. *R. Brown in Wern. Trans.* I. p. 68. *Elliott Sk.* I. p. 315. *Roem. & Schult.* IV. p. 405. *A. cannabinum* Mich. Fl. I. p. 122. *Pursh Fl.* p. 179.

*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.

*HAB.* Borders of fields; not unfrequent. June—July.

3. *A. hypericifolium* Ait.: leaves oblong, smooth, on very short petioles, mucronate, obtuse and subcordate at the base; cymes shorter than the leaves; calyx nearly as long as the tube of the corolla. *Ait. Kew.* I. p. 304. *R. Brown in Wern. Trans.* I. p. 68. *Roem. & Schult.* IV. p. 404.

*Stem* about 2 feet high. *Leaves* sessile, 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.

4. *A. cannabinum* L.: leaves lanceolate, acute at each end, smooth on both sides; cymes paniculate; calyx as long as the tube of the corolla. *R. Brown in Wern. Trans.* I. p. 68. *Ait. Kew.* I. p. 303. *Willd. Spec.* I. p. 1259. excl. syn. *Gron.* *Elliott Sk.* I. p. 315. *Roem. & Schult.* IV. p. 404.

*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. *Stevenson*.

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.

*Calyx* 5-cleft. *Corolla* rotate, flat; orifice surrounded with an urceolate 5-cleft crown; segments awned. *Anthers* bearded on the back; *pollinia*† dilated at the apex, and united to the corpuscles of the stigma, solitary, composed of 4 confluent grains. *Style* 1; *stigma* pentagonal. *Follicles* 2, cylindrical, smooth. *Seeds* comose. *R. Brown* in *Wern. Trans.* I. p. 57. *Nutt. Gen.* I. p. 162. *Roem. & Schult. Gen.* 1109. Nat. Ord. ASCLEPIADEÆ *R. Brown.* APOCINEÆ *Juss.*

*P. græca* L.: flowers hairy within, and terminal. *Willd. Spec.* I. p. 1248. *Duham. Arb.* II. p. 104. t. 21. *Nutt. l. c.* *Muhl. Cat.* p. 27. *Roem. & Schult.* VI. p. 126.

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. *Muhlenberg.*

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. *Stamineal* crown

† A name given by *Mr. Nuttall* to the "pollinis massæ" of *R. Brown.*

(*Lepanthium*, *Nutt.*) scutelliform, pentangular. *Anthers* opening transversely, terminated by a membrane. *Pollinia* 5 pair, not separating into grains. *Stigma* depressed. *Follicles* 2. *Seeds* comose. *Mich. Fl.* I. p. 421. *R. Brown in Wern. Trans.* I. p. 35. *Nutt. Gen.* I. p. 162. *Roem. & Schult. Gen.* 1084. *CYNANCHI* et *VINCETOXICI* spp. *Jacq. and Walt. Nat. Ord. ASCLEPIADEÆ* *R. Brown.* *APOCINEÆ* *Juss.* Stems twining, herbaceous.

1. *G. obliquus* *R. Br.*: stem climbing, hairy; leaves ovate-cordate, villous, acute; corymbs axillary; segments of the corolla ovate, acuminate, oblique, revolute. *Roem. & Schult.* VI. p. 64. *CYNANCHUM obliquum* *Jacq. Collect.* I. p. 148. *EjUSD. icon. rar.* II. t. 341. *Willd. Spec.* I. p. 1256. *Muhl. Cat.* p. 27.

*Stem* 4—5 feet long, terete, branched. *Leaves* veined on both sides, softly pubescent. *Umbels* axillary, simple, much shorter than the leaves. *Flowers* fætid, about an inch in diameter, (dark purple.) *Calyx* small, green; segments much spreading, linear-lanceolate, acute. *Jacq.*

*HAB.* In the vicinity of Philadelphia. *Barton.* In Pennsylvania. *Muhlenberg.* July.

*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.

2. *G. hirsutus* *Mich.*: sarments and petioles very hairy; leaves cordate-oval, distinctly acuminate, pubescent on both sides; segments of the corolla oblong, obtuse; follicles oblong, muricate. *Mich. Fl.* I. p. 119. *Roem. & Schult.* VI. p. 63. *GONOLOBIUM hirsutum* *Pursh Fl.* I. p. 179. *G. carolinensis* *Elliott Sk.* I. p. 328?

*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.

*HAB.* In hedges, near rivulets. Pennsylvania to Carolina. *Pursh.*

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. leve 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*.

*Calyx* small, 5-parted. *Corolla* rotate, 5-parted, mostly reflexed. *Stamineal crown* simple, 5-leaved; leaflets opposite the anthers, with a subulate averted process at the base. *Stigma* with the 5 angles (corpuscules) opening by 5 longitudinal chinks. *Pollinia* 5 distinct pairs, pendulous, suspended in the cells of the anthers from the angles of the stigma. *Follicles* ventricose, smooth or muricate. *Seed* comose. *Gen. pl.* 429. *R. Brown in Wern. Trans.* I. p. 37. *Nutt. Gen.* I. p. 165. *Roem. & Schult. Gen.* 1086. *Nat. Ord. ASCLEPIADEÆ R. Brown. APÖCINEÆ Juss.* *Swallow-wort. Silk-weed, &c.*

\* *Leaves opposite.*

1. *A. syriaca* L.: stem subsimple, leaves lanceolate-oblong, petiolate, tomentose beneath; umbels nodding; nectary bidentate; follicles muricate. *Willd. Spec.* I. p. 1265. *Pursh Fl.* I. p. 181. *Big. Bost.* p. 62. *Roem. & Schult.* VI. p. 69. *A. syriaca*  $\beta$ . *Mich. Fl.* I. p. 115. *A. syriaca*  $\beta$ . *illinoensis Pers. Syn.* I. p. 275. *Asclepias caule erecto, &c. Cold. Novob.* 41.

*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 cucullate leaflets; apex 2-toothed; *horn* acute, incurved, exserted. *Antheridium*† oblong, sessile, divided into 5 lobes by the corpuscules 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.

2. *A. phytolaccoides* *Lyons*: stem erect, simple; leaves broad-lanceolate, acuminate, smooth, pale beneath; umbels many-flowered, lateral and terminal, solitary, on long peduncles, nodding; nectary bidentate. *Pursh Fl.* l. p. 180. *Elliott Sk.* l. p. 319. *Nutt. Gen.* l. p. 166. *Roem. & Schult.* VI. p. 69. *A. exaltata et acuminata* *Muhl. Cat.* p. 27.

*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.

HAB. In shady swamps, and in rocky wet woods. On the Island of New-York, near the old Botanic Garden. In the Highlands of New-York. *Barratt.* Near Deerfield, Massachusetts. *Cooley* and *Hitchcock.* In the neighbourhood of Philadelphia. June—July.

3. *A. variegata* *L.*: stem simple, erect; leaves ovate, petiolate, smooth; umbels lateral and terminal, on short peduncles, crowded; pedicels tomentose; horn broad-falcate. *Willd. Spec.* I. p. 1265. *Bot. Mag.* 1182. *Pursh Fl.* l. p. 181. *Elliott Sk.* l. p. 317. *Nutt. Gen.* l. p. 167. *Walt. Car.* p. 104. *Roem. & Schult.* VI. p. 74. *A. hybrida* *Mich. Fl.* l. p. 115.

*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 cucullate, not toothed; *horn* or central process very hard, awned, subexserted; *tube* short, purplish. *Follicles* smooth.

**HAB.** In woods; plentifully about Bloomingdale on the Island of New-York, and on Long-Island, a few miles from Brooklyn. In Pennsylvania. *Muhlenberg*. July.

4. *A. obtusifolia Mich.*: leaves amplexicaul, oblong-obtuse, undulate, very smooth, glaucous beneath; umbel terminal, long-pedunculate, generally solitary; nectary slightly 2-toothed; horns exserted. *Mich. Fl.* l. p. 115. *Pursh Fl.* l. p. 182. *Elliott Sk.* l. p. 321. *Roem. & Schult.* VI. p. 74. *A. purpurascens Walt. Car.* p. 105.

*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 2 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.

**HAB.** In sandy fields and on sand-hills. On a hill near Flushing, Long-Island, where it was first pointed out to me by *Mr. Wm. R. Prince*. In the pine barrens of New-Jersey. Fairfield, New-York. *Hadley*. Cambridge. *Stevenson*. Sandy woods, near Schenectady. *L. C. Beck*. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. In Pennsylvania. *Muhlenberg*. June—July.

5. *A. laurifolia Mich.*: stem erect, smooth; leaves subsessile, oval-lanceolate, tapering to the summit, very acute, smooth; umbels on long peduncles, terminal and axillary. *Mich. Fl.* l. p. 117. *Pursh Fl.* l. p. 182. *Elliott Sk.* l. p. 322. *Roem. & Schult.* VI. p. 75.

*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 ciliate. *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.*

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

6. *A. incarnata L.*: stem erect, branched above, tomentose; leaves subsessile, lanceolate, tomentose; umbels erect, generally by pairs; nectary entire; horns subulate, exserted. *Willd. Spec.* I. p. 1267. *Mich. Fl.* l. p. 115. *Pursh Fl.* l. p. 181. *Elliott Sk.* l. p. 320. *Roem. & Schult.* VI. p. 72.

*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.

*β. pulchra Pers.*: stem and leaves very hairy. *A. pulchra Willd. Spec. I. p. 1267. Big. Bost. p. 63. Roem. & Schult. Vl. p. 72.*

HAB. With the preceding; from which, as *Pursh* remarks, it does not differ, except in the degree of pubescence.

7. *A. amœna L.*: stem with 2 longitudinal pubescent lines; leaves sessile, oblong-oval, pubescent beneath; umbels terminal, erect; nectary entire; horn subulate, exserted. *Willd. Spec. I. p. 1265. Mich. Fl. I. p. 118. Pursh Fl. I. p. 181. Nutt. Gen. I. p. 166. Roem. & Schult. V. p. 73.*

*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.

8. *A. purpurascens L.*: stem simple; leaves ovate, villous beneath; umbels erect; leaflets of the nectary resupinate. *Willd. Spec. I. p. 1265. Pursh Fl. I. p. 181. Big. Bost. p. 62. Elliott Sk. I. p. 322. Dill. Elth. t. 28. f. 31. Roem. & Schult. Vl. p. 73.*

*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.*

HAB. Near Boston. *Bigelow. In New-York. Muhlenberg.*

I have never seen a North-American ASCLEPIAS in which the nectary was resupinate. Perhaps the plant of *Dillenius* is only a variety of *A. amœna* or *incarnata*.

9. *A. debilis Mich.*: very smooth; stem erect, weak, simple; leaves petiolate, oval-lanceolate, acute at each extremity, membranaceous; umbels terminal, loose; pedicels capillary. *Mich. Fl. I. p. 116. Pursh Fl. I. p. 180.*

*Roem. & Schult.* VI. p. 74. *A. parviflora Elliott Sk.* I. p. 323? *Pluk. Amal.* t. 359. f. 5?

*Leaves* large. *Flowers* white.

HAB. On shady rocky situations, near rivulets. New-York to Carolina. *Pursh.*

*Elliott* considers the *A. debilis* of *Michaux* as his *parviflora*, but they are not united by *Pursh* or *Muhlenberg*.

10. *A. acuminata Ph.* : stem erect, smooth, simple; leaves ovate, subcordate, acuminate, subsessile; umbels lateral, solitary, erect; nectary acute; horns scarcely exerted. *Pursh Fl.* I. p. 182. *Roem. & Schult.* VI. p. 74. *A. periplocifolia Nutt. Gen.* I. p. 167. *A. cordata Walt. Car.* p. 105.

*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.

*Nuttall* 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.

11. *A. quadrifolia Jacq.* : stem erect, simple, smooth; leaves by fours, ovate, acuminate, petiolate; umbels 2, terminal, erect, loose; pedicels capillary; nectary bidentate; horn very short. *Jacq. Obs.* II. t. 33. *Pursh Fl.* I. p. 183. *Muhl. Cat.* p. 28. *Elliott Sk.* I. p. 319. *Nutt. Gen.* I. p. 167. *Roem. & Schult.* VI. p. 76. *A. caule erecto, foliis ovato-lanceolatis, &c. Cold. Novemb.* 43. *Apocynum umbellatum album latiore foliis tetraphyllum, &c. Pluk. Mant.* p. 46.

*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.

12. *A. viridiflora Raf.*: stem erect, simple, hairy; leaves oblong, on short petioles, tomentose-pubescent on both sides, obtuse; umbels lateral, solitary, subsessile, nodding, dense; horns of the nectary wanting. *Raf. in Med. Rep. XI. p. 360. Ejud. in Des v. Journ. Bot. I. p. 227. Pursh Fl. I. p. 181. Roem. & Schult. VI. p. 73. A. nutans Muhl. Cat. p. 27.*

*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 cucullate; margin with a minute tooth on each side near the base; *horn* entirely wanting; margins of the *corpuscules* subtriangularly produced at the middle. *Follicles* smooth.

**HAB.** In sandy fields. Near New-Haven, Connecticut. *Ives. Deerfield, Massachusetts. Cooley and Hitchcock. Philipstown, New-York. Barratt. In Pennsylvania and Maryland. Rafinesque. July.*

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. On the GOMPHOCARPUS† of *R. Brown*, it only differs in the smooth follicles.

β. *lancoolata\**: leaves lanceolate, acute.  
*Ives in Sill. Jour. IV. t.*

**HAB.** Near New-Haven, Connecticut. *Ives. Philips. in the Highlands of New-York. Barratt. Near New Brunswick, New-Jersey. Dudgeon. July.*

This variety resembles a specimen of *A. longifolia M* from Kentucky, which I have in my Herbarium. The only difference is in the leaves being a little narrower.

γ. *obovata\**: leaves obovate. *A. obovata Elli*  
*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.*

cent lines; leaves mostly verticillate, narrow-linear, revolute; nectaries short, bidentate; horns falcate, much exerted. *Willd. Spec. l. p. 1272. Mich. Fl. l. p. 116. Pursh Fl. l. p. 183. Big. Bost. p. 63. Elliott Sk. l. p. 324. Nutt. Gen. l. p. 163. Walt. Car. p. 106. Gron. Virg. p. 26. Pluk. Mant. t. 336. f. 4. Roem. & Schult. IV. p. 76.*

*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*. *Corpuscules* triangularly produced at the base. *Follicles* long, slender, smooth.

**HAB.** On dry hills; particularly in limestone regions. Abundant at Kingsbridge, New-York, &c.

\* \* *Leaflets altern*

14. *A. tuberosa* L.: stem erect, very hairy, with spreading branches; leaves oblong-lanceolate. sessile; umbels numerous, forming terminal corymbs. *Willd. Spec. l. p. 1273. Mich. Fl. l. p. 116. Pursh Fl. l. p. 183. Big. Bost. p. 63. Elliott Sk. l. p. 324. Nutt. Gen. l. p. 163. Walt. Car. p. 106. Gron. Virg. p. 26. Pluk. Mant. t. 336. f. 4. Roem. & Schult. VI. p. 34. Dill. Eth. t. 30. f. 31.*

*Root* 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. *Corpuscules* greenish, triangularly produced at the base. *Follicles* smooth.

**HAB.** In sandy fields; common. August. *Pleurisy-root.*—*Butterfly-weed, &c.*

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-

liate or entire, spreading, erect, or connivent. *Stamens* included. *Styles* 0, or very short; *stigmas* 2. *Capsule* 1-celled, 2-valved; *receptacles* 2, longitudinal. *Gen. pl.* 450. *Nutt. Gen. I.* p. 71. *Juss.* p. 141. *Lam. Ill. t. CIX.* *Roem. & Schult. Gen.* 1113. *Nat. Ord. GENTIANÆ Juss.* *Gentian.*

1. *G. Saponaria L.*: leaves ovate-lanceolate, acute, 3-nerved; flowers verticillate-capitate, sessile; corolla ventricose, closed, 10-cleft; interior segments unequally 2—3-cleft, as long as the exterior ones; segments of the calyx ovate, shorter than the tube. *Willd. Spec. I.* p. 1138. *Bot. Mag. t.* 1039. *Pursh Fl. I.* p. 185. excl. syn. *Walt. et Catesb. Big. Bost.* p. 64. *Elliott Sk. I.* p. 339. *Bart. Fl. Am. Sept. III. t.* 79. *Roem. & Schult. VI.* p. 148. *G. autumnalis prima. Cold. Novob.* 49.

*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.

2. *G. ochroleuca Froel.*: stem subangular; leaves ovate-lanceolate; flowers in terminal subsessile fascicles; segments of the calyx linear-lanceolate; corolla campanulate-ventricose, 10 cleft; segments acute, slightly connivent; interior ones subdentate, short. *Willd. Spec. I.* p. 1358. *Bot. Mag. t.* 1551. *Pursh Fl. I.* p. 185. *Elliott Sk. I.* p. 340? *Roem. & Schult. VI.* p. 149. *G. Saponaria Walt. Car.* p. 109. *Mich. Fl. I.* p. 176. *G. villosa L.* vide *Pursh.*

*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.



HAB. In fields and in woods. Long-Island and New-Jersey. September. *Eddy*.

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.

3. *G. Pneumonanthe* L. : stem terete; leaves linear-lanceolate, obtuse; flowers few, terminal, (and axillary) subsessile; segments of the calyx linear-oblong, rather acute; corolla campanulate, 5-cleft; segments acute; interior plaits short, 1-toothed. *Willd. Spec. I. p. 1356. Smith Fl. Brit. I. p. 235. Eng. Bot. t. 20. Mich. Fl. I. p. 176. Pursh Fl. I. p. 185. Muhl. Cat. 29. G. Pseudo-Pneumonanthe Roem. & Schult. VI. p. 146.*

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 plaits very short, acute, confluent on one side with the exterior segments; anthers connate. Capsule fusiform.

HAB. On high mountains near the borders of lakes and rivers. Canada to Pennsylvania. *Pursh. Portland, Maine. Bigelow. Calathian-Violet.*

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*.

4. *G. angustifolia* Mich. : stem simple, slender, 1-flowered; leaves linear, spreading; corolla infundibuliform, 5-cleft, with 5 interior lacerate segments. *Mich. Fl. I. p. 177. Pursh Fl. I. p. 186. Elliott Sk. I. p. 344. Roem. & Schult. VI. p. 170. A. purpurea Walt. Car. p. 109.*

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.

HAB. Borders of swamps in the pine barrens of New-Jersey. October—November.

This is one of the most beautiful plants of North-America.

5. *G. linearis* Froel. : stem somewhat scabrous; leaves linear-lanceolate, undulate, ciliate, as are also the segments of

the calyx; flowers sessile, in terminal crowded fascicles; corolla campanulate, 5-cleft; segments obtuse, with the interior folds denticulate. *Willd. Spec. I. p. 439. Pursh Fl. I. p. 186. Roem. & Schult. VI. p. 146. G. puberula Mich. Fl. I. p. 176.*

*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.*

**HAB.** In vallies on the mountains of Pennsylvania. *Willdenow.*

I have seen no specimens of this plant. *Michaux* remarks that it resembles *G. Pneumonanthe*.

6. *G. quinqueflora Froel.*: stem quadrangular, branched; leaves ovate-lanceolate, acute, 3-nerved; flowers somewhat in fives, terminal and axillary, pedicellate; corolla tubular-campanulate, 5-cleft; segments setaceously acuminate; calyx very short. *Willd. Spec. I. p. 1339. Elliott Sk. I. p. 341. Roem. & Schult. VI. p. 150. G. amarelloides Mich. Fl. I. p. 175. Pursh Fl. I. p. 186. G. quinquefolia L. Sp. pl. I. p. 333. G. autumnalis tertia. Cold. Novob. 51.*

*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.

**HAB.** In woods and on hill sides. Near Elizabeth-town, New-Jersey. *Eddy. Cambridge, New-York. Stevenson. Hudson, N. Y. Alsop. Near Albany. L. C. Beck and Tracy. In Pennsylvania. Muhlenberg. September—October.*

7. *G. crinita Froel.*: stem terete; branches elongated, 1-flowered; leaves lanceolate, acute; corolla half 4-cleft; segments incisely-ciliate. *Willd. Spec. I. p. 1352. Bot. Mag. t. 2031. Pursh Fl. I. p. 185. Big. Bost. p. 64. Elliott Sk. I. p. 341. Roem. & Schult. VI. p. 175. G. autumnalis secunda Cold. Novob. 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. *Antheris* distinct, oblong, incumbent, yellow. *Germen* 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.

*Calyx* 4—5-cleft. *Corolla* 4—5-cleft, subcampanulate, marcescent. *Capsule* 2-celled, opening ail round transversely; cells 2-seeded. *Gen. pl.* 227. *Nutt. Gen. II. Supp. Juss.* p. 135. *Lam. Ill. t.* 88. f. 3. *Roem. & Schult. Gen.* 1119. *Nat. Ord. CONVULVULI Juss.* Leafless, twining, parasitic herbs; stamens sometimes only 4; embryo spiral.  
*Dodder.*

1. *C. americana* L.: flowers pedunculate, umbellate, 5-cleft; stigmas capitate; corolla tubular-campanulate, with the border small and spreading. *Willd. Spec.* I. p. 702. *Michx. Fl. l.* p. 175. *Pursh Fl. l.* p. 116. *Big. Bost.* p. 64. *Elliott Sk. l.* p. 220. *Walt. Car.* p. 109. *Roem. & Schult. VI.* p. 201.

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.

HAB. In low grounds. June—August.

A common parasite on *Lycopus europæus*. 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.

† GENTIANELLA. *Cal.* 4-fidus. *Corolla* hypocrateriformis, 4-fida absque parapetalis, fundi nectarifero poris 4. *Stam.* 4; *antheris* supra stigma conniventibus. *Germen* subpedicellatum obsolete tetragonum, stigmatibus latiuscula revoluto. *Caps.* dehiscens, angulis obtusis, seminibus 4-fariam dispositis. *Borkhausen.*

2. *C. europæa* L.: flowers sessile; corolla 4—5-cleft, without scales at the base of the stamens; stigmas simple. *Willd. Spec.* I. p. 702. *Smith Fl. Brit.* I. p. 230. *Eng. Bot.* t. 378. *Muhl. Cat.* p. 47. *Roem. & Schult.* VI. p. 199.

Annual. *Stems* filiform, red, climbing. *Flowers* pale yellow, with a tinge of red, mostly 4-cleft. *Corolla* campanulate. *Stamens* 4—5. *Styles* divaricate.

HAB. Parasitic on flax, &c. Near Albany, New-York. *L. C. Beck.* In Pennsylvania. *Muhlenberg.* July.

## 192. HEUCHERA. L.

*Calyx* 5-cleft. *Petals* 5, small, inserted into the margin of the calyx. *Capsule* birostrate, 2-celled, many-seeded. *Gen. pl.* 447. *Nutt. Gen.* I. p. 174. *Juss.* p. 308. *Lam. Ill.* t. CLXXXIV. *Roem. & Schult. Gen.* 1130. Nat. Ord. SAXIFRAGÆ *Juss.* Alum-root.

1. *H. americana* L.: viscidly pubescent; scape and leaves a little scabrous; leaves with rounded lobes, dentate; teeth dilated, obtuse, mucronate; panicle dichotomous; calyx short, obtuse; petals lanceolate, as long as the calyx. *Willd. Spec.* I. p. 1328. *Elliott Sk.* I. p. 337. *Muhl. Cat.* p. 29. *Walt. Car.* p. 111. *Roem. & Schult.* VI. p. 215. *H. Cortusa Mich. Fl.* I. p. 171. *H. viscida Pursh Fl.* I. p. 187. *Gron. Virg.* 29. *Sanicula* s. *Cortusa americana.* *Pluk. Alm.* t. 58. f. 3. *Anonyma Mitellæ affinis.* *Cold. Novemb.* 48.

*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 *thyrsus* elongated; *branches* and *pedicels* at length much divaricate, bracteate at the divisions. *Capsule* subturbinate, 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.

HAB. In shady rocky situations. June—July. Alum-root.

2. *H. pubescens* Ph.: pulverulent-pubescent; scape smooth below; leaves somewhat acutely lobed, smooth beneath, toothed; teeth rounded, mucronate; peduncles short.

with crowded flowers; calyx large, campanulate; petals longer than the calyx; stamens scarcely exerted. *Pursh Fl. I. p. 187. Roem. & Schult. VI. p. 216. H. grandiflora Raf. MS.*

*Leaves* on long, nearly smooth petioles, about 7-lobed, pilose-ciliate 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* spathulate, attenuate at the base, (pale red, with yellow, *Ph.*) *Stamens* about as long as the petals. *Styles* exerted.

**HAB.** On the Blue Mountains of Pennsylvania and Virginia. *Pursh.* On the Alleghany Mountains, Maryland. *Rafinesque.*

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.

Polygamous. Flowers in a simple umbel. PERFECT. *Calyx* 5-toothed. *Petals* 5. *Style* 2—3. *Berry* subcordate, 2—3-seeded. STAMINIFEROUS. *Calyx* entire. *Gen. pl.* 1604. *Nutt. Gen. I. p. 175. Juss. p. 218. Lam. Ill. t. 860. f. 1. Roem. & Schult. Gen. 1127. Nat. Ord. ARALIAE Juss.*

1. *P. trifolium L.*: leaves ternate; leaflets subsessile; styles 3; berry tricoccous; root globose. *Willd. Spec. IV. p. 1124. Mich. Fl. II. p. 256. Pursh Fl. I. p. 191. Roem. & Schult. VI. p. 212. P. pusilla Bot. Mag. t. 1334. P. foliis ternis ternatis, Gron. Virg. 35. Pluk. Mant. t. 435. f. 7. Cold. Novob. 52.*

*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, obsoletely 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.

HAB. In moist shady woods, among decaying leaves. April—May.

2. *P. quinquefolium* L.: leaves in threes; leaflets quin-ate, petiolate; peduncles shorter than the petioles; root fusiform. *Willd. Spec.* IV. p. 1124. *Woodv. Med. Bot.* t. 99. *Bot. Mag.* t. 1333. *Mich. Fl.* II. p. 256. *Pursh Fl.* I. p. 191. *Big. Med. Bot.* III. p. 82. t. 29. *Walt. Car.* p. 153. *Roem. & Schult.* VI. p. 211.

*Root* 3—6 inches long, whitish, transversely wrinkled. *Stems* 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 involucre short, subulate. PERFECT. *Calyx* with 5 ovate rather acute teeth. *Petals* greenish, oblong, very obtuse, 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.

Polygamous. PERFECT FL. *Calyx* 5-parted, inferior. *Corolla* 0. *Stamens* 5. *Style* 2-parted. *Fruit* depressed. PISTILLIFEROUS FL. *Calyx* 2-parted. *Stamens* 0. *Fruit* compressed. *Seed* vertical. *Gen. pl.* 1577. *R. Brown Prod.* I. p. 406. *Nutt. Gen.* I. p. 197. *Juss.* p. 85. *Lam. Ill.* t. DCCCLIII. *Roem. & Schult. Gen.* 1149. Nat. Ord. ATRIPLEX *Juss.* CHENOPODEÆ *De Cund.* *Orache.*

1. *A. hortensis* L.: stem erect, herbaceous; leaves triangular. dentate, green on both sides; fructiferous calyx of the fruit ovate, reticulate, entire. *Willd. Spec.* IV. p. 961. *Muhl. Cat.* p. 100. *Roem. & Schult.* VI. p. 232.

*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.

HAB. In cultivated grounds and waste places; rare. July—August. Introduced from Europe.

2. *A. arenaria* Nutt.: stem herbaceous, spreading; leaves oblong-ovate, subsessile, silvery-mealy beneath, very entire; upper ones acute or acuminate; fructiferous calyx muricate, dentate, retuse. Nutt. Gen. I. p. 193.

Root annual. Stem about a foot high, very much branched, and often procumbent, covered with a silvery mealiness. 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.

HAB. On the sea-coast of Long-Island and of New-Jersey; abundant. August—September.

Scarcely distinct from *A. pedunculata* of Europe.

3. *A. laciniata* β. *americana*\*: stem herbaceous, diffuse; leaves triangular-hastate, deeply toothed, glaucous, a little pulverulent; perfect flowers tetrandrous; fructiferous calyx rhomboid, acute, entire. *A. laciniata* Pursh Fl. I. p. 199. Muhl. Cat. p. 100. Walt. Car. p. 252.

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.

4. *A. patula* L.: stem herbaceous, spreading; leaves triangular-hastate, smooth above, irregularly toothed; the upper ones entire; fructiferous calyx submuricate on the sides. Willd. Spec. IV. p. 964. Smith Fl. Brit. III. p. 1091. Eng. Bot. t. 936. Muhl. Cat. p. 100. Roem. & Schult. VI. p. 286.

HAB. In New-York, August. Muhlenberg.

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

opposite, oblong-subrhomboid, very entire. *Willd. Spec.* IV. p. 557. *Muhl. Cat.* p. 100. *Roem. & Schult.* VI. p. 276.

HAB. In New-Jersey. *Muhlenberg.*

*Pursh* remarks that he never saw this plant growing wild in North-America.

### 195. CHENOPODIUM. L.

*Calyx* 5-parted, obtusely pentangular. *Corolla* 0. *Style* deeply bifid. *Seed* lenticular, horizontal, partly covered by the closing calyx. *Gen. pl.* 435. *Nutt.* *Gen.* I. p. 198. *Juss.* p. 85. *Lam. Ill.* t. 181. *Roem. & Schult. Gen.* 1139. Nat. Ord. ATRIPLICES *Juss.* CHENOPODEÆ *De Cand.* Goose-foot.

1. *C. Bonus Henricus L.*: leaves triangular-hastate, very entire; spikes compound, terminal and axillary, erect, leafless. *Willd. Spec.* I. p. 1299. *Smith Fl. Brit.* I. p. 272. *Eng. Bot.* t. 1033. *Pursh Fl.* I. p. 197. *Muhl. Cat.* p. 28. *Roem. & Schult.* VI. p. 252.

*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.

HAB. In New-York and Maryland. June. *Muhlenberg.*  
*Good King Henry.*

I have never seen North-American specimens of this plant. It is common in Europe.

2. *C. rhombifolium Muhl.*: leaves triangular-rhombic, acute, repandly-toothed; racemes axillary, erect, leafless; bracts minute, inflexed. *Willd. Enum. Hort. Berol.* I. p. 289. *Muhl. Cat.* p. 28. *Roem. & Schult.* VI. p. 256

*Root* annual. *Leaves* acutely toothed; upper ones lanceolate, toothed, cuncate at the base. *Racemes* simple, shorter than the petioles. *Willd.*

HAB. In Pennsylvania. June. *Muhlenberg.*

Resembles *C. murale*, but differs in the inflorescence and form of the leaves.

3. *C. album L.*: leaves rhomboid-ovate, crose, entire at the base; upper ones oblong, very entire; racemes branched, somewhat leafy; seed smooth. *Willd. Spec.* I. p. 1302. *Smith Fl. Brit.* I. p. 275. *Eng. Bot.* t. 1723. *Pursh*



*Fl. I.* p. 198. *Big. Bost.* p. 65. *Elliott Sk. I.* p. 330.  
*Roem. & Schult.* VI. p. 257.

*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. *Lambs-quarters.*

*β. viride Ph.:* leaves greener and more entire; racemes more branched, a little leafy. *C. viride Willd. Spec. I.* p. 1303.

**HAB.** With the preceding, of which it is certainly a mere variety.

4. *C. hybridum L.:* leaves ovate-cordate, acuminate, angularly toothed; racemes axillary, paniculate, divaricate, leafless. *Willd. Spec. I.* p. 1303. *Smith Fl. Brit. I.* p. 278. *Eng. Bot.* t. 1919. *Pursh Fl. I.* p. 198. *Big. Bost.* p. 66. *Roem. & Schult.* VI. p. 259.

*Root* annual. *Stem* 2—3 feet high, angular and striate. *Leaves* large, nearly smooth, bright green, with large unequal teeth. *Racemes* much branched, subcymose.

**HAB.** In waste places, and on road sides. July—August. Not uncommon near the city of New-York, as at Brooklyn. Near Newark, New-Jersey, &c. Introduced.

5. *C. rubrum L.:* leaves rhomboid-triangular, deeply toothed and sinuate; racemes erect, compound, leafy. *Willd. Spec. I.* p. 1300. *Smith Fl. Brit. I.* p. 274. *Eng. Bot.* p. 66. *Roem. & Schult.* VI. p. 253.

*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.

**HAB.** In waste places. In the vicinity of New-York; rare. Near Williamstown, Massachusetts. *Dewey.* In the neighbourhood of Boston. *Bigelow.* Also in many other parts of New-England. Probably introduced.

6. *C. ambrosioides L.:* leaves lanceolate, remotely toothed; racemes simple, axillary, leafy. *Willd. Spec. I.* p. 1304. *Pursh Fl. I.* p. 198. *Elliott Sk. I.* p. 330. *Roem. & Schult.* VI. p. 260.

*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.

7. *C. Botrys* L.: leaves oblong, sinuate; racemes naked, much divided. *Willd. Spec. I. p. 259. Pursh Fl. I. p. 198. Big. Bost. p. 66. Elliott Sk. I. p. 330. Roem. & Schult. VI. p. 259.*

*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.*

8. *C. anthelminticum* L.: perennial; leaves oblong-lanceolate, toothed; spikes long, interrupted, leafless; style 3-cleft. *Willd. Spec. I. p. 1304. Mich. Fl. I. p. 173. Pursh Fl. I. p. 198. Elliott Sk. I. p. 331. Bart. Veg. Mat. Med. II. t. 44. Walt. Car. p. 111. Roem. & Schult. VI. p. 261.*

*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.

HAB. In sandy fields; rare near New-York. In Pennsylvania and New-Jersey. *Muhlenberg.* Near Philadelphia. *Barton.* September. *Worm-seed.*

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.

9. *C. glaucum* L.: leaves oblong, repand, glaucous beneath; spikes simple, naked, glomerate, axillary and terminal. *Willd. Spec. I. p. 1305. Smith Fl. Brit. I. p. 277. Eng. Bot. t. 1454. Muhl. Cat. p. 28. Roem. & Schult. VI. p. 262.*

*Root* annual. *Stems* diffuse, thick. *Leaves* oblong, and ovate-oblong, rather obtuse, 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, semicylindri-

cal; flowers axillary, glomerate. *Willd. Spec. I. p. 1307. Smith Fl. Brit. I. p. 278. Eng. Bot. t. 633. Pursh Fl. I. p. 198. Walt. Car. p. 111. Roem. & Schult. VI. p. 272. SALSOLA salsa Mich. Fl. I. p. 174. Pursh Fl. I. p. 197. S. salsa  $\beta$ . americana Pers. Syn. I. p. 296. S. linearis Elliott Sk. I. p. 232.*

*Root* annual. *Stem* a foot and a half, or two feet high, with short erect branches. *Leaves* alternate, sessile, about three-fourths of an inch long, very acute. *Flowers* in small axillary glomerules. *Calyx* succulent; segments rounded, concave. *Stigmas* 2, simple. *Seed* lenticular, black, shining, covered with a thin pellicle (utriculus *R. Brown*), distinctly spiral.

**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.*

*Calyx* 5-parted. *Corolla* 0. *Style* bifid. *Seed* 1, horizontal, covered by the connivent calyx. *Embryo* cochleate. *Gen. pl. 437. Nutt. Gen. I. p. 199. Juss. p. 85. Lam. Ill. t. CLXXXI. Roem. & Schult. Gen. 1134. Nat. Ord. ATRIPLICES Juss. CHENOPODEÆ De Cand. Seed with a single integument. R. Brown. Salt-wort.*

1. *S. Kali L.*: herbaceous, decumbent; leaves subulate, canaliculate, spinose; flowers axillary, solitary; fructiferous calyx with a scarious margin. *Willd. Spec. I. p. 1310. Smith Fl. Brit. I. p. 280. Eng. Bot. t. 634. Pursh Fl. I. p. 197. Roem. & Schult. VI. p. 225.*

*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.

**HAB.** On the sea-coast. Abundant on Long-Island and in New-Jersey. August—September.

*$\beta$ . caroliniana Nutt.*: leaves dilated; calyx with a broader margin; stem smooth. *Nutt. Gen. I. p. 199. S.*

*caroliniana* *Walt. Car.* p. 111. *Mich. Fl.* I. p. 174. *Big. Bost.* p. 65. *Elliott Sk.* I. p. 331.

*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  $\beta$ . resembles *S. rosacea*.

2. *S. Tragus* *L.*: herbaceous, spreading, smooth; leaves subulate, fleshy, mucronate-spinous; flowers subsolitary; calyx subovate; margin flattened, discoloured. *Willd. Spec.* I. p. 1311. *Muhl. Cat.* p. 28. *Roem. & Schult.* VI. p. 226.

HAB. In Maryland and New-Jersey. July. *Muhlenberg*.

I insert this species with some hesitation, as I suspect *Muhlenberg's* plant is only *S. Kali*.

3. *S. Soda* *L.*: herbaceous, smooth; branches ascending; leaves semiterete, rather acute; fructiferous calyx transversely carinate in the middle, somewhat membranaceous. *Willd. Spec.* I. p. 1311. *Jacq. Hort. Vind.* t. 68. *Muhl. Cat.* p. 28. *Roem. & Schult.* VI. p. 236.

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

## 197. ULMUS. *L.*

*Calyx* campanulate, 4—5-cleft. *Corolla* 0. *Samara* compressed, with a broad membranaceous border. *Gen. pl.* 443. *Nutt. Gen.* 201. *Juss.* p. 408. *Lam. Ill.* t. CLXXXV. *Roem. & Schult. Gen.* 1147. *Nat. Ord.* AMENTACEÆ *Juss.* ULMACEÆ *Mirbel.* *Stamens* 4—8. *Elm.*

*U. americana* *L.*: branches smooth; leaves somewhat doubly serrate, unequal at the base; serratures uncinately acuminate; flowers pedicellate; fruit fimbriate. *Willd. Spec.* I. p. 1325. *Mich. Fl.* I. p. 172. *Pursh Fl.* I. p. 199. *Big. Bost.* p. 66. *Elliott Sk.* I. p. 338. *Mich. Fl. Arb.* III. p. 269. *Walt. Car.* p. 111. *Roem. & Schult.* VI. p. 300. *U. americana* *Cold. Novemb.* 1.

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.

HAB. In woods; common. April. *Common Elm. White Elm.*

2. *U. fulva Mich.*: leaves oval-oblong, much acuminate, pubescent on both sides; buds tomentose; flowers sessile. *Mich. Fl. I. p. 172. Pursh Fl. I. p. 200. Elliott Sk. I. p. 333. Roem. & Schult. VI. p. 301. U. aspera Muhl. Cat. p. 28. U. rubra Mich. fl. Arb. III. p. 278. t. 6.*

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.

HAB. On rocky hills. Hoboken, New-Jersey, &c. April. *Slippery Elm. Red Elm.*

3. *U. nemoralis Ait.*: leaves oblong, somewhat smooth, equally serrate, nearly equal at the base; flowers sessile. *Ait. Kew. I. p. 319. Pursh Fl. I. p. 200.*

HAB. On the banks of rivers. New-England to Virginia. *Pursh. +*

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.

Polygamous. PERFECT FL. *Calyx* inferior, 5-parted. *Corolla* 0. *Styles* thick, divaricate. *Drupe* 1-seeded. STAMINIFEROUS. *Calyx* 6-parted. *Stamens* 6. *Gen. pl. 1591. Nutt. Gen. I. p. 202. Juss. p. 403. Lam. Ill. t. DCCCLXXXIV. Roem. &*

*Schult. Gen.* 850. Nat. Ord. AMENTACEÆ *Juss.*  
 ULMACEÆ *Mirbel?* *Nettle-tree. Hack-berry.*

1. *C. occidentalis* L.: leaves ovate, acuminate, equally serrate, unequal at the base, scabrous above, pubescent beneath; flowers subsolitary. *Willd. Spec.* IV. p. 994. *Duham. Arb.* I. t. 53. *Mich. Fl.* II. p. 249. *Pursh Fl.* I. p. 200. *Elliott Sk.* I. p. 335. *Mich. fil. Arb.* III. p. 45. t. 9. *Walt. Car.* p. 250. *Roem. & Schult.* VI. p. 307.

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 uncinat. *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 exerted, 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.

2. *C. crassifolia* Lam.: leaves ovate, acuminate, unequally serrate, subcoriaceous, scabrous on both sides, unequal at the base; peduncles mostly 2-flowered. *Lam. Enc.* IV. p. 138. *Willd. Spec.* IV. p. 995. *Pursh Fl.* I. p. 200. *Mich. fil. Arb.* III. p. 47. t. 9. *Roem. & Schult.* VI. p. 307. *C. cordifolia* *Duham. Arb.* II. t. 9.

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.*  
 Scarcely 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; peduncles mostly 3-flowered; fruit solitary. *Pursh Fl.* I. p. 200. *Roem. & Schult.* VI. p. 307. *C. occidentalis*  $\beta$ . *pumila* *Muhl. Cat.* p. 100?

A low bush, flowering at the height of 2 feet. *Leaves* nearly as broad as long, occasionally without serratures, often cordate-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* paleaceous. *Invo-*

*lucrum* many-leaved, subspinous. *Petals* inflexed. *Spreng. in Roem. & Schult. Gen.* 1156.

1. *E. aquaticum Jacq.*: leaves linear-lanceolate, remotely ciliate-spinous; inferior ones ensiform; those of the flowers lanceolate, dentate; involucre shorter than the globose capitulum, entire, as are also the scales of the receptacle; stem subdichotomous. *Spreng. in Roem. & Schult. VI.* p. 316. *Willd. Spec. I.* p. 1357. *Lam. Enc. IV.* p. 758. *Pers. Syn. I.* p. 300. *Pursh Fl. I.* p. 189. *Elliott Sk. I.* 142. *E. yuccifolium Mich. Fl. I.* p. 164.

*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. Foliaceous bracts or universal involucre 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?

2. *E. virginianum Lam.*: leaves long-lanceolate, serrate; involucre longer than the heads; chaff tricuspidate. *Lam. Enc. IV.* p. 759. *Delaroch. Eryng. t.* 19. *Pers. Syn. I.* p. 300. *Pursh Fl. I.* p. 189. *Elliott Sk. I.* p. 343. *Roem. & Schult. VI.* p. 327. *E. aquaticum Mich. Fl. I.* p. 300.

*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 corymbs. Leaflets of the involucre pale beneath, lacinate; segments cuspidate. *Chaff* 3-cleft. *Corolla* nearly white or pale blue. *Fruit* paleaceous-hispid.

HAB. In New-Jersey. *Muhlenberg.* On the shores of the Delaware and Schuylkill, near Philadelphia. *Barton.*

3. *E. virgatum Lam.*: leaves spatulate-ovate, irregularly toothed; leaflets of the involucre linear, longer than the globose heads; chaff tricuspidate. *Lam. Enc. IV.* p. 757. *Delaroch. Eryng. t.* 20. *Pursh Fl. I.* p. 189. *Roem. & Schult. VI.* p. 327. *E. ovalifolium Mich. Fl. I.* p. 163. *Elliott Sk. I.* p. 343.

*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. *Involucre* about 8-leav-

ed; leaflets with a few subulate teeth. *Heads* small. *Teeth* of the *calyx* ovate, acute. *Petals* pale blue, inflexed.  
 HAB. In New-Jersey. *Muhlenberg*.  
 I have seen no northern specimens of this species.

## 200. SANICULA. L.

*Umbels* nearly simple, capitate. *Involucrum* few-leaved. *Flowers* polygamous. *Calyx* 5-parted, persistent. *Fruit* oblong, solid, not ribbed, armed with uncinatè bristles. *Roem. & Schult. Gen.* 1160. *Nutt. Gen. I.* p. 178. *Lam. Ill. t.* 191. Perfect flowers sessile. *Sanicle.*

*S. marilandica* L.: leaves all digitate; leaflets oblong, incisely serrate; stamiferous flowers numerous, pedicellate. *Willd. Spec. I.* p. 1367. *Mich. Fl. I.* p. 162. *Pursh Fl. I.* p. 191. *Big. Bost. p.* 67. *Elliott Sk. I.* p. 348. *Walt. Car. p.* 113. *Roem. & Schult. VI.* p. 340. *Cold. Novob.* 53.

*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; stamiferous ones more numerous, on distinct pedicels. *Involucrum* many-parted. *Corolla* white; *petals* obcordate, inflexed. *Fruit* armed with hooked bristles.

HAB. In woods and thickets; common. June—August.  
*Black Snake-root.*

*β. canadensis*\*: leaves subternate; leaflets ovate, coarsely toothed. *S. canadensis* L. *Willd. Spec. I.* p. 1366. *Pursh Fl. I.* p. 191. *Muhl. Cat. p.* 30. *Roem. & Schult. VI.* p. 339.

HAB. Litchfield, Connecticut. *Brace, &c.*

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 ERIGENIA, *Nutt. Petals* oval, acute, equal. *Fruit* not toothed at the summit, subglobose or lenticular,



smooth and striate, or costate. *Epigynous disk* yellow; glandular bifid. *A. Richard fil. in Ann. Gen. des Scienc. Phys.* 4. liv. p. 164. *Marsh Penny-wort.*

1. *H. vulgaris* L.: leaves peltate, orbicular, crenate; umbels capitate, about 5-flowered. *Rich. l. c.* p. 167. no. 1. *Willd. Spec.* I. p. 1360. *Smith Fl. Brit.* I. p. 290. *Eng. Bot.* p. 751. *Mich. Fl.* I. p. 161. *Pursh Fl.* I. p. 190. *Roem. & Schult.* VI. p. 344. *H. interrupta* Muhl. *Cat. p.* 29. *Elliott Sk.* I. p. 345.

*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. Pursh.*

I suspect this species has not been found so far north as indicated by *Pursh.*

2. *H. umbellata* L.: leaves peltate, crenate, emarginate at the base; umbel of many pedunculate flowers. *Willd. Spec.* I. p. 1361. *Spreng. Umb. Spec.* p. 1. t. 1. *Pursh Fl.* I. p. 190. *Elliott Sk.* I. p. 346. *Walt. Car.* p. 112. *Roem. & Schult.* VI. p. 345. *H. umbellulata* Mich. *Fl.* I. p. 161. *Rich. l. c.* p. 169. no. 4. t. 53. f. 4.

*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.

*HAB.* In Pennsylvania. August. *Muhlenberg.* Near Albany, New-York. *Beck and Tracy.* June.

3. *H. americana* L.: smooth; root tuberous; leaves reniform, somewhat 7-lobed, crenate; umbels few-flowered, sessile. *Rich. l. c.* p. 135. no. 19. t. 55. f. 10. *Willd. Spec.* I. p. 1361. *Spreng. Umb. Spec.* p. 3. t. 2. f. 3. *Mich. Fl.* I. p. 162. *Pursh Fl.* I. p. 190. *Big. Bost.* p. 67. *Elliott Sk.* I. p. 348. *Walt. Car.* p. 113. *Roem. & Schult.* VI. p. 346.

*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.

4. *H. ranunculoides* L.: leaves somewhat 5-lobed, cordate, crenate-dentate; umbels capitate, about 8—10-flowered. *Rich.* l. c. p. 195. no. 30. t. 38. f. 18. *L. Mant.* p. 177. *Willd. Spec.* l. p. 1363. *Spreng. Umb.* p. 2. t. 1. f. 2. *Roem. & Schult.* VI. p. 349. *H. cymbalarifolia* Muhl. *Cat.* p. 29. *Elliott Sk.* l. p. 346. *H. repens* flore albo, *Gron. Virg.* p. 30.

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. *Etl.*

HAB. In Pennsylvania. June. *Muhlenberg.*

5. *H. lineata* Mich.: very smooth, creeping; leaves sessile, cuneate-linear, with transverse nerves; umbels pedunculate. *Rich.* l. c. p. 217. no. 54. t. 66. f. 38. *Mich. Fl.* I. p. 162. *Pursh Fl.* I. p. 190. *Elliott Sk.* l. p. 347. *H. sinensis* L. *Sp. pl.* 339? *CRANTZIA lineata* Nutt. *Gen.* I. p. 173.

*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. *Invoucrum* 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.

HAB. On the muddy banks of the Housatonic, near New-Haven, Connecticut; abundant. *Ives* and *Hooker.* In a salt marsh near Egg-harbour, New-Jersey. *Nuttall.* July—August.

*Sprengel,* in *Roemer & Schultes Syst. Veg.* VI. p. 355. 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.

6. *H. composita* Ph.: root tuberous; stem simple, 2-leaved; leaves subternate; leaflets many-cleft; umbel 3—5-flowered. *Pursh Fl.* I. p. 190. *Roem. & Schult.* VI. p. 355. *H. bipinnata* Muhl. *Cat.* p. 29. *ERIGENIA bulbosa* Nutt. *Gen.* l. p. 183. *SISON bulbosum* Mich. *Fl.* I. p. 169.

*Root* a round tuber. *Stem* ascending, about an inch high. *Leaf* solitary, emitting 2, and sometimes 3 scapes from its sheath, biternately divided; partitions subternate; segments rhomboidal, cleft; ultimate lobes bifid, obtuse, with minute points. *Scapes* terete, 4—5 inches high, terminating in an ir-

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.*

**HAB.** In shady alluvial soils subject to inundation. Near Lancaster, Pennsylvania. *Muhlenberg.* April.

*Nuttall* refers to this species the HYDROCOTYLE *composita* of *Pursh Fl. II.* p. 732.

## 202. SISON. L.—*Sprengel.*

*Fruit* ovate, solid, 3-ribbed on the back; *intervals* (*valleculæ*) convex; sides contracted; raphis excavated. *Involucrum* few-leaved or 0. *Roem. & Schult. Gen.* 1177. *SISONIS spp. L. SMYRNII et THASPII spp. Nutt., &c. Honey-wort.*

1. *S. aureus Spreng.*: stem nearly simple, sulcate; leaves biternate, shining; leaflets oblong-lanceolate, attenuate at the base, incisely serrate, involucre 0. *Roem. & Schult. VI.* p. 410. *SMYRNIUM aureum L. Willd. Spec. I.* p. 1468. *Mich. Fl. I.* p. 171. *Pursh Fl. I.* p. 196. *Elliott Sk. I.* p. 359. *Walt. Car.* p. 114. *THASPIUM aureum Nutt. Gen. I.* p. 196.

*Root* perennial. *Stem* a foot and a half, or 2 feet high, smooth, angular and sulcate. *Leaves* biternate; lateral divisions sometimes simple; or 2—3-parted. *Umbel* compound; primary rays unequal, 1—2 inches long, deeply sulcate. *Partial involucre* 2—3-leaved, minute. *Calyx* 5-toothed. *Corolla* bright yellow. *Fruit* elliptic, with 3 winged ribs on the back.

**HAB.** On rocky hills; rare. June—July.

2. *S. integerrimus Spreng.*: stem nearly simple; leaves bi-triternate, glaucous; leaflets oval, entire; umbel with elongated rays; involucre 0. *Roem. & Schult. VI.* p. 410. *SMYRNIUM integerrimum L. Willd. Spec. I.* p. 1468. *Mich. Fl. I.* p. 171. *Pursh Fl. I.* p. 196. *Elliott Sk. I.* p. 360. *Nutt. Gen. I.* p. 195.

*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.

3. *S. capillaceus* Spreng.: leaves decompose, filiform; stem dichotomous, angular; *involucrum* subpinnatifid. Roem. & Schult. VI. p. 411. *AMMI capillaceum* Mich. Fl. I. p. 164. Pursh Fl. I. p. 192. Nutt. Gen. I. p. 179. Elliott Sk. I. p. 349. *A. majus* Walt. Car. p. 113.

Root annual. Stem much branched, deeply sulcate, erect or decumbent, about one foot long. Leaves decompose, with setaceous dichotomous segments, very smooth; petiole short. Umbels axillary, pedunculate, with spreading rays. Universal *involucrum* about 5-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.

HAB. In brackish bog-meadows. Plentiful near New-York, and on the sea-coast of Long-Island and New-Jersey. Fairfield, New-York. Hadley. In the vicinity of Philadelphia. Delaware. Muhlenberg. July—October.

As I have followed Sprengel entirely in the distribution of the UMBELLIFERÆ, 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. Sprengel also cites, as a synonym of this plant, his own, as well as Nuttall's ÆTHUSA leptophylla. The latter, however, Mr. Nuttall remarks, is entirely destitute of both universal and partial involucre.

### 203. CNIDIUM. Cusson.

*Involucrum* 1-leaved or 0. *Fruit* ovate, solid; *ribs* 5, acute, somewhat winged; *intervals* sulcate, striate. Roem. & Schult. Gen. 1179.

1. *C. canadense* Spreng.: stem angular, flexuous; leaves bipinnate, shining; leaflets many-parted; segments lanceolate. Roem. & Schult. VI. p. 415. SELINUM canadense Mich. Fl. I. p. 165. Pursh Fl. I. 192. Big. Bost. p. 69. Elliott Sk. I. p. 351. APIUM bipinnatum Walt. Car. I. p. 115.

HAB. Near the mouths of large rivers, from Canada to Carolina.

*Pursh.* In New-York. *Muhlenberg.* On Lynn-Beach Island, near Boston. *Rigelow.*

This is an obscure plant to me. Is it a *LIGUSTICUM*?

2. *C. atropurpureum Spreng.*: radical leaves subcordate, simple, serrate; cauline ones ternate; leaflets ovate, acute, subcordate; middle one petiolate; partial involucre dimidiate, 3-leaved. *Roem. & Schult.* VI. p. 418. *SMYRNIUM atropurpureum Lam. Enc.* III. p. 667. *Pursh Fl.* I. p. 196. *Elliott Sk.* I. p. 360. *THASPIUM atropurpureum Nutt. Gen.* I. p. 196.

*Root* perennial. *Stem* 2—3 feet high, smooth, sulcate, dichotomously branched. *Radical leaves* mostly entire, subcordate; stem leaves ternate, obtusely serrate, with the middle leaflet 3-lobed or ternate. *Umbels* opposite the leaves. *Universal involucre* wanting. *Partial umbels* dense. *Calyx* 5-toothed. *Petals* dark purple, oblong, acuminate, inflexed at the point. *Styles* divaricate, as long as the *germen*. *Fruit* small, elliptical, with 5 somewhat winged ridges.

*HAB.* On the rocky banks of rivers. Near Philadelphia. June.

#### 204. SMYRNIUM. *L.—Sprengel.*

*Involucre* few-leaved or 0. *Fruit* solid, ovate; cortex black, 3-ribbed; sides contracted from the *commissure*. *Albumen* involute. *Roem. & Schult. Gen.* 1183.

*S. cordatum Walt.*: radical leaves simple, cordate, crenate; stem leaves ternate, serrate; umbels terminal. *Walt. Car.* p. 113. *Mich. Fl.* I. p. 170. *Pursh Fl.* I. p. 196. *Elliott Sk.* I. p. 359. *Roem. & Schult.* VI. p. 438. *SMYRNIUM trifoliatum Nutt. Gen.* I. p. 195. *Apium folio infimo cordato, Cold. Novob.* 56.

*Root* perennial. *Stem* 2—3 feet high, sulcate. *Radical leaves* round-cordate, on long petioles; stem leaves 3-parted, trifoliate. *Umbels* axillary, on long peduncles, 8—10-rayed. *Partial involucre* 2—3-leaved. *Calyx* 5-toothed. *Corolla* yellow. *Fruit* small, black, 3-ribbed; margins turgid.

*HAB.* On rocky hills. Common in New-Jersey, &c. May—June.

#### 205. CICUTA. *L.*

*Involucre* almost wanting. *Fruit* ovate, solid, 5-ribbed; *intervals* prominent. *Roem. & Schult. Gen.* 1188.

1. *C. maculata* L.: stem spotted; leaves triternate; leaflets subternate, lanceolate, acuminate, mucronately-serrate; umbels axillary and terminal; partial involucre setaceous. *Willd. Spec.* I. p. 1446. *Pursh Fl.* I. p. 195. *Big. Bost.* p. 70. *Ejusd. Med. Bot.* I. p. 125. t. 12. *Elliott Sk.* I. p. 357. *Nutt. Gen.* I. p. 191. *Walt. Car.* 115. *Roem. & Schult.* VI. p. 453.

*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 involucre* wanting, or rarely of 1—2 minute leaves; partial involucre 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.

2. *C. bulbifera* L.: leaves various, ternate and biternate, bulbiferous; leaflets linear and linear-lanceolate, remotely toothed; umbels terminal, solitary. *Willd. Spec.* 1445. excl. syn. *Gron. Mich. Fl.* I. p. 165. *Pursh Fl.* I. p. 195. *Nutt. Gen.* I. p. 192. *Roem. & Schult.* VI. p. 433.

*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 involucre* wanting; partial involucre 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.

*Involucre* pinnatifid. *Flowers* somewhat radiant; those of the disk abortive. *Fruit* oblong, with 5 acute ribs; *intervals* angular, hispid. *Roem. & Schult. Gen.* 1196.

*D. Carota* L.: stem hispid; leaves tripinnate; leaflets incised, linear-lanceolate, acute; umbel at length concave; fruit bristly. *Willd. Spec.* I. p. 1389. *Smith Fl. Brit.* I. p. 300. *Eng. Bot.* t. 1174. *Pursh Fl.* I. p. 191. *Elliott Sk.* I. p. 348. *Walt. Car.* p. 113. *Roem. & Schult.* VI. p. 473.

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.

HAB. In old fields. June—August. Naturalized. Wild Carrot.

207. MYRRHIS. *Morison.*

Fruit pyramidal, rostrate, crowned with the pistils; ribs 5, acute. Involucrum 0. *Roem. & Schult. Gen.* 1204. UROSPERMUM and MYRRHIS *Nutt. Gen. I.* p. 192.

1. *M. procumbens Spreng.*: stem procumbent, somewhat hairy; leaves bipinnate; segments lanceolate, rather obtuse; umbels 3-rayed, few-flowered; fruit smooth. *Spreng. Umb. Spec.* p. 130. *Roem. & Schult. VI.* p. 516. SCANDIX *procumbens L. Willd. Spec. I.* p. 1452. *Muhl. Cat.* p. 31. CHÆROPHYLLUM *procumbens Lam. Enc. I.* p. 685. *Pers. Syn. I.* p. 320. *Pursh Fl. I.* p. 195. *Elliott Sk. I.* p. 357. *Nutt. Gen. I.* p. 279. SCANDIX *seminibus nitidis Gron. Virg.* p. 147.

Root annual. Stem 6—8 inches long, slender, branched, a little hairy, particularly on the sheaths. Leaves pinnatifid, decomposed; 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.

HAB. In shady rocky situations. New-Jersey. On the banks of the Schuylkill, near Philadelphia. *Nuttall.* In Maryland, near Hagers-town. *Pursh.* May.

2. *M. Claytoni Mich.*: stem hairy (at first hoary-white); leaves biternate, pubescent; leaflets incisely lobed, dentate; umbel 3-rayed; central flowers abortive; universal and partial involucre 3—5-leaved, lanceolate, ciliate; fruit attenuate at the base, with hispid angles, not rostrate; styles very short. *Mich. Fl. I.* p. 170. *Spreng. Umb. Spec.* p. 129. t. 3. f. 6. *Roem. & Schult. VI.* p. 508. CHÆROPHYLLUM *Claytoni Pers. Syn. I.* p. 320. *Pursh Fl. I.* p. 195. *Elliott Sk. I.* p. 358. SCANDIX *dulcis Muhl. Cat.* p. 31. UROSPERMUM *Claytoni Nutt. Gen. I.* p. 193. MYRRHIS *foliis trilobatis Gron. Virg.* p. 148. CEREFOLIUM *latifolium canadense Moris. Sect. IX.* t. 11.

Root perennial, fusiform, slender. Stem about 2 feet high, hairy, particularly on the upper part, when young, as well as the pe-

tiolos, almost woolly. *Leaves* hairy, ternate, with the primary divisions quinate; lower common petioles very long; leaflets subpinnatifidly 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 biternate; the lower ones on short petioles; leaflets ovate, incisely lobed and dentate; umbel 3—4-rayed; central flowers abortive; universal and partial involucre 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.

HAB. In wet meadows near Albany, New-York. *Tracy*. Near Geneva, N. Y. *Paine*. June. Near Hudson, N. Y. *Alsop*, &c.

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 involucre minute, subulate; fruit oblong, very



smooth. *Nutt. Gen.* I. p. 192. *Roem. & Schult.* VI. p. 516. *CHÆROPHYLLUM canadense Pers. Syn.* I. p. 320. *Pursh Fl.* I. p. 195. *Elliott Sk.* I. p. 358. *Sison canadense L. Willd. Spec.* I. p. 696. *Mich. Fl.* I. p. 168.

*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 *involucrum* 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.

*Fruit* somewhat prismatic, with 5 obtuse ribs; *intervals* subconvex. *Involucra* entire. *Roem. & Schult. Gen.* 1210.

1. *S. latifolium L.*: stem angular; submersed leaves bipinnatifid; upper ones pinnate; leaflets oblong-lanceolate, unequal at the base, acutely serrate; umbels terminal. *Willd. Spec.* I. p. 1431. *Smith Fl. Brit.* I. p. 312. *Eng. Bot.* t. 204. *Roem. & Schult.* VI. 331. *Muhl. Cat.* p. 30. *Big. Bost.* p. 69. *S. denticulatum Elliott Sk.* I. p. 354?

*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. *Involucra* many-leaved; leaflets lanceolate, acuminate, with a prominent midrib. *Calyx* obsoletely 5-toothed. *Petals* white, inflexed. *Styles* long, reflexed; *stigmas* capitate. *Fruit* oval, with obtuse elevated ribs, laterally compressed.

**HAB.** In shady swamps. In New-Jersey; near New-York. In the Highlands of New-York. *Barratt.* Near Boston. *Bigelow, &c.* July.

2. *S. lineare Mich.*: stem angular and sulcate; leaves pinnate; leaflets 4—5 pairs, linear-lanceolate, acutely and finely serrate; involucra many-leaved, linear; umbels terminal. *Mich. Fl.* I. p. 167. *Pursh Fl.* I. p. 194.

*Nutt. Gen. I. p. 186. excl. syn. Pursh. Roem. & Schult. VI. p. 538. excl. syn. Pursh. S. tenuifolium Muhl. Cat. p. 30. fide Nutt.*

*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, inflexed. *Styles* long, deflexed; *stigmas* capitate. *Fruit* about a line and a half long, ovate, with 5 prominent ridges.

**HAB.** In swamps. New-Durham, New-Jersey. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. August.

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.*

*C. maculatum L.*: stem very smooth, spotted; leaves tripinnate; leaflets lanceolate, pinnatifid; segments lanceolate, nearly entire. *Willd. Spec. l. p. 1395. Smith Fl. Brit. I. p. 302. Eng. Bot. t. 1191. Pursh Fl. I. p. 195. Big. Bost. p. 68. Ejusd. Med. Bot. I. p. 113. t. 11. Roem. & Schult. VI. p. 545.*

*Root* biennial. *Stem* 2—4 feet high, erect, branched, a little sulcate. *Leaves* much divided, smooth and shining; leaflets ovate-lanceolate; segments very acute. *Umbel* many-rayed. *Involucrum* lateral, of 2—3 short lanceolate leaves; partial setaceous. *Calyx* nearly obsolete. *Petals* white, cordate, with an inflexed point. *Fruit* ovate, smooth, with 5 elevated unequal ribs.

**HAB.** On road-sides and among rubbish. July. Introduced. *Hemlock,*

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 subrhomb-

bic-ovate, coarsely serrate; involucre linear-lanceolate. *Willd. Spec. l. p. 1424. Smith Fl. Brit. l. p. 309. Eng. Bot. t. 1207. Pursh Fl. l. p. 166. Mich. Fl. l. p. 193. Roem. & Schult. VI. p. 547.*

*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.

HAB. Borders of salt marshes. Near Salem, &c., Massachusetts. *Bigelow* and *Oaks*. On the sea-coast of Maine. *Le Conte*. July.

This plant resembles the European in every respect.

2. *L. actaeifolium Mich.*: leaves biternate; leaflets oval, equally toothed; partial involucre setaceous; fruit oblong-oval; ribs somewhat winged. *Mich. Fl. l. p. 166. Pursh Fl. l. p. 193. Roem. & Schult. VI. p. 555.*  
*THASPIUM actaeifolium Nutt. Gen. l. p. 197.*

*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.

HAB. In New-York. *Muhlenberg*.

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. *Involucre* 0. *Roem. & Schult. Gen. 1216.*

*H. lunatum Mich.*: leaves ternate, petiolate, tomentose beneath; leaflets petioled, round-cordate, lobed; fruit orbicular. *Mich. Fl. l. p. 166. Pursh Fl. l. p. 181. Big. Bost. p. 67. Roem. & Schult. VI. p. 580.*

*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;

lobes incised and serrate. *Umbels* very large, terminal, many-rayed. *Partial involucre* 5—6 leaved; leaflets lanceolate, acuminate. *Calyx* minute. *Petals* white, oblong. *Styles* subulate, reflexed. *Fruit* much compressed, round-oval, with the ribs slightly elevated.

HAB. In wet meadows. June. *Cow-Parsnip*.  
Allied to *H. Sphondylium*, but quite distinct.

## 212. PASTINACA. L.

*Fruit* oval, compressed, flat, margined; *ribs* obsolete; *intervals* striate; *commissures* 2. Universal and partial *involucre* 0. *Roem. & Schult. Gen.* 1217.

1. *P. sativa* L.: stem sulcate; leaves pinnate; leaflets subpubescent beneath, oblong, incised; terminal one 3-lobed. *Willd. Spec.* I. p. 1466. *Smith Fl. Brit.* I. p. 328. *Eng. Bot.* t. 556. *Pursh Fl.* I. p. 196. *Roem. & Schult. Vl.* p. 383.

*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.

HAB. In fields and waste places. July—September. Introduced. *Common Parsnip*.

2. *P. rigida* Spreng.: stem terete, striate; leaves pinnate, smooth; leaflets oblong-lanceolate, entire or with several remote teeth; partial *involucre* subulate. *Roem. & Schult. Vl.* p. 536. *Sium rigidius* L. *Willd. Spec.* I. p. 1433. *Pursh Fl.* I. p. 194. *Muhl. Cat.* p. 30. *Sison marginatum* Mich. *Fl.* I. p. 168. *Cenante rigida* Nutt. *Gen.* I. p. 189. *Pimpinella foliis lanceolatis*, &c. *Gron. Virg.* p. 32. *Cenante maxima virginiana*, &c. *Moris. Sect.* IX. t. 7.

*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 subrepand teeth. *Umbels* about 3, terminal, on long peduncles; rays numerous, spreading, filiform; central flowers abortive. Universal *involucrum* 0; partial *involucre* 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, corticate; *ribs* or *strizæ* 5, approximate; *intervals* convex, coloured.

HAB. In swamps in the pine barrens of New-Jersey. In Pennsylvania and Maryland. *Muhlenberg.* September.

2. *P. ambigua*\*: stem slightly angular; leaves pinnate, smooth; leaflets linear, entire, subglaucous beneath; umbels terminal, subsolitary; partial involucre subulate. *CENANTHE ambigua* Nutt. Gen. I. p. 189. *Sium longifolium* Pursh Fl. I. p. 194.

*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 involucre 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; *striae* prominent, with the *intervals* coloured.

**HAB.** In swamps in the pine barrens of New-Jersey. On the marshy banks of the Delaware. *Nuttall*. 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. *Roem. & Schult.* Gen. 1220.

1. *A. triquinata* Mich.: stem terete, pubescent above; leaves ternate, very smooth, the partitions quinate; leaflets oblong ovate, equally serrate; inferior ones 2-lobed at the base. *Mich. Fl.* I. p. 167. *Pursh Fl.* I. p. 193. *Elliot Sk.* I. p. 352. *Nutt. Gen.* I. p. 186. *Roem. & Schult.* VI. p. 604. *A. hirsuta* Muhl. *Cat.* p. 30. **PASTINACA** *triquinata* Spreng. *Umb. Spec.* p. 63, t. 6. f. 2. **FERULA** *villosa* Walt. *Car.* 115. *Pursh Fl.* I. p. 192. excl. syn. *Cicutæ venenatæ*.

*Root* perennial. *Stem* 3—5 feet high, simple, erect, straight, white-villous 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 *Greenway* 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*.

2. *A. atropurpurea* L.: stem smooth, coloured; leaves ternate; the partitions subquinate; leaflets ovate, acute, incisely serrate, sublobed; the 3 terminal ones confluent; petioles very large, inflated. *Willd. Spec.* I. p. 1430. *Lam. Enc.* I. p. 173. *Pursh Fl.* I. p. 193. *Roem. & Schult.* VI. p. 603. *A. triquinata* Big. *Bost.* p. 68. *A. canadensis atropurpurea* *Corn. Canad.* t. 199. *Moris. Sect.* IX. t. 3.

*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 inflexed point. *Fruit* oval, compressed; margin slightly winged; ribs 3, elevated, parallel.

HAB. In wet meadows; not uncommon. June. *Common Angelica.*

3. *A. lucida* L.: leaflets equal, ovate, incisely serrate. *Willd. Spec.* I. p. 1430. *Jacq. Hort. Vind.* III. t. 24. *sive Spreng.* *Pursh Fl.* I. p. 193. *Elliott Sk.* I. p. 353. *Roem. & Schult.* VI. p. 604. *A. lobata* *Walt. Car.* p. 115? *A. lucida canadensis* *Corn. Canad.* t. 197. *Moris. Sect.* IX. t. 3. f. 3.

*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 involucre subulate. *Petals* ovate, inflexed at the point. *Fruit* fuscous, with 3 elevated parallel striae. *Jacq.*

HAB. In shady woods. Canada to Pennsylvania. *Pursh.* Near Bethlehem, Pennsylvania. *Schweinitz.*

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* O.  
*Roem. & Schult. Gen.* 1222.

*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-  
bels terminal; partial involucre 3-leaved, subulate. *Willd.*  
*Spec.* I. p. 1465. *Roem. & Schult.* VI. p. 615. *LIGUS-*  
*TICUM barbinode Mich. Fl.* I. p. 167. *Pursh Fl.* I. p.  
193. *Elliott Sk.* I. p. 351. *SMYRNIUM barbinode Muhl.*  
*Cat.* p. 31. *THASPIUM barbinode Nutt. Gen.* I. p. 615.

*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 involucre* 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.  
*Nuttall.*

In the arrangement of the Umbelliferae in this work, I  
have adopted the recent system of *Sprengel*, as elabo-  
rated by himself in the 6th Vol. of *Roemer & 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.

## TRIGYNIA.

\* *Flowers superior.*

215. VIBURNUM.                      216. SAMBUCUS.

\* \* *Flowers inferior.*

217. RHUS.                              218. STAPHYLEA.

215. VIBURNUM. L.

*Calyx* minute, 5-toothed, superior. *Corolla* 5-cleft;

lobes spreading or reflexed; cymes very sessile. Berry 1-seeded. *Gen. pl.* 503. *Nutt. Gen.* I. p. 202. *Juss.* p. 213. *Lam. Ill. t.* CXI. *Roem. & Schult. Gen.* 1225. Nat. Ord. CAPRIFOLIA *Juss.*

1. *V. prunifolium* L.: smooth; leaves round-obovate, acutely serrate; petioles margined. *Willd. Spec.* I. p. 1487. *Ait. Kew.* I. p. 371. *Mich. Fl.* I. p. 178. *Pursh Fl.* I. p. 201. *Elliott Sk.* I. p. 365. *Roem. & Schult.* VI. p. 631.

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 *Sloc.*

2. *V. pyrifolium* Lam.: smooth; leaves ovate-oblong, acute, crenate-serrate; petioles naked; cymes subpedunculate; fruit ovate oblong. *Lam. Enc.* VIII. p. 653. *Pursh Fl.* I. p. 201. *Roem. & Schult.* VI. p. 631.

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.

**HAB.** On mountains near Williams College, Massachusetts. *Dewey.* On the banks of rivers, Pennsylvania, New-Jersey, &c. *Pursh.*

3. *V. Lentago* L.: smooth; leaves broad-ovate, acuminate, acutely serrate; petioles margined, undulate; cymes sessile. *Willd. Spec.* I. p. 1491. *Ait. Kew.* I. p. 372. *Mich. Fl.* I. p. 178. *Pursh Fl.* I. p. 201. *Big. Bost.* p. 70. *Elliott Sk.* I. p. 365. *Walt. Car.* p. 116. *Roem. & Schult.* VI. p. 637.

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



and obsolete crenulate; petioles naked; cymes pedunculate. *Willd. Spec. I. p. 1487. Mill. icon. p. 183. t. 274. Mich. Fl. I. p. 178. Pursh Fl. I. p. 201. Big. Bost. p. 70. Elliott Sk. I. p. 365. Walt. Car. p. 116. Roem. & Schult. VI. p. 631. V. squamatum Willd. Enum. Hort. Berol. p. 337. R. & S. l. c. 637. Cold. Nozeb. 59.*

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.

**HAB.** In swamps. Abundant in the pine barrens of New-Jersey. In the cedar swamp, near New-Durham, N. J. Near Boston, Massachusetts. *Bigelow.* Litchfield, Connecticut. *Brace.* Fairfield, New-York. *Hadley.* June.

5. *V. Lantanoides Mich.:* leaves orbicular-cordate, abruptly acuminate; nerves and petioles pulverulent-tomentose, unequally serrate; cymes closely sessile. *Mich. Fl. I. p. 179. Pursh Fl. I. p. 202. Roem. & Schult. VI. p. 633. V. Lantana β. grandifolium Ait. Kew. I. p. 372.*

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.

**HAB.** In rocky woods and on mountains. Plentiful in the western parts of the State of New-York, &c. May—June. *Hackberry.*

6. *V. dentatum L.:* nearly smooth; leaves on long petioles, orbicular-ovate, dentate-serrate, subplicate; axils of the veins pubescent beneath; cymes pedunculate; fruit subglobose. *Sp. pl. 384. Willd. Spec. I. p. 1488. Pursh Fl. I. p. 202. Big. Bost. p. 70. Elliott Sk. I. p. 364. Roem. & Schult. VI. p. 632. V. dentatum α. lucidum Ait. Kew. I. p. 372. V. dentatum β. glabellum Mich. Fl. I. p. 179.*

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.

**HAB.** In moist woods and hedges; common. June. *Arrow-wood.*

7. *V. pubescens* Ph.: leaves on very short petioles, ovate, acuminate, dentate-serrate, villous beneath; cymes pedunculate; fruit oblong. *Pursh Fl.* I. p. 202. *Roem. & Schult.* VI. p. 632. *V. dentatum*  $\beta$ . *pubescens* Ait. *Kew.* I. p. 168. *Willd. Spec.* I. p. 1468. *V. dentatum*  $\beta$ . *semitomentosum* Mich. *Fl.* I. p. 179. *V. tomentosum* Raf. in *Med. Rep.* XI. p. 360. *V. villosum* Ejusd. in *Desv. Journ. Bot.* I. p. 228. *V. Rafinesquianum* Roem. & Schult. VI. p. 630.

A shrub about 6 feet high; branches obscurely angular. *Leaves* smaller than in the preceding species, and less acutely toothed, villous-tomentose beneath, cordate; petioles 2—3 lines long. *Cymes* small, on a peduncle three-fourths of an inch long, spreading. The fruit I have not seen.

HAB. On mountains and in rocky woods; rare. In the Highlands of New-York. Fairfield, N. Y. *Hadley.* Cambridge, N. Y. *Stevenson.* Near Albany. *Beck* and *Tracy,* &c. June.

This appears to me quite a distinct species from *V. dentatum.* It is readily known by its short petioles and pubescent leaves.

8. *V. acerifolium* L.: leaves subcordate, 3-lobed, acutely serrate, pubescent beneath; lobes acuminate; petioles without glands, hairy; cymes on long peduncles. *Willd. Spec.* I. p. 1489. *Vent. Hort. Cels.* t. 72. *Pursh Fl.* I. p. 203. *Big. Bost.* p. 71. *Elliott Sk.* I. p. 364. *Roem. & Schult.* VI. p. 634.

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.

9. *V. Oxycoccus* Ph.: leaves 3-lobed, acute at the base, 3-nerved; lobes divaricate, acuminate, remotely and obtusely dentate; petioles glandular; cymes radiate. *Pursh Fl.* I. p. 203. *Roem. & Schult.* VI. p. 635. *V. Opulus*  $\beta$ . *americana* Ait. *Kew.* I. p. 373. *V. Opulus*  $\beta$ . *Pimina* Mich. *Fl.* I. p. 180. *V. Opuloides* Muhl. *Cat.* p. 32. *V. trilobum* Marsh. *Arb.* p. 162. *Cold. Novob.* 104.

A small shrub with smooth spreading branches. *Leaves* very broad-pubescent beneath; serratures coarse and obtuse. *Umbels* on a long peduncle; the large flower abortive and very

large. *Fruit* large, subglobose, red, of an agreeable acid taste; *seed* flat, without ridges.

**HAB.** In woods; particularly in mountainous regions. Common in New-England, and in the interior of New-York, above the Highlands. **May—June.**

The fruit is sometimes used as a substitute for *Cranberries*.

10. *V. edule* *Ph.*: leaves 3-lobed, rather obtuse at the base, 3-nerved; lobes very short, with acuminate-dentate serratures; petioles glandular; cymes radiate. *Pursh Fl. I. p. 203. Roem. & Schult. VI. p. 636. V. Opulus* γ. *edule Mich. Fl. I. p. 180.*

A smaller and more upright shrub than the preceding. *Berries* the same colour and size, but when fully ripe more agreeable to eat.

**HAB.** On the banks of rivers. Canada to New-York. *Pursh.*

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.

*Calyx* minute, 5-cleft. *Corolla* subrotate, 5-cleft. *Stigmas* minute, sessile. *Berry* globose, 1-celled, 3-seeded. *Gen. pl. 505. Nutt. Gen. I. p. 203. Juss. p. 214. Lam. Ill. t. CCXII. Roem. & Schult. Gen. 1226. Nat. Ord. CAPRIFOLIA Juss. Elder.*

1. *S. canadensis* *L.*: nerves and petioles very smooth; leaflets oblong-oval, about 3-pairs, acuminate, smooth; midrib subpubescent; cymes lax, 5-cleft; stem frutescent. *Willd. Spec. I. p. 1494. Mich. Fl. I. p. 181. Pursh Fl. I. p. 203. Big. Bost. p. 71. Elliott Sk. I. p. 363. Walt. Car. p. 116. Roem. & Schult. VI. p. 640. Cold. Novob. 61.*

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.

**HAB.** In swamps and along hedges in moist grounds. **May—July.** *Common Elder.*

2. *S. pubens* *Mich.*: petioles and leaves beneath pubescent; leaflets oval-lanceolate; cymes paniculate; stem fruticose. *Mich. Fl. I. p. 181. Willd. Enum. Hort. Berol.*

p. 328. *Roem. & Schult.* VI. p. 641. *V. pubescens*  
*Pers. Syn.* I. p. 328. *Pursh Fl.* I. p. 204. *Elliott*  
*Sk.* I. p. 368.

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.

**HAB.** On mountains. Canada to Carolina. Not found in New-York below the Highlands. June.

### 217. RHUS. L.

*Calyx* 5-parted. *Petals* 5. *Berry* small, subglobose, with one bony seed. *Gen. pl.* 502. *Nutt.*  
*Gen.* I. p. 203. *Juss.* p. 369. *Lam. Ill.* t. CCVII.  
*Roem. & Schult. Gen.* 1230. *Nat. Ord.* TERE-  
 BINTACEÆ *Juss.* *Sumach.*

\* *Leaves pinnate.*

1. *R. glabrum* L.: leaflets lanceolate, smooth, acuminate, acutely serrate, whitish beneath; flowers perfect; fruit downy. *Willd. Spec.* I. p. 1478. *Mich. Fl.* I. p. 182. *Pursh Fl.* I. p. 204. *Big. Bost.* p. 71. *Elliott Sk.* I. p. 361. *Walt. Car.* p. 255. *Roem. & Schult.* VI. p. 645. *Dill. Eth.* t. 243. f. 313. *Cold. Novemb.* 63.

A shrub 6—12 feet high, with straggling smooth branches. *Leaves* pinnate; leaflets 12—15 pairs, sessile, 2—3 inches long, rather remotely serrate. *Flowers* in a large terminal compound panicle. *Calyx* 5-toothed, persistent. *Corolla* greenish-yellow. *Berries* crimson, acid, downy.

**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.†

2. *R. typhinum* L.: branches and petioles very villous; leaflets in many pairs, lanceolate oblong, acuminate, acutely serrate, pubescent beneath. *Willd. Spec.* I. p. 1478. *Duham. Arb.* II. t. 47. *Mich. Fl.* I. p. 182. *Pursh Fl.* I. p. 204. *Big. Bost.* p. 72. *Elliott Sk.* I. p. 360. *Walt. Car.* p. 255. *Roem. & Schult.* VI. p. 643.

† See *Annals of the Lyceum of Natural History of New-York*, No. 2. p. 42.

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. *Flowers* polygamous? in large oblong dense panicles, greenish-yellow. *Berries* entirely covered with a purple villus.

HAB. Among rocks in hilly situations, and in thickets; common. June. *Stag's-horn.*

3. *R. copallinum* L.: petiole winged; leaflets in many pairs, oval-lanceolate, very entire, shining on the upper surface; panicle sessile; flowers dioecious. *Willd. Spec. I.* p. 1480. *Jacq. Hort. Schoen.* III. p. 50. t. 341. *Mich. Fl. I.* p. 182. *Pursh Fl. I.* p. 205. *Big. Bost.* p. 72. *Elliott Sk. I.* p. 362. *Walt. Car.* p. 255. *Roem. & Schult. VI.* p. 647. *Pluk. Alm.* 318. t. 56. f. 1.

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.*

4. *R. Vernix* L.: very smooth; leaflets in many pairs, oval, abruptly acuminate, entire; panicle loose; flowers dioecious. *Willd. Spec. I.* p. 1479. *Mich. Fl. I.* p. 205. *Pursh Fl. I.* p. 183. *Big. Bost.* p. 72. *EjUSD. Med. Bot.* I. p. 96. t. 10. *Elliott Sk. I.* p. 362. *Roem. & Schult. VI.* p. 646. *Dill. Elth.* p. 390. t. 292. f. 377.

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. *Peduncle* 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.*

5. *R. Toxicodendron* L.: stem erect; leaflets broad-oval, entire, or sinuate-dentate, subpubescent beneath; flowers dioecious, in sessile axillary racemes. *Willd. Spec. I.* p. 1481. *Elliott Sk. I.* p. 363. *Walt. Car.* p. 255. *R. Toxicodendron*  $\beta$ . *quercifolium* *Mich. Fl. I.* p. 183. *Pursh Fl. I.* p. 205. *Roem. & Schult. VI.* p. 652.

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 obtuse sinuate teeth. *Flowers* in axillary clusters towards the upper part of the stem, greenish. *Berries* subglobose, white, smooth.

HAB. In dry woods. June—July. *Poison-Oak.*

*β. radicans\**: stem climbing. *R. radicans* L. *Willd. Spec. I. p. 1481. Bot. Mag. t. 1806. Big. Bost. p. 73. Ejusd. Med. Bot. III. p. 19. t. 42. Elliott Sk. I. p. 363. Walt. Car. p. 255. R. Toxicodendron β. vulgare Mich. Fl. I. p. 183. Pursh Fl. I. p. 205. Roem. & Schult. VI. p. 651. Cold. Novb. 65.*

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. June. *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*.

6. *R. aromaticum* Ait.: leaflets sessile, ovate-rhomboid, dentate, pubescent beneath; flowers amentaceous, dioecious; berries pilose. *Willd. Spec. I. p. 1482. Ait. Kew. I. p. 367. Turpin Ann. Mus. V. p. 445. t. 30. Mich. Fl. I. p. 184. Pursh Fl. I. p. 205. Elliott Sk. I. p. 364. Roem. & Schult. VI. p. 652. LOBADIUM aromaticum Raf.*

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, bractcate 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.

HAB. In mountain tracts; from New-England to Pennsylvania. Near Williams College, Massachusetts. *Dewey*. On the Catskill Mountains, New-York. *Knevels* and *Brace*. April.

According to *Mr. Brace*, the flowers are foetid. The *R. suaveolens* of *Aiton* does not appear to be a distinct species.

## 218. STAPHYLEA. L.

*Calyx* 5-parted, coloured. *Petals* 5, inserted upon the margin of a glandular pentangular disk. *Capsules* 2—3, inflated, partly united. *Seeds* 1—2 in each capsule, subglobose, with a lateral cicatrix. *Gen. pl.* 507. *Nutt. Gen.* I. p. 204. *Juss.* p. 577. *Lam. Ill.* t. CCX. *Roem. & Schult. Gen.* 1235. *Nat. Ord.* RHAMNI *Juss.* CELASTRINÆ *R. Brown?*  
*Bladder-nut.*

*S. trifolia* L.: leaves ternate. *Willd. Spec.* I. p. 1498. *Mich. Fl.* I. p. 184. *Pursh Fl.* I. p. 206. *Elliott Sk.* I. p. 369. *Roem. & Schult.* VI. p. 666. *Cold. Novob.* 62. *Staphylodendron Gron. Virg.* 34.

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. *Germen* 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.

## T E T R A G Y N I A.

## 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. *Cup-*

† In the vicinity of New-York, where only I have examined it.

sule 1-celled, 4-valved; valves bearing incomplete dissepiments in the middle. *Seeds* membranaceously margined. *Gen. pl.* 523. *Nutt. Gen.* I. p. 205. *Juss.* p. 245. *Lam. Ill.* t. CCXVI. *Gaert. Carp.* t. 60. *Roem. & Schult. Gen.* 1251. *Nat. Ord.* uncertain. CAPPARIDIBUS affinis, *Juss.* †  
*Grass of Parnassus.*

1. *P. caroliniana Mich.*: radical leaves orbicular-ovate, cordate; nectaries 3-bristled. *Mich. Fl.* I. p. 184. *Pursh Fl.* I. p. 208. *Elliott Sk.* I. p. 371. *Bot. Mag.* t. 1459. *Roem. & Schult.* VI. p. 696. *P. americana et ovata Muhl. Cat.* p. 32?

*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, nerved. *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. *Capsule* oblong, acute. *Seeds* very numerous, attached to the margin of the dissepiments.

HAB. In wet boggy woods and in swamps. Canada to Carolina. August—September.

2. *P. palustris L.*: radical leaves cordate; nectaries many-bristled. *Willd. Spec.* I. p. 1516. *Eng. Bot.* t. 82. *Pursh Fl.* I. p. 208. *Mich. Fl.* I. p. 184. *Roem. & Schult.* VI. p. 694.

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.

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† 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 CISTI; and *Hooker* is inclined to refer it to HYPERICINÆ. *Ventena* supposes it to constitute a distinct Order of itself.



## ORDER V.

## PENTAGYNIA.

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220. ARALIA.	222. LINUM.
221. STATICE.	223. SIBBALDIA.

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## 220. ARALIA. L.

Flowers umbelled. *Calyx* 5-toothed, superior. *Petals* 5. *Stigmas* sessile, subglobose. *Berry* 5-celled, 5-seeded. *Gen. pl.* 525. *Nutt. Gen. I.* p. 205. *Juss. p.* 218. *Lam. Ill. t.* CCXXI. *Roem. & Schult. Gen.* 1552. *Nat. Ord. ARALIÆ Juss.*

1. *A. nudicaulis* L.: nearly stemless; leaf solitary, tri-quinate; scape naked, shorter than the leaf; umbels few. *Willd. Spec. I.* p. 1521. *Mich. Fl. I.* p. 185. *Pursh Fl. I.* p. 209. *Big. Bost. p.* 74. *Elliott Sk. I.* p. 374. *Roem. & Schult. VI.* p. 703. *Pluk. Alm. p.* 98. t. 233. f. 5. *Gron. Virg.* 34. *Cold. Novob.* 66.

*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.

*HAB.* In rich soil, among rocks; common. June—July.  
*Wild Sarsaparilla.*

The root is frequently used as a substitute for Sarsaparilla.

2. *A. racemosa* L.: stem herbaceous, branched; petioles 3-parted; partitions ternate and quinate; umbels compound, in axillary panicles. *Willd. Spec. I.* p. 1521. *Mich. Fl. I.* p. 185. *Pursh Fl. I.* p. 209. *Big. Bost. p.* 74. *Elliott Sk. I.* p. 373. *Roem. & Schult. VI.* p. 702. *Cold. Novob.* 67. *Corn. Canad. t.* 75.

*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-

tiolate; 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.

HAB. In rocky woods. Near Flushing, Long-Island. *Prince*. Common in the interior of the country, but rare near the sea-coast. July—August. *Spikenard*.

3. *A. hispida Mich.*: suffruticose; stem and petioles hispid; lobes doubly pinnate; leaflets ovate, incisely serrate; umbels on long peduncles. *Mich. Fl.* I. p. 185. *Bot. Mag.* 1085. *Vent. Hort. Cels* t. 41. *Pursh Fl.* I. p. 209. *Big. Bost.* p. 74. *Roem. & Schult.* VI. p. 703.

*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. *Involucrum* 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*.

4. *A. spinosa L.*: arborescent; stem and leaves spinous; leaves doubly pinnate; umbels numerous, in compound panicles. *Willd. Spec.* I. p. 1521. *Mich. Fl.* I. p. 186. *Pursh Fl.* I. p. 209. *Elliott Sk.* I. p. 372. *Walt. Car.* p. 117. *Roem. & Schult.* VI. p. 701. *Gron. Virg.* 34. *Pluk. Alm.* p. 98. t. 20. *Cold. Novemb.* 68.

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, caducous, reflexed.

HAB. In Pennsylvania. *Muhlenberg. Angelica-tree.*—*Prickly-Ash.*

According to *Colden*, this plant is a native of New-York.

## 221. STATICE. L.

*Calyx* inferior, 1-leaved, entire, plaited, scarious. *Petals* 5. *Capsule* 1-seeded, without valves, covered with the persistent calyx. *Gen. pl.* 527. *Nutt. Gen.* I. p. 205. *Juss.* 92. *Lam. Ill.* t. CCXIX. *Roem. & Schult. Gen.* 1268. Nat. Ord. PLUMBAGINEÆ *Juss.* *Thrift*.

1. *S. Armeria L.*: scape simple, terete, capitate; leaves

linear, flat. *Willd. Spec.* I. p. 1522. *Smith Fl. Brit.* I. p. 340. *Eng. Bot. t.* 226. *Pursh Fl.* I. p. 212. *ARMERIA vulgaris* *Roem. & Schult.* VI. p. 771.

*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. *Pursh.* *Thrift.*

A doubtful native. *Pursh* has made some mistake respecting the habitat, as there is no "sea-shore" to Pennsylvania.

2. *S. Limonium L.*: scape paniculate, terete; leaves oblong, undulate, smooth and nerveless, mucronate below the tip. *Willd. Spec.* I. p. 1523. *Smith Fl. Brit.* I. p. 341. *Eng. Bot. t.* 102. *Big. Bost.* p. 75. *Elliott Sk.* I. p. 374. *Roem. & Schult.* VI. p. 777. *S. caroliniana* *Walt. Car.* p. 118. *Pursh Fl.* I. p. 212. *Big. Med. Bot.* II. p. 51. t. 25. *R. & S. l. c.*

*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.

**HAB** In salt marshes and on rocky shores. August—October. *Marsh Rosemary.*

The root is a valuable astringent I am unable to distinguish any essential difference between the North-American and European varieties of this plant.

## 222. LINUM. L.

*Calyx* deeply 5-parted, persistent. *Petals* 5, unguiculate. *Filaments* united at the base. *Capsule* superior, subglobose, 10-valved, 10-celled. *Seeds* solitary, ovate, compressed. *Gen. pl.* 528. *Nutt. Gen.* I. p. 206. *Juss.* p. 303. *Lam. Ill.* 1291. *Roem;*

♂ *Schult. Gen.* 1260. Nat. Ord. CARYOPHYLLÆ  
*Juss. LINEÆ De Cand. Flax.*

1. *L. virginianum L.*: stem paniculate at the summit; radical leaves obovate and spatulate; cauline ones lanceolate; flowers remote, alternate; segments of the calyx acute. *Willd. Spec.* 1533. *Mich. Fl.* II. p. 36. *Pursh Fl.* I. p. 210. *Elliott Sk.* I. p. 37. *Walt. Car.* p. 117: *Roem. & Schult.* VI. p. 749. *Gron. Virg.* 35.

*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.

2. *L. usitatissimum L.*: segments of the calyx ovate, acute, 3-nerved; petals crenate; leaves lanceolate, alternate; stem subsolitary. *Willd. Spec.* I. p. 1535. *Smith Fl. Brit.* I. p. 342. *Eng. Bot.* t. 1357. *Pursh Fl.* I. p. 210. *Roem. & Schult.* VI. p. 736.

*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.

HAB. In fields and pastures; common. June—July. Introduced. *Common Flax.*

### 223. SIBBALDIA. L.

*Calyx* 10-cleft, with the alternate segments narrower. *Petals* 5, inserted on the calyx. *Styles* proceeding laterally from the *germen*. *Seeds* 5, clustered in the bottom of the calyx. *Gen. pl.* 536. *Nutt. Gen.* I. p. 207. *Juss.* p. 337. *Lam. Ill.* t. CCXXI. *Roem. & Schult. Gen.* 1266. Nat. Ord. ROSACEÆ *Juss.*

*S. procumbens L.*: leaves ternate; leaflets cuneate, tridentate, smooth above, hairy beneath; flowers corymbed; petals lanceolate, acute, about as long as the calyx. *Willd. Spec.* I. p. 1567. *Smith Fl. Brit.* I. p. 345. *Eng. Bot.* t. 397. *Pursh Fl.* I. p. 211. *Roem. & Schult.* VI. p. 768.

A small procumbent plant, with the habit of *POTENTILLA tridentata*. *Flowers* yellow.

HAB. On the high mountains of Canada and Vermont. *Pursh.*

## ORDER VI.

## H E X A G Y N I A.

## 224. DROSERA.

*Calyx* deeply 5-cleft, persistent. *Petals* 5. *Anthers* adnate. *Styles* 6. *Capsule* superior, 3-celled, 3—5-valved, many-seeded. *Gen. pl.* 531. *Nutt. Gen.* I. p. 141. *Juss.* p. 245. *Lam. Ill.* t. CCXX. *Roem. & Schult. Gen.* 1263. *Nat. Ord.* CAPPARIDES *Juss.* DROSERACEÆ *De Cand.* Leaves radical, glandulous. Flowers on scapes. *Sun-dew.*

1. *D. rotundifolia* L.: leaves suborbicular, dilated; petiole elongated, hairy above; racemes mostly simple, erect. *Willd. Spec.* I. p. 1545. *Smith Fl. Brit.* I. p. 346. *Eng. Bot.* t. 867. *Mich. Fl.* I. p. 186. *Pursh Fl.* I. p. 210. *Big. Bost.* p. 75. *Elliott Sk.* I. p. 375. *Walt. Car.* p. 117. *Roem. & Schult.* VI. p. 760.

*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-oblong, 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.

2. *D. longifolia* L.: leaves crenate-obovate, tapering below into a long footstalk, erect-spreading; scape declined at the base; stipules many-cleft, capillaceous; segments of the calyx ovate-oblong, obtuse. *Willd. Spec.* I. p. 1544. *Smith Fl. Brit.* I. p. 347. *Eng. Bot.* t. 868. *Mich. Fl.* I. p. 186. *Pursh Fl.* I. p. 211. *Elliott Sk.* I. p. 376. *Nutt. Gen.* I. p. 141. *Roem. & Schult.* VI. p. 761. *D. americanu* *Muhl. Cat.* p. 33. *Willd. Enum. Hort. Berol.* p. 340. *R. & S. l. c.* p. 765. *D. foliosa* *Elliott Sk. l. c.* p. 376. *D. angustifolia* *Gold. in Edin. Phil. Jour.* VI. p. 323?

*Root* perennial. *Caudex* when overflowed often elongated

2—4 inches, and then appearing caulescent. *Leaves* obovate or spatulate, on very long naked petioles, with scarious many-cleft stipules at the base. *Scape* radīcal, bent down, and then ascending, a little longer than the leaves, smooth. *Racemes* simple, secund, 5—7-flowered. *Pedicels* about one line long. *Styles* sometimes 7. *Capsule* ovate. *Seeds* ovate, obtuse.

**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.

2. *D. filiformis* *Raf.*: leaves filiform, very long, glandulous the whole length; scape simple or bifid. *Raf. in Med. Rep.* II. p. 360. *Ejusd. in Desv. Journ. de Bot.* I. p. 227. *Pursh Fl.* I. p. 211. *Nutt. Gen.* I p. 142. *Roem. & Schult.* VI. p. 763. *D. tenuifolia* *Willd. Enum. Hort. Berol.* p. 340. *Muhl. Cat.* p. 33. *R. & S. l. c.*

*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. *Scape* 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 Atsion. Near Tuckerton, N. J. *Pursh.* In Sussex county, Delaware. *Rafinesque.* Near Plymouth, Massachusetts. *Bigelow.* August—September.

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. tustiganica*, which has 10 stamens, and the flowers subumbellate

ORDER VII.  
P O L Y G Y N I A.

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225. XANTHORHIZA. *Marshall.*

*Calyx* 0. *Petals* 5. *Nectaries* 5, obovate, pedicellate. *Capsules* 5—8, 1-seeded, half 2-valved. *Marsh. Arb.* p. 167. *Gen. pl.* 1581. *Nutt. Gen.* I. p. 207. *Lam. Ill. t.* DCCCLIV. *Roem. & Schult. Gen.* 1274. XANTHORHIZA *l'Herit. Stirp.* I. p. 79. t. 38. *Juss. p.* 234. *Nat. Ord.* RANUNCULACEÆ *Juss.* *Yellow-root.*

*X. apiifolia l'Herit. l. c. Willd. Spec.* I. p. 1568. *Ait. Kew. I. p.* 399. *Bot. Mag. t.* 1736. *Mich. Fl. I. p.* 186. *Pursh Fl. I. p.* 222. *Elliott Sk. I. p.* 377. *Bart. Veg. Mat. Med. II. t.* 46. *Roem. & Schult. VI. p.* 801. *X. simplicissima Marshall. l. c. p.* 168. *X. tinctoria Woodhouse in Med. Rep. V. p.* 159, cum icone.

*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.

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

The root is a valuable yellow dye, and is also a strong and pleasant bitter.

CLASS VI.  
 H E X A N D R I A.



ORDER I.  
 M O N O G Y N I A.

- A. *Flowers complete, having a calyx and corolla.*  
 226. TRADESCANTIA.      228. BERBERIS.  
 227. LEONTICE.          229. PRINOS.  
                                  230. FLÆRKEA.
- B. *Flowers spathaceous.*  
 231. AMARYLLIS.          233. HYPOXIS.  
 232. ALLIUM.              234. PONTEDERIA.
- C. *Flowers naked. (Without a spath; perianth single, petaloid.)*  
 235. CONOSTYLIS.      241. ORNITHOGALUM.  
 236. ALETRIS.          242. LILIUM.  
 237. HEMEROCALLIS. 243. ERYTHRONIUM.  
 238. AGAVE.            244. UVULARA.  
 239. PHALANGIUM.    245. STREPTOPUS.  
 240. NARTHECIUM.    246. CONVALLARIA.  
                                  247. ASPARAGUS.
- D. *Flowers incomplete. (Perianth single, resembling a calyx.)*  
 248. ORONTIUM.          250. JUNCUS.  
 249. ACORUS.            251. LUZULA.

226. TRADESCANTIA. L.

*Calyx* 3-leaved. *Petals* 3. *Filaments* villous. *Capsule* superior, 3-celled, many-seeded. *Gen. pl.* 543. *Nutt t. Gen. I.* p. 209. *Juss. p.* 45. *Lam. Ill.* t. 226. *Nat. Ord.* JUNCII *Juss.* COMMELINEÆ  
*R. Brown.* Spider-wort.



1. *T. virginica* L.: erect; leaves lanceolate, elongated, smooth; flowers in a crowded umbel, sessile, pubescent. *Willd. Spec.* II. p. 16. *Bot. Mag.* t. 105. *Mich. Fl.* I. p. 193. *Pursh Fl.* I. p. 218. *Elliott Sk.* I. p. 380. *Bart. Fl. Am. Sept.* II. t. 41. *T. cristata* Walt. *Car.* p. 119. *Moris. Sect.* V. t. 2. f. 4.

*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 involucre 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.

HAB. In shady woods. Pennsylvania to Carolina. *Pursh.* In Pennsylvania. *Muhlenberg.* May. My specimens are from Lake Michigan.

2. *T. rosea* Mich.: erect, simple; leaves linear; peduncles elongated; calyx smooth. *Mich. Fl.* I. p. 193. *Vent. Hort. Cels.* p. 24. t. 24. *Lodd. Bot. Cab.* t. 370. *Pursh Fl.* I. p. 218. *Elliott Sk.* I. p. 381. *T. virginica* Walt. *Car.* p. 119.

*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. *Involucre* 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.

HAB. In Pennsylvania. May. *Muhlenberg.*

## 227. LEONTICE. L.

*Calyx* 6-leaved, caducous. *Petals* 6, unguiculate, opposite the calyx. *Nectaries* 6, inserted upon the claws of the petals. *Anthers* adnate to the filaments, 2-celled; cells opening longitudinally. *Pericarp* rupturing at an early period, leaving the large naked drupe-form seed elevated on its *funiculus*. *R. Brown in Lin. Trans.* XII. p. 145. t. 7. *Gen. pl.* 571. *Juss.* p. 287. *Lam. Ill.* t. 254. CAULOPHYLLUM Mich.

*Fl. I. p. 204. Nutt. Gen. I. p. 210. Nat. Ord. BERBERIDEÆ Juss.*

*L. Thalictroides L.:* leaves bi-triternate; leaflets 2—3-lobed; flowers paniculate from the centre of the leaves. *Sp. pl. 448. Willd. Spec. II. p. 149. R. Brown l. c. CAULOPHYLLUM Thalictroides Mich. Fl. I. p. 205. t. 21. Pursh Fl. I. p. 218. Elliott Sk. I. p. 411. Nutt. Gen. l. c. LEONTICE foliis supradecompositis, Gron. Virg. 151. Cold. Novob. 75.*

*Root* perennial. *Stem* about a foot high, erect, very smooth, generally 2-leaved; the lower leaf triternate; upper one biternate; 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 *germen*; *anthers* oblong-cordate, opening by elastic longitudinal valves. *Germen* 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.

*HAB.* In shady woods abounding with rocks; commonly in mountainous situations. Canada to Carolina. April—May. *Cohosh.*

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.

*Calyx* 6-leaved. *Petals* 6, with 2 glands on each claw. *Style* 0. *Stigma* umbilicate. *Berry* 1-celled, 2—4-seeded. *Gen. pl. 405. Nutt. Gen. I. p. 210. Juss. p. 286. Lam. Ill. t. 253. Nat. Ord. BERBERIDEÆ Juss.* Filaments irritable.

*B. vulgaris* *δ. canadensis Willd.:* branches punctate, armed with trifid spines; leaves oblong-obovate, distinctly ciliate-serrate; racemes simple, subcorymbose, recurved. *Willd. Spec. II. p. 227. B. vulgaris Mich. Fl. I. p. 205.*

*Big. Bost.* p. 78. *Walt. Car.* p. 120. *B. canadensis*  
*Pursh Fl. I.* p. 219. *Elliott Sk. I.* p. 412. *Nutt.*  
*Gen. I.* p. 211.

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.*

*Calyx* minute, 6-cleft. *Corolla* monopetalous, subrotate, 6-parted. *Berry* 6-seeded. *Gen. pl.* 594. *Nutt. Gen. I.* p. 212. *Juss. p.* 379. *Lam. Ill. t.* 255. *Nat. Ord. RHAMNI Juss.* Flowers often polygamous or dioecious. *Winter-berry.*

1. *P. verticillatus L.*: leaves deciduous, oval, serrate, acuminate, pubescent beneath; flowers 6-parted; staminiferous axillary, subumbellate; pistilliferous aggregated. *Willd. Spec. II.* p. 225. *Pursh Fl. I.* p. 220. *Big. Bost. p.* 79. *EjUSD. Med. Bot. III.* p. 141. t. 55. *Bart. Veg. Mat. Med. t.* 17. *P. Gronovii Mich. Fl. II.* p. 236. *Aquifolium foliis deciduis, Duham. Arb. I.* p. 62. t. 23. *Gron. Virg.* 39.

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.

HAB. In moist woods and in swamps. June. *Black Alder.*

*β. tenuifolius\**: leaves obovate, membranaceous, smooth beneath; pistilliferous flowers 4—5-cleft, subsolitary. *P. padifolius Willd. Enum. Hort. Berol. p. 394?*

A shrub about 5 feet high; branches very slender. *Leaves* petiolate, uncinately serrate, obtuse, or with a short abrupt acumination, smooth beneath, except a slight pubescence on the midrib. *Pistilliferous flowers* on very short pedicels, generally solitary. *Berries* scarlet.

**HAB.** In the cedar swamp, near New-Durham, New-Jersey. July.

This may possibly be the *P. ambiguus* of *Pursh*, but not of *Michaux*. It is scarcely a distinct species.

2. *P. ambiguus Michx.*: leaves deciduous, oval, acuminate at each end; flowers 4-cleft; stamiferous ones crowded on the lower branchlets; pistilliferous solitary. *Michx. Fl. II. p. 236. Pursh Fl. I. p. 220? Nutt. Gen. I. p. 213.*

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.*

**HAB.** Near Philadelphia. *Barton.*

3. *P. laevigatus Ph.*: leaves deciduous, lanceolate, with adpressed serratures, smooth on both sides, shining above; nerves beneath scarcely pubescent; flowers 6-cleft; pistilliferous axillary, solitary, sessile; stamiferous 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, obsolete serrulate, smooth on both sides, except on the nerves beneath, which are a little pubescent. *Pedicels* of the stamiferous flowers often an inch long. *Pistilliferous flowers* on pedicels about 2 lines long. *Berries* red.

**HAB.** In swamps. Near Philadelphia, and in the pine barrens of New-Jersey. Also in the cedar swamp, near New-Durham, N. J. June.

I suspect this to be the plant described by *Nuttall* as the *P. ambiguus*. There is little doubt that it is *Pursh's P. laevigatus*.

4. *P. glaber L.*: leaves sempervirent, cuneate-lanceolate, coriaceous, smooth and shining, subdentate at the extremity; pedicels axillary, subsolitary, mostly 3-flowered. *Willd. Spec. II. p. 226. Ait. Kew. I. p. 473. Michx. Fl. II. p. 236. Pursh Fl. I. p. 220. Walt. Car. I. p. 247,*

An evergreen shrub, 3—4 feet high. *Leaves* alternate, very smooth, and of a leathery texture, acute, with several obscure teeth at the extremity. *Flowers* perfect? white. *Pedicels* half an inch long. Segments of the *corolla* ovate, rounded. *Berries* globose, black, shining. *Seeds* naciform, oblong, compressed.

HAB. In swamps and in barren sandy woods. July. *Ink-berry*.

### 230. FLÆRKEA. Willdenow.

*Calyx* 3-leaved. *Corolla* 3-petalled, shorter than the calyx. *Style* bifid. *Utriculi* 2—3, united, 1-seeded, superior. *Willd. in Act. Nat. Cur. Berol.* III. 1801. *Nutt. Gen. I.* p. 228. *Muhl. Cat.* p. 36. Nat. Ord. JUNCI *Juss. (Correa.)*†

*F. uliginosa* *Muhl. l. c. Nutt. Gen. l. c. Raf. in Sill. Jour. I.* p. 373. *F. proserpinacoides* *Willd. l. c. F. lacustris* *Pers. Syn. I.* p. 393. *NECTRIS pinnata* *Pursh Fl. I.* p. 229.

*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.*

HAB. In marshes on the banks of rivers. On the Hudson, near Troy. *James.* Near Hudson. *Abbot.* Banks of the Schuylkill, near Philadelphia. *Rafinesque.* April—May.

### 231. AMARYLLIS. L.

*Corolla* superior, 6-petalled, irregular. *Filaments* arising from the orifice of the tube, declined or straight, unequal. *Gen. pl.* 554. *Nutt. Gen. I.* p. 214.

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† *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 *CUCULIÆ*.

*Juss.* p. 55. *Lam. Ill.* t. CCXXVII. Nat. Ord.  
NARCISSI *Juss.* AMARYLLIDÆ *R. Brown.*

*A. Atamasco L.*: spath bifid, acute; flower pedicellate; corolla subcampanulate, subequal, erect, short and tubular at the base; stamens declined, equal. *Willd. Spec.* II. p. 51. *Bot. Mag.* t. 239. *Ph. Herit. Sert. Ang.* t. 10. *Mich. Fl.* I. p. 187. *Pursh Fl.* I. p. 222. *Walt. Car.* p. 120. *Catesb. Car. App.* t. 12.

*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. *Germs* 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. *Ell.*  
**HAB.** In Pennsylvania. June. *Muhlenberg.* Native?

### 232. ALLIUM. L.

*Corolla* 6-parted, spreading. *Spath* many-flowered. *Umbel* crowded. *Capsule* superior, 3-celled, 3-valved, many-seeded. *Gen. pl.* 557. *Nutt. Gen.* I. p. 214. *Juss.* p. 53. *Lam. Ill.* t. 242. Nat. Ord. ASPHODELÆ *Juss.* *Onion, &c.*

1. *A. canadense L.*: scape naked, terete; leaves linear; head bulbiferous. *Willd. Spec.* II. p. 78. *Mich. Fl.* I. p. 194. *Pursh Fl.* I. p. 223. *Elliott Sk.* I. p. 385. *Walt. Car.* p. 121.

*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 exerted; *filaments* simple.

**HAB.** In moist meadows. May.

2. *A. vineale L.*: cauline leaves rounded, fistulous; umbel bulbiferous; stamens alternately tricuspidate. *Willd. Spec.* II. p. 73. *Smith Fl. Brit.* I. p. 359. *Eng. Bot.* t. 1974. *Pursh Fl.* I. p. 222.

*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.

3. *A. triflorum* *Raf.*: scape naked, terete, shorter than the leaves; leaves lanceolate, nerved; umbel few-flowered. *Raf. in Med. Rep.* XI. p. 362. *Pursh Fl.* l. p. 223.

HAB. In shady woods on the high mountains of Pennsylvania.  
May—June. *Pursh.* *Mountain Leeks.*

4. *A. cernuum* *Roth*: scape naked, quadrangular, umbelliferous; leaves linear, nearly flat; umbel cernuous; stamens simple; germen 6-toothed. *Roth in Annals of Bot.* II. p. 27. *Bot. Mag.* t. 1324. *Pursh Fl.* l. p. 732. *Muhl. Cat.* p. 34? *Elliott Sk.* I. p. 385?

*Bulb* tunicated. *Leaves* all radical, 8—12 inches long, 3 lines broad, flat, striate, sheathing at the base. *Scape* 1—2 feet high, slightly compressed, bent near the summit. *Umbel* many-flowered. *Petals* lanceolate, rose-coloured. *Filaments* longer than the petals. *Capsule* nearly globose. *Seeds* solitary. *Ell.*

HAB. In Pennsylvania. July. *Muhlenberg.*

I am doubtful about the synonyms of *Muhlenberg* and *Elliott*. They probably refer to a distinct plant from the one described by *Roth*.

5. *A. tricoccum* *Ait.*: scape naked, nearly terete; leaves lanceolate-oblong, flat, smooth; umbel globose; seeds solitary. *Willd. Spec.* II. p. 81. *Ait. Kew.* l. p. 423, *Pursh Fl.* I. p. 223.

*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.

HAB. In shady woods, especially on mountains. Near Williams College. *Dewey.* In Pennsylvania. *Muhlenberg.* June—July.

### 233. HYPOXIS. L.

*Spath* 2-valved. *Corolla* superior, 6-parted, persistent. *Capsule* elongated, narrowed at the base, 3-celled, many-seeded. *Seeds* roundish, naked. *Gen.*

*pl.* 565. *Nutt. Gen.* I. p. 215. *Juss.* p. 55.  
*Lam. Ill.* t. 229. *Nat. Ord.* ASPHODELEÆ *Juss?*  
*Star-grass.*

*H. erecta* L. : hairy; scape 2—4-flowered; leaves linear; segments of the corolla lanceolate-oblong. *Willd. Spec.* H. p. 106. *Bot. Mag.* t. 710. *Pursh Fl.* I. p. 224. *Big. Bost.* p. 80. *Elliott Sk.* I. p. 396. *Bart. Fl. Am. Sept.* I. t. 35. f. 1. *Walt. Car.* p. 121. *H. carolinensis Mich. Fl.* I. p. 188. ORNITHOGALUM vernum luteum, &c. *Gron. Virg.* 37. *Cold. Novemb.* 76. *Pluk. Alm.* t. 315. f. 12.

*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, ovate, 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.

*Corolla* inferior, 6-cleft, bilabiate; under side of the tube perforated with 3 longitudinal foramina; lower part persistent, calycine. *Stamens* unequally inserted, 3 of them upon the summit of the tube. *Utriculus* muricate, 1-seeded. *Gen. pl.* 545. *Nutt. Gen.* I. p. 215. *Juss.* p. 55. *Lam. Ill.* t. 225. *Nat. Ord.* NARCISSIS affinis *Juss.*

*P. cordata* L. : leaves oblong-cordate; flowers in crowded spikes. *Willd. Spec.* II. p. 23. *Bot. Mag.* t. 1156. *Mich. Fl.* I. p. 194. *Pursh Fl.* I. p. 223. *Big. Bost.* p. 79. *Elliott Sk.* I. p. 382. *Walt. Car.* p. 120. *Gron. Virg.* 37. *Cold. Novemb.* 69. *Pluk. Mant.* t. 349.

*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* oblong, 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 exerted. *Germen* ovate, gibbous; *style* filiform, blue, scarcely exerted; *stigma* minute, entire. *Utriculus* 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, cylindrical, inverted, (or with the radicle upwards); *gemmula*† oval, conspicuous." *Nutt.*

HAB. In ponds and on the edges of rivers; common. August, Pickerel-weed.

*β. angustifolia*\*: leaves elongated-triangular, truncate and subcordate at the base. *P. angustifolia* *Pursh Fl. I. p. 224.* *Nutt. Gen. I. p. 216.* *P. mucronata* *Raf. in Med. Rep. XI. p. 352.*

HAB. In high mountain-lakes. New-York to Carolina. *Pursh.*

I consider this plant a mere variety of *P. cordata*, which varies considerably in the breadth of its leaves. The *P. lanceifolia* of *Muhlenberg* and *Elliott*, (which is also *P. lanceolata* of *Nuttall*), is another variety.

### 235. CONOSTYLIS. *R. Brown.*

*Corolla* semisuperior, 6-cleft, persistent, woolly. *Anthers* erect. *Style* conic, tripartite. *Stigma* simple. *Capsule* opening at the summit, 3-celled, 3-valved, many-seeded. *R. Brown Prod. I. p. 300.* *Nutt. Gen. I. p. 217.* *LOPHIOLA Sims in Bot. Mag. 1596.* Nat. Ord. HÆMODORACEÆ *R. Brown.*

*C. americana* *Ph.*: corolla woolly within; scape corymbose-panicled; leaves gramineous-ensiform, glaucous; filaments equal. *Pursh Fl. I. p. 224. t. 6.* *Elliott Sk. I. p. 403.* *Nutt. Gen. I. c.* *LOPHIOLA aurea Bot. Mag. t. 1596.* *HELONIAS tomentosa Muhl. Cat. p. 37.*

† 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.*

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. *Germs* 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.

HAB. In sandy swamps in the pine barrens of New-Jersey. July—August.

This plant differs somewhat from CONOSTYLIS of *R. Brown*, as defined in his profound work above quoted, but perhaps not sufficiently to form a distinct genus. In the latter the pubescence is ramulose; 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.

*Corolla* tubulous-ovate, 6-cleft at the summit, rugose, persistent. *Stamens* inserted upon the margin of the orifice. *Style* triquetrous, tripartite. *Capsule* semi-superior, 3-celled, many-seeded, opening at the summit. *Gen. pl.* 577. *Nutt. Gen.* I. p. 217. *Juss.* p. 51. *Lam. Ill.* t. 237? Nat. Ord. ASPHODELEÆ  
*Juss.* Star-wort.

1. *A. farinosa* L.: flowers pedicellate, oblong-tubular; the corolla when decaying nearly smooth; leaves broad-lanceolate. *Willd. Spec.* II. p. 183. *Bot. Mag.* t. 148. *Big. Med. Bost.* III. p. 94. t. 50. *Elliott Sk.* I. p. 398. *Walt. Car.* p. 121. *A. alba* Mich. *Fl.* I. p. 189. *Pursh Fl.* I. p. 225. HYACINTHUS caule nudo, &c. *Gron. Virg.* 38. *Pluk. Amal.* t. 437. f. 2.

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. *Scape* 2 feet or more in height, terete, striate, very smooth, with several remote bracts. *Spike* 4—6 inches

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 a 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*.

2. *A. aurea* *Walt.*: flowers subsessile, short, subcampanulate; corolla when decaying rugose and very scabrous; leaves lanceolate. *Walt. Car.* p. 121. *Mich. Fl.* I. p. 225. *WURMBEA bullata* *Willd. Hort. Berol.* t. 8.

*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.

*Corolla* campanulate; tube cylindrical. *Stamens* declined. *Stigmas* rather small, simple, somewhat villous. *Gen. pl.* 585. *Nutt. Gen.* I. p. 219. *Juss.* p. 54. *Lam. Ill.* t. 234. Nat. Ord. NARCISSI *Juss.* HEMEROCALLIDÆ *R. Brown.* *Day Lily*.

*H. fulva* *L.*: leaves broad-linear, carinate; interior petals obtuse, undulate; exterior nerves of the petals ramose. *Willd. Spec.* II. p. 197. *Nutt. Gen.* I. p. 219.

*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.

*Staminiferous filaments* longer than the corolla, erect.  
*Capsule* triangular, many-seeded. *Gen. pl.* 582.  
*Nutt. Gen. I.* p. 218. *Juss. p.* 51. *Lam. Ill.*  
 t. 235. Nat. Ord. BROMELIÆ *Juss. Bastard Aloe.*

*A. virginica L.:* stemless, herbaceous; leaves with cartilaginous serratures; scape simple. *Willd. Spec. II.* p. 193. *Jacq. icon. rar. II.* t. 378. *Bot. Mag. t.* 1157. *Mich. Fl. I.* p. 187. *Pursh Fl. I.* p. 226. *Elliott Sk. I.* p. 402. *Walt. Car. p.* 121. *Gron. Virg.* 152.

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.*

HAB. In Pennsylvania. September. *Muhlenberg.*

### 239. PHALANGIUM. *Tournefort.*

Corolla 6-petalled, spreading. Filaments smooth.  
 Capsule superior, ovate. Seeds angular. *Nutt. Gen.*  
 I. p. 219. Nat. Ord. ASPHODELEÆ *Juss.*

*P. esculentum Nutt.:* root bulbous; leaves all radical, linear, carinate; stigma minutely 3-cleft. *Nutt. in Fras. Cat.* 1813. *EjUSD. Gen. I.* p. 219. *Torrey in Sill. Jour. IV.* p. 60. *P. Quamash Pursh Fl. I.* p. 226.  
*SCILLA esculenta Bot. Mag. t.* 1574.

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.

HAB. In Gross-Isle, Detroit River. May. *Douglass.*

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. NARTHECIUM. *Hudson.*

*Corolla* inferior, 6-petalled, spreading, persistent. *Filaments* filiform, hairy. *Capsule* prismatic, 3-celled, many-seeded. *Seed* finely attenuated at each extremity. *Calyx* 0. *Smith Fl. Brit.* I. p. 368. *Nutt. Gen.* I. p. 220. *Lam. Ill.* t. 266. Nat. Ord. JUNCEÆ *Juss.*

*N. americanum* *Ker*: raceme sometimes interruptedly spiked, lax; pedicels with a setaceous bract below the flower, and another embracing its base; filaments with very short hair. *Ker in Bot. Mag.* 1505. *Pursh Fl.* I. p. 227. *Nutt. Gen.* l. c. PHALANGIUM *ossifragum* *Muhl. Cat.* p. 35.

*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.

Scarcely distinct, except in the position of the bracts, from the NARTHECIUM *ossifragum* of Europe.

241. ORNITHOGALUM. *L.*

*Corolla* 6-petalled, persistent, spreading above the middle. *Calyx* 0. *Filaments* dilated at the base. *Capsule* superior, roundish, 3-celled. *Seeds* roundish, naked. *Gen. pl.* 566. *Nutt. Gen.* I. p. 221. *Juss.* p. 53. *Lam. Ill.* t. 242. Nat. Ord. ASPHOBELEÆ *Juss.* *Star of Bethlehem.*

*O. umbellatum* L.: corymb few-flowered; peduncles longer than the bracts; filaments subulate. *Willd. Spec.* II. p. 116. *Smith Fl. Brit.* I. p. 364. *Eng. Bot.* t. 130. *Pursh Fl.* I. p. 227.

*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.

HAB. In moist meadows. May—June. Naturalized.

#### 242. LILIUM. L.

*Corolla* 6-petalled, campanulate; petals mostly reflexed, marked with a longitudinal nectariferous line. *Stamens* shorter than the style. *Stigma* entire. *Capsule* superior, subtriangular; valves connected by cancellate hairs. *Seeds* flat. *Gen. pl.* 558. *Nutt. Gen.* I. p. 221. *Juss.* p. 49. *Lam. Ill.* t. 246. Nat. Ord. LILIACEÆ *Juss.* *Lily.*

1. *L. philadelphicum* L.: leaves verticillate, linear-lanceolate; stem 1—2-flowered; corolla erect, campanulate, spreading; petals unguiculate. *Willd. Spec.* II. p. 90. *Bot. Mag.* t. 519. *Mill. icon.* t. 165. f. 1. *Pursh Fl.* I. p. 229. *Big. Bost.* p. 82. *Elliott Sk.* I. p. 387. *Walt. Car.* p. 123. Martagon, *Cold. Novemb.* 70.

*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.

HAB. On borders of woods and on hill sides, among bushes. June—July.

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.*

II. p. 89. *Bot. Mag.* t. 800, 858. *Mich. Fl.* I. p. 197. *Pursh Fl.* I. p. 229. *Big. Bost.* p. 82. *Elliott Sk.* I. p. 388.

*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.

3. *L. superbum* L.: leaves verticillate, linear-lanceolate, 3-nerved, smooth; the upper ones scattered; flowers in a pyramidal raceme, reflexed; petals revolute. *Willd. Spec.* II. p. 88. *Bot. Mag.* t. 936. *Pursh Fl.* I. p. 230. *Elliott Sk.* I. 389. *Walt. Car.* p. 123.

*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.

HAB. In wet meadows and swamps. July. *Turk's-cap.*—*Golden Martagon.*

A very splendid species; not very common north of New-York.

4. *L. Catesbæi* Walt.: leaves scattered, linear-lanceolate; stem 1-flowered; corolla erect; petals with long claws, undulate on the margin, reflexed at the tip. *Walt. Car.* p. 123. *Willd. Spec.* II. p. 86. *Bot. Mag.* t. 259. *Mich. Fl.* I. p. 197. *Pursh Fl.* I. p. 228. *Elliott Sk.* I. p. 387. *Catesb. Car.* II. t. 58. *L. spectabile* Salisb. *icon. rar.* 5. t. 5.

*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.

HAB. In Pennsylvania. July. *Muhtenberg.*

*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

the base, and a nectariferous pore. *Capsule* superior, substipitate. *Seeds* ovate. *Gen. pl.* 562. *Nutt. Gen. I.* p. 223. *Juss.* p. 48. *Lam. Ill. t.* 244. *Nat. Ord.* LILIACEÆ *Juss.* *Dogs'-tooth Violet.*

1. *E. americanum* Sm. : leaves lanceolate, punctate ; petals oblong-lanceolate, obtuse at the point ; interior ones bidentate near the base ; style clavate ; stigma entire. *Smith in Rees' Cyclop.* XIV. *Ker in Bot. Mag.* 1113. *Hort. Kew.* ed. 2. l. p. 246. *Big. Bost.* p. 82. *EjUSD. Med. Bot.* III. p. 151. t. 58. *Elliott Sk.* I. p. 389. *Bart. Fl. Am. Sept.* I. p. 33. *Nutt. Gen. I.* p. 223. *E. lanceolatum* Pursh *Fl. I.* p. 230. *E. longifolium* Poir. *Enc. E. Dens canis Mich. Fl. I.* p. 198. *E. Dens canis γ. Willd. Spec. II.* p. 96. *Gron. Virg.* 151. *Cold. Novb.* 72.

*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, pervious, pubescent within. *Capsule* oblong, acuminate, substipitate, 3-celled, 3-valved. *Seeds* numerous, ovate.

*HAB.* In woods and moist thickets. April—May.

2. *E. albidum* Nutt. : leaves elliptical-lanceolate, not punctate ; petals linear-lanceolate, obtuse ; inner ones without dentures, subunguiculate ; style filiform ; stigma 3-cleft ; lobes reflexed. *Nutt. Gen. I.* p. 223.

*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. *Germen* 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.

*Corolla* inferior, 6-petalled, erect; petals with a nectariferous cavity at the base of each. *Filaments* very short; *anthers* adnate. *Stigmas* reflexed. *Capsule* triangular, 3-celled, 3-valved; valves septiferous in the middle. *Seeds* numerous, subglobose, arillate at the hilum. *Gen. pl.* 560. *Nutt. Gen.* I. p. 224. *Juss.* p. 48. *Lam. Ill.* t. 247. *Nat. Ord.* LI-  
 LIACEÆ *Juss.* *Bell-wort.*

1. *U. perfoliata* L.: leaves perfoliate, elliptic, obtuse; corolla campanulate, granular, scabrous within; anthers cuspidate. *Willd. Spec.* II. p. 94. *Smith exot. bot.* I. p. 95. t. 49. *Bot. Mag.* t. 955. *Pursh Fl.* I. p. 231. *Big. Bost.* p. 81. *Elliott Sk.* I. p. 390. *Bart. Fl. Am. Sept.* I. p. 32. *U. perfoliata*  $\alpha$ . *minor* *Mich. Fl.* I. p. 199. *Gron. Virg.* 37. *Cold. Novemb.* 74. *Cornuti Canad.* 38.

*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 nerved. *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.

2. *U. flava* Sm.: leaves perfoliate, elliptical-oblong, obtuse, undulate at the base; corolla tapering at the base, scabrous within; anthers awned. *Smith exot. bot.* I. p. 97. t. 50. *Pursh Fl.* I. p. 231. *Elliott Sk.* I. p. 390.

*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*.

3. *U. grandiflora* Sm.: leaves perfoliate, oblong, acute; petals smooth within; anthers without awns; nectaries subtund. *Smith exot. bot.* I. p. 99. t. 51. *Bot. Mag.* 1212.

*Pursh Fl. I. p. 391. Elliott Sk. I. p. 391. U. perfoliata*  $\beta$ . *major Mich. Fl. I. p. 199. U. lanceolata Willd. Spec. I. p. 94. Ait. Kew. I. p. 434.*

*Flowers* larger than in the other species, of a beautiful yellow. *Ph.*  
 HAB. On shady hills, in fertile soil, and among rocks. Canada to Carolina. *Pursh.* On hills near Troy, New-York. *Eaton.*

4. *U. sessilifolia L.*: stem smooth; leaves sessile, oval-lanceolate, glaucous beneath; petals flat, smooth within; capsules stipitate. *Willd. Spec. II. p. 95. Smith exot. bot. I. p. 101. t. 52. Bot. Mag. 1402. Mich. Fl. I. p. 199. Pursh Fl. I. p. 233. Big. Bost. p. 81. Elliott Sk. I. p. 392. Bart. Fl. Am. Sept. II. t. 54. f. 1.*

*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.*

*Corolla* inferior, 6-petalled, subcampanulate. *Stigmas* very short. *Berry* subglobose, smooth, 3-celled. *Seeds* few; hilum naked. *Mich. Fl. I. p. 200. Nutt. Gen. I. p. 224. UVULARIÆ spp. L. Nat. Ord. LILIACÆ Juss.*

1. *S. roseus Mich.*: smooth and shining; leaves amplexicaul, serrulate-ciliate; anthers short, 2-horned. *Mich. Fl. I. p. 201. t. 18. Pursh Fl. I. p. 232. Elliott Sk. I. p. 392. UVULARIA rosea Bot. Mag. 1489. Muhl. Cat. p. 34.*

*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. *Germen* sessile, turbinate, subtriangular; *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.

2. *S. distortus* Mich.: smooth; leaves amplexicaul, smooth on the margin; pedicels distorted and geniculate in the middle; anthers sagittate, acuminate, much longer than the filaments. Mich. Fl. I. p. 200. Pursh Fl. I. p. 232. *UVULARIA amplexifolia* L. Willd. Spec. II. p. 93? Muhl. Cat. p. 34.

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 (entire?) points. Germen ovate, sessile; style very thick; stigmas nearly entire.

HAB. In shady woods, on high mountains. Canada to Pennsylvania. Pursh. Near Fairfield, New-York. Hadley. May.

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.

3. *S. lanuginosus* Mich.: hoary-pubescent; leaves sessile, subcordate at the base, acuminate; pedicels by pairs, on a very short footstalk. Mich. Fl. I. p. 201. Pursh Fl. I. p. 232. Elliott Sk. I. p. 393. *UVULARIA lanuginosa* Bot. Mag. 1490. Muhl. Cat. p. 34.

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.

HAB. On high mountains. Pennsylvania to Carolina. Pursh. In Pennsylvania. Muhlenberg. May.

#### 246. CONVALLARIA. L.

Corolla inferior, 6-cleft. Berry globose, spotted, 3-celled. Gen. pl. 575. Juss. p. 42. Lam. Ill. t. 248. CONVALLARIA, MAIANTHEMUM, SMILACINA et POLYGONATUM Desf. Nat. Ord. ASPARAGÆ Juss. Lily of the valley.—Solomon's Seal.

\* Corolla deeply 4-parted, spreading; stamens 4; berry 2-celled. (Flowers in a terminal raceme.) MAIANTHEMUM Desfontaines.

1. *C. bifolia* L.: stem 2-leaved; leaves on short petioles, cordate-oblong, very smooth on both sides; raceme simple, terminal; flowers tetrandrous. Willd. Spec. II. p. 164. Mich. Fl. I. p. 201. Big. Bost. p. 80. Muhl. Cat. p. 35. SMILACINA canadensis Pursh Fl. I. p. 233. Bart.

*Fl. Am. Sept.* II. t. 70. *MAIANTHEMUM canadense Desfont.*  
*Ann. Mus.* IX. p. 54. *Pluk. Alm.* t. 434. f. 4.

*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.*

2. *C. stellata* L.: leaves numerous, alternate, oval-lanceolate, amplexicaul; raceme simple, terminal. *Willd. Spec.* II. p. 163. *Bot. Mag.* t. 1043. *Mich. Fl.* I. p. 202.  
*SMILACINA stellata Desfont.* l. c. p. 52. *Pursh Fl.* I. p. 233.

*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.

3. *C. trifolia* L.: stem about 3-leaved; leaves alternate, ovate-lanceolate, contracted at the base; raceme simple, terminal, few-flowered. *Willd. Spec.* I. p. 163. *Gmel. Fl. Sib.* I. p. 36. t. 6. *Mich. Fl.* I. p. 202. *SMILACINA trifolia Desfont.* l. c. p. 52. *Pursh Fl.* I. p. 232.

*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.

**HAB.** In mountain swamps. Cumington, Massachusetts. *Porter.* In Pennsylvania and New-York. *Pursh.* May.

4. *C. racemosa* L.: leaves numerous, alternate, sessile;

oblong-oval, acuminate, nerved, pubescent; flowers in a terminal racemose-panicle. *Willd. Spec.* II. p. 163. *Bot. Mag.* 899. *Mich. Fl.* I. p. 202. *Big. Bost.* p. 30. *Walt. Car.* p. 122. *SMILACINA racemosa Desfont.* l. c. p. 51. *Pursh Fl.* I. p. 234. *Elliott Sk.* I. p. 395. *Gron. Virg.* 38. *Cold. Novemb.* 78.

*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. *Germen* 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.

5. *C. umbellulata Mich.*; subcaulescent; leaves oblong-oval, ciliate on the margin; scape pubescent; umbel terminal; pedicels nodding, with minute bracts at the base. *Mich. Fl.* I. p. 202. *SMILACINA umbellata Desf.* l. c. p. 53. t. 8. *Pursh Fl.* I. p. 232. *Elliott Sk.* I. p. 395. *S. borealis Bot. Mag.* 1155.

*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. *Germen* oblong; *style* triangular, thick, nearly as long as the stamens; *stigma* 3-lobed. *Berries* of an amethystine blue, 2-celled; cells 3—4-seeded. *Seeds* angular.

**HAB.** In bogs on mountains. On the Catskill Mountains. *Knevels.* Fairfield, New-York. *Hadley.* Hudson, N. Y. *Alsop.* Deerfield, Massachusetts. *Cooley* and *Hitchcock*, &c. May—June.

This plant agrees almost equally well with the characters of *CONVALLARIA umbellulata* of *Michaux*, and *DRACÆNA 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

*Pursh*) in the carina of the leaves being smooth, and the flowers not fragrant. I should have taken them for varieties of the same plant, had they not been considered as distinct by several eminent Botanists.

- \* \* \* \* *Corolla 6-cleft, cylindric; filaments inserted on the upper part of the tube; berry 3-celled; cells 2-seeded. (Flowers axillary.)* POLYGONATUM *Desfontaines*.

6. *C. multiflora* L.: stem terete; leaves alternate, amplexicaul, oblong-oval; peduncles axillary, many-flowered. *Willd. Spec.* II. p. 162. *Smith Fl. Brit.* I. p. 372. *Eng. Bot.* t. 279. *Big. Bost.* p. 81. POLYGONATUM *multiflorum* *Desfont.* l. c. p. 50. *Pursh Fl.* I. p. 235. *Elliott Sk.* I. p. 394. *Cold. Novemb.* 77.

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.

HAB. On dry rocky hills. June—July.

7. *C. biflora* Walt.: stem terete, smooth; leaves alternate, elliptical-lanceolate, 3-nerved; peduncles axillary, solitary, 2-flowered. *Walt. Car.* p. 122. SMILACINA *biflora* *Elliott Sk.* I. p. 393. *S. angustifolia* *Pursh Fl.* I. p. 234.

Flowers yellowish-white, with green tips. Ph.

HAB. In rocky situations. Pennsylvania to Virginia. *Pursh*.

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*.

8. *C. pubescens* Willd.: stem nearly terete, furrowed; leaves alternate, amplexicaul, ovate, pubescent beneath; peduncles axillary, generally 2-flowered. *Willd. Hort. Berol.* p. 45. t. 45. *Muhl. Cat.* p. 35. POLYGONATUM *pubescens* *Pursh Fl.* I. p. 234. *Elliott Sk.* I. p. 394.

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.

9. *C. canaliculata* Willd.: stem canaliculate; leaves alternate, amplexicaul, oblong, pubescent on the margin; peduncles axillary, 2-flowered. Willd. Hort. Berol. p. 45. *Polygonatum canaliculatum* Pursh Fl. l. p. 234.

HAB. In shady woods. Pennsylvania to Virginia. Pursh. +

10. *C. latifolia* L.: stem angular; leaves sessile, ovate, acuminate; peduncles one or many-flowered. Willd. Spec. II. p. 162. *C. Polygonatum* Muhl. Cat. p. 35. *Polygonatum latifolium* Desfont. l. c. p. 50. Pursh Fl. l. p. 234.

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.

HAB. On the high rocky banks of rivers. June—July.

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.

Corolla inferior, 6-parted. Style very short; stigmas 3. Berry 3-celled; cells 2-seeded. Gen. pl. 573. Nutt. Gen. I. p. 226. Juss. p. 41. Lam. Ill. t. 249. Nat. Ord. ASPARAGÆ Juss.

*A. officinalis* L.: unarmed; stem herbaceous, erect, terete, very much branched; leaves setaceous, fasciculate, flexible; peduncles jointed in the middle. Willd. Spec. II. p. 150. Smith Fl. Brit. I. p. 369. Eng. Bot. t. 339. Pursh Fl. I. p. 235.

Root creeping, fleshy. Stem erect, smooth, 1—2 feet high. Leaves very slender, in numerous small fascicles. Stipules minute, subsolitary. 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.

HAB. On gravelly and rocky shores. Not uncommon in the vicinity of New-York. Naturalized. June.

Common *Asparagus*.

## 248. ORONTIUM. L.

*Spadix* cylindric, crowned with flowers. *Corolle* 6-petalled, naked. *Style* and *stigmas* scarcely any. *Utriculus* 1-seeded. *Gen. pl.* 587. *Nutt. Gen. I.* p. 226. *Juss.* p. 25. *Lam. Ill.* t. 251. *Nat. Ord.* AROIIEÆ *Juss.* *Golden-club.*

*O. aquaticum* L.: leaves lanceolate-ovate; scape cylindrical, spiked. *Willd. Spec.* II. p. 199. *Hook. exot. bot* 19. *Mich. Fl.* I. p. 194. *Pursh Fl.* I. p. 235. *Elliot Sk.* I. p. 404. *Bart. Fl. Am. Sept.* II. t. 37. ORONTIUM *Amen. Acad.* III. t. 1. f. 3. (mal.) *POTHOS ovata* *Walt.* *Car.* p. 224. ARUM folio enervi ovato, *Gr on. Virg.* 113.

*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. *Somarhize*† 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 somarhize.” *Nutt.*

**HAB.** In small creeks and marshes on the banks of rivers; always within the limits of tide-water? Common in the vicinity of New-York. On the Hudson, as far up as Hudson, N. Y. Near New-Haven, Connecticut. *Eaton. &c.* May.

## 249. ACORUS. L.

*Spadix* cylindric, covered with flowers. *Corolla*

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† In this case a large round ingermative body, laterally connected by a vascular system to the gemmula, and forming the principal part of the seed. *Nutt.*



6-petalled, naked. *Stigma* sessile, very minute. *Capsule* 3-celled. *Gen. pl.* 586. *Nutt. Gen. I.* p. 227. *Juss. p.* 25. *Lam. Ill. t.* CCLII. *Nat. Ord. AROIDEÆ Juss.* *Sweet-flag.—Calamus.*

*A. calamus L.:* spadix protruding from the side of an ensiform leaf. *Willd. Spec. II.* p. 199. *Smith Fl. Brit. I.* p. 373. *Eng. Bot. t.* 356. *Mich. Fl. I.* p. 194. *Pursh Fl. I.* p. 235. *Big. Bost. p.* 83. *Elliott Sk. I.* p. 403. *Walt. Car. p.* 124.

*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. *Germs* 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.

*Perianth* 6-leaved, glumaceous. *Capsule* superior, 3-celled, 3-valved; cells many-seeded. *Seeds* attached to a partition in the middle of each valve. *Gen. pl.* 590. *Nutt. Gen. I.* p. 227. *Juss. p.* 44. *Lam. Ill. t.* CCL. *Nat. Ord. JUNCEÆ Juss.* *Leaves* glabrous, mostly rounded. *Rush.*

\* *Scares* naked; (*flowers* lateral.)

1. *J. effusus L.:* scape minutely striate, (soft); panicle loose, very much branched, spreading; leaflets of the perianth lanceolate, acuminate, rather longer than the obovate obtuse capsule. *Bich. in Lin. Trans. XII.* p. 303. *Willd. Spec. II.* p. 205. *Eng. Bot. t.* 836. *Pursh Fl. I.* p. 236. *Big. Bost. p.* 83. *Muhl. Gram. p.* 204. *Elliott Sk. I.* p. 405. *Walt. Car. p.* 124.

*Root* fibrous, perennial, cespitose. *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*.

2. *J. setaceus* Rostk.: scape filiform, striate; umbel lateral, compound, few-flowered; peduncles many-flowered; leaflets of the perianth subulate. Rostk. *Junc.* 13, t. 1. f. 1. Pers. *Syn.* I. p. 383. Pursh *Fl.* 1. p. 236. Muhl. *Gram.* p. 236. Elliott *Sk.* I. p. 404. *J. filiformis* Mich. *Fl.* 1. p. 191. Pursh l. c? Walt. *Car.* p. 124.

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.

HAB. In swamps. Deerfield, Massachusetts. Cooley and Hitchcock. In Pennsylvania. Muhlenberg.

Resembles *J. filiformis* of Europe, but sufficiently distinct.

3. *J. acutus* L.: scape naked, terete; panicle lateral; involucrem 2-leaved, spinous; capsule nearly round, mucronate, as long again as the perianth. Bich. in Lin. *Trans.* XII. p. 297. Willd. *Spec.* II. p. 204. Eng. *Bot.* t. 1614. Pursh *Fl.* 1. p. 235. Muhl. *Gram.* p. 205. Elliott *Sk.* I. p. 405.

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. Involucrem 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.

HAB. On the sandy sea-coast. New-Jersey, &c. Pursh.

\* \* Leaves all radical; (flowers terminal.)

4. *J. squarrosus* L.: leaves setaceous, (rigid) grooved; panicle terminal, elongated, compound; capsules elliptical. Willd. *Spec.* II. p. 209. Smith *Fl. Brit.* I. p. 378. Eng. *Bot.* t. 933. Muhl. *Cat.* p. 36.

HAB. In New-York. Muhlenberg. +

This species is marked as a native of New-York, by Muhl-

*Lenberg*, in his Catalogue, though it is not described in his *Descriptio Graminum*.

5. *J. tenuis Willd.*: stem erect, filiform, a little dichotomous at the summit, nearly terete; leaves setaceous, canaliculate; flowers solitary, approximate, subsessile; perianth longer than the obtuse capsule. *Willd. Spec. II.* p. 214. *Rostk. Junc.* 24. t. 1. f. 3. *Hook. Fl. Scot. part I.* p. 108. *Pursh Fl. I.* p. 238. *Muhl. Gram.* p. 200. *Big. Bost.* p. 84. *Elliott Sk. I.* p. 406. *J. bicornis Mich. Fl. I.* p. 236. *Rostk. Junc.* 21. t. 1. f. 1. *Pursh Fl. I.* p. 236. *J. gracilis Eng. Bot.* t. 2174. *Bich. in Lin. Trans. XII.* p. 213. fide *Hooker*.

Root fibrous, cespitose. Stem a foot high, slightly compressed, tenacious, generally naked. Leaves linear-setaceous, a little rounded on the back. Panicle terminal, subcorymbed; branches unequal, often proliferous, 2—5-flowered; flowers erect, secund, sessile. Involucrum of 2—3 setaceous leaves, much longer than the panicle. Leaflets of the perianth lanceolate, acuminate, nearly one-third longer than the capsule. Stamens 6; anthers pale yellow. Capsule subtriangular, globose. Seeds very numerous and minute, oblong, gibbous, striate, brown.

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*.

6. *J. nodosus L.*: stem somewhat leafy; leaves nodose-articulate; heads mostly 2, globose, one of them lateral and pedunculate, the other sessile; leaflets of the perianth mucronate, shorter than the acuminate capsule. *Rostk. Junc.* 29. t. 2. f. 2. *Willd. Spec. II.* p. 210. *Pursh Fl. I.* p. 236. *Muhl. Gram.* p. 206. *Gron. Virg.* 15. *Pluk. Alm.* 179. t. 92. f. 9.

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.*

7. *J. marginatus* *Rostk.*: leaves flat, smooth; corymb terminal, simple, proliferous; heads 5—10-flowered; flowers triandrous; leaflets of the perianth about as long as the obtuse capsule; the exterior ones and the bracts subaristate. *Rostk. Junc.* 30. t. 2. f. 3. *Pursh Fl.* I. p. 236. *Muhl. Gram.* p. 202. *J. aristulatus* *Mich. Fl.* I. p. 192. *Elliot Sk.* I. p. 408. *J. triglumis* *Walt. Car.* p. 124.

*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, subaristate; 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. ? *odoratus*\*: 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, subcorymb, much branched. *Heads* very numerous, twice or thrice proliferous. Leaflets of the perianth unequal, rather shorter than the capsule; the exterior ones lanceolate, subaristate; the others obtuse and scarious 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.

8. *J. trifidus* *L.*: sheaths ciliate; those at the base of the stem leafless; bracts foliaceous, very long, grooved; heads about 3-flowered, terminal; stem 1-leaved. *Bich. in Lin. Trans.* XII. p. 314. *Willd. Spec.* II. p. 208. *Eng. Bot.* t. 1482.

*Root* creeping. *Stem* about 6 inches high. *Leaf* mostly solitary near the summit, linear-setaceous; sheaths with finely lacinate 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.

HAB. On the White Hills of New-Hampshire. *Bigelow*:

9. *bulbosus* L. : stem simple, leafy, compressed; leaves linear-setaceous, canaliculate; panicle terminal, compound, subcymose, shorter than the involucre; leaflets of the perianth incurved, obtuse or acute, generally shorter than the ovate subglobose capsule. *Willd. Spec.* II. p. 213. *Bich. in Lin. Trans.* XII. p. 307. *Eng. Bot.* t. 934. *Pursh Fl.* I. p. 237. *Muhl. Gram.* p. 201. *J. dichotomus* Elliott *Sk.* I. p. 406. excl. syn. *Mich.*

*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. *Involucre* 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* fus-cous, oblong, acuminate at each extremity, distinctly striate.

**HAB.** In salt marshes, along the borders of creeks and ditches; very distinguishable at a distance by its dark green colour. Common in the vicinity of New-York. Near New-Haven, Connecticut. *Monson.* August—September.

10. *J. bufonius* L. : stem dichotomous above, paniculate; leaves filiform-setaceous, canaliculate; flowers subsolitary, sessile, unilateral; leaves of the perianth very acuminate, much longer than the elliptical-ovate capsule. *Bich. in Lin. Trans.* XII. p. 311. *Willd. Spec.* II. p. 214. *Eng. Bot.* t. 302. *Mich. Fl.* I. p. 191. *Pursh Fl.* I. p. 238. *Muhl. Gram.* p. 203. *Elliott Sk.* I. p. 407.

*Root* fibrous, annual, cespitose. *Stem* 3—6 inches high, dichotomously branched a little above the base, terete, smooth. *Leaves* few, shorter than the stem, with membranaceous sheaths. *Panicle* large, loose, few-flowered. *Involucre* resembling the leaves. *Flowers* pale green; *bracts* large and membranaceous, white. *Leaflets* of the perianth linear-lanceolate, nearly as long again as the capsule. *Stamens* 6. *Capsule* obtuse, subtriangular. *Seeds* yellow, ovate, obtuse, striate.

**HAB.** In low overflowed places; very common on the borders of salt marshes. June—August.

† † *Leaves rounded or subcompressed, nodose-articulate.*

11. *J. acuminatus* Mich. : stem leafy, erect; leaves terete, nodose-articulate; panicle terminal, compound; heads 3—6-flowered, pedunculate and sessile; leaflets of the perianth linear-lanceolate, subaristate, shorter than the acute capsule. *Mich. Fl.* I. p. 192. *Pursh Fl.* I. p. 237.

*Elliott Sk. I. p. 409. J. sylvaticus Muhl. Gram. p. 206. nec Willd.*

Root fibrous, cespitose. Stem a foot and a half high, terete, tenacious. 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.

HAB. In bogs; very common. New-England to Carolina. August.

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.*

12. *J. polycephalus Mich.*: stem leafy, erect; leaves compressed, nodose-articulate; panicle decomposed; heads globose, many-flowered; flowers triandrous; leaflets of the perianth subaristate, rather shorter than the triquetrous acute capsule. *J. polycephalus* = *crassifolius Mich. Fl. I. p. 192. Pursh Fl. I. p. 237. Elliott Sk. I. p. 410. Big. Bost. p. 84. J. echinatus Muhl. Gram. p. 207.*

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.

13. *J. subverticillatus Willd.?*: cauline leaves subulate, nodose-articulate; panicle corymbose; heads about 5-flowered, fasciculate-verticillate; leaflets of the perianth striate, as long as the obtuse capsule. *Bich. in Lin. Trans. XII. p. 322. Willd. Spec. II. p. 212. Muhl. Gram. p. 209. J. fluitans Mich. Fl. I. p. 191. (vide Muhl.) J. verticillatus Pursh Fl. I. p. 237.*

Stem a foot and a half high, erect, compressed, fistulous. Leaves compressed, nodose-articulate. Panicle subverticillate; peduncles semiterete. Heads 3—5-flowered. Bracts ovate, mucronate. Leaflets of the perianth linear, green, subaristate. Capsule triquetrous, acuminate, longer than the calyx. *Muhl.*

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

This species has not come under my observation, unless I have mistaken it for a variety of *J. nodosus* or *polycephalus*.

## 251. LUZULA. *Willd.*

*Perianth* 6-leaved, glumaceous. *Capsule* superior, 3-celled, 3-valved; cells 1-seeded; valves without partitions. *Willd. Enum. Hort. Berol.* p. 392. *JUNCI* *spp.* *L., Nutt., &c.* *Nat. Ord. JUNCEÆ Juss.* Leaves mostly hairy.

1. *L. pilosa Willd.*: leaves hairy; panicle subcymose; peduncles 1-flowered, reflexed; leaflets of the perianth acuminate, rather shorter than the obtuse capsule. *Willd. Enum. Hort. Berol.* p. 393. *Hook. Fl. Scot. part I.* p. 110. *L. vernalis De Cand. Syn. Fl. Gall.* p. 151. *J. pilosus L. Willd. Spec. II.* p. 216. *Bich. in Lin. Trans. XII.* p. 329. *Eng. Bot.* 736. *Muhl. Gram.* p. 200.

*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.

**HAB.** On mountains. Pennsylvania. *Muhlenberg.* Near Williams College, Massachusetts. *Dewey.* April—May. This species resembles the European in every respect.

2. *L. campestris Willd.*: leaves hairy; spikes sessile and pedunculate; leaflets of the perianth acuminate, longer than the obtuse capsule. *Willd. Enum. Hort. Berol.* p. 394. *De Cand. Syn. Fl. Gall.* p. 151. *Hook. Fl. Scot. part I.* p. 110. *JUNCUS campestris L. Willd. Spec. II.* p. 221. *Bich. in Lin. Trans. XII.* p. 334. *Eng. Bot.* t. 672. *Mich. Fl. I.* p. 190. *Pursh Fl. I.* p. 238. *Big. Bost.* p. 84. *Muhl. Gram.* p. 199. *Elliott Sk. I.* p. 410. *Wall. Car.* p. 125.

*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 exerted; *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.

3. *L. melanocarpa* Desv.: culm leafy; leaves sublan-  
ceolate, smooth; panicles capillary, loose; flowers distinctly  
pedicellate; capsules black. Desv. in *Journ. de Bot.* I. p.  
324. t. 11. f. 2. *JUNCUS melanocarpus* Mich. Fl. I. p. 190.  
*Pursh Fl.* I. p. 238.

HAB. On the White Hills of New-Hampshire. July. *Bigel-  
ow.*

4. *L. spicata* De Cand.: leaves narrow, hairy at the  
throat; spike vernuous, compound; leaflets of the perianth  
acuminate-aristate, about as long as the roundish capsule.  
*De Cand. Syn. Fl. Gall.* p. 151. *Bich. in Lin. Trans.*  
XII. p. 336 *Hook. Fl. Scot. part I.* p. 111. *JUNCUS spi-  
catus Willd. Spec.* I. p. 222. *Eng. Bot.* t. 1176.

*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.*

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## ORDER II.

### TRIGYNIA.

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|-------------------|--------------------|
| 252. MELANTHIUM.  | 257. SCHEUCHZERIA. |
| 253. VERATRUM.    | 258. TRIGLOCHIN.   |
| 254. HELONIAS.    | 259. GYROMIA.      |
| 255. XEROPHYLLUM. | 260. TRILLIUM.     |
| 256. TOFIELDIA.   | 261. RUMEX.        |
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#### 252. MELANTHIUM. L.

Polygamous.—*Calyx* 0. *Corolla* 6-parted, rotate;  
segments unguiculate, with 2 glands at the base;



claws staminiferous. *Capsule* subovate, 3-celled; apex partly trifid. *Seeds* numerous, membranaceously winged. *Gen. pl.* 618. *Nutt. Gen. I.* p. 232. *Juss.* p. 47. *Lam. Ill. t.* CCLXIX. Nat. Ord. JUNCÆ *Juss.* MELANTHACEÆ *R. Brown.*

1. *M. virginicum* L.: panicle pyramidal; petals oval, somewhat hastate, flat; flowers mostly perfect. *Willd. Spec. II.* p. 266. *Lam. Enc. IV.* p. 25. *Mich. Fl. I.* p. 251. *Pursh Fl. I.* p. 240. *Elliott Sk. I.* p. 418. *HELONIAS virginica* *Bot. Mag.* 985. *M. foliis linearibus integerrimis longissimis, &c.* *Gron. Virg.* 59. *Pluk. Amal.* p. 40. t. 434. f. 8.?

*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.

*HAB* In wet meadows. Near Elizabethtown, New-Jersey. *Eddy.* In Pennsylvania. *Muhlenberg.* July—August.

2. *M. glaucum* *Nutt.*: root a tunicated bulb; leaves glaucous, gramineous, margined; raceme mostly simple, few-flowered; flowers perfect; petals roundish, unguiculate, with 2 spots; seeds subulately winged. *Nutt. Gen. I.* p. 232.

About a foot high. *Raceme* sometimes a little divided at the base. *Flowers* whitish. *Nutt.*

*HAB.* On the gravelly banks of the St. Lawrence, in calcareous soil, and on the borders of Lake Erie. July—August. *Nuttall.*

According to *Mr. Nuttall*, this species is also found on the borders of Lakes Huron and Michigan, and up the Missouri to Fort Mandan.

3. *M. hybridum* *Walt.*: panicle racemose; petals suborbicular, plaited, with long claws, glands connate. *Walt. Car.* p. 125. *Pursh Fl. I.* 242. *Elliott Sk. I.* p. 419. *M. racemosum* *Mich. Fl. II.* p. 251.

*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.*

HAB. In Pennsylvania. *Muhlenberg.*

### 253. VERATRUM. L.

Polygamous.—*Calyx* 0. *Corolla* 6-parted, expanding; segments sessile, without glands. *Stamens* inserted upon the receptacle. *Capsules* 3, united, many-seeded. *Gen. pl.* 1564. *Nutt. Gen.* I. p. 233. *Juss.* p. 47. *Lam. Ill.* t. DCCCL. Nat. Ord. JUNCEÆ *Juss.* MELANTHACEÆ *R. Brown.*

*Green and White Hellebore.*

*V. viride Ait.:* racemes paniculate; bracts of the branches oblong-lanceolate; partial ones longer than the subpubescent peduncles; leaves broad-ovate, plicate. *Ait. Kew.* VII. p. 422. *Willd. Spec.* IV. p. 896. *Pursh Fl.* I. p. 242. *Big. Bost.* p. 246. *Elliott Sk.* I. p. 419. *V. album Mich. Fl.* II. p. 249. *HELONIAS viridis Bot. Mag.* 1096. *Veratrum, Cold. Novob.* 79.

*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 stamiferous 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.

HAB. In shady swamps. June—July.

*Swamp Hellebore.—Poke-root.*

### 254. HELONIAS. L.

*Corolla* 6-parted, spreading; segments sessile, with-

out glands. *Styles* 3, distinct. *Capsule* 3-celled, 3-horned; cells few-seeded. *Gen. pl.* 622. *Nutt. Gen. I.* p. 234. *Juss.* p. 47. *Lam. Ill.* t. 268. *Nat. Ord.* JUNCEÆ *Juss.* MELANTHACEÆ *R. Brown.*

1. *H. latifolia Mich.*: scape leafless; spike ovate, crowded; bracts linear-lanceolate; leaves lanceolate, mucronate, nerved. *Mich. Fl.* I. p. 212. *Pursh Fl.* I. p. 242. *H. bullata L. Willd. Spec.* II. p. 273. *Bot. Mag.* 747. *Bot. Rep.* 352. *Pluk. Alm.* t. 174. f. 5.

*Flowers* pale purple. *Anthers* blue. *Ph.*

*HAB.* In shady swamps, on sandy soil. New-Jersey to Virginia. *Pursh.* In New-Jersey and Pennsylvania. *Muhlenberg.* May.

2. *H. erythrosperma Mich.*: scape leafy; leaves linear, very long; raceme oblong; bracts short; capsule shortened, with divaricate horns; seeds ovate, red. *Mich. Fl.* I. p. 212. *Pursh Fl.* I. p. 242. *Elliott Sk.* I. p. 421. *H. læta Bot. Mag.* 303. MELANTHIUM *letum Ait. Kew.* I. p. 488. *Willd. Spec.* II. p. 267. *M. phalangioides Lam. Enc.* IV. p. 23. *M. muscætoxicum Walt. Car.* p. 125. AN-  
THERICUM *subtrigynum Jacq. icon. rar.* II. t. 419.

*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 carinate. *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.

3. *H. angustifolia Mich.*: scape leafy; leaves very long and narrow; raceme oblong, lax; capsule oblong; seeds linear. *Mich. Fl.* I. p. 212. *Pursh Fl.* I. p. 243. *Elliott Sk.* I. p. 421.

*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-

cence; 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.*  
 HAB. IN New-York. *Muhlenberg.* †

4. *H.?* *dioica* *Ph.*: scape leafy; racemes dioecious, spiked, cernuous; pedicels very short, without bracts; petals linear; stamens exerted; leaves lanceolate. *Pursh Fl.* I. p. 243. *Elliott Sk.* I. p. 423. *H. lutea* *Hort. Kew.* ed. 2. II. p. 330. *Bot. Mag.* 1062. *H. pumila* *Jacq. icon. rar.* II. t. 453. *VERATRUM luteum* *L. Willd. Spec.* IV. p. 897. *Nutt. Gen.* I. p. 234. *MELANTHIUM dioicum* *Walt. Car.* p. 126. *M. densum* *Lam. Enc.* IV. p. 26. *VERATRUM* caule simplicissimo, spicâ ante florescentiam incurvata. *Cold. Novemb.* 80. *Gron. Virg.* 158.

*Root* large, præmorse. *Stem* 1—2 feet high, simple, very smooth, slightly angular. *Leaves* lanceolate, acute; the radical ones broader. *Flowers* dioecious and polygamous, in long spike-like racemes. *STAMINIFEROUS*: *Petals* linear-spathulate, obtuse, 1-nerved, white. *Stamens* rather longer than the petals; *filaments* subulate; *anthers* terminal, 2-lobed. *Germs* entirely wanting. *PISTILLIFEROUS* OR *PERFECT*: *Raceme* becoming erect, generally few-flowered. *Petals* linear. *Stamens* very short, abortive. *Germs* ovate, subtriangular, with the sides deeply furrowed; *stigmas* 3, spreading or reflexed. *Capsule* ovate-oblong, 3-furrowed, opening at the summit. *Seeds* many in each cell, acute, compressed.

HAB. In wet meadows and bogs; common in hilly and mountainous situations. *June.* *Unicorn's-horn.*—*Devil's-bit,* &c.

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.*

*Corolla* subrotate, deeply 6-parted. *Filaments* contiguous at the base. *Stigmas* 3, revolute, partly united below. *Capsule* subglobose, 3-celled; cells 2-seeded, opening at the summit. *Mich. Fl.* I. p. 210. *Nutt. Gen.* I. p. 234. *HELONIADIS* *sp. L. Nat. Ord.*  
*JUNCEÆ* *Juss.* *MELANTHACEÆ* *R. Brown.*

*X. setifolium* *Mich.*: raceme oblong, crowded; bracts setaceous; filaments dilated at the base, as long as the corolla; leaves subulate-setaceous. *Mich. Fl.* I. p. 211. *Nutt. Gen.* I. p. 235. *HELONIAS asphodeloides* *L. Willd. Spec.* II. p. 274. *Bot. Mag.* 748. *Pursh Fl.* I. p. 243.

*Elliott Sk.* I. p. 422. 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* 3—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.*

*Calyx* 3-cleft. *Petals* 6. *Anthers* roundish. *Styles* vertical, short. *Capsules* 3, superior, united at the base, many-seeded. *Seeds* naked. *Smith Fl. Brit.* I, p. 397. *Ejusd. in Lin. Trans.* XII. p. 238. *Nutt. Gen.* I. p. 235. NARTHECIUM *Juss.* p. 47. AN-  
THERICUM *L.* Nat. Ord. JUNCEÆ *Juss.* MELAN-  
THACEÆ *R. Brown.*

*T. pubens Dryand.*: flowers on a scape; rachis and pedicels scabrous; spike oblong, interrupted; capsules subglobose, scarcely longer than the calyx. *Dryand. in Hort. Kew.* ed. 2. II. p. 325. *Elliott Sk.* I. p. 424. *Smith in Lin. Trans.* XII. p. 245. *T. pubescens Pers. Syn.* I. p. 399. *Pursh Fl.* I. p. 246. *Nutt. Gen.* I. p. 236. NARTHECIUM *pubens Mich. Fl.* I. p. 209. MELANTHIUM *racemosum Walt. Car.* p. 176. AN-  
THERICUM *calyculatum, Gron. Virg.* 51.

*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 bractiform 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 germen, a little expanding. "Capsule brown and indurated; margin of the valves inflexed, seminiferous above. *Seeds* caudate." *Nutt.*

HAB. In Sussex county, Delaware. *Nuttall.*

*Muhlenberg* gives, as synonyms of this species, *HELONIAS borealis* L. (meaning, probably, of *Willdenow*,) which is the *TOFIELDIA palustris* of *Hudson* and *Smith.*

### 257. SCHEUCHZERIA. L.

*Calyx* 6-parted. *Corolla* 0. *Anthers* linear. *Stigmas* sessile, lateral. *Capsules* inflated, distinct, mostly 2-seeded. *Gen. pl.* 615. *Nutt. Gen. I.* p. 236. *Juss.* p. 46. *Lam. Ill.* t. 268. *Nat. Ord. JUNCÆÆ Juss. JUNCAGINEÆ Rich.*

*S. palustris* L. *Willd. Spec. II.* p. 265. *Fl. Dan.* t. 76. *Mich. Fl.* I. p. 209. *Pursh Fl.* I. p. 247. *Nutt. Gen. I.* p. 236.

*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.

HAB. In sphagnous swamps near Albany. *Beck* and *Tracy.* In Vermont. *Eaton.* Near Philadelphia. *Nuttall.* July.

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 calycine. *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. *Gen. pl.* 606. *Nutt. Gen. I.* p. 237. *Juss. p.* 47. *Lam. Ill. t.* CCLXX. Nat. Ord. JUNCEÆ *Juss.* JUNCAGINEÆ *Rich.* *Arrow-grass.*

1. *T. maritimum* L.: fruit ovate-oblong, of 6 united capsules. *Willd. Spec. II.* p. 265. *Smith Fl. Brit. I.* p. 399. *Eng. Bot. t.* 255. *Mich. Fl. I.* p. 208. *Pursh Fl. I.* p. 217. *Big. Bost. I.* p. 35. *T. elatum* *Nutt. Gen. I.* p. 237.

*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 calycine. *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. *Bigelow.* New-Haven, Connecticut. *Ives.* In fresh, and probably also in salt marshes in the State of New-York. *Nuttall.* About the Salt Springs of Onondaga, New-York. *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.

2. *T. palustre* L.: flowers triandrous; fruit of 3 united capsules, nearly linear, attenuate at the base. *Willd. Spec. II.* p. 264. *Smith Fl. Brit. I.* p. 393. *Eng. Bot. t.* 366. *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*.

*Calyx* 0. *Corolla* 5-parted, revolute. *Filaments* and *anthers* distinct. *Styles* 0; *stigmas* 3, filiform and divaricate, united at the base. *Berry* 3-celled; cells 5—6-seeded. *Seeds* compressed, 3-sided. *Nutt.* *Gen. I.* p. 238. *MEDEOLÆ sp. L., &c. Lam. Ill.* t. 266. f. 2. *Nat. Ord. ASPARAGÆE Jus s.*

*Indian Cucumber.*

*G. virginica Nutt. Gen. I.* p. 238. *MEDEOLA virginica L. Willd. Spec. II.* p. 270. *Bot. Mag.* 1306. *Mich. Fl. I.* p. 214. *Pursh Fl. I.* p. 244. *Big. Bost.* p. 85. *Elliott Sk. I.* p. 425. *Walt. Car. I.* p. 126.

*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.*

*Calyx* 3-leaved. *Corolla* 3-petalled. *Stigmas* sessile. *Berry* superior, 3-celled; cells many-seeded. *Gen. pl.* 620. *Nutt. Gen. I.* p. 239. *Jus s.* p. 42. *Lam. Ill.* t. 267. *Nat. Ord. ASPARAGÆE Jus s.* *Leaves* 3, verticillate at the summit of the stem; *flower* terminal, solitary. *American Herb Paris.*

1. *T. sessile L.*: flower sessile, erect; petals lanceolate, twice as long as the calyx; leaves sessile, broad-oval, acute. *Willd. Spec. II.* p. 272. *Bot. Mag.* 40. *Mich. Fl. I.* p. 215. *Pursh Fl. I.* p. 244. *Elliott Sk. I.* p. 426.



*Walt. Car.* p. 126. *PARIS* foliis ternis, flore sessili erecto, *Gron Virg.* 44. SOLANUM, &c. *Catesb. Car.* l. p. 50. t. 50. *Pluk. Alm.* 352. t. 111. f. 6.

*Root* thick, somewhat præmorse, 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. *Germen* ovate, triangular; *stigmas* almost sessile, spreading, obtuse. *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.

2. *erythrocarpum Mich.*: peduncle somewhat erect; petals oval-lanceolate, acute, recurved, nearly as long again as the narrow calyx; leaves ovate, acuminate, rounded at the base, abruptly contracted into a short petiole. *Mich. Fl.* l. p. 216. *Elliott Sk.* l. p. 428. *Nutt. Gen.* l. p. 239. *T. pictum Pursh Fl.* l. p. 244. *T. undulatum Willd. Hort. Berol.* l. p. 53.

*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.

**HAB.** In sphagnous swamps abounding with evergreens, especially on mountains. Deerfield, Massachusetts. *Cooley* and *Hitchcock*. Near Williams College. *Dewey*. In the cedar swamp, New-Durham, New-Jersey. Pennsylvania. *Muhlenberg*. May.

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. erythrocarpum*, except in its sessile leaves, which is not an uncommon occurrence in the latter species.

3. *T. pusillum* Mich.: peduncle erect; petals scarcely longer than the calyx; leaves oval oblong, obtuse, sessile. *Mich. Fl. I. p. 215. Elliott Sk. I. p. 427. T. pumilum Pursh Fl. I. p. 245.*

*Plant small. Petals pale flesh-coloured: Mich.*

*HAB. In Pennsylvania. Muhlenberg.*

4. *T. cernuum* L.: peduncle recurved; petals lanceolate, acuminate, flat, recurved, of the length and breadth of the calyx; leaves dilated-rhomboid, abruptly acuminate, on short petioles. *Willd. Spec. II. p. 271. excl. syn. Catesb. and Cold. Bot. Mag. 954. Smith Spicil. 4. Pursh Fl. I. p. 245. Big. Bost. p. 85. Nutt. Gen. I. p. 239.*

*Root perennial. Stem a foot or 18 inches high. Leaves broadly rhomboid, acute at the base, and slightly petiolate. Flower middle-sized, on a recurved peduncle scarcely more than half an inch long. Leaflets of the calyx ovate-lanceolate, acuminate. Corolla white, (purple, Muhl.); petals a little longer than the calyx. Berry large, dark purple.*

*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 styliiferous germen and narrow leaves, (*T. stylisum*, Nutt.) Elliott's *T. Catesbæi* is perhaps the same.

5. *T. erectum* L.: peduncle inclined; flower nodding; petals ovate, acuminate, flat, spreading, broader, and a little longer than the calyx; leaves broad-rhomboid, acuminate, sessile. *Willd. Spec. II. p. 271. Pursh Fl. I. p. 245. Elliott Sk. I. p. 427. T. rhomboideum  $\alpha$ . atropurpureum Mich. Fl. I. p. 215. T. atropurpureum Curt. in Bot. Mag. 470. T. fatidum Parud. Lond. 35. PARIS foliis ternis, &c. Cold. Novcb. 31.*

*Root large, præmorse, 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.*

*β. album Ph.*: flowers smaller; petals white. *Pursh* l. c. *Elliott* l. c. *Bot. Mag.* 1027. *T. rhomboideum β. album Mich.* l. c.

HAB. In similar situations; rare. Near Albany, New-York. *Eight*s, &c.

6. *T. pendulum Willd.*: peduncle inclined; flower pendulous; petals ovate, shortly acuminate, flat, spreading, nearly equal to the ovate acuminate calyx; leaves roundish-rhomboid, acuminate, subsessile. *Willd. Hort. Berol.* I. t. 35. *Pursh Fl.* I. p. 46. *Elliott Sk.* I. p. 428.

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.

HAB. On the mountains of Pennsylvania. May. *Pursh*. This species strongly resembles *T. cernuum*.

7. *T. grandiflorum Salisb.*: peduncle inclined; flower somewhat erect; petals spatulate-lanceolate, connivent at the base, much longer than the calyx; leaves broadly rhomboid-ovate. *Hort. Kew.* ed. 2. II. p. 329. *Parad. Lond.* t. 1. *Bot. Mag.* 835. *Pursh Fl.* I. p. 246. *Elliott Sk.* I. p. 427. *Nutt. Gen.* 239. *T. rhomboideum δ. grandiflorum Mich. Fl.* I. p. 216.

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 germen, spreading. Berries dark purple.

HAB. In Pennsylvania. *Muhlenberg*. In Vermont. *Eaton*. May.

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.

Perianth 6-leaved. Nut triquetrous, covered by the 3 interior valviform leaves of the perianth. Stigmas many-cleft. *Gen. pl.* 613. *Nutt. Gen.* I. p. 240. *Juss.* p. 82. *Lam. Ill.* t. 271. Nat. Ord. POLY-GONÆ *Juss.* *Dock.*

\* *Flowers all perfect; valves graniferous.* LAPATHUM.

† *Valves entire.*

1. *R. aquaticus* L.: valves ovate, entire, all of them graniferous; leaves lanceolate; the lower ones cordate at the base. *Willd. Spec.* II. p. 255. *Smith Fl. Brit.* I. p. 394. *Eng. Bot.* 2104. *Pursh Fl.* I. p. 248. *Muhl. Cat.* p. 37. *Cold. Novcb.* 83.

*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.

HAB. In ditches and on the borders of ponds. June. Probably introduced. *Great Water Dock.*

2. *R. crispus* L.: valves very large, cordate, entire, reticulate, graniferous; leaves lanceolate, undulate, acute. *Willd. Spec.* II. p. 251. *Smith Fl. Brit.* I. p. 391. *Eng. Bot.* 1998. *Pursh Fl.* I. p. 247. *Big. Bost.* p. 36. *Elliott Sk.* I. p. 414.

*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.

HAB. In meadows and waste places. June. Introduced.

3. *R. sanguineus* L.: valves oblong, small, one of them graniferous; leaves lanceolate, subcordate. *Willd. Spec.* II. p. 250. *Smith Fl. Brit.* I. p. 390. *Eng. Bot.* t. 1533. *Pursh Fl.* I. p. 247. *Elliott Sk.* I. p. 413. *Walt. Car.* p. 126.

*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.

HAB. In fields and on road sides. June. Introduced.

4. *R. Britannica* L.: valves all entire and graniferous; whorls of flowers leafless; leaves broad-lanceolate, flat, smooth; sheaths obsolete. *Willd. Spec.* II. p. 250.

*Mich. Fl. I. p. 217. Big. Bost. p. 87. Walt. Car. p. 126. R. britannicus Pursh Fl. I. 248. Elliott Sk. I. p. 414. RUMEX aquaticus, &c. Cold. Novob. 84.*

*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 *Colden* to be the great secret remedy of our Indians for phagædenic ulcers.

5. *R. verticillatus L.*: valves entire, all of them graniferous; racemes leafless; leaves lanceolate; sheaths cylindrical. *Willd. Spec. II. p. 250. Mich. Fl. I. 217. Pursh Fl. I. p. 248. Elliott Sk. I. p. 413. Walt. Car. p. 126. LAPATHUM aquaticum, &c. Gron. Virg. 39.*

*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.*

6. *R. acutus L.*: valves oblong, somewhat toothed, all of them graniferous; leaves cordate-oblong, acuminate; whorls leafy. *Willd. Spec. II. p. 253. Smith Fl. Brit. I. p. 391. Eng. Bot. 724.*

*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.

7. *R. obtusifolius L.*: valves dentate; one of them conspicuously graniferous; radical leaves ovate cordate, obtuse; stem somewhat scabrous. *Willd. Spec. II. p. 254. Smith Fl. Brit. I. p. 392. Eng. Bot. t. 1999. Pursh Fl. I. p. 248. Big. Bost. p. 86.*

*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 diœcious; valves grainless.* ACETOSA.

8. R. *Acetosella* L.: leaves lanceolate-hastate, with the lobes spreading or recurved. *Willd. Spec.* II. p. 260. *Smith Fl. Brit.* I. p. 396. *Eng. Bot.* t. 1574. *Michx. Fl.* I. p. 216. *Pursh Fl.* I. p. 249. *Big. Bost.* p. 87. *Elliott Sk.* I. p. 405.

*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. *Stamiferous 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. *Sheeps' Sorrel.*

A pernicious weed, well known for its pleasant acid taste. I have very rarely found the pistilliferous flowers.

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### ORDER III.

## T E T R A G Y N I A .

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### 262, SAURURUS. L.

*Flowers* in an ament or crowded spike; scales 1-flowered. *Corolla* 0. *Anthers* adnate to the filaments. *Capsules* each 1 or rarely 2-seeded. *Gen. pl.* 632. *Nutt. Gen.* I. p. 240. *Juss.* p. 19. *Lam. Ill.* t. 276. **MATTUSCHKEA** *Gmel. Syst. Nat.* I. p. 589. **ANONYMOS** *Walt. Car.* p. 127. **Nat. Ord. NAIADES** *Juss.†* *Lizards'-tail.*

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† *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 **AROIDÆ**, or to **PIPER**. We think certainly to the latter.

*S. cernuus* L.: *Willd. Spec.* II. p. 292. *Mich. Fl.* 7. p. 218. *Pursh Fl.* I. 252. *Elliott Sk.* I. p. 432. ANONYMOS *aquatica* *Walt. Car.* p. 127. MATTUSCHKEA *aquatica* *Gmel. Syst. Nat.* I. p. 589. *Gron. Virg.* 40. *Pluk. Alm.* 343. t. 117. f. 3, 4.

*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 ament solitary, opposite a leaf on one of the forks of the stem, pedunculate, 3—6 inches long. *Calyx* or scale of the ament 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 germen; *anthers* oblong, 2-celled, opening laterally the whole length. *Germen*s 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.

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ORDER IV.

POLYGYNIA.

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263. ALISMA. L.

*Calyx* 3-leaved. *Petals* 3. *Capsules* numerous, 3-seeded, not opening. *Gen. pl.* 625. *Nutt. Gen.* I. p. 241. *Juss.* p. 46. *Lam. Ill.* t. CCLXXVII. Nat. Ord. JUNCEÆ *Juss.* ALISMACEÆ *Rich.*—*R. Brown.* *Water-Plantain.*

*A. Plantago* L.: leaves ovate-cordate, acute or obtuse, 9-nerved; flowers in a compound verticillate panicle; fruit obtusely triangular. *Willd. Spec.* II. p. 276. *Smith Fl. Brit.* I. p. 400. *Eng. Bot.* t. 837. *Mich. Fl.* I. p. 213. *Big. Bost.* p. 37. *A. trivialis* *Pursh Fl.* I. p. 252. *Elliott Sk.* I. p. 434.

*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 decomposed 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.

*β. parviflora\**: leaves oval, 5—7-nerved, acuminate; flowers very small. *P. parviflora Pursh Fl. I. p. 253. Elliott Sk. I. p. 234.*

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.

*Calyx* 7-leaved. *Corolla* 7-parted, equal, flat. *Berry* dry, 1-celled, many-seeded. *Gen. pl.* 626. *Nutt. Gen. I.* p. 242. *Juss.* p. 96. *Lam. Ill.* t. 275. *Nat. Ord.* LYSIMACHIÆ *Juss.* PRIMULACEÆ  
*R. Brown.* *Chick-weed Wintergreen.*

*T. europæa*  $\beta$ . *angustifolia*\*: leaves narrow-lanceolate, acuminate, oblique. *T. americana* *Pursh Fl. I.* p. 256. *Bart. Fl. Am. Sept. II.* t. 47. *T. europæa Mich. Fl. I.* p. 220. *Big. Bost.* p. 85.

*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. *Germen* 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. europæa*, 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. europæa* or not, I am unable to decide.

265. *ÆSCULUS*. L.

*Calyx* 1-leaved, 4—5-toothed, ventricose. *Corolla* 4—5-petalled; petals unequal, pubescent, inserted upon the calyx. *Capsule* 3-celled. *Seeds* large, solitary. *Gen. pl.* 628. *Nutt. Gen. I.* p. 242. *Juss.* p. 251. *Lam. Ill. t.* CCLXXIII. *Nat. Ord.* ACERACEÆ *Juss.* *Horse-chesnut.*—*Buck-eye.*

*Æ. glabra Willd.*: leaves quinate, very smooth; corolla 4-petalled, spreading, with the claws as long as the calyx; stamens longer than the corolla; fruit spinous. *Willd. Enum. Hort. Berol. I.* p. 405. *Pursh Fl. I.* p. 255. *Æ. echinata Muhl. Cat.* p. 38? *PAVIA ohioensis Mich. f. Arb. II.* p. 217. t. 92.

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.    | 268. GAURA.     |
| 267. OENOTHERA. | 269. EPILOBIUM. |
| 270. OXYCOCCUS. |                 |

\* \* *Flowers inferior.*

- |                 |                   |
|-----------------|-------------------|
| 271. MENZIESIA. | 273. DIRCA.       |
| 272. ACER.      | 273. JEFFERSONIA. |



266. RHEXIA. *L.—R. Brown.*†

*Calyx* urceolate, 4—5-cleft. *Petals* 4, inserted upon the calyx. *Anthers* incumbent, attached to the filaments behind, naked at the base. *Capsule* setigerous, 4-celled, free in the ventricose calyx; *receptacles* lunulate, pedicellate. *Seeds* numerous. *D. Don Ill. Nat. Fam. Melast. in Wern. Trans. IV. p. . Gen. pl. 636. Nutt. Gen. I. p. 243. Juss. p. 330. Lam. Ill. t. 283. Nat. Ord. MELASTOMACEÆ Juss.*

1. *R. virginica L.*: stem with winged angles, somewhat

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† 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 ARTHROSTEMMA of *Pavon*, and of *Don*.

hairy; leaves sessile, ovate-lanceolate, serrate-ciliate, sprinkled with appressed hairs on both sides. *Willd. Spec. II.* p. 301. *Bot. Mag.* 968. *Lam. Ill.* 233. f. 2. *Mich. Fl. I.* p. 222. *Pursh Fl. I.* p. 258. *Big. Bost.* p. 91. *Elliott Sk. I.* p. 439. *Bart. Fl. Am. Sept. I. t.* 4. *Gron. Virg.* 41. *Pluk. Alm.* 235. t. 202. f. 8.

*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.*

2. *R. mariana* L.: very hairy; leaves lanceolate, acute at each end, 3-nerved, subpetiolate; calyx tubular, nearly smooth. *Willd. Spec. II.* p. 301. *Lam. Ill.* t. 233. f. 1. *Bot. Cab.* 366. *Mich. Fl. I.* p. 221. *Pursh Fl. I.* p. 257. *Elliott Sk. I.* p. 237. *Bart. Fl. Am. Sept. I. t.* 27. *Walt. Car.* p. 130. *Pluk. Mant.* t. 423. f. 2.

*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.

**HAB.** In bogs and sandy woods, near waters. New-Jersey to Carolina. *Pursh.* In Maryland. *Muhlenberg.*

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. MELASTOMACEÆ, by a terminal pore.

leaves subpetiolate, oval, smooth beneath, slightly hispid above; margin serrulate-ciliate; flowers involucrate. *Mich. Fl.* l. p. 221. *Pursh Fl.* l. p. 258. t. 10. f. 1. *Elliott Sk.* I. 439. *R. petiolata Walt. Car.* p. 130.

*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 involucre of 2 leaves resembling those on the stem. *Corolla* purple; *petals* roundish. *Anthers* short, a little curved, scarcely produced at the base.

**HAB.** In Delaware. *Muhlenberg.*

I have described this species from Southern specimens, not having seen any from the Northern States.

## 267. ŒNOTHERA. L.

*Calyx* tubular, 4-cleft; segments deflexed, deciduous. *Petals* 4. *Stigma* 4-cleft. *Capsule* 4-celled, 4-valved. *Seeds* naked, affixed to a central 4-sided receptacle. *Gen. pl.* 637. *Nutt. Gen.* I. p. 245. *Juss.* p. 319. *Lam. Ill.* t. 279. *Nat. Ord.* ONAGRARIÆ *Juss.* *Night Willow-herb.*

\* *Capsule elongated, sessile.*

1. *Œ. biennis L.*: stem villous and scabrous; leaves ovate-lanceolate, flat, dentate; flowers somewhat spiked; sessile; stamens shorter than the corolla. *Willd. Spec.* II. p. 306. *Eng. Bot.* t. 1534. *Mich. Fl.* l. p. 224. *Pursh Fl.* l. p. 261. *Big. Bost.* p. 90. *Elliott Sk.* l. p. 441. *Gron. Virg.* 254. *ŒNOTHERA. Cold. Novob.* 86.

*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 disseminents 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*.

2. *C. muricata* L.: stem purplish, muricate; leaves lanceolate, flat; stamens as long as the corolla. *Willd. Spec. II.* p. 807. *Murr. Comm. Goet. VII.* t. 1. *Pursh Fl. I.* p. 261. *Elliott Sk. I.* p. 441.

Flowers smaller than in the preceding species. *Ph.*

HAB. In old fields and along fences. Near Troy, New-York. *Eaton*. In Pennsylvania. *Muhlenberg*.

3. *C. parviflora* L.: stem smooth, subvillose; leaves ovate-lanceolate, flat; stamens longer than the corolla. *Willd. Spec. II.* p. 306. *Mill. icon.* t. 189. f. 1. *Pursh Fl. I.* p. 261.

Root biennial. Stem red, scabrous. Leaves repand-subdentate, rather soft. Segments of the *calyx* one-fourth the length of the tube. Capsule crowned with an 8-cleft margin. *Willd.*

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. *C. parviflora*, of the Catalogue of New-York Plants, I am now convinced, is a variety of *C. biennis*.

4. *C. grandiflora* Ait.: stem nearly smooth, branched; ovate-lanceolate, smooth; stamens declinate. *Ait. Kew. II.* p. 2. *Willd. Spec. II.* p. 306. *Bot. Mag.* 2068. *Pursh Fl. I.* p. 261. *Elliott Sk. I.* p. 442. *Bart. Fl. Am. Sapt. II.* t. 6.

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 declinate. 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 *C. biennis*?

5. *C. sinuata* L.: stem diffuse, pubescent; leaves oval-oblong, dentate-sinuate; flowers axillary, villous; capsule prismatic. *Willd. Spec. II.* p. 309. *Murr. Comm. Goet. V.* p. 44. t. 9. *Mich. Fl. I.* p. 224. *Pursh Fl. I.* p. 261. *Elliott Sk. I.* p. 443.

*β. minima* Nutt.: stem humble, simple, 1-flowered;

leaves entire. *Nutt. Gen. I. p. 245. Cæ. minima Pursh Fl. I. p. 262. t. 15.*

*Root* annual. *Stem* simple, 1—3 inches high, 1—2-flowered. *Leaves* oblong-lanceolate, sessile, hairy, mostly entire. *Flowers* small, sessile, terminal. *Petals* obcordate, about as long as the segments of the calyx. *Capsule* linear, distinctly angular.

HAB. In New-Jersey; not uncommon. *Nuttall.*

*Elliott* and *Nuttall* both agree in considering the *Cæ. minima* of *Pursh* a mere variety of *Cæ. sinuata*, become dwarfish by growing in sandy soil.

\* \* *Capsule* ventricose, angular, mostly pedicellate.

6. *Cæ. fruticosa L.*: somewhat villous; leaves linear-lanceolate, subdentate, acute; petals broad-obcordate; capsules oblong-clavate, pedicellate, quadrangular; raceme naked below. *Willd. Spec. II. p. 310. Bot. Mag. 332. Pursh Fl. I. p. 262. Elliott Sk. I. p. 442. Nutt. Gen. I. p. 247. Walt. Car. p. 129. Gron. Virg. 42. Cold. Novch. 87.*

*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 denticulate. *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.

β. *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. l. 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 denticulate, somewhat petiolate. Segments of the *calyx* shorter than the tube, united. *Petals* pale yellow.

HAB. On hills and in dry woods. Staten-Island, New-York. Near Philadelphia. *Nuttall.* July.

Apparently, as *Mr. Nuttall* remarks, a distinct species.

7. *Cæ. incana Nutt.*: stem slender, erect; leaves flat, hoary and tomentose, very entire, elliptic-ovate, acute; ra-

ceme few-flowered, naked; capsules sessile, oblong and quadrangular. *Nutt. Gen.* I. p. 247.

*Stem* 6—8 inches high. *Flowers* bright yellow.

**HAB.** In dry woods. Maryland. *Dr. W. Barton.* +

I have specimens of an ÆNOTHERA in my Herbarium agreeing exactly with *Mr. Nuttall's* description, but they appear to be scarcely more than a variety of *Æ. fruticosa*.

8. *Æ. pumila* L.: smooth; stem ascending; leaves lanceolate, very entire, obtuse; capsule sessile, elliptical-ovate, angular. *Willd. Spec.* II. p. 310. *Bot. Mag.* 355. *Mill. dict.* t. 188. *Pursh Fl.* I. p. 262. *Big. Bost.* p. 91. *Elliott Sk.* I. p. 444.

*Root* perennial. *Stem* simple, oblique at the base, about a span high, terete, slightly hairy. *Leaves* about an inch long, lanceolate or linear-oblong, with a pubescent margin or midrib. *Flowers* small, in a terminal raceme. Segments of the calyx lanceolate, nearly as long as the tube. *Petals* obcordate. *Stamens* shorter than the corolla. *Capsule* closely sessile, acutely quadrangular, with smaller intermediate angles

**HAB.** In dry fields; rare near New-York. Near Boston. *Bigelow.* Williamstown, Massachusetts. *Dewey.*

9. *Æ. chrysantha* Mich.: stem slender, pubescent; leaves lanceolate, rather obtuse, flat, entire; segments of the calyx as long again as the tube; capsule clavate, sessile, acutely angular. *Mich. Fl.* I. p. 225. *Pursh Fl.* I. p. 263. *Elliott Sk.* I. p. 444.

*Stem* about a foot high. *Flowers* small. *Petals* bright yellow. *Mich.*

**HAB.** On the mountains of Pennsylvania. *Pursh.*  
Scarcely distinct from the preceding species.

10. *Æ. pusilla* Mich.: subpubescent; stem nearly simple; leaves lanceolate-oblong, somewhat obtuse, entire; flowers axillary at the summit; capsules sessile, clavate-turbinate, almost equally 8-angled. *Mich. Fl.* I. p. 225. *Pursh Fl.* I. p. 263. *Æ. canadensis* Goldie in *Edin. Phil. Jour.* VI. p. 325?

*Stem* 4—6 inches high, erect. *Capsule* appearing 8-angled, or deeply 8-sulcate by the prominent midrib on each side. *Mich.*

**HAB.** On the high mountains of Pennsylvania. *Pursh.*

## 268. GAURA. L.

*Calyx* 4-cleft, tubular. *Corolla* 4-petalled, ascending. *Nut* quadrangular, 1-seeded. *Gen. pl.* 638.



*Nutt. Gen. I. p. 249. Juss. p. 319. Lam. Ill. t. CCLXXXI. Nat. Ord. ONAGRARIÆ Juss. Germens 1—4-seeded; seeds all, except one, abortive.*

*G. biennis L.:* leaves lanceolate, dentate; spikes crowded; fruit roundish, subquadrangular, pubescent. *Willd. Spec. II. p. 311. Bot. Mag. 389. Mich. Fl. I. p. 226. Pursh Fl. I. p. 260. Elliott Sk. I. p. 446. Pluk. Amalth. t. 243. f. 2.*

*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 repandy 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. **HAB.** On the banks of rivers. Not uncommon on the Hudson, as low down as the Highlands. In Pennsylvania. *Muhlenberg.* August.

269. EPILOBIUM. L.

*Calyx* 4-cleft, tubulous. *Corolla* 4-petalled. *Capsule* oblong, inferior. *Seeds* comose. *Gen. pl. 639. Nutt. Gen. I. p. 249. Juss. p. 319. Lam. Ill. t. 278. Nat. Ord. ONAGRARIÆ Juss. Willow-herb.*

1. *E. spicatum Lam.:* leaves scattered, lanceolate, veined, smooth; flowers subspicate; stamens declined. *Lam. Enc. II. p. 373. Pers. Syn. I. p. 409. Nutt. Gen. I. p. 250. E. angustifolium L. Willd. Spec. II. p. 313. Smith Fl. Brit. I. p. 409. Eng. Bot. t. 1947. Mich. Fl. I. p. 223. Pursh Fl. I. p. 259. Big. East. p. 90.*

*Root* perennial. *Stem* 3—5 feet high, terete, smooth, branched, and purplish above. *Leaves* lanceolate or narrow-lanceolate, irregularly alternate, subglaucous beneath, nearly sessile, acute; margin remotely denticulate. *Flowers* large, in terminal spiked racemes, pedicillate. *Calyx* coloured, deciduous; segments linear. *Corolla* bright purple, irregular; *petals* obovate, emarginate. *Stamens* bent down; *filaments* capillary; *anthers* oblong; *pollen* blue. *Germens* 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.

HAB. In swamps and in wet woods. On the Hudson above Albany. In the western and northern parts of the State of New-York; abundant. Near Boston, Massachusetts. *Bigelow*. In Pennsylvania. *Muhlenberg*. August.

2. *E. coloratum* *Muhl.*: stem terete, pubescent; leaves lanceolate, serrulate, petiolate, opposite, smooth, with coloured veins; the upper ones alternate. *Willd. Enum. Hort. Berol.* p. 411. *Pursh Fl. I.* p. 261. *Big. Bost.* p. 90. *E. novboracense*. *Cold. Nov.* 88.

*Root* perennial. *Stem* 3—4 feet high, much branched, more or less softly pubescent; the upper branches slightly marked by 4 decurrent 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 exerted; *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.

3. *E. rosmarinifolium* *Ph.*: stem terete, pubescent, branching above; leaves linear, very entire; those on the stem opposite; on the branches alternate; flowers pedunculate; petals bifid; stigma entire. *Pursh Fl. I.* p. 259. *E. lineare* *Muhl. Cal.* p. 39. *E. squamatum* *Nutt. Gen.* I. p. 250. *E. oliganthum* *Mich. Fl. I.* p. 223?

*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 exerted. *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 *Hænke*, 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.

HAB. Near Schenectady, New-York. *L. C. Beck*. August.

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. 59, 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. Syn.* I. p. 419. *Nutt. Gen.* I. p. 250. *VACCINII spp. L., &c. Lam. Ill.* t. 286. f. 3, 4. *Nat. Ord. ERICEÆ Juss. VACCINÆ De Cand.* Creeping evergreens. Cranberry.

1. *O. macrocarpus Ph.*: creeping; branches ascending; leaves oblong, nearly flat, obtuse, with distant obsolete serratures, glaucous beneath; pedicels elongated; segments of the corolla linear-lanceolate. *Pursh Fl.* I. p. 263. *Nutt. Gen.* I. p. 250. *Bart. Fl. Amer. Sept.* I. t. 17. *O. vulgaris β. macrocarpus Pers. Syn.* I. p. 419. *V. macrocarpon Ait. Kew.* II. p. 13. t. 7. *Willd. Spec.* II. p. 355. *Big. Bost.* p. 92. *V. Oxycoccus β. oblongifolius Mich. Fl.* I. p. 228. *Wang. Amer.* t. 30. f. 67. *Pluk. Alm.* t. 326. f. 6.

*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.

HAB. Sphagnous swamps; generally on sandy soil. Abundant in New-Jersey. June. *Common Cranberry.*

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.

2. *O. vulgaris Pers.*: leaves ovate, entire, revolute; segments of the corolla oval; stem filiform, creeping, naked. *Pers. Syn.* I. p. 419. *Pursh Fl.* I. p. 263. *V. Oxycoccus L. Willd. Spec.* II. p. 354. *Smith Fl. Brit.* I. p. 416. t. 416. *Eng. Bot.* t. 319. *V. Oxycoccus a. ovalifolius Mich. Fl.* I. p. 223?

HAB. In mossy bogs, on mountains. Canada to Pennsylvania. *Pursh.* In New-York. *Muhlentberg.*

*European Cranberry.*

This species I have not seen, unless it be the variety mentioned above.

## 271. MENZIESIA. *Smith.*

*Calyx* 1-leaved. *Corolla* monopetalous, ovate. *Filaments* inserted into the receptacle; *anthers* awnless. *Capsule* superior, 4-celled; dissepiments formed by the inflexed margins of the valves. *Seeds* numerous, oblong. *Smith icon. ined.* 56. *Pers. Syn.* I. p. 419. *Nutt. Gen.* I. p. 251. *Lam. Ill.* t. 285. Nat. Ord. ERICEÆ *Juss.* *Corolla* 4—5-cleft; stamens 8—10.

1. *M. cœrulea Swartz*: leaves scattered, crowded, linear, toothed; pedicels terminal, aggregate, 1-flowered; flowers campanulate, decandrous; calyx very acute. *Swartz in Lin. Trans.* X. p. 377. t. 30. f. 1. *Eng. Bot.* t. 2469. *Pursh Fl.* I. p. 265. *ERICA cœrulea Willd. Spec.* II. p. 393. *ANDROMEDA cœrulea L. Sp. pl.* 563. *Muhl. Cat.* p. 44. *A. taxifolia Pallas Fl. Ross.* II. p. 64. t. 72. f. 2. *PHYLLADOCE taxifolia Salisb. in Parad. Lond.* 36.

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.

HAB. On the White Hills of New-Hampshire. July. *Peck* and *Bigelow*.

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*.

2. *M. globularis* *Salisb.*: leaves lanceolate, glaucous beneath, except the nerves, pubescent; calyx 4-cleft; flowers globose, octandrous. *Salisb. in Parad. Lond.* 44. *Pursh Fl.* I. p. 264. *Muhl. Cat.* p. 40. *Elliott Sk.* I. p. 447. *M. ferruginea* *β. Bot. Mag.* 1571. *M. Smithii* *Mich. Fl.* I. p. 235. *M. pilosa* *Pers. Syn.* I. p. 420? AZALEA *pilosa* *Lam. Ill.* p. 494.

Not above 4 feet high. *Flowers* yellowish-brown. *Ph.*

HAB. In Pennsylvania. June. *Muhlenberg*.

This species I have never seen.

## 272. ACER. L.

Flowers mostly polygamous. *Calyx* 5-cleft. *Petals* 5 or 0. *Samaræ* 2, winged, united at the base, by abortion 1-seeded. *Gen. pl.* 1590. *Nutt. Gen.* I. 252. *Juss.* p. 251. *Lam. Ill.* t. 844. *Nat. Ord.* ACERACEÆ *Juss.* *Maple.*

1. *A. rubrum* *L.*: leaves palmately about 5-lobed, cordate at the base, unequally and incisely toothed, glaucous beneath; the sinuses acute; flowers aggregated in about fives, on rather long pedicels; germens glabrous. *Willd. Spec.* IV. p. 984. *Mich. Fl.* II. p. 253. *Mich. fil. Arb.* II. p. 210. t. 14. *Pursh Fl.* I. p. 265. *Big. Bost.* p. 247. *Elliott Sk.* I. p. 449. *Nutt. Gen.* I. p. 252. *Catesb. Car.* I. t. 62. *Pluk. Alm.* 7. t. 2. f. 4.

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 involucre. PERFECT: *Pedicels* lengthening as the fruit

ripens, when they are 2—3 inches long. *Calyx* coloured, petaloid, 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; *anthers* red. *Germen* 2-lobed; *stigmas* long, recurved, pubescent. *Fruit* with 2 long membranaceous wings, which are very slightly arcuate. STAMINIFEROUS: *Pedicels* about one-fourth of an inch long. Segments of the *calyx* oblong-spathulate, 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 tomentose. *Willd. Spec. IV.* p. 485. *Pursh Fl. I.* p. 266. *Elliott Sk. I.* p. 449. *Nutt. Gen. I.* p. 251. *A. eriocarpum Mich. Fl. II.* p. 253. *Mich. fl. Arb. II.* p. 205. t. 13.

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-toothed. *Petals* 0. *Stamens* 3—6, very short, without glands at the base. *Germen* white, tomentose, 4-seeded; 2 of the seeds abortive; *styles* 2, distinct; *stigmas* linear, glandular recurved. *Fruit* with large wings, dilated towards the extremity.

HAB. On the banks of rivers. Staten-Island, New-York. *Cooper*. Deerfield, Massachusetts. *Cooley and Hitchcock*. 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 pubescent on the nerves; peduncles hairy; those of the staminiferous flowers branched; of the pistilliferous simple; wings of the samaræ erect. *Mich. Fl. II.* p. 252. *Willd. Spec. IV.* p. 989. *Pursh Fl. I.* p. 266. *Elliott Sk. I.* p. 451.

A small tree. *Leaves* small. *Flowers* pale green, polygamous. *Calyx* densely bearded within. *Mich.* and *Ph.*

HAB. In deep pine and cedar swamps. New-Jersey to Carolina. *Pursh.* †

4. *A. saccharinum L.*: leaves palmately 5-lobed, sub-

cordate at the base, acuminate, glaucous beneath; peduncles corymbose, nodding. *Willd. Spec. IV. p. 985. Mich. Fl. II. p. 252. Mich. fl. Arb. II. p. 218. t. 15. Pursh Fl. I. p. 266. Big. Bost. p. 247. Elliott Sk. I. p. 450. Wang. Amer. 36. t. 11. f. 26. Cold. Novob. 85.*

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* turgid, 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.

5. *A. nigrum Mich. f.*: leaves palmately 5-lobed, cordate, with the sinus closed; lobes divaricate, sinuate-subdentate, pubescent beneath; flowers corymbed; samaræ turgid, subglobose. *Mich. f. Arb. II. p. 238. t. 16. Pursh Fl. I. p. 266. Elliott Sk. I. p. 450.*

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.

HAB. In mountainous regions. Near Windsor, on the Connecticut River, Vermont, its north-eastern limit. *Michaux f.* On the Fishkill Mountains, New-York. In the western parts of the State of New-York; abundant, &c. April.

*Black Sugar Maple.—Sugar-tree.*

This tree yields sugar like *A. saccharinum*, from which it differs very little.

6. *A. pennsylvanicum L.*: leaves with 3 acuminate lobes, rounded at the base, acutely dentate, smooth; racemes simple, pendulous. *Willd. Spec. IV. p. 989. Mich. Fl. II. p. 252. Elliott Sk. I. p. 451. A. striatum Du Roi herbk. I. p. 3. t. 1. Lam. Enc. II. p. 377. Wang. Amer. 29. t. 12. f. 2. Pers. Syn. I. p. 417. Mich. f. Arb. II. p. 242. t. 17. Pursh Fl. I. p. 267. Nutt. Gen. I. p. 253.*

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.

*Moosę-wood.*—*Striped Maple.*

7. *A. montanum* *Ait.*: leaves somewhat 5-lobed, acute, dentate, pubescent beneath; racemes compound, erect. *Ait. Kew.* III. p. 435. *Willd. Spec.* IV. p. 988. *Mich. Fl.* II. p. 253. *Pursh Fl.* I. p. 267. *Elliott Sk.* I. p. 452. *A. pennsylvanicum* *Du Roi* *harbk.* I. p. 22. t. 1. *Wang. Amer.* t. 12. f. 30.

A shrub 6—10 feet high. *Leaves* small, cordate at the base, somewhat rugose, 5-lobed, with the inferior lobes indistinct; teeth 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 Carolina. May.

† *Flowers* dioecious. *Calyx* minute, 5-toothed. *Petals* 0. *Stamens* 5; *anthers* linear, sessile, acuminate. *Samarae* as in **ACER.**—**NEGUNDIUM** *Raf.*

8. *A. Negundo* *L.*: leaves pinnate and ternate, unequally serrate. *Willd. Spec.* IV. p. 992. *Mich. Fl.* II. p. 253. *Mich. f. Arb.* II p. 247. t. 18. *Pursh Fl.* I. p. 268. *Gron. Virg.* 154. *Wang. Amer.* 30. t. 12. f. 29. *Pluk. 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 petioles, 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. *Muhlenberg.* April. *Box-Elder.*—*Ash-leaved Maple.*

This species differs considerably in habit from the preceding, 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.* 665. *Nutt. Gen.* I. p. 253. *Juss.* p. 77. *Lam. Ill.* t. 293. **Nat. Ord.** **THYMELEÆ** *Juss.*

*Leather-wood.*



*D. palustris* L. *Willd. Spec. II.* p. 424. *Bot. Reg.* 292. *Mich. Fl. I.* p. 236. *Pursh Fl. I.* p. 268. *Elliot Sk. I.* p. 448. *Big. Med. Bot. II.* p. 154. t. 37. *Walt. Car.* p. 131. *Amoen. Acad. IV.* p. 12. t. 1. f. 7. *Duham. Arb. I.* p. 212.

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.*

*Calyx* 5-leaved, coloured, deciduous. *Corolla* 8-petalled, incurvately spreading. *Stamens* inserted on the receptacle. *Capsule* obovate, substipitate, 1-celled, coriaceous, opening below the summit by a semicircular foramen. *Seeds* numerous, oblong, arillate at the base. *Bart. in Amer. Phil. Trans. III.* p. 328. cum icone. *PODOPHYLLI sp. L. Nat. Ord. PAPAVERACEÆ Juss. (Nutt.) RANUNCULACEÆ (Correa.)*

*J. diphylla* *Bart. l. c. Pursh Fl. I.* p. 268. *Muhl. Cat.* p. 40. *Bot. Mag.* 1513. *J. Bartoni Mich. Fl. I.* p. 237. *PODOPHYLLUM diphyllum* L. *Willd. Spec. II.* p. 1141.

*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* subturbinate, 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.

HAB. In Pennsylvania. *Muhlenberg.*

## ORDER II.

## T R I G Y N I A.

## 275. POLYGONUM. L.

*Perianth* 5-parted, petaloid, inferior. *Nut* 1-seeded, mostly angular. *Gen. pl.* 677. *Nutt. Gen. I.* p. 254. *Juss.* p. 82. *Lam. Ill.* t. 315. *Nat. Ord.* POLYCONÆ *Juss.* *Stamens* 5—8; *styles* 2—3; *leaves* ochreate at the base. *Persicaria*, *Knot-weed*, &c.

\* *Flowers axillary.*

1. *P. aviculare* L.: *stamens* 8; *styles* 3; *leaves* lanceolate, scabrous on the margin; *nerves* of the stipules distant; *stem* procumbent, herbaceous. *Willd. Spec. II.* p. 449. *Smith Fl. Brit.* l. p. 429. *Eng. Bot.* t. 1252. *Mich. Fl.* l. p. 237. *Pursh Fl.* l. p. 269. *Big. Bost.* p. 93. *Elliott Sk.* l. p. 453. *Walt. Car.* p. 132.

*Root* fibrous, subligneous, 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.*

*β. latifolium* Mich.: *leaves* broadly-oval, obtuse; *stem* mostly erect. *Mich. Fl.* l. p. 237. *Pursh Fl.* l. p. 269. *P. erectum* L. *Willd. Spec. II.* p. 450.

*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* exserted; *stem* diffuse, pros-

trate; seed acutely triangular, smooth and shining. *Nutt. Gen.* 1. p. 254. *P. marimum Pursh Fl.* 1. p. 269. *P. maritimum Elliott Sk.* 1. p. 453. *P. maritimum*, floribus carneis speciosis. *Clayt. Virg.* 497.

*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. aviculare*, 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. aviculare* *Smith Fl. Brit.* 1. 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.

3. *P. tenue Mich.*: stem slender, erect, branched, acutely angular; flowers alternate, subsolitary; leaves linear, acuminate, straight; stipules tubular, lacerate, with the segments finely attenuate at the extremity. *Mich. Fl.* 1. p. 238. *Pursh Fl.* 1. p. 270. *Elliott Sk.* 1. p. 454. *P. linifolium Muhl. Cat.* p. 41.

*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* tubulous and entire below, divided above into several segments, which are setaceously 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.

**HAB.** On rocks and in sandy fields. July—September.

\* \* *Flowers spiked.*

† *Spike* solitary, terminal; *stamens* 9; *stigmas* 3; *nut* triangular. **BISTORTA.**

4. *P. viviparum L.*: stem simple; spike linear, solitary; leaves linear-lanceolate, revolute on the margin; the lower ones elliptical, petiolate. *Willd. Spec.* 11. p. 441. *Smith Fl. Brit.* 1. p. 428. *Eng. Bot.* t. 669.

*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.

HAB. On the White Hills of New-Hampshire. August. *Boott.*

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.*

5. *P. punctatum Ell.*: flowers octandrous, glandular-punctate; styles 3-parted; stipules slightly hairy, ciliate; spike filiform, at first cernuous; leaves lanceolate, with pellucid punctures; scabrous on the margin and midrib. *Elliott Sk. I. p. 455.* *P. Hydropiper Mich. Fl. I. p. 238.* *Big. Bost. p. 93.* *P. Hydropiperoides Pursh Fl. I. p. 270.* *PERSICARIA foliis salicis, acris. Cold. Novb. 39.*

*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.

6. *P. mite Pers.*: flowers octandrous, somewhat crowded; styles 3-parted; leaves narrow-lanceolate, somewhat hairy; stipules hairy, with long ciliæ. *Pers. Syn. I. p. 446.* *Pursh Fl. I. p. 270.* *Elliott Sk. I. p. 456.* *P. Hydropiperoides Mich. Fl. I. p. 239.* *P. barbatum Walt. Car. p. 131.* *Muhl. Cat. p. 41?*

*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. *Stipules* 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.

7. *P. virginianum* L.: flowers 4-cleft, unequal, remote, pentandrous; styles 2; spike very long, virgate; leaves oval-lanceolate. *Willd. Spec.* II. p. 442. *Mich. Fl.* I. p. 238. *Pursh Fl.* I. p. 270. *Elliott Sk.* I. p. 454. *P. Bistorta* *Walt. Car.* p. 131? PERSICARIA florum staminibus quinis, &c. *Gron. Virg.* 43.

*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.

8. *P. amphibium* L.: flowers pentandrous; styles bifid; spike oblong or ovate; leaves petiolate, oblong or lanceolate, subcordate. *Willd. Spec.* II. p. 443. *Smith Fl. Brit.* I. p. 423. *Eng. Bot.* t. 436. *Mich. Fl.* I. p. 240. *P. coccineum* *Willd. Enum. Hort. Berol.* I. p. 429. *Pursh Fl.* I. p. 271.

*α. terrestre*: stem nearly erect; leaves oblong-lanceolate, often cordate at the base, smooth above, slightly pubescent beneath; spike ovate-oblong. *P. amphibium β. emersum* *Mich. 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.

HAB. On the borders of ponds and lakes. Near New-York; rare. Ipswich, &c. Massachusetts. *Oakes*. Near Albany, N. Y. *L. C. Beck*. In the Highlands of N. Y. *Bar-ratt*, &c.

The *P. amphibium* of this country is considered as a distinct species from the European plant by *Willdenow*, 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.  $\alpha$ .) are scabrous.

$\beta$ . *aquaticum*: leaves floating, ovate-lanceolate; spike cylindrical-oblong. *Hook. Fl. Scot. part I. p. 121.* *P. amphibium*  $\alpha$ . *natans Mich. Fl. I. p. 240.* *P. natans Eaton Man. Bot. ed. 3. p. 400.*

*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.

HAB. Floating in lakes and ponds. Canaan, Columbia county, New-York. *Eaton*. Danvers, Massachusetts. *Oakes*. August.

This can hardly be considered a distinct species, as it is sometimes found passing into the variety  $\alpha$ . The European plant appears to be identical with our's.

9. *P. pennsylvanicum L.*: flowers octandrous; style 2-cleft; spike oblong, crowded; peduncles hispid; leaves lanceolate, slightly hairy; stipules smooth and naked. *Willd. Spec. II. p. 448.* *Mich. Fl. I. p. 240.* *Pursh Fl. I. p. 271.* *Elliott Sk. I. p. 457.* *Walt. Car. p. 132.*

*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.

HAB. On the banks of ditches and the borders of fields. July—October.

10. *P. lapathifolium L.*: flowers hexandrous; styles 2; spikes oblong, rather crowded, erect; peduncles scabrous; leaves ovate-lanceolate, on short petioles, hoary. *Willd. Spec. II. p. 442.* *Smith Fl. Brit. I. p. 425.* *Eng. Bot. t. 1382.* *P. incarnatum Elliott Sk. I. p. 456.*

*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-

ceding species. *Perianth* white or pale red. *Styles* slightly exserted. *Nut* broad-ovate, compressed, obscurely triangular.

HAB. Along ditches and in swamps; rare. August.

11. *P. Persicaria* L.: flowers hexandrous; styles bifid; spikes ovate-oblong, erect; peduncles smooth; leaves lanceolate; stipules smooth, ciliate. *Willd. Spec.* II. p. 446. *Smith Fl. Brit.* I. p. 424. *Eng. Bot.* t. 756. *Mich. Fl.* I. p. 239. *Pursh Fl.* I. p. 271. *Big. Bost.* p. 94. *PERSICARIA mitis vulgaris*, &c. *Cold. Nov.* 91.

*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.*

12. *P. orientale* L.: flowers heptandrous, digynous; leaves ovate; stem erect; stipules hairy, hypocrotiferiform. *Willd. Spec.* II. p. 448. *Bot. Mag.* 213. *Pursh Fl.* I. p. 272. *Elliott Sk.* I. p. 257.

*Root* annual. *Stem* 3—5 feet high, branched, pubescent. *Leaves* very large, petiolate, acuminate, minutely pubescent. *Stipules* tubular, with the border spreading or reflexed, ciliate. *Spikes* numerous, subpaniculate, crowded, a little nodding. *Flowers* large, bright rose-colour. *Nut* compressed, broader than long.

HAB. In cultivated grounds and on road sides; naturalized in many situations. August—September.

\* \* \* *Flowers* in paniculate spikes; *perianth* 5-leaved.

POLYGONELLA.

13. *P. articulatum* L.: flowers perfect, octandrous, trigynous, nodding; spikes paniculate, filiform; pedicels solitary, articulate near the base; bracts imbricate; leaves linear; nut triquetrous. *Willd. Spec.* II. p. 450. *Pursh Fl.* I. p. 272. *Nutt. Gen.* I. p. 255.

*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 imbrical, 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-

bany. *L. C. Beck*. Granby, Connecticut. *Eaton*. Near Cambridge, Massachusetts. *Bigelow* and *Oakes*. September.

A singular species, belonging to *Michaux's* POLYGONELLA. Is it not allied to RUMEX?

\* \* \* \* *Flowers in racemose panicles; (leaves subcordate or sagittate.)* FAGOPYRUM.

14. *P. Convolvulus L.*: flowers octandrous; styles 3-cleft; leaves oblong, hastate-cordate; stem climbing, angular, somewhat scabrous; segments of the perianth obtusely carinate. *Willd. Spec.* II. p. 445. *Smith Fl. Brit.* I. p. 430. *Eng. Bot.* t. 941. *Mich. Fl.* I. p. 241. *Pursh Fl. I.* p. 273. *Big. Bost.* p. 94. *Elliott Sk.* I. p. 459.

*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.

*HAB.* In sandy fields and cultivated grounds. July—September.

15. *P. cilinode Mich.*: flowers octandrous; styles 3-cleft; leaves cordate; stipules rather acute, ciliate at the base; stem angular, climbing or prostrate, pubescent; segments of the perianth obtusely carinate. *Mich. Fl.* I. p. 241. *Pursh Fl. I.* p. 273.

*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 reflexed 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.

*HAB.* On the sides of hills. Deerfield, Massachusetts. *Coley* and *Hitchcock*. Near Williams College, Mass. *Dewey*. Danvers, Mass. *Oakes*. Fairfield, New-York. *Hadley*. August.

16. *P. scandens L.*: flowers octandrous, trigynous; leaves broadly cordate; stipules truncate, naked; stem climbing, smooth; segments of the perianth winged. *Willd. Spec.* II. p. 456. *Mich. Fl.* I. p. 240. *Pursh Fl. I.* p. 273. *Big. Bost.* p. 95. *Elliott Sk.* I. p. 459. *HELXINE scandens volubilis. Gron. Virg.* 157. *Cold. Novemb.* 93. *Pluk. Alm.* t. 177. f. 7.

*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.

17. *P. sagittatum* L.: flowers octandrous, capitate; styles 3-cleft; leaves sagittate; stem retrorsely aculeate. *Willd. Spec.* II. p. 453. *Mich. Fl.* I. p. 241. *Pursh Fl.* I. p. 272. *Big. Bost.* p. 94. *Elliott Sk.* I. p. 458. *Walt. Car.* p. 132. HELIXINE caule aculeato, foliis sagittatis. *Gron. Virg.* 84. *Cold. Novb.* 92. *Pluk. Amal.* t. 398. f. 5.

*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.

18. *P. arifolium* L.: flowers hexandrous, distinct; styles bifid; spikes few-flowered; leaves hastate; stem retrorsely aculeate. *Willd. Spec.* II. p. 453. *Mich. Fl.* II. p. 241. *Pursh Fl.* I. p. 272. *Big. Bost.* p. 94. *Elliott Sk.* I. p. 459. *Walt. Car.* p. 132. *Pluk. Amal.* 87. t. 398. f. 3.

*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.  
E N N E A N D R I A.



ORDER I.  
M O N O G Y N I A.



276. LAURUS. L.

*Calyx* mostly 6-parted, petaloid. *Nectary* consisting of 3 bisetose glands surrounding the germen. *Stamens* 12; 6 of them interior, 3 of which are sterile and glanduliferous. *Berry* 1-seeded. *Gen. pl.* 688. *Nutt. Gen. I.* p. 258. *Juss.* p. 80. *Lam. Ill.* t. 321. *Nat. Ord.* LAURINÆ *Juss.*—*R. Brown.*

*Spice-wood, Sassafras, &c.*

1. *L. carolinensis Catesb.*: leaves perennial, oval-lanceolate, coriaceous, glaucous beneath; peduncle simple, terminated with a fascicle of few flowers; exterior segments of the calyx half as long as the interior. *Catesb. Car. I.* p. 63. t. 63. *Mich. Fl.* l. p. 245. *Pursh Fl. I.* p. 276. *Mich. f. Arb.* II. p. 142. t. 82. *Elliott Sk.* l. p. 461. *L. Borbonia L. Willd. Spec.* II. p. 481. *Walt. Car.* p. 133. *Gron. Virg.* 46.

A small tree or large shrub. *Leaves* entire, rigid and glossy. *Flowers* in small clusters, pale yellow, polygamous. *Drupe* 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 diœcious. *Calyx* 6-parted. *Nectaries* 0. *Stamens* 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.)

2. *L. Benzoin L.*: flowers in conglomerate umbels, dicecious; buds and pedicels smooth; leaves cuncate-oboval, entire, whitish and subpubescent beneath. *Willd. Spec. II.* p. 485. *Pursh Fl. I.* p. 276. *Big. Bost.* p. 97. *Elliott Sk. I.* p. 463. *Nutt. Gen. I.* p. 259. *Walt. Car.* p. 133. *Bart. Veg. Mat. Med. II. t.* 33. *L. Pseudo-Benzoin Mich. Fl. I.* p. 243. LAURUS foliis enervibus ovatis, &c. *Gron. Virg.* 46. *Cold. Novob.* 95. *Pluk. Alm. t.* 139. f. 3—4.

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.

HAB. In low shady places, on the margin of rivulets, &c. April. *Spice-wood, Wild Allspice, Fever-bush, &c.*

3. *L. Sassafras L.*: flowers in conglomerate corymbs, dicecious; buds, younger branches and under surface of the leaves, pubescent; leaves entire, or 2—3 lobed; under surface prominently veined. *Willd. Spec. II.* p. 485. *Nutt. Gen. I.* p. 259. *Mich. Fl. I.* p. 244. *Mich. f. Arb. I.* p. 144. t. 81. *Pursh Fl. I.* p. 277. *Big. Bost.* p. 97. *EjUSD. Med. Bot. III.* p. 142. t. 35. *Elliott Sk. I.* p. 464. *Walt. Car.* p. 134. *Catesb. Car. I.* t. 55. LAURUS foliis integris trilobisque. *Gron. Virg.* 46. *Cold. Novob.* 94.

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 corymbs, which proceed from the same buds with the leaves; *pedicels* pubescent. STAMINIFEROUS: *Calyx* pale greenish-yellow; segments spreading, ovate, acute. *Anthers* unequally 4-celled. PISTILLIFEROUS: *Stamens* 6, all infertile. *Germen* 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.  $73^{\circ}$ ) 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.  
D E C A N D R I A.



ORDER I.  
M O N O G Y N I A.



\* *Flowers monopetalous.*

- |                  |                    |
|------------------|--------------------|
| 277. ARBUTUS.    | 281. KALMIA.       |
| 278. GAULTHERIA. | 282. RHODODENDRON. |
| 279. VACCINIUM.  | 283. RHODORA.      |
| 280. ANDROMEDA.  | 284. EPIGÆA.       |
| 285. PTEROSPORA. |                    |

\* \* *Flowers polypetalous, regular.*

- |                 |                   |
|-----------------|-------------------|
| 286. MONOTROPA. | 288. LEDUM.       |
| 287. PYROLA.    | 289. LEIOPHYLLUM. |
| 290. CLETHRA.   |                   |

\* \* \* *Flowers polypetalous, irregular.*

- |              |                |
|--------------|----------------|
| 291. CASSIA. | 292. BAPTISIA. |
| 293. CERCIS. |                |



277. ARBUTUS. L:

*Calyx* minute, 5-parted. *Corolla* ovate, diaphanous at the base; border small, 5-cleft, revolute. *Filaments* hairy. *Berry* superior, 5-celled. *Gen. pl.* 750. *Nutt. Gen.* I. p. 262. *Juss.* p. 160. *Lam. Ill.* t. 366. *Nat. Ord.* ERICEÆ *Juss.* *Bear-berry.*

*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*

*Fl. Brit.* II. p. 443. *Eng. Bot.* 714. *Mich. Fl.* I. p. 249. *Pursh Fl.* I. p. 283. *Big. Bost.* p. 101. *EjUSD. Med. Bot.* I. t. 6.

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. Pientiful in the pine barrens of New-Jersey. April—May.  
Common Bear-berry.

### 276. GAULTHERIA. L.

*Calyx* 5-cleft, with 2 bracts at the base. *Corolla* ovate; border small, 5-cleft, revolute. *Filaments* hairy. *Receptacle* 10-toothed. *Capsule* superior, 5-celled, covered by the calyx, which becomes a berry. *Gen. pl.* 749. *Nutt. Gen.* I. p. 262. *Juss.* p. 161. *Lam. Ill.* t. 357. f. 2. *Nat. Ord.* ERICEÆ *Juss.*

Mountain-tea.—Partridge-Berry.

1. *G. procumbens* L.: stem procumbent, with the branches erect; leaves obovate, cuneate at the base, ciliate-denticulate; flowers few, terminal, nodding. *Willd. Spec.* II. p. 616. *Bot. Rep.* 116. *Duham. Arb.* I. t. 113. *Mich. Fl.* I. p. 249. *Pursh Fl.* I. p. 283. *Big. Bost.* p. 101. *EjUSD. Med. Bot.* II. p. 27. t. 22. *Elliott Sk.* I. p. 501. *Nutt. Gen.* I. p. 262. *Bart. Veg. Mat. Med.* I. t. 15. ANONYMA pedunculis arcuatis. *Cold. Novob.* 93.

*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. *Germs* 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 pentangular, 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*? subglobose, 4-celled, adhering to the calyx below the middle. *LASIERPA*\*

2. *G.*? *hispidula* *Muhl.*: stem filiform, creeping, hispid; leaves ovate, acute; flowers solitary, axillary. *Muhl. Cat.* p. 44. *G. serpyllifolia* *Pursh Fl. I.* p. 283. t. 13. *VACCINIUM hispidulum* *Kalm. Willd. Spec. II.* p. 355. *Mich. Fl. I.* p. 228. t. 23. *ARBUTUS filiformis* *Lam. Enc. I.* p. 228. *OXYCOCCUS hispidulus* *Pers. Syn. I.* p. 419. *Nutt. Gen. I.* p. 251.

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.

**HAB.** In sphagnous swamps abounding with evergreens. In the cedar swamp near New-Durham, New-Jersey. On the Catskill Mountains, New-York. *Knevels.* Plainfield, Massachusetts *Porter.* Near Boston. *Oakes.* On the White Hills of New-Hampshire. *Bigelow.* April.

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.

*Calyx* superior, 4—5-toothed. *Corolla* urceolate or campanulate, 4—5-cleft. *Filaments* inserted upon the germen. *Berry* 4—5-celled, many-seeded. *Gen. pl.* 658. *Nutt. Gen.* I. p. 263. *Juss.* p. 162. *Lam. Ill. t.* 286. *Nat. Ord.* ERICEÆ *Juss.* VACCINEÆ *De Cand.* Stamens sometimes 8. *Whortle-berry*.

\* *Leaves deciduous.*

† *Corolla campanulate.*

1. *V. stamineum* L.: leaves oval, acute, very entire, glaucous beneath; pedicels solitary, axillary, filiform; corolla spreading-campanulate; segments oblong, acute; anthers exerted, awned; berries somewhat pyriform. *Willd. Spec.* II. p. 349. *Ait. Kew.* II. p. 10. *Bot. Rep.* 263. *Michx. Fl.* I. p. 227. *Pursh Fl.* I. 284. *Elliott Sk.* I. p. 496. *Walt. Car.* p. 139. *Gron. Virg.* 43. *Pluk. Alm.* t. 339. f. 3.

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 petioles. *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*.

β. *album*: leaves subpubescent beneath; berries globose. *V. album* L.? *Pursh Fl.* I. p. 285.

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. *Bot. Mag.* 1106. *Pursh Fl.* I. p. 285. *Elliott Sk.* I. p. 497. *V. frondosum Mich. Fl.* I. p. 230. *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, bibracteate at the middle. *Calyx* glandular; 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.

HAB. In sandy pine woods and in sphagnous swamps. Abundant in the pine barrens of New-Jersey, &c. June.

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. *Willd. Spec.* II. p. 352. *Ait. Kew.* II. p. 11. *Bot. Rep.* 140. *Pursh Fl.* I. p. 285. *Elliott Sk.* I. p. 497. *V. glaucum Mich. Fl.* I. p. 231.

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.*

α. *Flowers racemose, or fasciculate.*

4. *V. resinsum Ait.*: leaves petiolate, oblong-oval, mostly obtuse, very entire, sprinkled with resinous atoms beneath; racemes lateral, secund, bracteate; corolla ovate-conic, pentangular. *Willd. Spec.* II. p. 352. *Ait. Kew.* II. p. 12. *Bot. Mag.* 1288. *Mich. Fl.* I. p. 230. *Pursh Fl.* I. 286. *Big. Bost.* p. 92. *Elliott Sk.* I. p. 498. *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 obtuse, 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 exerted; *stigma* capitate. *Berries* globular, black and shining, sweet.

HAB. In woods and on hills; common. May—June.

*Black Whortle-berry.*

5. *V. corymbosum* L.: floriferous branches nearly leafless; leaves oblong-oval, acute at each extremity, nearly entire; the young ones pubescent; racemes short, sessile, bracteate; corolla cylindrical-ovate. *Willd. Spec. II. p. 351. Pursh Fl. I. p. 286. Big. Bost. p. 92. Elliott Sk. I. p. 498. V. dimorphum Mich. Fl. I. p. 231. V. amœnum Ait. Kew. II. p. 12. Willd. l. c. β. 353. Pursh l. c. p. 287.*

A shrub 4—8 feet high, with irregular straggling branches. *Leaves* when young very pubescent, in maturity nearly smooth above, but somewhat pubescent and pale beneath, mucronate, obscurely serrulate. Segments of the *calyx* erect or reflexed. *Flowers* much longer than in the preceding species, in subcorymbose 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* exerted; *stigma* capitate. *Berries* large, black, subacid.

HAB. In swamps and low woods. May—June.

*High Whortle-berry.*

6. *V. fuscatum* Ait.: racemes somewhat naked; leaves elliptical, acute, very entire, with the nerves beneath somewhat villous; corolla cylindrical-ovate; calyx acute. *Willd. Spec. II. p. 351. Ait. Kew. II. p. 11. Pursh Fl. I. p. 287?*

HAB. In Pennsylvania. *Muhlenberg. +*

This is an obscure species to me; though I suspect it to be a mere variety of the preceding. *Muhlenberg* 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 *Smith*.

7. *V. pennsylvanicum* Lam.: branches angular, (green); leaves sessile, oval-lanceolate, mucronate, serrulate, shining on both surfaces; fascicles of flowers crowded, subterminal; corolla ovate. *Lam. Enc. I. p. 72. Mich. Fl. I. p. 232. V. tenellum Pursh Fl. I. p. 288. V. virgatum Ait. Kew. II. p. 12?*

A shrub a foot or 18 inches high, very much branched; the branches more or less angular, with the bark of a greenish co-

lour. *Leaves* membranaceous, slightly serrulate, often ovate. *Fascicles* 6—8-flowered. *Calyx* green, with acute, somewhat spreading teeth. *Corolla* pale red, small. *Stamens* included; *anthers* naked at the base. *Style* a little exerted. *Berries* dark blue, somewhat glaucous, sweet.

HAB. On dry rocky hills. May—June.

This is the most common species of *Whortle-berry* brought to the New-York market.

8. *V. tenellum* Ait.: racemes bracteate, sessile; corolla ovate-cylindrical; leaves oblong-elliptic, subcuneiform, serrulate, nearly smooth. Ait. *Kew.* II. p. 12. Willd. *Spec.* II. p. 353.

HAB. In New-Jersey and Pennsylvania. April. Muhlenberg. On the White Hills of New-Hampshire. Boott.

This species has not come under my observation. It is not the *V. tenellum* of Pursh, which is our *pennsylvanicum*.

9. *V. ligustrinum* Mich.: branches angular; leaves subsessile, erect, lanceolate, mucronate, serrulate; fascicles gemmaceous, sessile; flowers nearly sessile; corolla oblong, ovate. Mich. *Fl.* I. p. 233. nec. Lin. Pursh *Fl.* I. p. 288. excl. syn. Willd.

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.*

10. *V. uliginosum* L.: leaves obovate, very obtuse, entire, smooth above, veined and glaucous beneath; flowers subsolitary, octandrous; corolla short ovate, 4-cleft; anthers awned at the base. Willd. *Spec.* II. p. 350. Smith *Fl. Brit.* I. p. 415. Eng. Bot. t. 581. Mich. *Fl.* I. p. 235. Pursh *Fl.* I. p. 288. *V. Gaultheroides* Big. in *New-Eng. Med. Jour.* V. p. 335.

A small procumbent shrub; branches straggling and rigid. *Leaves* scarcely half an inch long, rounded at the extremity, sessile; under surface pale, conspicuously veined. *Flowers* mostly solitary, small, subterminal, on short recurved pedicels. *Calyx* 4-toothed. *Corolla* urceolate, contracted at the orifice. *Stamens* 8, (sometimes 10, Mich.), included; *anthers* biaristate on the back near the base. *Style* persistent, shorter than the corolla; *stigma* simple. *Berries* oblong.

HAB. On the White Hills of New-Hampshire. *Bigelow* and *Boott*.

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.*

11. *V. Vitis idæa* L.: stem creeping; branches erect; leaves obovate, punctate beneath, nearly entire; racemes terminal, nodding; corolla oblong, campanulate. *Willd. Spec. II. p. 354. Smith Fl. Brit. I. p. 415. Eng. Bot. t. 593. Mich. Fl. I. p. 229. Pursh Fl. I. p. 239.*

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.

HAB. On the White Hills of New-Hampshire. *Bigelow*. In an open dry pasture in Danvers, Massachusetts; plentiful. June. *Oakes*. On rocks near the sea-coast. Canada to New-England. *Pursh*.

## 280. ANDROMEDA. L.

*Calyx* 5-parted. *Corolla* ovate or subcylindrical; border 5-cleft, reflexed. *Anthers* 2-horned. *Capsule* 5-celled, 5-valved; dissepiments from the middle of the valves. *Gen. pl. 747. Nutt. Gen. I. p. 264. Juss. p. 160. Lam. Ill. t. 365. LYONIA Nutt. l. c. p. 266. Nat. Ord. ERICEÆ Juss.*

\* *Leaves sempervirent.*

1. *A. hypnoides* L.: leaves imbricate, subulate, smooth; peduncles solitary, terminal, 1-flowered; corolla nodding, globose-campanulate. *Willd. Spec. II. p. 608. Lin. Fl. Lapp. p. 165. t. 1. f. 3. Fl. Dan. 10. Pursh Fl. I. p. 291. Muhl. Cat. p. 43.*

A small creeping shrub, resembling some species of LYCOPDIUM, 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.

HAB. On the White Hills of New-Hampshire. *Bigelow*.

This very rare plant, of which specimens were communicated to me by *Dr. Bigelow*, is also a native of Lapland and Siberia.

2. *A. polifolia* L. : leaves linear-lanceolate, convex, revolute, glaucous beneath ; flowers in short terminal racemes. *Willd. Spec.* II. p. 610. *Ait. Kew.* II. p. 167. *Smith Fl. Brit.* II. p. 441. *Eng. Bot.* t. 713. *Mich. Fl.* I. p. 254. *Pursh Fl.* I. p. 291.

*β. angustifolia* Ait. : leaves linear. *Ait. l. c.* *Pursh l. c.*

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.

HAB. In sphagnous swamps. Near Troy and Albany, New-York. *Eaton* and *L. C. Beck.* Litchfield, Connecticut. *Brace.* Plainfield, Massachusetts. *Porter.* May.

This species is also a native of Scotland, and of the northern parts of Europe.

3. *A. calyculata* L. : leaves lanceolate-oblong, rather obtuse, obsolete serrulate, ferruginous beneath ; racemes terminal, leafy, subsecund ; calyx bibracteate ; corolla oblong-cylindrical. *Willd. Spec.* II. p. 614. *Ait. Kew.* II. p. 70. *Mich. Fl.* I. p. 254. *Pursh Fl.* I. p. 291. *Big. Bost.* p. 102. *Elliott Sk.* I. p. 485. *Nutt. Gen.* I. p. 264.

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." *Nutt.*

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 ;

anthers simple at the summit. *Willd. Spec. II. p. 609.* excl. syn. *Jacq. Bot. Mag. 1579. Mich. Fl. I. p. 256.* *Pursh Fl. I. p. 292.* *Elliott Sk. I. p. 493.* *Walt. Car. p. 137.* *Gron. Virg. 49.* *Pluk. Mant. p. 25. t. 448.*

A shrub 2—4 feet high, with few erect branches. *Leaves* smooth, acute at the base, rather obtuse at the extremity, punctulate 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 *placentæ* 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.

5. *A. racemosa Mich.*: leaves oval-lanceolate, acute, serrulate, membranaceous, pubescent beneath; racemes terminal, secund, simple, (or rarely branched); corolla oblong-cylindrical; anthers 4-awned at the summit. *Mich. Fl. I. p. 255.* *Willd. Spec. II. p. 612?* *Ait. Kew. II. p. 69.* *Pursh Fl. I. p. 294.* *Elliott Sk. I. p. 492.* *Nutt. Gen. I. p. 265.* *A. paniculata Walt. Car. p. 138.* *A. speciosa Willd. l. c. 613. excl. syn. Walt. A. racemis simplicibus, foliis lanceolatis, &c. Gron. Virg. 67.* *A. paniculata L. Sp. pl. 564. nec Ait., Mich., &c.*

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* bibracteate 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. *Germs* roundish; *style* slightly exerted, cylindrical; *stigma* minute.

HAB. In swamps and on the borders of wet woods; rare. June—July.

6. *A. arborea L.*: branches terete; leaves oblong, acuminate, acutely serrate, smooth; panicles terminal, many-spiked; corolla ovate-oblong, pubescent; anthers unawned. *Willd. Spec. II. p. 612.* *Ait. Kew. II. p. 69.* *Bot. Mag.*

905. *Mich. Fl.* I. p. 255. *Mich. f. Arb.* III. p. 222.  
 i. 7. *Pursh Fl.* I. p. 295. *Elliott Sk.* I. p. 491.  
*Bart. Fl. Amer. Sept.* I. t. 30. *Walt. Car.* p. 138.  
*Gron. Virg.* 48. *Catesb. Car.* I. t. 71.

A middle-sized tree. *Leaves* petiolate, large, shining above, paler beneath, uncinately serrate. *Flowers* in large terminal panicles, composed of numerous secund 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 exerted.

HAB. In the valleys of the Alleghany Mountains, Pennsylvania.  
*Pursh.* *Sorrel-tree.*

This tree, according to the younger *Michaux*, sometimes attains the height of      feet. The leaves are pleasantly acid, and are frequently used by the hunters to assuage thirst.

7. *A. ligustrina* *Muhl.*: pubescent; leaves obovate-lanceolate, acuminate, minutely serrulate; floriferous branches terminal, paniculate, naked; corolla subglobose; anthers unawned. *Muhl. Cat.* p. 44. *Elliott Sk.* I. p. 490. *VACCINIUM ligustrinum* *Sp. pl.* p. 560. *ANDROM. paniculata* *Willd. Spec.* II. p. 612. excl. syn. *L.*, &c. *Ait. Kew.* II. p. 69. *Mich. Fl.* I. p. 254. *Pursh Fl.* I. p. 295. *Big. Bost.* p. 102. *LYONIA paniculata* *Nutt. Gen.* I. p. 266.

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 exerted; *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.

## 281. KALMIA. L.

*Calyx* 5-parted. *Corolla* hypocrateriform; border on the under side producing 10 cornute protuberances, in which the anthers are concealed. *Capsule* 5-celled, many-seeded; dissepiments marginal. *Gen. pl.* 743. *Nutt. Gen. I.* p. 267. *Juss.* p. 158. *Lam. Ill.* t. 363. Nat. Ord. RHODODENDRACEÆ *Juss.*

*American Laurel.*—*Calico-bush.*

1. *K. latifolia* L.: leaves on long petioles, scattered and ternate, coriaceous, green on both sides; corymbs terminal, viscidly pubescent. *Willd. Spec. II.* p. 600. *Bot. Mag.* 175. *Mich. Fl. I.* p. 253. *Mich. f. Arb. III.* 147. t. 5. *Pursh Fl. I.* p. 296. *Big. Bost.* p. 103. *EjUSD. Med. Bot. I.* p. . t. 13. *Elliott Sk. I.* p. 481. *Walt. Car.* p. 138. *Wang. Amer.* 64. t. 24. f. 50. ANDROMEDA foliis ovatis, corollis corymbosis, &c. *Gron. Virg.* 160. *Catesb. Car. II.* t. 98.

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, tri-bracteate at the base. *Teeth* of the *calyx* acute. *Corolla* rose-colour, with a very short tube, and a large spreading border. *Stamens* declinate; 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.

2. *K. angustifolia* L.: leaves ternate, petiolate, obtuse, slightly ferruginous beneath; corymbs linear; peduncles and calyx glandular-pubescent. *Willd. Spec. II.* p. 601. *Bot. Mag.* 331. *Mich. Fl. I.* p. 257. *Pursh Fl. I.* p. 296. *Big. Bost.* p. 103. *Elliott Sk. I.* p. 482. *Wang. Amer.* p. 65. t. 24. f. 51. *K. glauca* *Nutt. Gen. I.* p. 267? ANDROMEDA. *Cold. Novob.* 100. *Catesb. Car. III.* t. 17. f. 1.



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.

3. *K. glauca* Ait.: branches ancapitous; leaves opposite, subsessile, oblong, smooth, glaucous beneath, revolute on the margin; corymbs terminal and axillary, bracteate; peduncles and calyx very smooth. Ait. *Kew*. II. p. 64. t. 8. Willd. *Spec.* II. p. 601. Bot. *Mag.* 177. Lam. *Ill.* t. 163. Pursh *Fl.* I. p. 296. *K. polifolia* Wang. *Act. Soc. Berol.* VIII. p. 129. t. 5.

A shrub about 18 inches high, with the branches distinctly ancapitous. *Leaves* an inch long, almost sessile, generally obtuse. *Umbels* 8—10-flowered; *pedicels* slender, with ovate bracts at the base. Segments of the *calyx* obtuse. *Corolla* larger than in *K. angustifolia*, pale rose-colour. *Capsule* large, smooth.

HAB. In sphagnous swamps and in mountain bogs. Hudson, New-York. Also in Plainfield, Goshen, Hawley, &c., Massachusetts. Porter. On the White Hills of New-Hampshire. Bigelow. In Pennsylvania. Muhlenberg. July.

*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.

HAB. Near Albany, New-York. Pursh and L. C. Beck. Litchfield, Connecticut. Bracc. July.

This is certainly but a variety of *K. glauca*, as it sometimes occurs with broader leaves, which are distinctly glaucous beneath.

## 282. RHODODENDRON. L.

*Calyx* 5-parted. *Corolla* subinfundibuliform, 5-cleft. *Stamens* 5—10, declinate; *anthers* opening by 2 terminal pores. *Capsule* 5-celled, 5-valved, opening at the summit. D. Don, in *Edm. Phil. Jour.* VI. p. 49. RHODODENDRON et AZALEÆ spp. Lin., &c. Lam. *Ill.* t. 110. f. 2. & 364. Nat. Ord. RHODODENDRACEÆ Juss. *Mountain-laurel*.

\* *Flowers pentandrous.*

1. *R. nudiflorum*\*: flowers somewhat naked; leaves lanceolate-oblong, nearly smooth, and green on both sides; the midrib beneath bristly; margin ciliate; flowers not viscous; tube longer than the divisions; teeth of the calyx short, somewhat rounded; stamens much exerted. *A. nudiflora* L. *Willd. Spec.* I. p. 931. *Ait. Kew.* I. p. 202. *Bot. Mag.* 180. *Bot. Cab.* 51. *Elliott Sk.* I. p. 240. *Walt. Car.* p. 97. *Roem. & Schult.* IV. p. 375. *A. periclymenoides* Mich. *Fl.* I. p. 151. *Pursh Fl.* I. p. 153. *A. erecta, foliis ovatis integris, &c.* *Cold. Novemb.* 25. *Gron. Virg.* 21.

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 pubescence 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. *Germs* 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 Philadelphia, confirming the opinion, that AZALEA (excluding *A. procumbens*) and RHODODENDRON should form but one genus.

2. *R. viscosum*\*: flowers leafy; branches hispid; leaves oblong-obovate, acute, smooth and green on both sides, ciliate on the margin; midrib bristly; flowers viscous; tube as long again as the segments; teeth of the calyx short, rounded; stamens scarcely longer than the corolla. *AZALEA viscosa* L. *Willd. Spec.* I. p. 831. *Ait. Kew.* I. p. 203. *Mich. Fl.* I. p. 150. *Pursh Fl.* I. p. 153. *Big. Bost.* p. 52. *Elliott Sk.* I. p. 241. *Walt. Car.* p. 97. *Roem. & Schult.* IV. p. 376.

A shrub 4—8 feet high, with the younger branches and peduncles bristly. *Leaves* crowded, nearly smooth, somewhat serrulate on the margin; the under surface of the same colour as the upper. *Flowers* in terminal leafy clusters, sweet scented. *Calyx* very short. *Corolla* white, very viscous and pubescent; infundibuliform; tube long. *Stamens* about as long as the corolla.

HAB. In wet woods and copses. June.

*β. glaucum Mich.*: leaves glaucous beneath. *Mich. Fl. l. c.* AZALEA *glauca Pursh Fl. l. p. 154.* *A. viscosa* *δ. floribunda Ait. Kew. l. c.*

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 viscous; teeth of the calyx oblong; tube of the corolla hairy, shorter than the segments. AZALEA *calendulacea Mich. Fl. l. p. 151.* *Pursh Fl. l. p. 151.* *Elliott Sk. l. p. 238.* *Roem. & Schult. IV. p. 473.* *A. nudiflora α. coccinea Ait. Kew. l. p. 202.*

A shrub 2—6 feet high. *Leaves* deciduous. *Flowers* large, bright flame-colour, or bright yellow.

HAB. In Pennsylvania. May. *Muhlenberg.*

*Pursh* remarks, that this is the handsomest shrub in North-America. It is, by some Botanists, considered as a variety of AZALEA *fontica*, 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 viscous; tube longer than the segments; calyx leafy, with the segments oblong, acute; filaments exerted. AZALEA *arborescens Pursh Fl. l. p. 153.* *Roem. & Schult. IV. p. 474.*

A shrub 10—20 feet high. *Flowers* large, rose-colour. Scales of the flower-buds large, yellowish-brown, surrounded with a fringed white border. *Ph.*

HAB. In rivulets near the Blue Mountains, Pennsylvania. *Pursh.*

5. *R. nitidum\**: flowers leafy; branches somewhat smooth; leaves oblanceolate, submucronate, coriaceous, smooth on both sides, shining above; nerve bristly beneath; margin revolute-ciliate; flowers viscous; tube a little longer than the segments; calyx very short; filaments exerted. AZALEA *nitida Pursh Fl. l. 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.*

HAB. In deep mossy swamps on mountains. Pennsylvania to Virginia. *Pursh.*

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-

liate; flowers very viscous; tube scarcely longer than the segments; teeth of the calyx oblong, rounded; filaments exserted. *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.

7. *R. lapponicum* *Wahl.*: leaves elliptical, roughened with excavated punctures. *Wahl. Fl. Lapp.* 104. *AZALEA lapponica* *Lin. Fl. Lapp.* 89. t. 6. f. 1. *Willd. Spec.* I. p. 832. *Fl. Dan.* 966. *Roem. & Schult.* IV. p. 378.

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.

*HAB.* On the White Hills of New-Hampshire. July. *Bigelow.*

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*.

8. *R. maximum* *L.*: arborescent; leaves oblong, acute, paler beneath; umbels terminal; segments of the calyx oval, obtuse; corolla campanulate. *Willd. Spec.* II. p. 606. *Bot. Mag.* 951. *Schmidt Arb.* t. 121. *Mich. Fl.* I. p. 259. *Mich. f. Arb.* III. p. 144. t. 4. *Pursh Fl.* I. p. 297. *Big. Bost.* p. 102. *EjUSD. Med. Bot.* III. 101. t. 51. *Elliott Sk.* I. p. 483. *Wang. Amer.* p. 63. t. 23. f. 49. *CHAMÆRHODODENDROS, &c. Catesb. Car.* III. p. 17. t. 17.

A shrub 10—15 feet high. *Leaves* sempervirent, 4—6 inches long, and an inch and a half broad, coriaceous, somewhat cuneate, abruptly acuminate, 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 acuminate ferruginous bracts; *pedicels* viscous-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.

**HAB** In cedar swamps, and in mountain bogs. Abundant in the cedar swamp near New-Durham, New-Jersey, and in the pine barrens. On Long-Island, near Babylon. In the Highlands of New-York, near Fishkill. *Barratt*. Near West-Point. *Douglass*. In the vicinity of Boston, and at Cape-Ann, Massachusetts. *Bigelow*. In Pennsylvania. *Muhlenberg*. June—July.

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.

### 283. RHODORA. L.

*Calyx* 5-toothed. *Corolla* 3-petalled; *petals* unequal, slightly united at the base; the upper one thrice broader, and 3-lobed. *Stamens* and *style* declinate. *Capsule* 5-celled, 5-valved, opening at the top; dissepiments formed of the inflexed margins of the valves. *D. Don*, in *Edin. Phil. Mag.* VI. p. 49. *Gen. pl.* 745. *Nutt. Gen.* I. p. 269. *Juss.* p. 159. *Lam. Ill.* t. 364. f. 2. Nat. Ord. RHODODENDRACEÆ *Juss.*

*R. canadensis* L. *Willd. Spec.* II. p. 603. *Lam. Ill.* l. c. *Bot. Mag.* 744. *Pherit. Stirp.* l. p. 141. t. 68. *Mich. Fl.* I. p. 259. *Pursh Fl.* l. p. 298. *Big. Bost.* p. 104.

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* capitate. *Capsule* oblong, splitting nearly to the base into 5 valves. *Seeds* with a membranaceous wing at each extremity.

HAB. In bogs, particularly on mountains. Near Williams College, Massachusetts. *Dewey*. In the vicinity of Boston, and on the White Hills of New-Hampshire. *Bigelow*. Granby and Brookfield, Mass. *Porter*. May.

This shrub possesses much of the habit of RHODODENDRON, with which genus it may hereafter be united.

## 284. EPIGÆA. L.

*Calyx* large, 5-parted, with 3 bracts at the base. *Corolla* hypocrateriform; border 5-parted, spreading; tube villous within. *Capsule* 5-celled; receptacle 5-parted. *Gen. pl.* 748. *Nutt. Gen.* I. p. 269. *Juss.* p. 161. *Lam. Ill.* t. 367. f. 1. Nat. Ord. ERICEÆ *Juss.* *Ground-laurel.*

*E. repens* L.: branches, nerves of the leaves and petioles, very hairy; leaves cordate-ovate, very entire; corolla subcylindrical. *Willd. Spec.* II. p. 615. *Lam. Ill.* l. c. *Bot. Rep.* 102. *Mich. Fl.* I. 250. *Pursh Fl.* l. p. 297. *Big. Bost.* p. 101. *Elliott Sk.* I. p. 501. *Walt. Car.* p. 139. ARBUTUS foliis ovatis integris, &c. *Gron. Virg.* 49. *Pluk. Alm.* 309. t. 107. f. 1.

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* incumbent, 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. *Nuttall.*

*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-

sepiments 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. MONOTROPEÆ Nutt.*

*P. Andromedea Nutt. l. c. MONOTROPA procera Torrey in Eat. Man. Bot. ed. 2. p. 324.*

*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 cylindrical, 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 paleaceous 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 germen; *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

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† From an external inspection of this minutest of seeds, we perceive that the embryo, 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*

seen, except small oak and pine trees, at Greenbush, near Albany, New-York. *James*. On the island, one mile below Albany, in great abundance *A. B. Eaton*. On high limestone cliffs at the Little Falls of the Mohawk. *Cooper*. Near the Falls of Niagara in Upper-Canada. *Whitlow*. August.

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. procera*. There can, however, be no doubt of its belonging to a genus quite distinct from *MONOTROPA*. This plant is said, by *Mr. Nuttall*, 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.

*Calyx* 3—5-parted, or 0. *Corolla* 5-petalled, cucullate at the base. *Anthers* 1-celled, bilabiate. *Capsule* 5-celled, 5-valved. *Seeds* numerous, invested with a long arillus. *Gen. pl.* 737. *Hook. Fl. Scot.* p. 124. *Juss.* p. 430. *Lam. Ill.* t. 362. *MONOTROPA* et *HYPOPITHYS* *Nutt.* *Gen.* I. pp. 270, 271. *Nat. Ord.* *MONOTROPEÆ* *Nutt.* *Incertæ sedis.* *Juss.* Plants parasitic on the roots of trees, destitute of verdure, producing scapes. Sometimes one-fifth part of the fructification is wanting. *Bird's-nest.*—*Pine-sap.*

\* *Scapes many-flowered.* *HYPOPITHYS.* *Dillenius* and *Nuttall*.

1. *M. lanuginosa* *Mich.*: scape bearing the flowers in a spike; bracts and flowers woolly. *Mich. Fl.* I. p. 266. *Pursh Fl.* I. p. 303. *Big. Bost.* p. 106. *Elliott Sk.* I. p. 478. *M. HYPOPITHYS* *Watt. Car.* p. 136. *HYPOPITHYS lanuginosa* *Nutt.* *Gen.* I. p. 271.

*Root* perennial? consisting of imbricated scales. *Whole plant*, except the lower part of the scape, pubescent, of a dingy co-



lour, and musky odour. *Scapes* 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.

2. *M. Hypopithys* L.: scape bearing the flowers in a spike; scales and flowers smooth externally; lateral flowers with 8 stamens. *Willd. Spec.* II. p. 573. *Smith Fl. Brit.* II. p. 440. *Eng. Bot.* t. 69. *Mich. Fl.* I. p. 266. *Pursh Fl.* I. p. 303. *HYPOPITHYS europæa* Nutt. *Gen.* I. p. 271.

Whole plant of a dingy yellow, half the size of the European plant. *Mich.*

**HAB.** Parasitic on the roots of beech and other trees, in shady moist places. Canada to Pennsylvania. *Pursh.* In Pennsylvania. *Muhlenberg.* July.

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.*

3. *M. uniflora* L.: scape straight, elongated, 1-flowered; flowers decandrous, erect or cernuous. *Willd. Spec.* II. p. 573. *Mich. Fl.* I. p. 266. *Pursh Fl.* I. p. 303. *Elliot Sk.* I. p. 477. *Nutt. Gen.* I. p. 271. *Walt. Car.* p. 136. *M. Morisoniana* Big. *Bost.* p. 106. *M. flore nuntante.* *Gron. Virg.* 41. *Catesb. Car.* I. t. 36. *Pluk. Alm.* t. 209. f. 2.

*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.

*Calyx* small, 5-cleft. *Petals* 5, slightly united at the base, deciduous. *Stamens* opening with 2 pores. *Capsule* 5-celled, 5-valved. *Seeds* invested with a long arillus. *Gen. pl.* 752. *Juss.* p. 161. *Lam. Ill.* t. 367. PYROLA et CHIMAPHILA *Pursh*, *Nuttall*, &c. *Nat. Ord. MONOTROPEÆ Nutt.* (*Hook.*) ERICEÆ *Juss.* *Winter-green.*

\* *Flowers racemed, pointing in various directions.*

1. *P. rotundifolia* L.: leaves rounded or dilated-oval, obsolete serrulate, subcoriaceous and shining; petiole about as long as the lamina; scape many-flowered; bracts ovate, acute; calyx 5-parted; segments oblong-ovate; style declinate. *Willd. Spec.* II. p. 621. *Nutt. Gen.* I. p. 273. *Smith Fl. Brit.* II. p. 444. *Eng. Bot.* t. 213. *Mich. Fl.* I. p. 251. *Pursh Fl.* I. p. 299. *Big. Bost.* p. 105. *Elliott Sk.* I. p. 504. *P. noveboracensis. Cold. Nov.* 99.

*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 declinate. *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* declinate, 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.

3. *P. asarifolia Mich.*: leaves subreniform, generally emarginate, coriaceous; lamina shorter than the petiole; scape mostly convolute, many-flowered; calyx appressed; stamens slightly ascending; style declinate, clavate. *Mich. Fl. I. p. 251.* *Pursh Fl. I. p. 299.* *Goldie in Edin. Phil. Mag. VI. p. 326.* *P. chlorantha Nutt. Gen. I. p. 275. excl. syn. Swartz. P. rotundifolia β. nummularia Muhl. Cat. p. 44.*

*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, obviously 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.

HAB. In dry sandy woods. Near Schenectady, New-York. *L. C. Beck.* Deerfield, Massachusetts. *Cooley.* In pine woods at Windham, Mass. *Oakes.* In New-Jersey, near Philadelphia. *Nuttall.* July.

I think there can be little doubt that this is the *P. asarifolia*. It is referred to *P. chlorantha* of *Swartz*, (in *Stock. 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-American 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. *Willd. Spec.* II. p. 621. *Smith Fl. Brit.* II. p. 444. *Eng. Bot.* t. 158. *Pursh Fl.* I. p. 299. *Muhl. Cat.* p. 44.

Flowers smaller than in the preceding species, white, with a tinge of red. *Stigma* peltate. *Ph.*

HAB. In the western parts of the State of New-York. *Pursh*. In Pennsylvania. *Muhlenberg*. June.

\* \* *Flowers racemed, secund.*

5. *P. secunda* L.: leaves roundish-ovate, acute, serrate; raceme secund; style straight. *Willd. Spec.* II. p. 621. *Smith Fl. Brit.* II. p. 445. *Eng. Bot.* t. 517. *Mich. Fl.* I. p. 250. *Pursh Fl.* I. p. 299. *Big. Bost.* p. 105.

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 exerted, 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-flowered; style straight. *Willd. Spec.* II. p. 622. *Smith Fl. Brit.* II. p. 466. *Eng. Bot.* t. 146. *Mich. Fl.* I. p. 251. *Pursh Fl.* I. p. 299.

Root creeping. Stem very short, ascending. Leaves nearly orbicular 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 appear 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.*

CHIMAPHILA. Pursh

7. *P. umbellata* L.: leaves cuneate-lanceolate, acute at the base, serrate, uniformly green; scape corymbed. *Willd. Spec. II.* p. 622. *Lam. Ill. t.* 367. f. 2. *Bot. Mag.* 778. *Mich. Fl. I.* p. 251. *Big. Bost.* p. 106. *Eptsd. Med. Bot. II.* p. 15. t. 21. CHIMAPHILA *corymbosa* Pursh *Fl. I.* p. 30. *C. umbellata* Nutt. *Gen. I.* p. 274. *Bart Veg. Mat. Med. I. t.* 1.

*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. *Germen* 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.

HAB. In dry woods. July. *Pipsissewa* or *Sipsissewa*.

This species is also a native of the north of Europe and of Asia.

8. *P. maculata* L.: leaves lanceolate, rounded at the base, remotely serrate, discoloured; scape 2—3-flowered. *Willd. Spec. II.* p. 622. *Bot. Mag.* 897. *Mich. Fl. I.* p. 251. *Walt. Car.* p. 136. *Gron. Virg.* 48. CHIMAPHILA *maculata* Pursh *Fl. I.* p. 300. *Elliott Sk. I.* p. 505. *Nutt. Gen. I.* p. 275. *Bart. Fl. Am. Sept. I. t.* 11. *Pluk. Mant.* 157. t. 349. f. 4.

*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 subbivalve 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 *Medicinal 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 PYROLA

### 288. LEDUM. L.

*Calyx* minute, 5-toothed. *Corolla* 5-petalled, spreading. *Stamens* exserted; *anthers* opening by 2 terminal pores. *Capsule* subovate, 5-celled, 5-valved, 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. *D. Don* in *Edin. Phil. Mag.* VI. p. 50. *Gen. pl.* 744. *Nutt. Gen.* I. p. 275. *Juss.* 159. *Lam. Ill.* t. 363. f. 2. *Nat. Ord.* RHODODENDRACEÆ *Juss.*  
*Labrador-tea*

† *Dr. Bigelow* arranges the North-American species of PYROLA 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*.

*L. latifolium* Ait.: leaves oblong, replicate on the margin, ferruginous-tomentose beneath; stamens 5, as long as the corolla. Ait. *Kew.* II. p. 64. Willd. *Spec.* II. p. 602. Jacq. *icon. rur.* III. t. 464. Lam. *Enc.* III. p. 459. Ejusd. *Ill.* l. c. Pursh *Fl.* I. p. 300. *L. palustre*: *latifolium* Mich. *Fl.* I. p. 259.

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. Germen 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.

HAB. In sphagnous swamps. Near Troy, New-York, and in Pittsfield, Massachusetts. Eaton. On the shores of Lake George, N. Y. Dr. Macbride. On the White Hills of New-Hampshire. Bigelow. In Pennsylvania. Muhlenberg. June.

2. *L. palustre* L.: leaves linear, revolute on the margin, ferruginous tomentose beneath; stamens 10, longer than the corolla. Willd. *Spec.* II. p. 602. Lam. *Enc.* p. 459. Ait. *Kew.* II. p. 65. Fl. Dan. 1031. Duham. *Arb.* I. t. 67. Pursh *Fl.* I. p. 30.

HAB. On the borders of the mountain lakes of New-York. Pursh.

## 289. LEIOPHYLLUM. Persoon.

Calyx deeply 5-parted, persistent. Corolla 5-petalled. Stamens longer than the corolla; anthers lateral, opening on the inside longitudinally. Capsule roundish, 5-celled, 5-valved, opening at the top; valves ovate, with the margins inflexed, remote and straight; columella subovate-terete, rugose. Seeds small, smooth, not winged. D. Don in *Edin. Phil. Mag.* VI. p. 50. Pers. *Syn.* I. p. 477. (subgenus) *Elliot* *Sk.* I. p. 483. LEDI *sp. L.* AMMYRSINE Pursh *Fl.* I. p. 280. Nat. Ord. RHODODENDRACEÆ Juss.

*L. buxifolium* Elliott Sk. l. c. *LEDUM buxifolium* Ait. Kew. II. p. 65. Willd. Spec. II. p. 602. Bot. Cab. 52. Berg. Act. Petrop. 1777. p. 213. t. 3. f. 2. (fide Willd.) Mich. Fl. II. p. 260. *L. thymifolium* Lam. Enc. III. p. 459. Ejusd. Ill. t. 362. f. 3. *AMMYRSINE buxifolia* Pursh Fl. I. p. 361.

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, 3—5-valved, opening nearly half way down; margin of the valves not approximate; *columella* ovate, rugose, slightly 5-angled. *Seeds* minute, naked.

HAB. In sandy pine barrens and on high mountains. Abundant in the pine barrens of New-Jersey. May—June.

Sand-Myrtle

## 290. CLETHRA. L.

*Calyx* 5-parted, persistent. *Corolla* 5-petalled. *Style* persistent; *stigma* short, 3-cleft. *Capsule* 3-celled, 3-valved, covered by the calyx. *Gen. pl.* 751. *Nutt.* Gen. I. p. 275. *Juss.* p. 160. *Lam. Ill.* t. 369. *Nat. Ord. ERICEÆ Juss.*

*C. alnifolia* L.: leaves cuneate-obovate, acute, coarsely serrate, smooth and green on both sides; racemes spiked, simple, bracteate, hoary-tomentose. *Willd. Spec.* II. p. 619. *Schmidt Arb.* 47. *Lam. Ill.* 369. *Mill. icon.* t. 28. *Mich. Fl.* I. p. 260. *Pursh Fl.* I. p. 301. *Big. Bost.* p. 105. *Elliott Sk.* I. p. 502. *C. alnifolia*  $\alpha$ . *denuadata* Ait. Kew. I. p. 73. *CLETHRA Gron. Virg.* 47. *Catesb. Car.* I. t. 66.

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, pedicels, and calyx,* covered with a white down. *Calyx* about half as long as the corolla; segments ovate, rather obtuse. *Corolla* white; *petals* obovate, spatulate, 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.



*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.

*Calyx* 5-leaved. *Petals* 5, subequal. *Stamens* unequal; 3 superior *anthers* sterile; 3 inferior rostrate, with longer and incurved filaments. *Legume* membranaceous, 2-valved. *Gen. pl.* 700. *Nutt. Gen.* I. p. 280. *Juss.* p. 351. *Lam. Ill.* t. 332. *Nat. Ord. LEGUMINOSÆ Juss.* Leaves pinnate, with the petiole often glandular; flowers axillary. *Wild-pea.*

1. *C. marilandica* L.: nearly smooth; leaves in 9 pairs, lanceolate-oblong, mucronate; gland on the petiole obovate; racemes axillary, many-flowered; legumes linear, arcuate. *Willd. Spec.* II. p. 524. *Mich. Fl.* I. p. 260. *Pursh Fl.* I. p. 306. *Elliott Sk.* I. p. 473. *Big. Med. Bot.* II. p. 166. t. 39. *Bart. Veg. Mat. Med.* I. t. 12. *Walt. Car.* p. 135. *Gron. Virg.* 65. *Dill. Elth.* 321, t. 260. f. 339.

*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 substipitate. *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-obovate, 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. August. *Wild Senna.*

2. *C. Chamæcrista* L.: smoothish; leaves in many pairs, linear, with the gland on the petiole subpedicellate; buds 2—3-flowered; 2 of the petals spotted; legume pubescent. *Willd. Spec.* II. p. 523. *Bot. Mag.* 107. *Mich. Fl.* I. p. 262. *Pursh Fl.* I. p. 306. *Big. Bost.* p. 104. *Elliott Sk.* I. p. 473. *Walt. Car.* p. 136. *Gron. Virg.* 47.

*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. *Germs* 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-pea* or *Magoty-bay-bean*.

This is a very common species in New-Jersey, frequently covering whole fields.

3. *C. nictitans* L.: stem spreading, pubescent; leaves in many pairs, linear; gland on the petiole pedicellate; peduncles fasciculate, few-flowered; flowers pentandrous; stamens equal. *Willd. Spec.* II. p. 529. *Mich. Fl.* I. p. 262. *Pursh Fl.* I. p. 306. *Elliott Sk.* I. p. 474. *Walt. Car.* p. 135. *Pluk. Alm.* 341. t. 314. f. 5.

*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. *Germs* villous; *style* short, thickened at the extremity. *Legume* hairy.

HAB. In sandy fields. Abundant on Long-Island, &c.

*Sensitive-pea.*

4. *C. fasciculata* Mich.: nearly smooth; leaves at the summit in 9 pairs; gland sessile near the middle of the petiole; fascicles lateral, many-flowered; petals and stamens of the same colour; legume smooth. *Mich. Fl.* I. p. 262. *Pursh Fl.* I. p. 306. *Elliott Sk.* I. p. 471.

*Flowers* smaller than in *C. Chamæcrista*. *Legume* curved, ascending. *Mich.*

HAB. In dry fields. New-York to Carolina. *Pursh.* In Pennsylvania. *Muhlenberg.* June—August.

292. BAPTISIA. *Ventenat.*

*Calyx* half 4—5-cleft, bilabiate. *Corolla* papilionaceous; *petals* nearly equal in length; *vexillum* with the sides reflexed. *Stamens* deciduous. *Legume* ventricose, pedicellate, many-seeded. *R. Brown in Hort. Kew.* ed. 2. III. p. 5. *Nutt. Gen.* I. p. 281. *PODALYRIÆ spp. Lam., Willd., &c. Lam. Ill.* t. 327. f. 1. *SOPHORÆ spp. L. Nat. Ord. LEGUMINOSÆ Juss.* Leaves ternate. *Wild Indigo.*

*B. tinctoria R. Br.:* very smooth, much branched; leaves ternate, subsessile; leaflets rounded obovate; racemes terminal; (flowers yellow); legume on a long stipe. *Elliott Sk.* I. p. 467. *Bart. Fl.* I. t. 29. *Nutt. Gen.* I. p. 284. *PODALYRIA tinctoria Willd. Spec.* II. p. 503. *Bot. Mag.* 1099. *Lam. Ill.* l. c. *Mich. Fl.* I. p. 265. *Pursh Fl.* I. p. 308. *Big. Bost.* p. 104. *Elliott Sk.* I. p. 467. *SOPHORA tinctoria L. Sp. pl.* 534. *Wall. Car.* p. 134.

*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. *Germs* 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.*

*Calyx* 5-toothed, gibbous at the base. *Corolla* papilionaceous; *wings* larger than the *vexillum*; *keel* 2-petalled. *Legume* compressed; seminiferous suture margined. *Seeds* obovate. *Gen. pl.* 696. *Nutt. Gen.* I. p. 283. *Juss.* p. 348. *Lam. Ill.* t. 328. *Nat. Ord. LEGUMINOSÆ Juss.* *Judas'-tree.*

*C. canadensis L.:* leaves roundish-cordate, acuminate,

villous at the axils of the nerves; legumes on short foot-stalks. *Willd. Spec. II. p. 508. Mill. icon. 2. Mich. Fl. I. p. 265. Pursh Fl. I. p. 308. Elliott Sk. I. p. 470. Walt. Car. p. 135. Gron. Virg. 47.*

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.

HAB. In woods and on the banks of rivers. New-Jersey to Carolina. April.

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.

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## ORDER II.

### D I G Y N I A.

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|---------------------|-------------------|
| 294. HYDRANGEA.     | 298. MITELLA.     |
| 295. SAXIFRAGA.     | 299. SAPONARIA.   |
| 296. CHRYSOSPENIUM. | 300. DIANTHUS.    |
| 297. TIARELLA.      | 301. SCLERANTHUS. |
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#### 294. HYDRANGEA. L.

*Calyx* superior, 5-toothed. *Petals* 5. *Capsule* 2-beaked, opening by a foramen between the horns. *Gen. pl.* 760. *Nutt. Gen. I. p. 285. Juss. p. 310. Lam. Ill. 370. Nat. Ord. SAXIFRAGEÆ Juss.*

1. *H. vulgaris Mich.*: leaves oblong-ovate, smooth

beneath, obtuse at the base, acuminate, dentate; cymes naked. *Mich. Fl.* I. p. 268. *Pursh Fl.* I. p. 309. *Elliott Sk.* I. p. 509. *Nutt. Gen.* I. p. 281. *H. arborescens* L. *Willd. Spec.* II. p. 633. *Bot. Mag.* 437. *Lam. Ill.* t. 370. f. 1. *Mill. icon.* 251.

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.

HAB. In shady rocky situations on the banks of rivers. Near Philadelphia, &c. July.

The *H. cordata* of *Pursh* is, by several good Botanists, considered as a mere variety of *H. vulgaris*.

2. *H. radiata* *Walt.*: leaves ovate, acuminate, serrate, tomentose and white beneath; cymes radiate. *Walt. Car.* p. 251. *Willd. Spec.* II. p. 634. *H. nivea* *Mich. Fl.* I. p. 269. *Pursh Fl.* I. p. 309. *Elliott Sk.* I. p. 510. HYDRANGÆA *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; serratures 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.

HAB. In Pennsylvania. *Muhlenberg.* July.

The above description was taken from a plant collected in Virginia, and growing in *Mr. Prince's* Garden at Flushing.

## 295. SAXIFRAGA. L.

*Calyx* 5-parted. *Petals* 5. *Capsule* superior or inferior, or half inferior, 2-beaked; 2-celled, many-seeded, opening between the beaks. *Gen. pl.* 764. *Nutt. Gen.* I. p. 285. *Juss.* p. 309. *Lam. Ill.* t. 372. Nat. Ord. SAXIFRAGÆÆ *Juss.* *Saxifrage.*

1. *S. virginiensis* Mich.: pubescent; leaves oval, obtuse, crenate, narrowed at the base into a petiole; stem nearly leafless, corymbose-paniculate; flowers subsessile; petals oval, with branched nerves; capsule half inferior. *D. Don Monog. Saxif. in Lin. Trans.* XIII, p. 336. *Mich. Fl.* I. p. 269. *Pursh Fl.* I. p. 310. *Elliott Sk.* I. p. 511. *S. vernalis* Big. *Bost.* p. 107. *S. nivalis* Muhl. *Cat.* p. 45. *S. foliis cordato-ovalibus crenatis, &c.* Gron. *Virg.* 160. *S. noveboracensis* Cold. *Noveb.* 125. *Pluk. Alm.* t. 222, f. 5.

*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.

2. *S. pennsylvanica* L.: pubescent; leaves oblong-lanceolate, acute at each extremity, obsolete denticulate; stem naked; panicle oblong; flowers fasciculate; petals linear, longer than the calyx; capsule superior. *D. Don l. c.* p. 384. *Willd. Spec.* II. p. 640. *Mich. Fl.* I. p. 269. *Pursh Fl.* I. p. 311. *Big. Bost.* p. 107. *S. foliis lanceolatis denticulatis, &c.* Gron. *Virg.* 49. *Dill. Elth.* 337. t. 253, f. 323.

*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. CHRYOSPLENIUM. L.

*Calyx* superior, 4—5-cleft, coloured. *Corolla* 0.  
*Capsule* 2-beaked, many-seeded. *Gen. pl.* 783. *Nutt. Gen. I.* p. 254. *Juss.* p. 309. *Lam. Ill.* t. 374. f. 2. *Nat. Ord.* SAXIFRAGÆ *Juss.* Lateral flowers octandrous. *Golden Saxifrage.*

*C. oppositifolium* L.: leaves opposite, roundish-cordate. *Willd. Spec.* II. p. 638. *Smith Fl. Brit.* II. p. 448. *Eng. Bot.* t. 490. *Mich. Fl.* I. p. 269. *Pursh Fl.* I. p. 269. *Elliott Sk.* I. p. 511.

*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.

*Calyx* 5-parted, persistent. *Petals* 5, inserted into the calyx, unguiculate. *Capsule* 1-celled, 2-valved; valves unequal. *Gen. pl.* 765. *Nutt. Gen. I.* p. 285. *Juss.* p. 309. *Lam. Ill.* t. 373. f. 2. *Nat. Ord.* SAXIFRAGÆ *Juss.*

*T. cordifolia* L.: leaves cordate, acutely lobed, dentate; teeth mucronate; scape racemed. *Willd. Spec.* II. p. 659. *Bot. Mag.* 1589. *Lam. Ill.* l. c. *Mich. Fl.* I. p. 270. *Pursh Fl.* I. p. 313. *MITELLA* nudo scapo. *Gron. Virg.* 160.

*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

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.  
*Mitre-wort.*

## 298. MITELLA. L.

*Calyx* 5-cleft, persistent. *Petals* 5, pinnatifid, inserted into the calyx. *Capsule* 1-celled, 2-valved; valves equal. *Gen. pl.* 766. *Nutt. Gen.* I. p. 285. *Juss.* p. 309. *Lam. Ill.* t. 373. f. 1. *Nat. Ord.* SAXIFRAGÆ *Juss.* *False Sanicle.*

1. *M. diphylla* L.: leaves somewhat lobed, with the lobes acute and dentate; stem erect, with 2 opposite leaves above the middle. *Willd. Spec.* II. p. 659. *Lam. Ill.* l. c. *Schk. handb.* I. t. 120. (vide *Ph.*) *Mich. Fl.* I. p. 270. *Pursh Fl.* I. p. 313. *M. scapo diphylo.* *Cold. Novob.* 96.

*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.

2. *M. cordifolia* Lam.: leaves orbicular-reniform, doubly-crenate, with scattered hairs above; scape erect or prostrate, naked, or with a single leaf. *Lam. Enc.* IV. p. 185. *Ill.* t. 373. f. 3. *Willd. Spec.* II. p. 660. *Mich. Fl.* I. p. 270. *Pursh Fl.* I. p. 314. *M. nuda* *Willd.* l. c. *M. reniformis* Lam. *Enc.* IV. p. 185? *Ill.* t. 372. f. 2?

*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



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.

**HAB.** On moist rocks. Near Cambridge, New-York. *Steven-son*. Fairfield, N. Y. *Hadley*. Pittsfield, Massachusetts, and in Vermont. *Eaton*. June.

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 Linnæan Herbarium. The latter is a synonym of *Pursh's M. reniformis*.

### 299. SAPONARIA. L.

*Calyx* 1-leaved, tubulous, 5-toothed, naked at the base. *Petals* 5, unguiculate. *Capsule* oblong, 1-celled. *Gen. pl.* 769. *Nutt. Gen.* I. p. 286. *Juss.* p. 302. *Lam. Ill.* t. 376. Nat. Ord. CARYOPHYLLÆ *Juss.*  
*Soap-wort.*

*S. officinalis* L.: leaves ovate-lanceolate; calyx cylindrical, smooth. *Willd. Spec.* II. p. 667. *Smith Fl. Brit.* II. p. 459. *Eng. Bot.* t. 1060. *Pursh Fl.* I. p. 314.

*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.

*Calyx* 1-leaved, tubular, 5-toothed, with about 4 imbricate opposite scales at the base. *Petals* 5, unguiculate. *Capsule* cylindrical, 1-celled. *Gen. pl.* 770. *Nutt. Gen.* I. p. 286. *Juss.* p. 302. *Lam. Ill.* t. 376. f. 2. Nat. Ord. CARYOPHYLLÆ *Juss.*  
*Pink.*

*D. Armeria* L.: flowers aggregate, fasciculate; scales of the calyx lanceolate, villous, as long as the tube. *Willd.*

*Spec. II.* p. 673. *Smith Fl. Brit. I.* p. 460. *Eng. Bot. t.* 317. *Pursh Fl. I.* p. 314. *Big. Bost.* p. 108.

*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.

**HAB.** In sandy fields and pine woods. New-Jersey, near Cooper's-Ferry. *Pursh.* On rocky hills in Roxbury and Salem, near Boston. *Bigelow.* Banks of the Connecticut, below Northampton. *Porter.* July. Probably introduced from Europe.

### 301. SCLERANTHUS. L.

*Calyx* 1-leaved, 5-cleft. *Corolla* 0. *Stamens* inserted into the calyx. *Capsule* 1-seeded, covered by the calyx. *Gen. pl.* 767. *Nutt. Gen. I.* p. 286. *Juss.* p. 314. *Lam. Ill. t.* 374. Five of the stamens sometimes abortive or wanting. *Knawel.*

*S. annuus L.:* calyx of the fruit spreading, acute; stem spreading. *Smith Fl. Brit. II.* p. 458. *Willd. Spec. II.* p. 660. *Eng. Bot. t.* 351. *Pursh Fl. I.* p. 315. *Big. Bost.* p. 107.

*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?

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## ORDER III.

## TRIGYNIA.

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|-----------------|-----------------|
| 302. CUCUBALUS. | 304. STELLARIA. |
| 303. SILENE.    | 305. ARENARIA.  |
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### 302. CUCUBALUS. L.

*Calyx* 1-leaved, inflated, 5-toothed. *Petals* 5, unguiculate, naked at the orifice. *Capsule* 3-celled.

*Gen. pl.* 771. *Nutt. Gen.* I. p. 287. *Juss.* p. 302. *Lam. Ill.* t. 377. *Nat. Ord.* CARYOPHYLLÆ  
*Juss.* *Campion.*

1. *C. Behen* L.: smooth and glaucous, decumbent; leaves oblong-oval, acute, nerveless; calyx membranaceous, with reticulated veins. *Willd. Spec.* II. p. 684. *Mich. Fl.* I. p. 271. *Pursh Fl.* I. p. 315. *Big. Bost.* p. 110. *SILENE inflata* *Smith Fl. Brit.* II. p. 467. *Eng. Bot.* t. 164.

*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* exerted; *anthers* oblong, greenish. *Styles* filiform, longer than the stamens; *stigmas* simple, obtuse.

*HAB.* On rocky hills in the western parts of the State of New-York; apparently native. *Prince.* Near Boston. *Bigelow.* July. *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 exerted beyond the calyx, nearly naked; flowers solitary, dichotomal, 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, dichotomal, 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 membranaceously margined. *Petals* white, nearly naked at the orifice, exerted, 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 Susquehannah, near Columbia. *Muhlenberg,* (*Nutt.*)

Can this be a variety of *C. Behen*?

3. *C. stellatus* L.: erect, pubescent; leaves verticillate, in fours, oval-lanceolate, long-acuminate. *Willd. Spec.* II. p. 686. *Bot. Mag.* 1107. *Mich. Fl.* I. p. 271. *Pursh Fl.* I. p. 315. *Elliott Sk.* I. p. 514. *SILENE foliis quaternis.* *Gron. Virg.* 50. *DRYPIS foliis quaternis.* *Cold. Novob.* 106.

*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.

*Calyx* 1-leaved, tubular or conic, 5-toothed. *Petals* 5, unguiculate, mostly crowned at the orifice. *Capsule* 3-celled, 6-toothed, many-seeded. *Gen. pl.* 772. *Nutt. Gen. I.* p. 289. *Juss.* p. 302. *Lam. Ill.* t. 377. f. 2. Nat. Ord. CARYOPHYLLÆ *Juss.*

*Catch-fly.*

1. *S. pennsylvanica Mich.*: viscidly pubescent; radical leaves cuneate; stem leaves lanceolate; panicles trichotomous; petals very obtuse, slightly emarginate, subcrenate. *Mich. Fl. I.* p. 272. *Pursh Fl. I.* p. 316. *Big. Bost.* p. 110. *Elliott Sk. I.* p. 515. *S. virginica L.? Willd. Spec. II.* p. 702. excl. syn. *Pluk. S. caroliniana Walt. Car.* p. 142.

*Root* large, fusiform, branched, perennial. *Stems* numerous, cespitose, 8—12 inches high. *Radical leaves* numerous, 3—4 inches long, obtuse-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. *Germen* stipitate, oblong, obtuse. *Styles* filiform. *Capsule* cylindrical-oblong.

HAB. On rocks and in dry sandy woods. May—June. *Wild-pink.*

2. *S. virginica Mich.*: erect or decumbent, viscidly-pubescent; leaves oblong-lanceolate, scabrous on the margin; panicle dichotomous; petals bifid; stamens exerted. *Mich. Fl. I.* p. 272. *Pursh Fl. I.* p. 316. *Elliott Sk. I.* p. 316. *S. Catesbæi Walt. Car.* p. 141. *Willd. Spec. II.* p. 706. *Catesb. Car. II.* t. 54. *Pluk. Alm.* t. 203. f. 1.

*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.

3. *S. antirrhina* L.: leaves lanceolate, minutely ciliate; panicles trichotomous; calyx ovate; petals small, bifid; stamens included. *Willd. Spec.* II. p. 316. *Pursh Fl.* I. p. 316. *Elliott Sk.* I. p. 517. *Walt. Car.* p. 141. *Gron. Virg.* 50. *Pluk. Alm.* 231. t. 203. f. 1. *Dill. Elth.* t. 313. f. 403.

*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 trichotomous 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.

4. *S. nocturna* L.: flowers spiked, alternate, sessile, secund; petals bifid. *Willd. Spec.* II. p. 692. *Pursh Fl.* I. p. 316. *Dill. Elth.* 420. t. 310. f. 400.

*Root* annual. *Inferior leaves* obovate, concave, rigid. *Flowers* sessile, alternate. *Petals* white, bifid, rather large, greenish beneath, not red after flowering. *Lin.*

**HAB.** In Pennsylvania. *Muhlenberg*. Nazareth, Penn. *Schweinitz*.

Resembles *CUCUBALUS reflexus*, but the stem is more branched and taller, and the petals are spreading beyond the calyx. *Lin.* This species is said to be also a native of Spain and the south of France.

### 304. STELLARIA. L.

*Calyx* 5-leaved. *Petals* 5, deeply cleft. *Capsule* 1-celled, opening with 6 teeth, many-seeded. *Gen. pl.* 773. *Nutt. Gen.* I. p. 289. *Juss.* p. 301.

*Lam. Ill. t. 378. Nat. Ord. CARYOPHYLLÆ*  
*Juss. Stitchwort.*

1. *S. pubera Mich.*: pubescent; stem decumbent; leaves ovate-oblong, sessile, acute, subciliate, somewhat undulate; pedicels dichotomal, recurved; petals longer than the calyx. *Mich. Fl. l. p. 273. Pursh Fl. l. p. 317. Elliott Sk. l. p. 517. Nutt. Gen. l. p. 289.*

*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, cochleate, muricate, brown.

*HAB.* On shady rocks near the Falls of the Schuylkill, in the vicinity of Philadelphia. May—June.

2. *S. media Smith*: stems procumbent, with an alternate pubescent lateral line; leaves ovate, smooth; petals 2-parted; stamens 5—10. *Smith Fl. Brit. II. p. 473. Eng. Bot. t. 573. Pursh Fl. l. p. 317. Big. Bost. p. 109. ALSINE media L. Sp. pl. 389.*

*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 3. *Capsule* ovate. *Seeds* roundish, compressed, nearly even.

*HAB.* In cultivated grounds, on road sides, &c. Flowers from March to December. *Common Chickweed.*

3. *S. longifolia Muhl.*: very smooth; stem erect, quadrangular, weak; leaves linear-lanceolate; panicle terminal; peduncles divaricate, very long, bracteate; petals broad-obovate, 2-parted, longer than the acute 3-nerved calyx; styles 3—4. *Muhl. Cat. p. 46. Eat. Man. Bot. ed. 2. p. 45. S. longipes Goldie in Edin. Phil. Mag. VI. p. 327. S. graminea Big. Bost. p. 110. SPERGULASTRUM gramineum Mich. Fl. l. p. 276. MICROPETALUM gramineum Pers. Syn. l. p. 509. Pursh Fl. l. p. 320.*

*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. *Stamens* 8—10. *Styles* very often 4. *Capsule* ovate.

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.

4. *S. lanceolata*\*: very smooth, procumbent, or ascending; leaves lanceolate, acute at each end; petals about as long as the calyx; stigmas mostly 4, or wanting. MICROPETALUM lanceolatum *Pers. Syn. I. p. 509. Pursh Fl. I. p. 320.* SPERGULASTRUM lanceolatum *Mich. Fl. I. p. 275.* ARENARIA s. STELLARIA (anonyma.) *Big. in New-Eng. Med. Jour. V. p. 334.*

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.

HAB. In mountain bogs. On the Catskill Mountains. *Knucvets.* Cambridge, New-York. *Stevenson.* Williams-town, Massachusetts. *Dewey.* On the White Hills of New-Hampshire. *Bigelow, &c.* June.

This species much resembles *S. palustris* of Europe.

### 305. ARENARIA. L.

*Calyx* 5-leaved. *Petals* 5, undivided. *Capsule* 1-celled, many-seeded. *Gen. pl. 774. Nutt. Gen. I. p. 291. Juss. p. 301. Lam. Ill. t. 378. f. 2.* Nat. Ord. CARYOPHYLLÆ *Juss. Sandwort.*

\* Leaves without stipules at the base.

1. *A. peploides* L.: stem dichotomous; leaves ovate, acute, fleshy; calyx obtuse. *Willd. Spec. II. p. 716. Smith Fl. Brit. II. p. 477. Eng. Bot. t. 189. Gmel. Fl. Sib. IV. p. 160. t. 64. Pursh Fl. I. p. 317.*

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* obovate-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.

HAB. On the sea-coast of Long-Island. Long-Branch, New-Jersey. *Cooper*. Newburyport, Massachusetts. *Cushing*.

2. *A. lateriflora* L.: stem filiform, simple, or branched, pubescent; leaves ovate, subtriply-nerved; peduncle lateral, solitary, elongated, bifid; one of the pedicels with 2 opposite bracts near the middle; corolla longer than the calyx. *Willd. Spec. II. p. 718. Gmel. Fl. Sib. IV. p. 718. Pursh Fl. I. p. 317. Big. Bost. p. 109. Goldie in Edin. Phil. Jour. VI. p. 327.*

*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.

HAB. In bog meadows. Not uncommon in the vicinity of New-York. Cambridge, N. Y. *Stevenson*. Near Boston, *Bigelow*. Plainfield, Massachusetts. *Porter*. Common in the mountains of Pennsylvania. *Nuttall*. June.

3. *A. serpyllifolia* L.: stem dichotomous, diffuse; leaves ovate, acute, subciliate; calyx hairy; exterior leaflets 5-ribbed. *Willd. Spec. II. p. 720. Smith Fl. Brit. II. p. 479, Eng. Bot. t. 923. Mich. Fl. I. p. 274. Pursh Fl. I. p. 316. Elliott Sk. I. p. 518.*

*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, nerved, 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, canaliculate, pungent; stem simple, few-



leaved; flowers few, terminal, erect; petals much longer than the roundish calyx. *Mich. Fl. l. p. 273. Pursh Fl. l. p. 316. Elliott Sk. l. p. 520. A. caroliniana Walt. Car. p. 141.*

*Root* very long, perennial. *Stems* densely caespitose, 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.

5. *A. glabra Mich.*: very smooth; stems numerous, erect, filiform; leaves subulate-linear, flat, spreading; pedicels 1-flowered, elongated, divaricate; leaflets of the calyx oval, obtuse, smooth, shorter than the petals. *Mich. Fl. l. p. 274. Pursh Fl. l. p. 313. Elliott Sk. l. p. 520. STELLARIA uniflora Walt. Car. p. 141?*

*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.

**HAB.** In crevices of rocks on the summit of the Shawangunk Mountains, New-York. June. On the White Hills of New-Hampshire. *Boott.* August.

6. *A. stricta Mich.*: smooth; stems numerous, filiform, simple; leaves subulate-linear, subfasciculate, spreading; panicle few-flowered, spreading; leaflets of the calyx ovate-acute, conspicuously 3-nerved, half as long as the petals. *Mich. Fl. l. p. 274? Pursh Fl. l. p. 313. Elliott Sk. l. p. 521.*

*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.

**HAB.** On mountains near Deerfield, Massachusetts. *Cooley* and *Hitchcock*. On the White Hills of New-Hampshire. *Bigelow*. Easton, Pennsylvania. *Schweinitz.* May—June.

\* \* *Leaves with stipules at the base.*

7. *A. rubra* L.: stems prostrate; leaves narrow-linear, acute, flat, somewhat fleshy, mucronate; stipules sheathing, ovate, cleft; capsule as long as the calyx; seeds compressed, angular, roughish. *Willd. Spec.* II. p. 721. *Smith Fl. Brit.* II. p. 749. *Hook. Fl. Scot. part I.* p. 133. *Eng. Bot.* t. 852. *Big. Bost.* p. 108.

*Root* annual. *Stem* spreading, terete, smooth. *Leaves* an inch long, terminating in a short point. *Stipules* 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 sandy fields. Near New-Haven. *Ive's.* Near Boston. *Bigelow, &c.*

*β. marina* L.: leaves semicylindrical, fleshy, awnless; capsule longer than the calyx. *Willd. Spec.* II. p. 722. *A. marina* *Smith Fl. Brit.* II. p. 480? *Big. Bost.* p. 109. *A. rubra β.* *Mich. Fl.* I. p. 274. *A. canadensis* *Pers. Syn.* I. p. 504. *Pursh Fl.* I. p. 319. *Elliott Sk.* I. p. 519. *Gron. Virg.* 161.

*Root* annual and biennial. *Stems* procumbent and assurgent, smooth, 3—8 inches long. *Leaves* longer than the internodes, simple at the lip. *Stipules* amplexicaul, lacerate, scarious. *Peduncles* axillary towards the summit of the stem, viscid-pubescent. *Calyx* pubescent; leaflets ovate-oblong, obtuse. *Petals* dark rose-colour, ovate, as long as the calyx. *Stamens* 3—10. *Capsule* about one-third longer than the calyx. *Seeds* roundish, compressed, nearly smooth.

*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.

## P E N T A G Y N I A.

306. SPERGULA.

307. CERASTIUM.

308. AGROSTEMMA.

309. OXALIS.

310. PENTHORUM.

311. SEDUM.

## 306. SPERGULA. L.

*Calyx* 5-leaved. *Petals* 5, undivided. *Capsule* ovate, 5-celled, 5-valved. *Gen. pl.* 796. *Nutt. Gen.* I. p. 200. *Juss.* p. 301. *Lam. Ill.* t. 392. f. 2. *Nat. Ord.* CARYOPHYLLÆ *Juss.* *Spurrey.*

1. *S. arvensis* L.: leaves verticillate; panicle dichotomous; peduncles of the fruit reflexed. *Willd. Spec.* II. p. 818. *Smith Fl. Brit.* II. p. 502. *Eng. Bot.* t. 1535. *Pursh Fl.* I. p. 320. *Big. Bost.* p. 111. *Elliott Sk.* I. p. 523. *Walt. Car.* p. 241.

*Root* annual. *Stem* 6—10 inches high, assurgent, smooth, terete, swelling at the joints. *Leaves* filiform, in whorls of 8—10, shorter than the internodes. *Panicle* few-flowered; *peduncles* abruptly deflexed after flowering. Leaflets of the *calyx* ovate, acute. *Petals* white, rather longer than the calyx. *Stamens* 10. *Capsule* ovate. *Seeds* subglobose, somewhat hispid, with a narrow circular margin, brown; "margin of the seed very variable in breadth." *Hooker.*

*HAB.* In sandy fields and cultivated grounds; not uncommon. June—August. Introduced from Europe. *Corn Spurrey.*

The *S. pentandra* is supposed by *Hooker* to be but a variety of this species.

2. *S. saginoides* L.: glabrous; leaves opposite, subulate, awnless; peduncles solitary, very long, smooth. *Willd. Spec.* II. p. 818. *Smith Fl. Brit.* II. p. 504. *Eng. Bot.* t. 2105. *Mich. Fl.* I. p. 276. *Pursh Fl.* I. p. 320. *S. decumbens* *Elliott Sk.* I. p. 523. *S. nodosa* *Walt. Car.* p. 241.

*Root* annual. *Stem* decumbent, branching, 2—3 inches long,

Slender. *Leaves* very narrow, spreading, simple at the tip, acute. *Peduncles* axillary and terminal, nearly an inch long. *Flowers* erect. *Calyx* as long as the corolla; leaflets ovate, scarious on the margin. *Petals* white, oblong, obtuse. *Stamens* sometimes 5. *Styles* very short. *Capsule* half as long again as the calyx. *Seeds* minute, subreniform, slightly scarious.

HAB. In sandy fields and upon rocks. New-Jersey. *Nuttall*.  
In Delaware. *Muhlenberg*.

307. CERASTIUM. *L.*

*Calyx* 5-leaved. *Petals* 5, bifid or emarginate. *Capsule* 1-celled, bursting at the summit with 10 teeth. *Gen. pl.* 797. *Nutt. Gen.* I. p. 291. *Juss.* p. 301. *Lam. Ill.* t. 392. Nat. Ord. CARYOPHYLLEÆ *Juss.* *Mouse-ear Chickweed.*

\* *Petals* not exceeding the *calyx* in length.

1. *C. vulgatum L.*: hairy and viscid, cespitose, suberect; leaves ovate; flowers subcapitate, longer than their pedicels. *Willd. Spec.* II. p. 811. *Smith Fl. Brit.* II. p. 496. *Eng. Bot.* t. 789. *Pursh Fl.* I. p. 320. *Big. Bost.* p. 111. *Elliott Sk.* I. p. 524.

*Root* annual. Whole plant pale green, and when young viscidly pubescent. *Stems* numerous, about 6 inches high, a little spreading, terete. *Leaves* opposite, broad-ovate, closely sessile, obtuse. *Flowers* in subcapitate clusters from the forks of the stem. Leaflets of the *calyx* lanceolate, acute. *Petals* oblong, emarginate, scarcely longer than the calyx. *Stamens* 10. *Capsule* cylindrical, a little incurved, as long again as the calyx.

HAB. In fields and on dry hills. May—September. Introduced.

2. *C. viscosum L.*: hairy and viscid, spreading; leaves oblong-lanceolate; flowers somewhat paniced, shorter than their pedicels. *Willd. Spec.* II. p. 312. *Smith Fl. Brit.* II. p. 497. *Eng. Bot.* t. 790. *Pursh Fl.* I. p. 320.

*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.

3. *C. semidecandrum* L.: hairy and viscid, suberect; leaves oblong-ovate; flowers somewhat paniced, shorter than their pedicels; stamens 5; petals slightly notched. *Willd. Spec.* II. p. 812. *Smith Fl. Brit.* II. p. 497. *Eng. Bot.* t. 1630. *Pursh Fl.* I. p. 321. *Muhl. Cat.* p. 47.

*Root* annual. *Stems* numerous, viscid above, decumbent at the base, assurgent. Lower *leaves* often smooth. *Petals* generally shorter than the calyx.

**HAB.** On dry barren and sunny hills. Pennsylvania to Virginia. *Pursh.*

This species strongly resembles the preceding, of which *Hooker* is inclined to think it a variety.

4. *C. hirsutum* Muhl.: very hairy, diffuse; leaves obtuse, connate; flowers clustered; petals 2-cleft, a little longer than the acute calyx. *Muhl. Cat.* p. 47. *Elliott Sk.* I. p. 524. *C. semidecandrum* Walt. *Car.* p. 241.

*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 nerved, with 10 subulate teeth at the extremity. *Seeds* obovate, muricate.

**HAB.** In New-York and Delaware. *Muhlenberg.*

The above description was taken from southern specimens, obligingly communicated to me by *Mr. Elliott.*

\* \* *Petals longer than the calyx.*

5. *C. nutans* Raf.: viscid and pubescent; stems erect, straight, deeply striate; leaves elongated, distant, linear-oblong, acute; petals oblong, bifid at the tip, longer than the calyx; peduncles at length much longer than the flowers. *Raf. précis des découv.* p. 36. *Cat. pl. New-York,* p. 44. *C. glutinosum* Nutt. *Gen.* I. p. 291. *P. longe-pedunculatum* Muhl. *Cat.* p. 47. *P. pubescens* Goldie in *Edin. Phil. Mag.* IV. p. 387.

*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*

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.

**HAB.** On rocky hills and on mountains. Canada to Pennsylvania. June.

6. *C. oblongifolium*\*: cespitose, 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. *Torrey in Sill. Jour.* IV. p. 63. *C. bracteatum Raf. précis des découv.* p. 36?

*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. **HAB.** On mountains in Massachusetts. *Dewey.* June.

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. Douglas*, of West Point, near Sandusky Bay, Lake Erie.

7. *C. tenuifolium Ph.*: pubescent, cespitose; leaves narrow-linear, longer than the internodes; stems short, 3-flowered at the summit; petals obovate, emarginate, three times as long as the calyx. *Pursh Fl.* I. p. 321.

*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 subfasciculate. *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.

**HAB.** On mountains and rocky banks. New-England to Pennsylvania. June.

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*

1-celled, opening with 5 teeth. *Gen. pl.* 795. *Nutt. Gen. I.* p. 291. *Juss.* p. 302. *Lam. Ill.* t. 388. Nat. Ord. CARYOPHYLLÆ *Juss.* *Corn-cockle.*

*A. Githago L.*: hairy; calyx much longer than the corolla; petals entire, without a crown. *Willd. Spec. II.* p. 805. *Smith Fl. Brit. II.* p. 493. *Eng. Bot.* t. 576. *Pursh Fl. I.* p. 321.

*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.

*HAB.* In corn fields. June—July. Introduced.

### 309. OXALIS. L.

*Calyx* 5-parted, persistent. *Petals* 5, slightly connected at the claws. *Capsule* pentangular, 5-celled, bursting at the angles; cells 2, or many-seeded. *Seeds* covered with an elastic arillus. *Gen. pl.* 794. *Nutt. Gen. I.* p. 292. *Juss.* p. 270. *Lam. Ill.* t. 391. Nat. Ord. OXALIDÆ *R. Brown.* GERANIACEIS affinis *Juss.* *Wood-sorrel.*

\* *Stemless.*

1. *O. Acetosella L.*: stemless; scape 1-flowered, longer than the leaves; leaves ternate, dilated-obcordate, pilose; styles as long as the interior stamens; root dentate. *Willd. Spec. II.* p. 780. *Smith Fl. Brit. II.* p. 491. *Eng. Bot.* t. 762. *Mich. Fl. II.* p. 38. *Pursh Fl. I.* p. 322.

*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* 3, 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.

HAB. On mountains; also in woods in the most northern parts of the United States. On the Catskill Mountains. *Knevels* and *Rafinesque*. Near Albany, New-York. On the White Hills of New-Hampshire. *Bigelow*. June.

2. *O. violacea* L.: stemless; scape umbelliferous; flowers nodding; leaves ternate, obcordate, smooth; segments of the calyx callous at the tip; styles shorter than the exterior stamens; root squamose. *Willd. Spec.* II. p. 786. *Jacq. Oxal.* p. 35. t. 80. f. 2. *EjUSD. Hort.* II. t. 180. (teste *Willd.*) *Mich. Fl.* II. p. 39. *Pursh Fl.* I. p. 322. *Elliott Sk.* I. p. 525. *Walt. Car.* p. 143. *Gron. Virg.* 161.

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* capitate, 2-lobed.

HAB. In rocky woods, on the sides of hills; rare. April—June.

\* \* *Caulescent.*

3. *O. corniculata* L.: pubescent; stem prostrate; leaves ternate-obcordate; umbels as long as the petioles; petals obovate, slightly emarginate; styles as long as the interior stamens. *Willd. Spec.* II. p. 800. *Jacq. Oxal.* p. 30. t. 5. *Smith Fl. Brit.* II. p. 492. *Eng. Bot.* 1726. *Pursh Fl.* I. p. 322. *Elliott Sk.* I. p. 525. *O. corniculata* β. *Mich. Fl.* II. p. 39.

Root annual. *Stem* branched, diffuse or procumbent, hairy, 6—8 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.

4. *O. stricta* Jacq.: hairy; stem erect, branched; leaves ternate, obcordate; umbels longer than the petioles; petals obovate, entire; styles as long as the interior stamens. *Willd. Spec.* II. p. 800. *Jacq. Oxal.* p. 29. t. 4. *Mich. Fl.* II. p. 39. *Pursh Fl.* I. p. 323. *Elliott Sk.* I. p. 526. *Walt. Car.* p. 143.

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. *Gen. pl.* 790. *Nutt. Gen.* I. p. 292. *Juss.* p. 308. *Lam. Ill.* t. 390. f. 2. Nat. Ord. SEMPERVIVÆ *Juss.* *Virginian Stone-crop.*

*P. sedoides* L.: stem branched, angular above; leaves lanceolate, sessile, unequally serrate; spikes simple, secund, recurved, paniculate; seeds elliptical. *Willd. Spec.* II. p. 770. *Mich. Fl.* I. p. 241. *Pursh Fl.* I. p. 323. *Big. Bot.* p. 111. *Elliott Sk.* I. p. 528. *Walt. Car.* p. 241. *Gron. Virg.* 51. *Act. Ups.* 1744, p. 12. t. 2.

*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 germen; *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, scabrous.

HAB. In ditches and overflowed places. July—August.

### 311. SEDUM. L.

*Calyx* 5-cleft. *Petals* 5. *Capsules* 5, with a nectariferous scale at the base of each. *Gen. pl.* 789. *Nutt. Gen.* I. p. 292. *Juss.* p. 307. *Lam. Ill.* t. 390. Nat. Ord. SEMPERVIVÆ *Juss.* *Stone-crop.*

1. *S. ternatum* Mich.: creeping; leaves flat, rounded-spathulate, ternate; cymes mostly 3-spiked; terminal flowers decandrous; the rest octandrous. *Mich. Fl.* I. p. 277. *Pursh Fl.* I. p. 324. *Elliott Sk.* I. p. 529. *S. portulacoides* Muhl. *Cat.* p. 46. *S. saxatilis*, floribus albis, &c. *Gron. Virg.* 891.

*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, secund. 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.

HAB. On rocks in the western parts of Pennsylvania. *Pursh*, *Muhlenberg*. May.

2. *S. telephioides Mich.*: leaves broad, flat, ovate, acute at each end; corymbs many-flowered. *Mich. Fl.* I. p. 227. *Pursh Fl.* I. p. 324. *Elliott Sk.* I. p. 529.

*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.

HAB. On rocky hills near Sparta, New-Jersey. *Nuttall*.

This species is nearly allied to *S. Telephium*, and perhaps is not distinct.

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## ORDER V.

### DECAGYNIA.

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#### 312. PHYTOLACCA. L.

*Calyx* 5-cleft, petaloid. *Berry* superior, 10-celled, 10-seeded. *Gen. pl.* 800. *Nutt. Gen.* I. p. 293. *Juss.* p. 84. *Lam. Ill.* t. 393. *Nat. Ord.* ATRIPLICES *Juss.* *Poke* or *Poke-berry*.

*P. decandra L.*: leaves ovate, acute at each end; flowers with 10 stamens and 10 styles. *Willd. Spec.* II. p. 322. *Mich. Fl.* I. p. 278. *Pursh Fl.* I. p. 324. *Big. Bost.* p. 112. *EjUSD. Med. Bot.* I. p. 39. t. 3. *Elliott Sk.* I. p. 530. *Bart. Veg. Mat. Med.* I. t. 48. *Walt.*

*Car.* p. 143. *Dill. Eth.* t. 339. f. 399. *Pluk. Alm.* t. 225. f. 3.

*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.

*HAB.* Borders of fields and waste places. June—October.

CLASS XI.

I C O S A N D R I A.

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ORDER I.

M O N O G Y N I A.

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|--------------|---------------|
| 313. CACTUS. | 315. LYTHRUM. |
| 314. PRUNUS. | 316. CUPHEA.  |
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313. CACTUS. L.

*Calyx* superior, many-cleft; segments imbricate. *Petals* numerous, inserted in several series; the interior ones larger. *Stigma* many-cleft. *Berry* 1-celled, many-seeded. *Gen. pl.* 838. *Nutt. Gen. I.* p. 295. *Juss.* p. 311. *Lam. Ill. t.* 415. *Nat. Ord.* CACTI *Juss.* *Indian Fig, &c.*

*C. Opuntia L.:* articulately proliferous; articulations compressed, ovate; spines setaceous; fruit succulent, smooth. *Willd. Spc. II.* p. 943. *Mich. Fl. I.* p. 282. *Pursh Fl. I.* p. 327. *Elliott Sk. I.* p. 537. *Nutt. Gen. I.* p. 297. *Walt. Car. p.* 146.

*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,

umbilicate, pulpy, edible. *Seeds* numerous, small, immersed in the pulp.

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 *C. Opuntia*, but I suspect these are varieties produced by diversity of situation.

### 314. PRUNUS. L.

*Calyx* inferior, campanulate, 5-cleft, deciduous. *Petals* 5. *Drupe* even; *nut* with a smooth, somewhat prominent suture. *Gen. pl.* 849. *Nutt. Gen. I.* p. 302. PRUNUS et CERASUS *Juss.* p. 341. *Lam. Ill.* t. 432. *Nat. Ord. ROSACEÆ Juss.*

*Plum and Cherry.*

\* *Flowers racemose.*

1. *P. virginiana L.*: racemes erect, elongated; leaves deciduous, oval-oblong, acuminate, shining above, serrate, smooth on both sides; petioles with 2—4 glands. *Willd. Spec.* II. p. 985. *Willd. Arb.* t. 5. f. 1. *Pursh Fl.* I. p. 329. *Elliott Sk.* I. p. 540. *Walt. Car.* p. 146. CERASUS *virginiana Mich.* *Fl.* I. p. 285. *Mich. f. Arb.* II. p. 285. t. 88. CERASUS *sylvestris. Cold. Novcb.* 113.

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 acunination, 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 acunination, opaque, doubly and very acutely serrate; midrib bearded on each side towards the base; petiole with 2 glands. *Willd. Spec.*

II. p. 986. *EjUSD. Arb.* 239. t. 5. f. 2. *Pursh Fl.* I. p. 330. *Elliott Sk.* I. p. 551.

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 always found the leaves simply serrate instead of "doubly toothed."

3. *P. canadensis* L.: flowers in racemes; leaves deciduous, without glands, broad-lanceolate, rugose, pubescent on both sides. *Sp. pl.* 678. *Pursh Fl.* I. p. 330. *Pluk. Alm.* t. 58. f. 5. (fide *Willd.*)

*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*.

\* \* *Peduncles* subumbellate or solitary.

4. *P. pennsylvanica* Ait.: flowers subcorymbed; pedicels elongated; leaves oval-oblong, acuminate, crosely denticulate, smooth; petioles with 2 glands; branches punctate; fruit subobovate. *Ait. Kew.* II. p. 165. *Willd. Spec.* II. p. 929. *Pursh Fl.* I. p. 331. *CERASUS borealis* Mich. *Fl.* I. p. 286. *Mich. f. Arb.* II. p. 212. t. 90. PRUN. *borealis* *Pursh Fl.* I. c. *P. lanceolata* *Willd. Arb.* 240. t. 3 f. 3.

A handsome tree from 20—25 feet high; branches punctate with white dots. *Leaves* about 2 inches long, membranaceous, often ovate, crosely serrate, slightly pubescent when young, but smooth when old. *Corymbs* 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.

HAB. In rocky hills and on mountains. June. Canada to Pennsylvania.

5. *P. nigra* Ait. : umbels sessile, solitary, few-flowered ; leaves deciduous, ovate, acuminate, unequally and acutely serrate, smooth on both sides ; petiole with 2 glands. Ait. *Kew. H.* p. 165. Willd. *Spec. II.* p. 993. Bot. Mag. 1117. Pursh *Fl. I.* p. 331.

A shrub 6—8 feet high, with smooth dark red branches. Leaves oblong-ovate, conspicuously acuminate, coarsely denticulate or serrate. Umbels sessile, 3—4-flowered ; pedicels smooth, scarcely an inch long. Petals broadly obovate. Fruit . . .

HAB. On mountains. In the Highlands of New-York, and in many parts of New-England. June.

6. *P. pygmaea* Willd. : umbels sessile, few-flowered ; leaves ovate, acute, smooth on each side, acutely serrate, with 2 glands at the base. Willd. *Spec. II.* p. 993. Pursh *Fl. I.* p. 331.

A shrub 3—4 feet high, unarmed. Leaves ovate-elliptical, rather acute, attenuated at the base. Umbels sessile, 4—5-flowered, crowded. Fruit the size of a large pea, black, of indifferent taste. Willd.

HAB. In the western parts of Pennsylvania. Pursh. In New-England and New-York. Muhlenberg.

7. *P. pubescens* Ph. : umbels sessile, aggregated, few-flowered ; peduncles and calyx pubescent ; leaves short-oval, serrulate ; drupe spherical. Pursh *Fl. I.* p. 331. *P. sphaerocarpa* Mich. *Fl. I.* p. 284.

A shrub 2—3 feet high, straggling, and often prostrate ; smaller branches pubescent. Leaves about an inch and a half long, in the adult state quite smooth, sometimes with the 2 lowest serratures glandulous. Flowers appearing in great profusion before the leaves are expanded. Fruit about half an inch in diameter, pale brownish-purple, glaucous, acid and astringent.

HAB. On the sea-coast of Long-Island ; particularly abundant about New-Utrecht, and on a sand-hill near Flushing. In the western parts of Pennsylvania, on the borders of lakes. Pursh. On the sea-coast of New-England. Michaux. Sand-cherries. May.

The name given to this species by Michaux is changed, there being a *P. sphaerocarpa* previously established by Swartz.

8. *P. pumila* L. : umbels aggregated, sessile, few-flowered ; calyx acute ; branches virgate, terete ; leaves narrow-lanceolate, serrate above, pale beneath. Willd. *Spec. II.* p. 990. Pursh *Fl. I.* p. 331.

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.

HAB. On the banks of rivers? Near Deerfield, Massachusetts. *Cooley* and *Hitchcock*. In Pennsylvania and Virginia. *Pursh*. May.

9. *P. depressa Ph.*: umbels sessile, aggregated, few-flowered; calyx obtuse; branches angular, depressed-prostrate; leaves cuneate-lanceolate, remotely serrate, smooth, glaucous beneath. *Pursh Fl. I. p. 332*. *CERASUS pumila Mich. Fl. I. p. 286?*

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*.

10. *P. maritima Willd.*: peduncles subsolitary; leaves ovate-oblong, acuminate, doubly serrate. *Willd. Enum. 519. Pursh Fl. I. p. 332. Elliott Sk. I. p. 543. P. acuminata Mich. Fl. I. p. 284?*

HAB. On the sea-coast of New-Jersey. *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.

*Calyx* tubular-campanulate, 6—12-toothed. *Petals* 6, equal, inserted upon the calyx. *Capsule* 2—4-celled, many-seeded. *Gen. pl.* 325. *Nutt. Gen.* I. p. 303. *Juss.* p. 332. *Lam. Ill.* t. 408. *Nat. Ord.* SALICARIÆ *Juss.* Stamens 8—12, in two rows.  
*Loosestrife.*—*Milk-Willow-herb.*

\* *Calyx* subcampanulate, 10-toothed; *capsule* 3—4-celled.

DECODON. *Gmelin.*

1. *L. verticillatum* L.: pubescent; leaves opposite and ternate, lanceolate, petiolate; flowers axillary, verticillate, decandrous; petals undulate; fruit subglobose. *Willd. Spc.* II. p. 866. *Mich. Fl.* I. p. 281. *Pursh Fl.* I. p. 334. *Big. Bost.* p. 114. *Nutt. Gen.* I. p. 333. *DECODON aquaticum* *Gmel.* *Syst.* II. p. 677. *D. verticillatum* *Elliott Sk.* I. p. 544. *ANONYMOS aquatica* *Walt. Car.* p. 137. *ANONYMA foliis ternis.* *Cold. Novb.* 97.

*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-foley.*

\* \* *Calyx* tubular; *capsule* 2-celled.

2. *L. Salicaria* β. *pubescens* Ph.: pubescent; leaves opposite and ternate, sessile, lanceolate, cordate at the base; flowers with 12 stamens, terminal, verticillate-spiked; capsule oblong. *Pursh Fl.* I. p. 334.

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.*

3. *L. hyssopifolium* L.: leaves alternate and opposite, linear-lanceolate and subelliptic; flowers axillary, hexandrous. *Willd. Spec.* II. p. 869. *Smith Fl. Brit.* I. p. 510. *Eng. Bot.* t. 292. *Nutt. Gen.* I. p. 303.

*Stem* nearly simple, or sparingly branched from the base, quadrangular, and somewhat margined. *Flowers* pale purple. *Nutt.*

*HAB.* In the State of New-York. *Nuttall.* Near Danvers, Massachusetts. *Oakes.*

### 316. CUPHEA. *Brown.*

*Calyx* ventricose, tubular, 6—12-toothed, unequal. *Petals* 6, unequal, inserted into the calyx. *Capsule* with the calyx bursting longitudinally, 1-celled. *Jacq. Hort.* II. p. 83. *Nutt. Gen.* I. p. 304. *Juss.* p. 332. *Lam. Ill.* t. 407. Nat. Ord. SALICARIÆ *Juss.*

*C. viscosissima* *Jacq.*: viscous; leaves opposite, petiolate, ovate-oblong; flowers lateral, solitary, on short peduncles; stamens 12. *Jacq. Hort.* II. p. 83. t. 177. *Willd. Spec.* II. p. 870. *Mich. Fl.* I. p. 231. *Pursh Fl. F.* p. 335. *Elliott Sk.* I. p. 546. *Bart. Fl. Am. Sept.* I. t. 13. *LYTHRUM petiolatum* L. *Sp. pl.* 641. *L. Cuphea* L. *Supp.* 249.

*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, pedicellate. *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.

*HAB.* In fields and on mountains. Abundant around Lancaster, Pennsylvania. In the vicinity of Philadelphia; rare. *Nuttall.* Cambridge, New-York. *Stevenson.* September.

ORDER II.

DI-PENTAGYNIA.

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317. AGRIMONIA.	321. ARONIA.
318. CRATÆGUS.	322. PYRUS.
319. NORBUS.	323. SPIRÆA.
320. SESUVIUM.	324. GILLENIA.

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317. AGRIMONIA. L.

*Calyx* inferior, 5-cleft, with a lobed calicle at its base. *Petals* 5. *Stamens* 12. *Achenia* 2, in the bottom of the calyx. *Gen. pl.* 830. *Nutt. Gen. I.* 304. *Juss.* p. 336. *Lam. Ill.* t. 432. *Nat. Ord.* ROSACEÆ *Juss.* *Agrimony.*

1. *A. Eupatoria* L.: hairy; cauline leaves interruptedly pinnate; leaflets obovate, with the terminal one petiolate, acutely dentate, smoothish; spike virgate; petals twice as long as the calyx; fruit turbinate, hispid, smooth at the base. *Willd. Spec. II.* p. 375. *Smith Fl. Brit. II.* p. 511. *Eng. Bot.* t. 1335. *Mich. Fl. I.* p. 287. *Pursh Fl. I.* p. 335. *Big. Bost.* p. 114. *Elliott Sk. I.* p. 526. *AGRIMONIA inodora*, &c. *Cold. Novob.* 111.

*Root* perennial. *Stem* 2 feet high, erect, angular, simple, strigose 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 uncinatè bristles. *Petals* yellow, oval, obtuse. *Stamens* 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.

β. *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. *Pursh.* In Pennsylvania. *Muhlenberg.* August.

This species I have never seen; what is so named in the Catalogue of New-York Plants being merely a variety of *A. Eupatoria*.

### 518. CRATÆGUS. L.

*Calyx* superior, 5-cleft. *Petals* 5. *Styles* 1—5. *Fruit* pulpy, closed, with from 2—5 1-seeded nuts. *Gen. pl.* 854. *Nutt. Gen.* I. p. 303. *Juss.* p. 335. *Lam. Ill.* t. 433. *Nat. Ord.* ROSACEÆ. *Juss.* Hawthorn.

1. *C. coccinea* L.: thorny; leaves on long petioles, ovate, subcordate, acutely lobed and serrate, smooth; petioles and the pubescent calyx glandular; flowers pentagynous. *Willd. Spec.* II. p. 1000. *Ait. Kew.* II. p. 167. *Mich. Fl.* I. p. 288. *Pursh Fl.* I. p. 337. *Elliott Sk.* I. p. 553.

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 corymbs 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, eatable.

HAB. In dry woods and in hedges. May.

2. *C. cordata* Ait.: thorny; leaves cordate-ovate, pinnatifid, lobed and angled, smooth; petioles and calyx without glands; flowers pentagynous. *Willd. Spec.* II. p. 1000. excl. syn. *Walt.* *Ait. Kew.* II. p. 168. *Elliott Sk.* I. p. 554. *C. populifolia* *Pursh Fl.* I. p. 337. *C. Phænopyrum* L. *Supp.* 254.

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. *Corymbs* compound. Segments of the *calyx* short, obtuse. *Fruit* small, globose, depressed, red. - *Ell.*

HAB. In hedge-rows and on the banks of rivers. Canada to Virginia. *Pursh.*

3. *C. pyrifolia Ait.*: thorny or unarmed; leaves ovate-elliptic, incisedly serrate, somewhat plicate and hairy; calyx villous; segments linear-lanceolate, serrate; flowers trigynous. *Willd. Spec. II. p. 1001. Ait. Kew. II. p. 163. Pursh Fl. I. p. 337. Elliott Sk. I. p. 550. C. Leucophleos Moench. Weissenst. p. 31. t. 2. (teste Willd.)*

*Leaves* large, acute, sometimes acuminate at each end, slightly lobed, irregularly serrate. *Corymbs* many-flowered. *Peduncles* and *calyx* tomentose. *Ell.*

HAB. In rocky and gravelly woods, and on banks of rivers. Pennsylvania to Carolina. *Pursh.* In Pennsylvania. *Muhlenberg.* June.

4. *C. elliptica Ait.*: thorny; leaves elliptical, unequally serrate, smooth; petioles and calyx glandular; fruit globose, 5-seeded. *Willd. Spec. II. p. 1002. Ait. Kew. II. p. 168. Pursh Fl. I. p. 337. Elliott Sk. I. p. 549.*

Segments of the *calyx* obtuse. *Fruit* small, red. *Ph.*

HAB. In copses and dry swamps. Canada to Carolina. *Pursh.*

5. *C. glandulosa Ait.*: thorny; leaves obovate-cuneiform, smooth and shining; petioles, stipules, and calyx glandular; fruit oval, 5-seeded. *Willd. Spec. II. p. 1002. Ait. Kew. II. p. 163. Pursh Fl. I. p. 137.*

*Fruit* middle-sized, scarlet. *Ph.*

HAB. In Canada, and on the Alleghany Mountains. *Pursh.* In Pennsylvania. *Muhlenberg.* May.

6. *C. parvifolia Ait.*: thorny; leaves obovate, subsessile, deeply and obtusely serrate, subtomentose; leaflets of the calyx lacinate; flowers subsolitary, pentagynous. *Willd. Spec. II. p. 1002. Ait. Kew. II. p. 169. Pursh Fl. I. p. 338. Elliott Sk. I. p. 547. C. tomentosa L. Sp. pl. 682. Mich. Fl. I. p. 289. MESPILUS Xanthocarpos L. Supp. 254. M. laciniata Walt. Car. p. 147. M. axillaris Pers. Syn. II. p. 39. M. inermis, &c. Gron. Virg. 55.*

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-obovate, obtusely cuneate at the base, when old nearly smooth. *Flowers* mostly solitary, terminating the short lateral branches. *Calyx* very woolly; segments long, lanceo-

late, incisely serrate. *Petals* nearly round. *Fruit* large, yellow, eatable, containing 5 bony 1-seeded nuts.

**HAB.** In sandy woods. Common in the pine barrens of New-Jersey. Also on Long-Island. In Pennsylvania. *Muhlenberg.* June.

7. *C. punctata Jacq.*: thorny or unarmed; leaves obovate-cuneate, subplicate, smooth, incisely serrate, decurrent at the base into a petiole; calyx villous; segments subulate, very entire; berries subglobose, with the summit depressed. *Willd. Spec.* II. p. 1004. *Jit. Kew.* II. p. 169. *Jacq. Hort.* I. p. 10. t. 28. (fide *Willd.*) *Mich. Fl.* I. p. 289. *Pursh Fl.* I. p. 338. *Elliott Sk.* I. p. 548. *MESPILUS cuneifolia Ehrh Beitr.* III. p. 21.

A small tree; youngest branches villous. *Leaves* 2 inches or more in length, tapering at the base into a petiole, somewhat planed, hairy on the veins beneath, doubly and incisely serrate; the serratures very acute. *Corymbs* many-flowered, pubescent. Segments of the *calyx* sparingly serrate. *Petals* nearly round. *Styles* 2? *Fruit* yellow, dotted, sometimes red.

**HAB.** In woods and swamps. Deerfield, Massachusetts. *Cooley* and *Hitchcock.* Near Albany, New-York. *Tracy.* In Pennsylvania. *Muhlenberg.* May.

8. *C. Crus galli Ait.*: thorny; leaves obovate-cuneiform, subsessile, shining, coriaceous; corymbs compound; segments of the calyx lanceolate, serrate; flowers digynous. *Willd. Spec.* II. p. 1004. *Ait. Kew.* II. p. 170. *Mich. Fl.* I. p. 283. *Pursh Fl.* I. p. 338. *Big. Bost.* p. 118. *Elliott Sk.* I. p. 548. *C. lucida Wang. Amer.* p. 53. t. 17. f. 42. (fide *Willd.*) *MESPILUS lucida Ehrh. Beitr.* IV. p. 17.

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. *Corymbs* 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 *CRATÆGUS* 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.

*Calyx* 5-cleft. *Petals* 5. *Styles* 2 or 3. *Berry* inferior, farinaceous, with 3 cartilaginous seeds. *Gen. pl.* 855. *Nutt. Gen. I.* p. 505. *Juss.* p. 335. *Lam. Ill. t.* 434. *Nat. Ord. ROSACEÆ Juss.*

*Service-tree.*

1. *S. americana Willd.*: leaves pinnate; leaflets somewhat equally serrate, and with the common petiole very smooth. *Willd. Enum.* p. 520. *Muhl. Cat.* p. 50. *Pursh Fl. I.* p. 341. *S. Aucuparia*  $\beta$ . *Mich. Fl. I.* p. 290. *Big. Bost.* p. 119.

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 2. *Berries* globose, fulvous, slightly acid, remaining on the tree all winter. *Seeds* 3—5, oblong, compressed.

HAB. On mountains. Summit of the Fishkill Mountains. Near Fairfield, New-York. *Hudley.* On high mountains near Williams College. *Dewey.* At Cape-Ann, &c. Massachusetts. *Bigelow, &c.* May. *Mountain Ash.*

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.

2. *S. microcarpa Ph.*: leaves pinnate; leaflets acuminate, acutely and incisely serrate, and with the common petiole smooth; serratures setaceously mucronate. *Pursh Fl. I.* p. 341. *Elliott Sk. I.* p. 555. *S. Aucuparia*  $\alpha$ . *Mich. Fl. I.* p. 290.

A large shrub; the younger branches covered with a shining dark brown gloss. *Berries* small, scarlet. *Ph.*

HAB. On the peaks of high mountains. New-Jersey to Carolina. *Pursh.*

## 320. SESUVIUM. L.

*Calyx* 5-parted, coloured. *Petals* 0. *Capsule* superior, ovate, 3-celled, opening transversely all round, many-seeded. *Gen. pl.* 856. *Nutt. Gen. I.* p. 306.

*Juss.* p. 316. *Lam. Ill.* t. 434. Nat. Ord. FI-  
COIDEÆ *Juss.*

*S. sessile* D. C.: flowers sessile; leaves linear-oblong,  
flat. *Pers. Syn.* II. p. 39. *Nutt. Gen.* I. p. 306. *S.*  
*Portulacastrum* *Muhl. Cat.* p. 50?

*Leaves* sometimes nearly linear. *Flowers* rosaceous. Segments  
of the *calyx* pointed below the summit. *Nutt.*

HAB. On the sea-coast, from New-Jersey to Florida. *Nuttall.*

The *S. Portulacastrum*, a native of India, and the only Lin-  
næan species of the genus, has been divided by *De Candolle*  
into *S. pedunculatum*, *sessile*, and *revolutum*. The first is com-  
mon on the sandy sea-coast in the Southern States. *Mr. Nutt-*  
*tall* is, I believe, the only Botanist who has observed *S. ses-*  
*sile* 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 su-  
tures 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 with-  
out 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.*

*Calyx* 5-toothed. *Petals* 5. *Berry* inferior, 5—10-  
celled; cells 1—2-seeded. *Seeds* cartilaginous. *Pers.*  
*Syn.* II. p. 39. *Nutt. Gen.* I. p. 306. MESPILI  
*spp. L., Mich., &c.* CRATÆGI *spp. Lam.* PYRI  
*spp. Willd.* Nat. Ord. ROSACEÆ *Juss.*

1. *A. arbutifolia* *Ell.*: unarmed; leaves ovate-oblong,  
acute, crenately-serrulate, tomentose beneath; flowers in  
corymbs; calyx tomentose. *Elliott Sk.* I. p. 556. *Nutt.*  
*Gen.* I. p. 306. *A. pyrifolia* *Pers. Syn.* II. p. 39. *PYRUS*  
*arbutifolia* *L. Willd. Spec.* II. p. 1012. *Big. Bost.* p.  
119. *MESPILUS arbutifolia* *Sp. pl.* 635. *M. arbutifolia*  $\alpha$ .  
*erythrocarpa* *Mich. Fl.* I. p. 292. *CRATÆGUS pyrifolia*  
*Lam. Enc.* I. p. 83.

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 ter-  
minal corymbs. Segments of the *calyx* acute, erect, glandu-  
lar on the margin. *Petals* with a tinge of red, roundish-ovate.  
*Styles* 5. *Fruit* about the size of a large whortle-berry, scar-  
let, sweetish, but astringent; cells mostly 2-seeded.



HAB. In swamps and low thickets; sometimes on hills. May—  
June. Choke-berry.

*β. melanocarpa\**: leaves beneath and the calyx smooth; fruit black. *A. arbutifolia Pers. Syn. II. p. 39.* *A. melanocarpa Elliott Sk. I. p. 557. Nutt. Gen. I. p. 306.* *PYRUS melanocarpa Willd. Enum. 525. Pursh Fl. I. p. 339.*

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.

2. *A. Botryapium Pers.*: unarmed; leaves cordate, oval, conspicuously acuminate, glabrous when mature; flowers in racemes; petals linear-lanceolate. *Pers. Syn. II. p. 39. Elliott Sk. I. p. 557. Nutt. Gen. I. p. 307.* *PYRUS Botryapium L. Willd. Spec. II. p. 1013. Pursh Fl. I. p. 339. Big. Bost. p. 120.* *MESPILUS canadensis Sp. pl. 685. M. canadensis β. cordata Mich. Fl. I. p. 291. M. arborea Mich. f. Arb. III. p. 68. t. 11. CRATÆGUS racemosa Lam. Enc. I. p. 84. Frutex novboracensis. Cold. Novcb. 114.*

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-berries.—Shad-flower.—May-bush.*

3. *A. ovalis Pers.*: unarmed; leaves roundish-elliptical, acute, smooth; flowers in racemes; petals obovate; germens and segments of the calyx pubescent. *Pers. Syn. II. p. 40. Elliott Sk. I. p. 558. PYRUS ovalis Willd. Spec. II. p. 1014. Pursh Fl. I. p. 348. MESPILUS condensis α. obovalis Mich. Fl. I. p. 291? CRATÆGUS spicata Lam. Enc. I. p. 84.*

A small shrub. *Berries* black and eatable. *Ph.*

HAB. In swamps. New-Jersey to Carolina. *Pursh. In Pennsylvania and New-York. Muhlenberg.*

I suspect this species to be no more than a variety of *A. Botryapium*.

## 322. PYRUS. L.

*Calyx* 5-cleft. *Petals* 5. *Apple* inferior, large and fleshy, 5-celled, many-seeded. *Seeds* cartilaginous. *Gen. pl.* 858. *Nutt. Gen. I.* p. 306. *Juss.* p. 335. *Lam. Ill. t.* 435. Nat. Ord. ROSACEÆ *Juss.*  
*Apple and Pear.*

1. *P. coronaria* L.: leaves broadly-oval, round at the base, somewhat angular, serrate, smooth; peduncles corymbose. *Willd. Spec. II.* p. 1019. *Pursh Fl. I.* p. 340. *Elliott Sk. I.* p. 559. *MALUS coronaria Mich. Fl. I.* p. 292. *Mich. f. Arb. III.* p. 65. t. 10. *Gron. Virg.* p. 55.

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. *Corymbs* 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.*

2. *P. angustifolia* Ait.: leaves lanceolate-oblong, acute at the base, slightly crenate-dentate, shining; peduncles corymbose. *Willd. Spec. II.* p. 1020. *Ait. Kew. II.* p. 176. *Pursh Fl. I.* p. 341. *Elliott Sk. I.* p. 559. *P. coronaria Wang. Amer. GI. t.* 21. f. 47. *MALUS angustifolia Mich. Fl. I.* p. 559.

A tree 15—20 feet high, resembling the preceding, but the fruit and leaves are smaller, &c.

HAB. In Pennsylvania. May. *Muhlenberg.*

## 323. SPIRÆA. L.

*Calyx* inferior, 5-cleft, expanding. *Petals* 5, equal, roundish. *Stamens* numerous, exserted. *Capsules* numerous, (3—12,) 1-celled, 2-valved, each 1—3-seeded. *Gen. pl.* 862. *Nutt. Gen. I.* p. 307. *Juss.* p. 339. *Lam. Ill. t.* 439. Nat. Ord. ROSACEÆ  
*Meadow-sweet.*

\* *Frutescent.*

1. *S. salicifolia* L.: leaves lanceolate, acutely serrate, smooth; racemes terminal, compound, paniced; flowers pentagynous. *Willd. Spec.* II. p. 1055. *Mill. icon.* t. 257. f. 2. *Mich. Fl.* I. p. 293. *Pursh Fl.* I. p. 341. *Elliott Sk.* I. p. 560. *S. alba* Ehrh. *Beitr.* VII. p. 137. *Muhl. Cat.* p. 51. *Big. Bost.* p. 120.

Shrubby or suffruticose. *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.

2. *S. tomentosa* L.: leaves ovate-lanceolate, unequally serrate, tomentose beneath; racemes terminal, compound, crowded; flowers pentagynous. *Willd. Spec.* II. p. 1056. *Schmidt Arb.* 57. *Mich. Fl.* I. p. 293. *Pursh Fl.* I. p. 341. *Big. Bost.* p. 120. *Elliott Sk.* I. p. 560. *Mead in Med. Rep.* VI. (new series) p. 256. cum icone. *Pluk. Alm.* 393. t. 321. f. 1.

Shrubby or suffruticose. *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.

HAB. In low grounds; rarer than the preceding species. Canada to Carolina. July—August. *Hard-hack.*

3. *S. hypericifolia* L.: leaves obovate, very entire, or dentate at the summit, smooth; umbels sessile. *Willd. Spec.* II. p. 1057. *Schmidt Arb.* 56. *Pursh Fl.* I. p. 341.

A shrub about 3 feet high, with numerous slender branches. *Leaves* small, cuneate-obovate, mostly very entire, slightly pubescent beneath. *Umbels* 4—6-flowered, axillary and terminal; *pedicels* an inch long. *Calyx* turbinate; segments broad, acute. *Petals* broadly obovate, white, sometimes emarginate.

HAB. In dry swamps of Canada and New-York. *Pursh*. In Pennsylvania. *Muhlenberg*. May.

I have never seen this plant except in gardens, nor have I ever received native specimens from any part of North-America.

4. *S. corymbosa Raf. M. S.*: leaves oblong-obovate, incisely-dentate, pubescent beneath; corymb terminal, pedunculate, compound, fastigiate, somewhat leafy; flowers pentagynous. *S. corymbosa Muhl. Cat.* p. 51? *S. chamædrifolia Pursh Fl. I.* p. 342?

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.

HAB. On the Alleghany Mountains. *Rafinesque*.

This species may be the *S. chamædrifolia* of *Pursh*, but probably not of *Linnaeus*. The description in the books is too brief to determine the question.

5. *S. crenata L.*: leaves obovate, acute, toothed at the summit, 3-nerved; corymbs crowded, pedunculate. *Willd. Spec. II.* p. 1058. *Muhl. Cat.* p. 51.

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

6. *S. opulifolia L.*: leaves ovate, lobed, doubly toothed and crenate, smooth; corymbs terminal, with the flowers crowded and trigynous; capsules inflated. *Willd. Spec. II.* p. 1059. *Schmidt Arb. t.* 32. *Mich. Fl. I.* p. 293. *Pursh Fl. I.* p. 342. *Elliott Sk. I.* p. 560. *Gron. Virg.* p. 55. *EUONYMUS virginiana, &c. Comm. hort. I.* p. 169. t. 87. (teste *Lin.*)

A shrub 3—5 feet high, with the bark in many loose laminæ. *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* capitate. *Capsules* large, inflated, compressed, slightly acuminate with the persistent styles. *Seeds* about 2 in each capsule, subovate, polished.

HAB. On the rocky banks of rivers. New-England to Carolina. June—July. *Nine-bark*.

\* \* *Herbaceous*.

7. *S. Aruncus f. americana Ph.*: leaves twice or thrice

pinnate, shining; spikes slender, in an oblong-panicle; flowers trigynous, perfect. *Pursh Fl. I. p. 343.* *S. Aruncus* β. *hermaphrodita Mich. Fl. I. p. 294.* *S. Aruncus Elliott Sk. I. p. 561.* *Muhl. Cat. p. 51.*

*Root* perennial. *Stem* 4—6 feet high. *Flowers* white.

*HAB.* On mountains. Pennsylvania. *Pursh* and *Muhlenberg.* On the Catskill Mountains, New-York. *Eaton.* June. *Gout's-beard.*

8. *S. lobata Jacq.:* leaves pinnate, smooth; terminal leaflet much larger, and 7-lobed; lateral leaflets 3-lobed; corymbs proliferous. *Willd. Spec. II. p. 1062.* *Jacq. Hort. I. p. 38. t. 38.* *Mich. Fl. I. p. 294.* *Pursh Fl. I. p. 343.* *Elliott Sk. I. p. 561.* *S. palmata Lin. Supp. 262.*

*Root* perennial. Leaflets somewhat palmately lobed; lobes lanceolate, doubly serrate. *Cyme* compound. *Flowers* rose-colour, with 3—5 styles. *Mich.*

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

### 324. GILLENIA. *Moench.*

*Calyx* tubular-campanulate; border 5-toothed. *Corolla* partly unequal. *Petals* 5, lanceolate, attenuate at the base. *Stamens* few, included. *Styles* 5. *Capsules* 5, connate at the base, opening on the inner side, each 2-seeded. *Moench Meth. Supp. p. 286.* *Nutt. Gen. I. p. 366.* SPIRÆA *sp.* L., &c.

1. *G. trifoliata Moench:* leaves ternate, lanceolate, serrate, subequal; stipules linear, entire; flowers in terminal loose panicles. *Moench l. c.* *Nutt. Gen. I. p. 307.* *Elliott Sk. I. p. 562.* SPIRÆA *trifoliata* L. *Willd. Spec. II. p. 1063.* *Mill. ic. t. 252.* *Bot. Mag. t. 489.* *Mich. Fl. I. p. 294.* *Pursh Fl. I. p. 343.* *Big Med. Bot. III. p. 11. t. 41.* *Bart. Veg. Mat. Med. I. t. 5.* FILIPENDULA *foliis ternatis. Gron. Virg. 55.* *Cold. Novob. 117.*

*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.

2. *G. stipulacea Nutt.*: radical leaves pinnatifid; stem leaves ternate; leaflets incisely serrate; stipules foliaceous, ovate, incisely dentate; flowers in terminal loose panicles. *Nutt. Gen.* 1. p. 307. *Elliott Sk.* 1. 572. *Bart. Veg. Mat. Med.* 1. t. 6. *SPIRÆA 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.

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### ORDER III.

## POLYGYNIA.

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325. ROSA.	329. GEUM.
326. RUBUS.	330. POTENTILLA.
327. DALIBARDA.	331. FRAGARIA.
328. DRYAS.	332. CALYCANTHUS.

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### 325. ROSA. L.

*Calyx* urceolate, fleshy, contracted at the orifice; border 5-cleft. *Petals* 5. *Seeds* numerous, hispid, attached to the interior side of the calyx. *Gen. pl.* 863. *Nutt. Gen.* I. p. 308. *Juss.* p. 335. *Lam. Ill.* t. 440. *Nat. Ord. ROSACEÆ Juss.* *Rose.*

1. *R. parviflora Ehrh.*: fruit depressed-globose, and with the peduncles hispid; petioles pubescent, somewhat prickly; stem smooth; stipular prickles straight; leaflets elliptical-lanceolate, simply serrate, smooth when mature; flowers generally by pairs. *Willd. Spec.* II. p. 1063. *Ehrh. Beitr.* IV. p. 21. *Pursh Fl.* I. p. 344. *Elliott Sk.* I. p. 563. *R. carolina Du Roi Harbk.* II. p. 335. *R. pennsylvanica Wang. Amer.* p. 113. *R. caroliniana Mich. Fl.* I. p. 295?

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 ovate, emarginate. *Fruit* about half an inch in diameter, nearly smooth when ripe.

HAB. In woods and copses; common. June—July.

2. *R. nitida Willd.*: fruit subglobose; calyx, peduncles, and branches hispid; petioles somewhat hairy, unarmed; leaflets (7) oblong-lanceolate, on both sides smooth and shining. *Willd. Enum.* p. 544. *Pursh Fl.* I. p. 344.

HAB. In Pennsylvania. *Pursh.* +

3. *R. lucida Ehrh.*: fruit depressed-globose, and, with the peduncles, somewhat hispid; petioles smooth, a little prickly; stem smooth; stipular prickles straight; leaflets, ovate-lanceolate, rather obtuse, coarsely serrate, smooth and shining; flowers generally by pairs; segments of the calyx entire. *Willd. Spec.* II. p. 1068. *Ehrh. Beitr.* IV. p. 11. *Pursh Fl.* I. p. 344. *Elliott Sk.* I. p. 563.

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.

HAB. In mountain bogs. Fishkill Mountains, &c. New-York. Williamstown, Massachusetts. *Dewey.* July.

4. *R. gemella Willd.*: fruit depressed-globose, and, with the peduncles, glabrous; flowers mostly by pairs; leaflets oblong, acute, opaque; petioles and under surface of the veins pubescent; stipular prickles uncinatè, by pairs. *Willd.*

*Enum.* p. 544. *Smith in Rees' Cyclop. Pursh Fl. I.* p. 344. *Elliott Sk. I.* p. 364. *Muhl. Cat.* p. 51.

A low shrub. *Flowers* large, red. *Ph.*

*HAB.* On dry sunny hills. New-England to Carolina. *Pursh.*  
In New-York and Pennsylvania. *Muhlenberg.* June.

This species does not appear to be very distinct. It is nearly allied to the following.

5. *R. carolina L.*: fruit globose, and, with the peduncles, somewhat hispid; petioles hairy, somewhat prickly; stem smooth; prickles uncinatate; leaflets (5—7) oblong-lanceolate, acute, sharply serrate, glaucous beneath; flowers in corymbs. *Willd. Spec. II.* p. 1069. *Miss Lawr. Ros. t.* 3, 24, 36, 54, 66, and 68. *Wang. Amer. p.* 112. t. 31. f. 71. *Pursh Fl. I.* p. 345. *Elliott Sk. I.* p. 565. *R. corymbosa Ehrh. Beitr. IV.* p. 21. *R. virginiana Du Roi Harkb. III.* p. 353. *R. pennsylvanica Mich. Fl. I.* p. 296.

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, eatable.

*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.

6. *R. rubiginosa L.*: fruit ovate; peduncles and petioles glandular-hispid; stem smooth; branches and prickles recurved; leaflets oblong, opaque, pubescent above, ferruginous and glandular beneath. *Willd. Spec. II.* p. 1073. *Smith Fl. Brit. II.* p. 540. *Eng. Bot. t.* 991. *R. suaveolens Pursh Fl. I.* p. 346. *Smith in Rees' Cyclop. sub Rosa. Elliott Sk. I.* p. 566.

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.

*Calyx* 5-cleft, inferior. *Petals* 5. *Fruit* composed of many 1-seeded juicy *acines*, on a dry receptacle.

*Gen. pl.* 864. *Nutt. Gen. I.* p. 308. *Juss. p.*

338. *Lam. Ill. t.* 441. *Nat. Ord. ROSACEÆ Juss.*

*Bramble.*

\* *Frutescent.*

1. *R. Ideus* L. : leaves pinnate ; leaflets 3—5, rhombic-ovate, acuminate, white and very downy beneath ; petioles canaliculate ; stem nearly erect, prickly. *Willd. Spec. II.* p. 1081. *Smith Fl. Brit. II.* p. 541. *Eng. Bot. t.* 2443. *Pursh Fl. I.* p. 346. *Nutt. Gen. I.* p. 308.

HAB. In hedge-rows. Canada to Pennsylvania. *Pursh.* Indigenous throughout Upper-Canada, and on the borders of the lakes of the St. Lawrence. *Nuttall.*

I have never seen North-American specimens of this RUBUS. Canada is probably its southern limit.

2. *R. villosus* Ait. : pubescent, hispid and prickly ; stem angular ; leaflets in fives, digitate, elliptical, acuminate, serrate, pubescent on both sides ; calyx short-acuminate ; racemes loose, naked ; pedicels solitary. *Willd. Spec. II.* p. 1085. *Ait. Kew. II.* p. 210. *Mich. Fl. I.* p. 297. *Pursh Fl. I.* p. 346. *Big. Bost. p.* 122. *Ejusd. Med. Bot. II.* p. 160. t. 38. *Elliott Sk. I.* p. 567. *Bart. Veg. Mat. Med. t.* 39.

*Root* very long, creeping. *Shrub* 4—6 feet high ; younger branches glandular-pubescent. *Prickles* strong, uncinatè. *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.

HAB. In old fields and along hedges. June. *High Blackberry.*

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.

HAB. Near Boston. *Bigelow.*

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.

3. *R. strigosus Mich.*: unarmed, strongly hispid; leaflets in threes, or pinnate in fives, oval, obtuse at the base, marked with lines, and whitish-downy beneath; the terminal one often subcordate; peduncles and calyx hispid. *Mich. Fl. I. p. 297. Pursh Fl. I. p. 346. Big. Bost. p. 122. R. pennsylvanicus Lam. Enc. VI. p. 246.*

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.

HAB. On rocky hills; not uncommon. May. *Red Raspberry.*

4. *R. cuneifolius Ph.*: branches, petioles, and peduncles pubescent; stem erect, slightly angular; leaflets ternate, cuneate-obovate, entire at the base, subplicate, tomentose beneath; racemes loose; pedicels solitary, 1-flowered. *Pursh Fl. I. p. 347. Elliott Sk. I. p. 568. Nutt. Gen. I. p. 308. R. parvifolius Walt. Car. p. 149.*

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.

HAB. In sandy pine woods and fields. Abundant in the pine barrens of New-Jersey. In Pennsylvania. *Muhlenberg.* June.

5. *R. canadensis L.*: smoothish; leaves digitate, in fives and threes; leaflets rhombic-lanceolate, naked on both sides, acutely serrate; stem unarmed, with lanceolate bracts; pedicels elongated, 1—3-flowered; calyx 5—7-cleft. *Willd. Spec. II. p. 1035. L. Sp. pl. 707. Mill. icon. t. 223. Pursh Fl. I. p. 347. CYLACTIS montana Raf. in Sill. Jour. I. p. 377.*

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.

HAB. In sandy woods and in swamps. Orange county, New-York. Deerfield, &c. Massachusetts. Cooley and Hitchcock. On the Catskill Mountains, N. Y. Knevels. In the cedar swamp near New-Durham, New-Jersey. June.

6. *R. occidentalis* L.: branches and petioles glaucous and aculeate; leaves ternate; leaflets ovate, acuminate, somewhat lobed, coarsely serrate, hoary-tomentose beneath; petioles terete; racemes terminal. Willd. Spec. II. p. 1082. Pursh Fl. I. p. 347. Big. Bost. p. 121. Elliott Sk. I. p. 568. Walt. Car. p. 149. Gron. Virg. 78. Dill. Elth. t. 247. f. 319. Cold. Novob. 119.

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.

7. *R. hispidus* L.: sarmentose-procumbent; stems, petioles, and peduncles very hispid, with rigid bristles; leaves ternate; leaflets incisely serrate, naked; the intermediate one pedicellate. Willd. Spec. II. p. 1083. Pursh Fl. I. p. 347.

HAB. In Pennsylvania. June. Muhlenberg.

8. *R. trivialis* Mich.: sarmentose-procumbent; petioles and peduncles aculeate-hispid, with the prickles recurved; stipules subulate; leaves ternate and quinate, oval, acute, unequally serrate; pedicels solitary, elongated. Mich. Fl. p. 296. Pursh Fl. I. p. 347. Big. Bost. p. 122. Elliott Sk. I. p. 569. *R. procumbens* Muhl. Cat. p. 52.

Stems procumbent, slender, running many feet along the ground, armed with fine recurved prickles, shooting up short erect branches at intervals. Leaves generally ternate, subsempervirent; 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.

HAB. In stony and barren fields. May—June. *Dewberry*.

9. *R. odoratus* L.: unarmed, erect, viscidly-hispid; leaves simple, acute, 3—5-lobed; corymbs terminal, divaricate; calyx appendiculate; petals nearly round. *Willd. Spec. II. p. 1083. Bot. Mag. 323. Mill. icon. 223. Mich. Fl. I. p. 297. Pursh Fl. I. p. 348. Big. Bost. p. 123. Elliott Sk. I. p. 570. Bart. Fl. Am. Sept. II. t. 42.*

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 corymbs. *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.

HAB. In rocky woods and on mountains. New-England to Carolina. June. *Flowering Raspberry*.

\* \* *Somewhat herbaceous.*

10. *R. saxatilis*  $\beta$ . *canadensis* Mich.: herbaceous, pubescent; stems creeping; leaves ternate; leaflets rhombic, acute, incisely dentate, naked; the terminal one petiolate; flowers somewhat in threes; pedicels elongated. *Mich. Fl. I. p. 293. Pursh Fl. I. p. 349. Elliott Sk. I. p. 590.*

*Fruit* small, black. *Ph.*

HAB. On mountains. New-York to Virginia. *Pursh*.

11. *R. obovatis* Mich.: stem becoming a little woody, hispid with stiff hairs; leaves ternate; leaflets round-obovate, serrate, naked; stipules setaceous; racemes subcorymbed, few-flowered; bracts ovate; pedicels elongated. *Mich. Fl. I. p. 293. Pursh Fl. I. p. 349. Elliott Sk. I. p. 590.*

*Fruit* with only a few large grains, black and sweet. *Ph.*

HAB. In sphagnous swamps on the mountains. New-York to Carolina. *Pursh*. May—July.

This appears to be scarcely distinct from *R. trivialis*.

12. *R. Chamamorus* L.: herbaceous, small; stem unarmed, 1-flowered, erect; leaves simple, subreniform, with rounded lobes; petals oblong. *Willd. Spec. II. p. 1090. Smith Fl. Brit. II. p. 545. Eng. Bot. t. 716. Mich. Fl. I. p. 293. Pursh Fl. I. p. 349.*

*Flowers* white. *Fruit* yellow, or amber-coloured.

HAB. On the high mountains of New-England. *Pursh*.

327. DALIBARDA. *Michaux.*

*Calyx* inferior, 8-cleft, spreading. *Petals* 8. *Styles* 5—8, long and deciduous. *Seeds* dry. *Mich. Fl.* I. p. 299. *Nutt. Gen.* I. p. 309. *RUBI spp. L., &c. Lam. Ill.* t. 441. f. 3. Nat. Ord. ROSACEÆ *Juss.*

1. *D. repens Lam.*: villous; stolons creeping; leaves simple, cordate, crenate; peduncles 1-flowered. *Lam. Enc.* VI. p. 250. *Pers. Syn.* II. p. 53. *Pursh Fl.* I. p. 350. *D. violceoides Mich. Fl.* I. p. 299. t. 27. *RUBUS Dalibarda L. Willd. Spec.* II. p. 1090. *Smith icon.* t. 20.

*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.

**HAB.** In woods and on mountains. New-England, and in the northern and western parts of the State of New-York. June.

2. *D. fragarioides Mich.*: leaves ternate; leaflets ovate, incisely serrate, cuneate at the base; peduncles many-flowered. *Mich. Fl.* I. p. 300. t. 28. *Pursh Fl.* I. p. 350. *Elliott Sk.* I. p. 571.

*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 sessile. *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 sea-coast. May.

328. DRYAS. *L.*

*Calyx* 8—10-cleft; segments equal. *Petals* 5—8. *Seeds* 5—8, with long plumose awns. *Gen. pl.* 868. *Nutt. Gen.* I. p. 309. *Juss.* p. 338. *Lam. Ill.* t. 443. f. 2. Nat. Ord. ROSACEÆ *Juss.*

*Mountain Avens.*

*D. integrifolia* Vahl.: leaves elliptical-ovate, entire, Pers. Syn. II. p. 57. *D. tenella* Pursh Fl. I. p. 350. Egede Descript. of Greenland, ed. 1. p. 42. t. 13. f. 3. (teste Pursh.)

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.

HAB. On the White Hills of New-Hampshire. Peck.

This species is also a native of Greenland. It scarcely differs from *D. octopetalu*. The above description was taken from a Greenland specimen, sent to me by Prof. Hooker.

### 329. GEUM. L.

Calyx 10-cleft, inferior; the alternate segments smaller. Petals 5. Seeds awned, with the awn naked or bearded, mostly geniculate. Gen. pl. 867. Nutt. Gen. I. p. 309. Jus s. p. 330. Lam. Ill. t. 443. Nat. Ord. ROSACEÆ Jus s. Awns.—Herb Bennet,

1. *G. strictum* Ait.: hairy; leaves all interruptedly pinnate; the terminal leaflet larger; leaflets ovate, dentate; stipules incised; calyx with 5 alternate segments, linear and short; flowers erect; petals roundish, a little longer than the calyx; awns naked, uncinat. Willd. Spec. II. p. 1113. Ait. Kew. II. p. 217. Pursh Fl. I. p. 351. *G. canadense* Murr. in Comm. Goct. V. p. 33. t. 4. β. (fide Willd.) Mich. Fl. I. p. 300. *G. aleppicum* Jacq. icon. rar. I. t. 93.

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. *Pa.*

HAB. On the rocky banks of the Susquehanna, Pennsylvania.  
*Pursh.*

This, to me, is a doubtful species. I strongly suspect it is the *POTENTILLA confertiflora* of this work.

3. *G. virginianum L.*: pubescent; radical and lower cauline leaves ternate; the upper lanceolate; stipules ovate, nearly entire; flowers erect; petals shorter than the calyx; awns uncinatè, naked, hairy, and twisted at the summit. *Willd. Spec. II.* p. 1113. *Ait. Kew. II.* p. 217. *Murr. Comm. Goett. V.* p. 32, t. 32. *Mich. Fl. I.* p. 301. *Pursh Fl. I.* p. 351. *Big. Bost.* p. 125. *Elliott Sk. I.* p. 572. *Gron. Virg. 56.* *Cold. Novob.* 124.

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 uncinatè, naked, hairy at the summit. *Willd. Enum. p.* 556. *Pursh Fl. I.* p. 351. *Elliott Sk. I.* p. 572.

Flowers white.

HAB. On the banks of rivers. Pennsylvania to Carolina.  
*Pursh.* June—July.

5. *G. rivale L.*: pubescent; stem simple; radical leaves interruptedly pinnate; cauline ones 3-cleft; flowers nodding; petals as long as the calyx; awns plumose, nearly naked at the summit, minutely uncinatè. *Willd. Spec. II.* p. 1115. *Smith Fl. Brit. II.* p. 554. *Eng. Bot. t.* 172. *Mich. Fl. I.* p. 301. *Pursh Fl. I.* p. 351. *Big. Bost.* p. 125.

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.

HAB. In wet meadows and in mountain bogs. Canada to Pennsylvania. May—June. *Water Avena.*

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.

HAB. On the White Hills of New-Hampshire. *Bigelow* and *Boott.* July—August.

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.*  
 POTENTILLA, COMARUM, TORMENTILLA, *L.*, &c.†  
*Gen. pl. 866. Nutt. Gen. I. p. 310. Lam. Ill. t. 442. and 444. Cinquefoil.*

† I have followed *Nestler* and *Lehmann* in uniting TORMENTILLA, COMARUM, and some species of FRAGARIA, to the genus POTENTILLA; from which they scarcely differ, except in number, and some other unimportant characters.



\* *Leaves ternate:*

1. *P. tridentata* *Ait.*: assurgent; stipules subulate; leaves ternate, oblong-cuneiform, 3-toothed at the summit, smoothish above, pubescent beneath; corymb loose, few-flowered; petals oblong-obovate, longer than the calyx. *Lehm. Potent.* p. 190. *Willd. Spec. II.* p. 1110. *Ait. Kew. II.* p. 216. t. 9. *Eng. Bot. t.* 2399. *Mich. Fl. I.* p. 302. *Pursh Fl. I.* p. 353.

*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 3-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.

**HAB.** Among rocks on the summit of mountains. On the Fishkill Mountains. New-York. On the Catskill Mountains, N.Y. *Knevels* and *Rafinesque*. Near Williams College, Massachusetts. *Dewey*. On the White Hills of New-Hampshire. *Bigelow*. June—July.

2. *P. hirsuta* *Mich.*: stem erect, simple; leaves ternate, petiolate; leaflets roundish, hairy, unequally dentate-serrate; teeth obtuse; petals shorter than the calyx. *Lehm. Potent.* p. 155. *Nest. Monog. Potent. t. 9. f. 1.* (teste *Lehm.*) *Mich. Fl. I.* p. 303. *Pursh Fl. I.* p. 354. *P. Morisonii* *De Cand. Cat. Hort. Monsp.* p. 135. *P. monspeliensis* *Willd. Spec. II.* p. 1109. *FRAGARIA parviflora Lam. Fl. Tran. III.* p. 112. *PENTAPHYLLOIDES, &c. Moris. II. §. 2. t. 20. f. 2.*

*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.*

HAB. In the western parts of the State of New-York. July—August. *Pursh*.

According to *De Candolle*, this is the original *P. montpelienensis* 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.

3. *P. norwegica* L.: stem erect, dichotomous above; leaves ternate, petiolate; leaflets oblong, acutely serrate, with spreading hairs; pedicels axillary; petals obovate, shorter than the calyx. *Lehm. Potent.* p. 153. *Willd. Spec.* II. p. 1109. *Fl. Dan.* 171. *Mich. Fl.* I. p. 302. *Pursh Fl.* I. p. 355. *Big. Bost.* p. 125. *Elliott Sk.* I. p. 173. *P. noveboracensis.* *Cold. Nov.* 123.

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, subdentate. 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 rugæ.

HAB. In old fields; common. June—August. Introduced?

\* \* Leaves digitate.

4. *P. canadensis* L.: whole plant silky villous; stem procumbent and ascending, somewhat branched; leaves quinately-ovate, incisely dentate; peduncles solitary, elongated; segments of the calyx linear-lanceolate; petals orbicular, nearly entire, as long as the calyx. *Lehm. Potent.* p. 118. *Willd. Spec.* II. p. 1106. *Mich. Fl.* I. p. 303. *Pursh Fl.* I. p. 354. *Elliott Sk.* I. p. 574. *Walt. Car.* p. 150.

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.

HAB. In fields and dry woods. April—May.

*Barren Strawberry.*

The *P. fumida* 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.

5. *P. simplex Mich.*: stem sarmentose, simple; leaves quinate; leaflets oblong-oval, coarsely serrate, hairy beneath; stipules incised; peduncles axillary, solitary, elongated; petals roundish-obcordate, a little longer than the calyx. *Lehm. Potent.* p. 142. *Mich. Fl.* I. p. 303. *Pursh Fl.* I. p. 354. *Big. Bost.* p. 124. *Elliott Sk.* I. p. 574. *P. sarmentosa Willd. Enum.* I. p. 554. *P. caroliniana Lam. Enc.* V. p. 595. *Pers. Syn.* II. p. 55.

*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, lacinate. *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.*

6. *P. argentea L.*: stem ascending; leaves quinate; leaflets cuneiform, incised, revolute on the margin, white and tomentose beneath; petals retuse, a little longer than the calyx. *Lehm. Potent.* p. 94. *Willd. Spec.* II. p. 1101. *Eng. Bot.* t. 89. *Pursh Fl.* I. p. 355. *Big. Bost.* p. 124.

*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.

*HAB.* On rocks and in barren fields. Rare near New-York. Fishkill, N. Y. Near Boston, Massachusetts. *Bigelow.* In New-Hampshire and Vermont. *Pursh.* June—September.

\* \* \* *Leaves pinnate.*

7. *P. fruticosa L.*: stem fruticose; leaves pinnate; leaflets oblong-lanceolate, very entire; petals longer than the calyx. *Lehm. Potent.* p. 31. *Willd. Spec.* II. p. 1094. *Smith Fl. Brit.* II. p. 547. *Eng. Bot.* t. 38. *Pursh Fl.* I. p. 355. *P. floribunda Pursh l. c.*

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.

HAB. In bog meadows. New-Jersey. Abundant in Orange county, New-York. June.

The *P. floribunda* of *Pursh* differs only in being of lower and thicker growth, and with the flowers rather more numerous.

8. *P. Anserina* 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. *Lehm. Potent.* p. 71. *Willd. Spec. II.* p. 1095. *Eng. Bot.* t. 861. *Mich. Fl. I.* p. 304. *Pursh Fl. I.* p. 356. *Big. Bost.* p. 124.

*Root* long, branched. *Stems* long, hairy, reddish. *Leaves* petiolate; larger leaflets in 7—10 pairs, alternating with very small ones, ovate-lanceolate, sessile, white and silky beneath, green and hairy above, (sometimes silky on both sides.) *Pedicels* hairy, arising from among the leaves. *Calyx* with the exterior segments laciniate; the interior entire. *Petals* yellow, broad-obovate, nearly twice the length of the calyx.

HAB. In wet meadows. On the banks of the Hudson, near Troy. *Eaton.* Near Boston. *Bigelow.* On the banks of Lake Champlain. *Michaux.* June.

*Silver-weed.*—*Wild-tansy.*

9. *P. supina* L.: stem decumbent, dichotomous; leaves pinnate; leaflets oblong, incisely serrate; peduncles axillary, solitary, 1-flowered. *Lehm. Potent.* p. 42. *Jacq. Fl. Aust. V.* t. 406. *Mich. Fl. I.* p. 304. *Pursh Fl. I.* p. 356.

*Root* annual. *Flowers* small, yellow. *Ph.*

HAB. In overflowed places on the banks of rivers. Canada to Pennsylvania; principally in the western parts thereof. June—August. *Pursh.*

10. *P. palustris* Scop.: root creeping; stem ascending; leaves pinnate; leaflets lanceolate, acutely serrate; petals lanceolate, acuminate, much shorter than the calyx. *Lehm. Potent.* p. 52. *P. Comarum Nest. Potent.* p. 36. *COMARUM palustre* L. *Willd. Spec. II.* p. 1119. *Eng. Bot.* t. 172. *Mich. Fl. I.* p. 302. *Pursh Fl. I.* p. 386. *Big. Bost.* p. 123.

*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.

HAB. In swamps. In New-England, and the northern and western parts of New-York and Pennsylvania; common. June.

11. *P. pennsylvanica* L.: erect, very soft, and somewhat whitish-villous; leaves pinnate; leaflets oblong, obtuse, sub-pinnatifid, woolly; panicle straight, many-flowered; segments of the calyx semi-oval. *Lehm. Potent.* p. 55. *Willd. Spec. II.* p. 1039. *Jacq. Hort.* t. 189. *Mich. Fl. I.* p. 204. *Pursh Fl. I.* p. 356. *Gmel. Fl. Sib.* III. t. 34. n. 1?

*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* rugulous. *Lehm.*

HAB. In Canada and New-England. *Pursh.* In Pennsylvania. *Muhlenberg.* July—August.

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 Linnæan Herbarium resembles *P. recta* in shape of leaflets and serratures, but is pinnate and very soft-downy.

12. *P. confertiflora*\*: 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. *GEUM agrimonoides 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.

HAB. On rocky hills and banks. Highlands of New-York. Cambridge, N. Y. *Stevenson*. Deerfield, Massachusetts. *Hitchcock*. Near Williams College. *Dewey*. Vermont. *Eaton*. June.

This species is nearly allied to *P. geoides* *Lehm. Potent.* p. 38, t. 2, but differs in its entire stipules, &c. It is by many of our Botanists supposed to be the *P. pennsylvanica*; but, according to *Sir J. E. Smith*, to whom I sent specimens for examination, it 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.

*Calyx* 10-cleft. *Petals* 5. *Acines* naked, fixed on a large pulpy deciduous *receptacle*. *Gen. pl.* 865. *Nutt. Gen.* I. p. 311. *Juss.* p. 338. *Lam. Ill.* t. 442. f. 1. *Nat. Ord. ROSACEÆ Juss. Strawberry.*

*F. virginiana* *L.*: leaflets broad-oval, smoothish above; the lateral ones distinctly petiolate; hairs of the petiole spreading; of the peduncles appressed; fructiferous calyx spreading. *Willd. Spec.* II. p. 1091. *Ehrh. Beitr.* VII. p. 24. *Pursh Fl.* I. p. 357. *Big. Bost.* p. 123. *Elliot Sk.* I. p. 575. *F. canadensis* *Mich. Fl.* I. p. 299. *F. glabra* *Duham. Arb.* I. p. 131. t. 5.

*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.*

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† In honour of *Francis Boott*, Esq. an assiduous Botanist, who has paid much attention to North-American plants.

## 332. CALYCANTHUS. L.

*Calyx* urceolate, many-cleft above; segments squarose, coloured, petaloid. *Corolla* 0. *Styles* numerous. *Seeds* numerous, naked, smooth, included in the ven-  
tricose succulent calyx. *Gen. pl.* 870. *Nutt. Gen.*  
I. p. 311. *Juss.* p. 342. *Lam. Ill.* t. 445. *Nat.*  
Ord. ROSACEÆ *Juss.* *Carolina Allspice.*

*C. lævigatus Willd.*: segments of the calyx lanceo-  
late; leaves oblong or oval, gradually acuminate, somewhat  
rugose, smooth and green on both sides; branches straight,  
erect. *Willd. Enum.* p. 559. *Pursh Fl.* I. p. 358.  
*Elliott Sk.* I. p. 577. *Nutt. Gen.* I. p. 312. *C. ferax*  
*Mich. Fl.* I. p. 305.

A shrub 4—6 feet high. *Leaves* opposite, entire. *Flowers*  
large, terminal, solitary. *Calyx* brownish-purple, odoriferous.  
[Lam. In the mountains of Pennsylvania. *Pursh.*





# INDEX

TO THE

## GENERA AND SPECIES

OF VOLUME I.

*The names in italics indicate the Synonyms.*

	Page		Page		Page
<b>ACER</b>	395	<b>AGROSTIS</b>	92	<b>ALOPECURUS</b>	97
<i>barbatum</i>	396	<i>racemosa</i>	92	<i>aristulatus</i>	97
<i>dasycarpum</i>	396	<i>scabra</i>	85	<i>borealis</i>	98
<i>ericarpum</i>	396	<i>sericea</i>	93	<i>carolinianus</i>	97
<i>pennsylvanicum</i>	397	<i>serotina</i>	88	<i>geniculatus</i>	97
<i>pennsylvanicum</i>	398	<i>setosa</i>	92	<i>pratensis</i>	97
<i>nigrum</i>	397	<i>sobolifera</i>	87	<i>subaristatus</i>	97
<i>Negundo</i>	398	<i>stricta</i>	85	<b>ALSINE</b>	452
<i>montanum</i>	398	<i>sylvatica</i>	87	<i>media</i>	452
<i>rubrum</i>	395	<i>tenuiflora</i>	87	<b>AMELANCHIER</b>	7
<i>saccharinum</i>	396	<i>tremula</i>	89	<b>AMARYLLIS</b>	339
<i>striatum</i>	397	<i>virginica</i>	89	<i>Atamasco</i>	340
<b>ACTINANTHERUM</b>	84	<i>vulgaris</i>	85	<b>AMMANNIA</b>	188
<b>ACORUS</b>	358	<b>AGROPYRON</b>	135	<i>humilis</i>	189
<i>Calamus</i>	359	<i>repens</i>	135	<i>ramosior</i>	189
<b>ACTINOCHLOA</b>	139	<i>caninum</i>	135	<b>AMMI</b>	306
<b>ÆSCULUS</b>	384	<b>AIRA</b>	132	<i>bipinnatum</i>	307
<i>echinata</i>	384	<i>aristulata</i>	131	<i>capillaceum</i>	306
<i>glabra</i>	384	<i>cespitosa</i>	131	<i>majus</i>	306
<b>ÆTHUSA</b>	306	<i>flexuosa</i>	131	<b>AMMOPHILA</b>	95
<i>leptophylla</i>	306	<i>melicoides</i>	116	<b>AMPELOPSIS</b>	265
<b>AGAVE</b>	345	<i>mollis</i>	116	<i>quinquefolia</i>	266
<i>virginica</i>	345	<i>pallescens</i>	116	<i>cordata</i>	266
<b>AGRIMONIA</b>	473	<i>pellens</i>	126	<i>hirsuta</i>	266
<i>Eupatoria</i>	473	<i>pennsylvanica</i>	116	<b>AMMYRSINE</b>	437
<i>parviflora</i>	473	<i>præcox</i>	131	<i>buxifolia</i>	438
<b>AGROSTEMMA</b>	360	<i>pumila</i>	132	<b>ANAGALLIS</b>	209
<i>Githago</i>	461	<i>purpurea</i>	118	<i>arvensis</i>	209
<b>AGROSTIS</b>	84	<i>triflora</i>	116	<i>phænicea</i>	209
<i>aspera</i>	90, 91	<i>truncata</i>	116	<b>ANCHUSÆ</b>	155
<i>Cinna</i>	86, 91	<b>ALCHEMILLA</b>	190	<i>virginicum</i>	156
<i>clandestina</i>	90	<i>alpina</i>	190	<b>ANCHUSA</b>	203
<i>compressa</i>	88	<b>ALETRIS</b>	344	<i>arvensis</i>	207
<i>decumbens</i>	86	<i>alba</i>	344	<i>canescens</i>	203
<i>diffusa</i>	87	<i>særea</i>	344	<i>hirta</i>	204
<i>filiformis</i>	86	<i>farinosa</i>	345	<i>virginica</i>	203
<i>foliosa</i>	86	<b>ALISMA</b>	381	<b>ANDROMEDA</b>	418
<i>glauca</i>	94	<i>parviflora</i>	382	<i>arborea</i>	420
<i>hispidula</i>	85	<i>Plantago</i>	381	<i>baccata</i>	415
<i>juncæ</i>	89	<i>trivialis</i>	381	<i>calyculata</i>	419
<i>indica</i>	89	<b>ALLIUM</b>	340	<i>cerulea</i>	394
<i>lateriflora</i>	86	<i>canadense</i>	340	<i>hypnoides</i>	418
<i>laxa</i>	83	<i>cernuum</i>	341	<i>ligustrina</i>	421
<i>mexicana</i>	86	<i>tricoecum</i>	341	<i>mariana</i>	419
<i>monandra</i>	91	<i>triflorum</i>	341	<i>paniculata</i>	420, 421
<i>tungensis</i>	89, 90	<i>vineale</i>	340	<i>poliifolia</i>	419
		<b>ALOPECURUS</b>	96	<i>racemosa</i>	420

	Page		Page		Page
<b>ANDROMEDA</b>		<b>ARRHENATHE-</b>		<b>AZALEA</b>	
<i>speciosa</i>	426	<b>RUM</b>	150	<i>nitida</i>	427
<i>taxifolia</i>	394	<i>americanum</i>	151	<i>nubiflora</i>	424
<b>ANDROPOGON</b>	155	<i>avenaceum</i>	150	<i>perichlymenooides</i>	424
<i>ambiguum</i>	99	<i>kentuckensis</i>	151	<i>pilosa</i>	394
<i>avenaceum</i>	157	<i>pennsylvanicum</i>	151	<i>procumbens</i>	235
<i>dissitiflorum</i>	156	<b>IRTHRATHERUM</b>	81	<i>viscosa</i>	424
<i>furcatum</i>	157	<b>ARUNDO</b>	93	<b>BAPTISIA</b>	441
<i>macrocarpa</i>	156	<i>agrastoides</i>	94	<i>tinctoria</i>	441
<i>nudans</i>	157	<i>arenaria</i>	95	<b>BARTONIA</b>	185
<i>purpurascens</i>	156	<i>brevipilis</i>	95	<i>tenella</i>	185
<i>Scoparium</i>	156	<i>canadensis</i>	93	<b>BATSCHIA</b>	203
<i>virginicum</i>	156	<i>cinnoides</i>	94	<i>canescens</i>	203
<b>ANGELICA</b>	315	<i>coarctata</i>	94	<i>caroliniana</i>	204
<i>atropurpurea</i>	316	<i>confinis</i>	93	<i>Gemelini</i>	204
<i>hirsuta</i>	315	<i>glauca</i>	94	<b>BERBERIS</b>	336
<i>lobata</i>	316	<i>Epigjos</i>	95	<i>canadensis</i>	337
<i>lucida</i>	316	<i>Phragmites</i>	103	<i>vulgaris</i>	336
<i>triquinata</i>	313	<i>stricta</i>	94	<b>BIGNONIA</b>	16
<b>ANTHERICUM</b>	369	<b>ASCLEPIAS</b>	279	<i>Catalpa</i>	16
<i>subtrigynum</i>	369	<i>acuminata</i>	283	<b>BLEPHILLA</b>	27
<b>ANTHOPOGON</b>	99	<i>amœna</i>	282	<i>nepetoides</i>	27
<i>leptovoides</i>	99	<i>cordata</i>	283	<b>BLITUM</b>	4
<b>ANTHOXANTHUM</b>	101	<i>debilis</i>	282	<i>capitatum</i>	4
<i>odoratum</i>	101	<i>exaltata</i>	280	<i>maritimum</i>	5
<b>ANYCHIA</b>	272	<i>hybrida</i>	280	<i>virgatum</i>	4
<i>dichotoma</i>	275	<i>incarnata</i>	281	<b>BOOTIA</b>	500
<i>canadensis</i>	273	<i>lanceifolia</i>	284	<b>BRACHYELY-</b>	
<b>APOCYNUM</b>	275	<i>laurifolia</i>	281	<b>TRUM</b>	102
<i>androsemifolium</i>	275	<i>obovata</i>	284	<i>aristatum</i>	102
<i>cannabinum</i>	276	<i>obtusifolia</i>	281	<b>BRIZA</b>	106
<i>hypericifolium</i>	276	<i>parviflora</i>	283	<i>canadensis</i>	111, 112
<i>pubescens</i>	276	<i>phytolaccoides</i>	280	<i>caroliniana</i>	115
<b>ARALIA</b>	327	<i>pulchra</i>	282	<i>Eragrostis</i>	115
<i>hispida</i>	328	<i>purpurascens</i>	282	<i>media</i>	106
<i>nudicaulis</i>	327	<i>quadrifolia</i>	283	<b>BROMUS</b>	127
<i>racemosa</i>	327	<i>syriaca</i>	279	<i>canadensis</i>	129, 130
<i>spinosa</i>	328	<i>tuberosa</i>	285	<i>ciliatus</i>	128
<b>ARBUTUS</b>	411	<i>variegata</i>	280	<i>ciliatus</i>	129
<i>filiformis</i>	413	<i>verticillata</i>	284	<i>mollis</i>	128
<i>Uva ursi</i>	411	<i>viridiflora</i>	284	<i>poaeformis</i>	122
<b>ARENARIA</b>	453	<b>ASPARAGUS</b>	557	<i>pubescens</i>	129
<i>canadensis</i>	456	<i>officinalis</i>	357	<i>purgans</i>	128
<i>caroliniana</i>	455	<b>ASPERA</b>	284	<i>secalinus</i>	127
<i>glabra</i>	455	<b>ASPRELLA</b>	74, 138	<b>CACTUS</b>	446
<i>lateriflora</i>	454	<i>oryzoides</i>	74	<i>Opuntia</i>	446
<i>marina</i>	456	<i>virginica</i>	74	<b>CALAMAGROSTIS</b>	95
<i>peploides</i>	453	<b>ATHEROPOGON</b>	139	<i>canadensis</i>	94
<i>rubra</i>	456	<i>apludoides</i>	139	<i>colorata</i>	100
<i>serpyllifolia</i>	454	<i>racemosa</i>	140	<i>mexicana</i>	94
<i>squarrosa</i>	454	<b>ATRIPLEX</b>	292	<b>CALLISTACHYA</b>	11
<i>stricta</i>	455	<i>arenaria</i>	293	<i>virginica</i>	11
<b>ARMERIA</b>	329	<i>Halimus</i>	293	<b>CALLITRICHE</b>	3
<i>adscensionis</i>	81	<i>hortensis</i>	292	<i>aquatica</i>	3
<i>dichotoma</i>	81	<i>laciniata</i>	293	<i>autumnalis</i>	4
<i>purpurascens</i>	81	<i>patula</i>	293	<i>brevifolia</i>	4
<i>racemosa</i>	81	<b>AVENA</b>	151	<i>heterophylla</i>	3
<i>stricta</i>	81	<i>elatior</i>	130	<i>linearis</i>	5
<b>ARISTIDA</b>	80	<i>glumosa</i>	126	<i>terrestris</i>	4
<i>vulgaris</i>	329	<i>palustris</i>	126	<i>verna</i>	3
<b>ARONIA</b>	478	<i>pennsylvanica</i>	130	<b>CALYCANTHUS</b>	501
<i>arborescens</i>	478	<i>præcox</i>	131	<i>ferax</i>	501
<i>Botryopium</i>	479	<i>spicata</i>	125	<i>hevigatus</i>	501
<i>inclinoearpa</i>	479	<b>AZALEA</b>	232	<b>CALYSTEGIA</b>	225
<i>ovalifolia</i>	479	<i>arborescens</i>	425	<i>repens</i>	225
<i>pyrifolia</i>	478	<i>calendulacea</i>	425	<i>tomentosa</i>	225
<b>ARTHEROS-</b>		<i>hispida</i>	426	<b>CAMPANULA</b>	236
<b>TELLA</b>	385	<i>laphonica</i>	426	<i>acuminata</i>	237

<b>CAMPANULA</b>	Page	<b>CERASUS</b>	Page	<b>CLAYTONIA</b>	Page
americana	237	<i>borealis</i>	467	<i>caroliniana</i>	258
amplexicaulis	236	<i>pumila</i>	468	virginica	259
aparinoides	237	virginiana	467	<b>CLETHRÀ</b>	438
erinoides	237	<b>CERATOCHLOA</b>	123	alnifolia	438
flexuosa	238	unioloides	123	<b>CNIDIUM</b>	306
nitida	237	<b>CERCIS</b>	441	atropurpureum	307
perfoliata	236	canadensis	441	canadense	306
rotundifolia	236	<b>CHEROPHYL-</b>		<b>COLLINSONIA</b>	28
<b>CAPRIFOLIUM</b>	242	<b>LUM</b>	309	canadensis	29
bracteosum	243	canadense	311	<b>COMANDRÀ</b>	272
dioicum	243	Claytoni	309	umbellata	272
flavum	243	procumbens	309	<b>COMARUM</b>	498
Fraseri	243	<b>CHÆTIRIA</b>	81	palustre	498
gratum	244	<i>purpurascens</i>	81	<b>COMMELINA</b>	38
parviflorum	243	stricta	81	angustifolia	38
sempervirens	244	<b>CHENOPODIUM</b>	294	dubia	41
pubescens	242	album	294	erecta	39
<b>CASSIA</b>	439	ambrosoides	295	hirtella	39
chamaecrista	439	anthelminticum	296	longifolia	39
fasciculata	440	Bonus Henricus	294	truncaia	39
marilandica	439	Botrys	296	virginica	39
nicitans	440	glaucum	296	<b>CONIUM</b>	312
<b>CATABROSA</b>	133	hybridum	295	maculatum	312
aquatica	133	maritimum	296	<b>CONOSTYLIS</b>	343
cespitosa	132	rhombifolium	294	americana	343
pumila	133	rubrum	295	<b>CONVALLARIA</b>	353
<b>CATALPA</b>	16	tenuifolium	297	biflora	356
bignonioides	16	viride	432	bifolia	353
cordifolia	16	<b>CHIMAPHILA</b>	432	borealis	355
syringifolia	16	<i>corymbosa</i>	432	canaliculata	357
<b>CÄULOPHYL-</b>		maculata	432	latifolia	357
<b>LUM</b>	335	umbellata	432	multiflora	356
thalictroides	336	<b>CHIONANTHUS</b>	7	<i>Polygonatum</i>	357
<b>CEANOTHUS</b>	259	pubescens	7	pubescens	356
americanus	260	virginica	7	racemosa	354
herbaceus	260	<b>CHIRONIA</b>	217	stellata	354
perennis	260	angularis	218	trifolia	354
<b>CELASTRUS</b>	262	calycosa	218	umbellulata	355
scandens	262	campanulata	217	<b>CONVOLVULUS</b>	224
<b>CELTIS</b>	299	chloroides	218	arvensis	224
cordifolia	300	dichotoma	218	Nil	227
crassifolia	300	gracilis	217	panduratus	225
occidentalis	300	lanceolata	219	purpureus	226
pumila	300	stellata	217	repens	225
<b>CENCHRUS</b>	68	venosu	219	Sepium	225
carolinianus	68	<b>CHLORA</b>	218	spathameus	225
echinatus	68	dodecandra	218	stans	225
tribuloides	69	<b>CHLORIS</b>	139	<b>CORNUCOPIÆ</b>	83
<b>CENTAURELLA</b>	185	cartipendula	139	altissima	84
autumnalis	185	<b>CHRYSOSPLE-</b>		hyemalis	84
paniculata	185	<b>NIUM</b>	445	<b>CORNUS</b>	177
<b>CENTARIUM</b>	185	oppositifolium	445	alba	179
autumnale	185	<b>CICUTA</b>	307	alternifolia	180
<b>CEPHALANTHUS</b>	163	bulbifera	308	canadensis	177
occidentalis	164	maculata	308	circinata	179
<b>CERASTIUM</b>	458	venenata	316	fastigiata	180
bracteatum	460	<b>CINNA</b>	91	florida	177
glutinosum	459	arundinacea	91	lanuginosa	178
hirsutum	459	<b>CIRCEA</b>	29	paniculata	179
longepedunculatum	459	alpina	30	racemosa	179
nutans	459	canadensis	29	rugosa	179
oblongifolium	166	lutetiana	29	sanguinea	178
pubescens	459	lutetiana β.	29	sanguinea	180
semidecandrum	459	<b>CISSUS</b>	265	sericea	178
tenuifolium	460	Ampelopsis	266	stolonifera	179
viscosum	458	hederacea	266	stricta	180
vulgatum	458	<b>CLADIUM</b>	54		

<b>CORNUS</b>	Page	<b>CYPERUS</b>	Page	<b>DIODIA</b>	Page
<i>tomentosa</i>	179	<i>spathaceus</i>	58	<i>teres</i>	171
<b>CR. ANTYZIA</b>	304	strigosus	62	virginica	170
<i>lineata</i>	304	tenuis	62	<b>DIPLOACHNE</b>	125
<b>CRATÆGUS</b>	474	tuberosus	62	<i>fascicularis</i>	122
coccinea	474	urcinatus	59	<b>DIPSACUS</b>	164
cordata	474	virens	63	<i>sylvestris</i>	165
Crus galli	476	<b>DACTYLIS</b>	125	<b>DIRCA</b>	398
elliptica	475	<i>cynosuroides</i>	69	<i>palustris</i>	399
glaberrima	475	glomerata	125	<b>DOECATHEON</b>	218
<i>leucopaleos</i>	475	maritima	71	integrifolia	214
parvifolia	475	<b>DALIBARDA</b>	491	Meadia	214
<i>populifolia</i>	474	fragarioides	491	<b>DRACONTIUM</b>	191
punctata	476	repens	491	<i>foetidum</i>	191
pyrifolia	475	<i>violaeoides</i>	491	<b>DROSERA</b>	331
<i>pyrifolia</i>	478	<b>DANTHONIA</b>	125	<i>americana</i>	331
<i>racemosa</i>	479	<i>sericea</i>	126	<i>angustifolia</i>	331
<i>spicata</i>	479	spicata	125	filiformis	332
<i>tomentosa</i>	475	<b>DATURA</b>	231	<i>foliosa</i>	331
<b>CRYPISIS</b>	96	Stramonium	232	longifolia	331
virginica	96	<i>Tatula</i>	232	rotundifolia	331
<b>CRYPTA</b>	32	<b>DAUCUS</b>	308	<i>tenuifolia</i>	332
minima	32	Carota	308	<b>DRYAS</b>	491
<b>CUCUBALUS</b>	448	<b>DECODON</b>	471	integrifolia	492
Behen	449	<i>aquaticum</i>	471	<b>DULICHIMUM</b>	58
nivens	449	<i>verticillatum</i>	471	<i>canadense</i>	59
<i>reflexus</i>	451	<b>DESCHAMPSIA</b>	132	spathaceum	58
stellatus	449	<b>DEVAUXIA</b>	103	<b>ECHINOCHLOA</b>	140
<b>CUNILA</b>	22	<i>fluitans</i>	163	Crus Galli	140
glabella	23	<b>DIANTHERA</b>	17	<b>ECHINOSPER-</b>	
mariana	22	<i>americana</i>	17	<b>MUM</b>	208
<i>pulegioides</i>	24	<i>ensiformis</i>	17	<i>Lappula</i>	208
<b>CUPHEA</b>	492	<b>DIANTHUS</b>	447	<i>virginiana</i>	209
viscosissima	472	Armeria	447	<b>ECHIUM</b>	205
<b>CURTOPOGON</b>	81	<b>DIAPENSIA</b>	230	vulgare	205
<i>dichotomum</i>	81	barbulata	231	<b>ELEOCHARIS</b>	44
<b>CUSCUTA</b>	289	<i>cuneifolia</i>	231	<i>acicularis</i>	45
americana	289	lapponica	231	<i>capitata</i>	45
<i>europæa</i>	290	<i>obtusifolia</i>	231	<i>palustris</i>	45
<b>CYMBOPOGON</b>	155	<b>DIARINA</b>	124	<b>ELEUSINE</b>	134
<b>CYNODON</b>	98	<i>festucoides</i>	124	indica	134
Dactylon	99	<b>DIARRHENA</b>	124	<b>ELYMUS</b>	136
<b>CYNANCHUM</b>	278	americana	124	canadensis	137
<i>obliquum</i>	278	<b>DIERVILLA</b>	238	<i>caminus</i>	137
<b>CYNOGLOSSUM</b>	207	<i>canadensis</i>	238	<i>carolinianus</i>	137
<i>amplexicaule</i>	208	<i>humilis</i>	238	<i>glaucofolius</i>	137
officinale	208	<i>lutea</i>	238	Histrix	138
virginicum	208	Tournefortii	238	<i>philadelphicus</i>	137
<b>CYNOSURUS</b>	134	<b>DIGITARIA</b>	153	villosus	138
<i>indicus</i>	134	<i>Dactylon</i>	99	virginicus	137
<b>CYPERUS</b>	59	filiformis	155	<b>EPIGÆA</b>	428
<i>brizæus</i>	60	giabra	154	repens	428
<i>cespitosus</i>	60	<i>humifusa</i>	154	<b>EPILOBIUM</b>	392
compressus	63	<i>Lachænum</i>	154	<i>angustifolium</i>	391
dentatus	61	<i>paspalodes</i>	154	<i>angustissimus</i>	392
diandrus	60	<i>pilosa</i>	155	coloratum	392
erythrorhizos	61	sanguinalis	154	<i>lineare</i>	392
flavescens	60	serotina	155	molle	393
flavicomus	64	<i>villosa</i>	155	<i>oliganthum</i>	392
<i>Hydra</i>	63	<b>DIGRAPHIS</b>	100	rosmarinifolium	392
inflexus	59	<b>DILATRIS</b>	37	spicatum	391
mariscoides	59	<i>Heritiera</i>	38	<i>squamatum</i>	392
Nuttallii	60	<i>tinctoria</i>	38	<i>strictum</i>	392
odoratus	64	<b>DILEPYRUM</b>	81, 102	<b>ERAGROSTIS</b>	107
<i>parviflorum</i>	61	<i>aristosum</i>	82	<i>pilosa</i>	114
<i>phyliatodes</i>	62	<i>minutiflorum</i>	102	<i>poeoides</i>	115
<i>Purshii</i>	49	<b>DINEBA</b>	139	<b>ERICA</b>	394
<i>repens</i>	62	<b>DIODIA</b>	170	<i>cerulea</i>	394

# INDEX.

507

	Page	FIMBRISTYLIS	Page	GEUM	Page
<i>ERICA</i>		<i>spadiceum</i>	53	<i>strictum</i>	492
<i>  pilosa</i>	394	<b>FLERKEA</b>	339	<i>virginianum</i>	495
<b>ERIGENIA</b>	304	<i>lacustris</i>	339	<b>GILLENIA</b>	488
<i>  bulbosa</i>	304	<i>proserpinacoides</i>	339	<i>stipulacea</i>	484
<b>ERIPHORUM</b>	64	<i>uliginosa</i>	339	<i>trifoliata</i>	483
<i>  alpinum</i>	65	<b>FRAGARIA</b>	500	<b>GLAUX</b>	474
<i>  angustifolium</i>	67	<i>  canadensis</i>	500	<i>  maritima</i>	474
<i>  cespitosum</i>	55	<i>  parviflora</i>	500	<b>GLYCERIA</b>	103
<i>  cyperinum</i>	50	<i>  virginiana</i>	500	<i>  acutiflora</i>	104
<i>  ludsonianum</i>	55	<b>FRASERA</b>	187	<i>  fluitans</i>	103
<i>  latifolium</i>	66	<i>  caroliniana</i>	187	<b>GONOLOBUS</b>	277
<i>  polystachyum</i>	66	<i>  verticillata</i>	187	<i>  hirsutus</i>	278
<i>  tenellum</i>	66	<i>  Walteri</i>	187	<i>  obliquus</i>	278
<i>  vaginatum</i>	65	<b>FRAXINUS</b>	3	<b>GONOLOBIUM</b>	278
<i>  virginicum</i>	66	<b>FRIRENA</b>	67	<i>  carolinianum</i>	278
<b>ERYNGIUM</b>	300	<i>  squarrosa</i>	67	<i>  hirsutum</i>	278
<i>  aquaticum</i>	301	<b>GALIUM</b>	164	<b>GRATIOLA</b>	12
<i>  ovalifolium</i>	301	<i>  Aparine</i>	166	<i>  acuminata</i>	15
<i>  virgatum</i>	301	<i>  asprellum</i>	166	<i>  anagallidea</i>	14
<i>  virginicum</i>	301	<i>  bermudianum</i>	169	<i>  aurea</i>	12
<i>  yuccifolium</i>	301	<i>  boreale</i>	169	<i>  carolinianc</i>	12
<b>RYTHRIONUM</b>	349	<i>  boreale</i>	168	<i>  inequalis</i>	14
<i>  albidum</i>	350	<i>  brachiatum</i>	168	<i>  megalocarpa</i>	15
<i>  americanum</i>	350	<i>  brachiatum</i>	168	<i>  neglecta</i>	15
<i>  Dens Canis</i>	350	<i>  circæzans</i>	168	<i>  officinalis</i>	12
<i>  lanceolatum</i>	350	<i>  circeoides</i>	168	<i>  virginica</i>	13
<i>  longifolium</i>	350	<i>  Claytoni</i>	165	<b>GYMNOPOGON</b>	99
<b>EUONYMUS</b>	260	<i>  cuspidatum</i>	167	<i>  racemosum</i>	99
<i>  americanus</i>	261	<i>  lanceolatum</i>	168	<b>GYMNSTI-</b>	
<i>  atropurpureus</i>	261	<i>  mieranthum</i>	167	<b>  CHUM</b>	138
<i>  obovatus</i>	261	<i>  pilosum</i>	167	<b>GYROMIA</b>	374
<b>EUOSMUS</b>	408	<i>  septentrionale</i>	169	<i>  virginica</i>	374
<b>EUTRIANA</b>	139	<i>  strictum</i>	169	<b>HAMAMELIS</b>	192
<i>  curtipendula</i>	139	<i>  tinctorium</i>	166	<i>  androgyna</i>	192
<b>EXACUM</b>	186	<i>  trifidum</i>	165	<i>  dioica</i>	192
<i>  pulchellum</i>	186	<i>  triflorum</i>	167	<i>  monoica</i>	192
<b>FAGOPYRUM</b>	406	<i>  verum</i>	165	<i>  virginica</i>	192
<b>FEDIA</b>	34	<b>GAULTHERIA</b>	412	<b>HAMILTONIA</b>	271
<i>  radiata</i>	34	<i>  hispidula</i>	413	<i>  oleifera</i>	271
<b>FERULA</b>	315	<i>  procumbens</i>	412	<b>HEDEOMA</b>	23
<i>  villosa</i>	315	<i>  serpyllifolia</i>	413	<i>  glabrum</i>	23
<b>FESTUCA</b>	119	<b>GAURA</b>	390	<i>  pulegioides</i>	24
<i>  brevifolia</i>	104	<i>  biennis</i>	391	<b>HEDERA</b>	266
<i>  bromoides</i>	120	<b>GENTIANA</b>	385	<i>  quinquefolia</i>	266
<i>  clandestina</i>	123	<i>  amarelloides</i>	288	<b>HEDYOTIS</b>	171
<i>  diantra</i>	124	<i>  angustifolia</i>	287	<i>  glomerata</i>	171
<i>  distichophylla</i>	105	<i>  ernuta</i>	288	<i>  uniflora</i>	171
<i>  duriuscula</i>	120	<i>  linearis</i>	287	<i>  virginica</i>	171
<i>  elator</i>	121	<i>  ochroleuca</i>	286	<i>  umbellata</i>	171
<i>  fascicularis</i>	122	<i>  Pneumonanthe</i>	287	<b>HELONIAS</b>	366
<i>  fluitans</i>	103	<i>  Pseudo-Pneumo-</i>		<i>  angustifolia</i>	369
<i>  multiflora</i>	122	<i>  nanthe</i>	287	<i>  asphodeloides</i>	370
<i>  Myurus</i>	119	<i>  puberula</i>	288	<i>  borealis</i>	272
<i>  nutans</i>	122	<i>  purpurea</i>	287	<i>  bullata</i>	369
<i>  obtusata</i>	121	<i>  quinqueflora</i>	288	<i>  dioica</i>	370
<i>  octoflora</i>	120	<i>  quinquefolia</i>	288	<i>  erythrosperma</i>	369
<i>  polystachya</i>	122	<i>  Saponaria</i>	286	<i>  lata</i>	369
<i>  pratensis</i>	121	<i>  villosa</i>	286	<i>  latifolia</i>	369
<i>  procumbens</i>	122	<b>GENTIANELLA</b>	289	<i>  lutea</i>	370
<i>  quadriflora</i>	119	<b>GEUM</b>	492	<i>  pumila</i>	370
<i>  rubra</i>	120	<i>  agrimonoides</i>	492	<i>  tenax</i>	371
<i>  rubra</i>	121	<i>  agrimonoides</i>	499	<i>  tomentosa</i>	343
<i>  tenella</i>	120	<i>  album</i>	493	<i>  virginica</i>	367
<i>  unioloides</i>	124	<i>  aleppicum</i>	492	<i>  viridis</i>	368
<b>FIMBRISTYLIS</b>	44	<i>  canadense</i>	492	<b>HEMEROCALLIS</b>	345
<i>  autumnalis</i>	52	<i>  Peckii</i>	494	<i>  fulva</i>	345
<i>  ferrugineum</i>	52	<i>  rivale</i>	493	<b>HEMIANTHUS</b>	15
<i>  puberulus</i>	33				

<b>HEMIANTHUS</b>	Page	<b>HYDROCOTYLE</b>	Page	<b>JUNCUS</b>	Page
<i>micranthemoides</i>	15	<i>lineata</i>	304	<i>filiformis</i>	360
<b>HERACLEUM</b>	313	<i>ranunculoides</i>	304	<i>fruticans</i>	364
<i>lanatum</i>	313	<i>sinensis</i>	304	<i>gracilis</i>	361
<b>HETERANDRA</b>	41	<i>umbellata</i>	303	<i>marginatus</i>	362
<i>reniformis</i>	41	<i>umbellata</i>	303	<i>melanocarpus</i>	366
<b>HETERANTHERA</b>	41	<i>vulgaris</i>	303	<i>nodosus</i>	361
<i>acuta</i>	41	<b>HYDROPHYLLUM</b>	219	<i>pilosus</i>	361
<i>graminea</i>	41	<i>appendiculatum</i>	220	<i>polycephalus</i>	363
<i>graminifolia</i>	41	<i>canadense</i>	220	<i>setaceus</i>	360
<i>reniformis</i>	41	<i>virginicum</i>	219	<i>spicatus</i>	366
<b>HEPTIERA</b>	37	<b>HYOSCYAMUS</b>	224	<i>squarrosus</i>	360
<i>Gemellini</i>	38	<i>niger</i>	224	<i>subverticillatus</i>	364
<i>tinctoria</i>	37	<b>HYPOXIS</b>	341	<i>sylvaticus</i>	364
<b>HERPESTIS</b>	15	<i>caroliniensis</i>	342	<i>tenuis</i>	360
<i>micrantha</i>	15	<i>erecta</i>	342	<i>trifidus</i>	362
<b>HEUCHERA</b>	290	<b>HIPOPYTHYS</b>	330	<i>verticillatus</i>	364
<i>americana</i>	290	<i>europæa</i>	431	<b>JUSTICIA</b>	16
<i>Cortusa</i>	290	<i>lanuginosa</i>	430	<i>americana</i>	17
<i>grandiflora</i>	291	<b>ICTODES</b>	191	<i>linearifolia</i>	17
<i>pubescens</i>	291	<i>foetidus</i>	191	<i>pedunculosa</i>	17
<i>viscida</i>	290	<b>JEFFERSONIA</b>	399	<b>KALMIA</b>	422
<b>HERCOCLOA</b>	149	<i>Bartoni</i>	399	<i>angustifolia</i>	422
<i>alpina</i>	150	<i>diphylla</i>	399	<i>glauca</i>	422
<i>borealis</i>	150	<b>ILEX</b>	193	<i>glauca</i>	423
<i>fragrans</i>	150	<i>Aguifolium</i>	194	<i>latifolia</i>	422
<b>HIPPURIS</b>	2	<i>canadensis</i>	194	<i>polifolia</i>	423
<i>vulgaris</i>	2	<i>opaca</i>	194	<b>KALNOXIA</b>	173
<b>HOLOCUS</b>	151	<b>IMPATIENS</b>	248	<i>purpurea</i>	173
<i>alpina</i>	150	<i>aurea</i>	248	<b>KOELERIA</b>	116
<i>arenaceus</i>	130	<i>biflora</i>	249	<i>pennsylvanica</i>	116
<i>borealis</i>	150	<i>fulva</i>	249	<i>truncata</i>	116
<i>fragrans</i>	150	<i>maculata</i>	249	<b>KYLLINGIA</b>	43
<i>lanatus</i>	151	<i>Noli-tangere</i>	248	<i>monocephala</i>	43
<i>laxus</i>	105	<i>pallida</i>	248	<i>ovularis</i>	58
<i>monticola</i>	150	<b>IONIDIUM</b>	258	<b>LACHNANTHES</b>	37
<i>odoratus</i>	150	<i>Sprengelianum</i>	258	<i>tinetoria</i>	37
<i>repens</i>	150	<b>IPOMÆA</b>	226	<b>LASIERPA</b>	413
<i>striatus</i>	116	<i>lacunosa</i>	226	<b>LAURUS</b>	408
<b>HOLOSTEUM</b>	159	<i>Nil</i>	227	<i>Benzoin</i>	409
<i>succulentum</i>	159	<i>purpurea</i>	226	<i>Borbonia</i>	408
<b>HORDEUM</b>	158	<b>IRIS</b>	35	<i>carolinensis</i>	408
<i>jubatum</i>	158	<i>cristata</i>	37	<i>Pseudo-Benzoin</i>	409
<i>murinum</i>	158	<i>gracilis</i>	36	<i>Sassafras</i>	409
<b>HOOTTONIA</b>	215	<i>lacustris</i>	57	<b>LEDUM</b>	436
<i>inflata</i>	216	<i>prismatica</i>	36	<i>buxifolium</i>	438
<i>palustris</i>	216	<i>versicolor</i>	35	<i>latifolium</i>	437
<b>HOUSTONIA</b>	172	<i>virginica</i>	35	<i>palustre</i>	437
<i>angustifolia</i>	173	<i>virginica</i>	36	<i>thymifolium</i>	438
<i>ciliolata</i>	173	<b>ISNARDA</b>	181	<b>LEERSIA</b>	74
<i>coerulea</i>	172	<i>hirsuta</i>	181	<i>monandra</i>	74
<i>Linnæi</i>	172	<i>palustris</i>	182	<i>oryzoides</i>	75
<i>longifolia</i>	173	<b>ISOLEPIS</b>	43	<i>virginica</i>	74
<i>pubescens</i>	174	<i>lineata</i>	51	<b>LEIOPHYLLUM</b>	437
<i>purpurea</i>	173	<b>ITEA</b>	247	<i>buxifolium</i>	438
<i>varians</i>	173	<i>virginica</i>	248	<b>LEMNA</b>	30
<b>HYDRANGEA</b>	442	<b>JUNCUS</b>	359	<i>gibba</i>	31
<i>arborescens</i>	443	<i>acuminatus</i>	363	<i>minor</i>	31
<i>nivea</i>	443	<i>acutus</i>	360	<i>polymorpha</i>	31
<i>radiata</i>	443	<i>aristulatus</i>	362	<i>trisulca</i>	30
<i>vulgaris</i>	442	<i>bicornis</i>	361	<b>LEONTICE</b>	335
<b>HYDROCOTYLE</b>	302	<i>biglumis</i>	362	<i>thalictroides</i>	336
<i>americana</i>	303	<i>bufonius</i>	363	<b>LEPTANDRA</b>	11
<i>bipinnata</i>	304	<i>bulbosus</i>	363	<i>virginica</i>	11
<i>composita</i>	304	<i>campestris</i>	365	<b>LEPTANTHUS</b>	41
<i>composita</i>	305	<i>dichotomus</i>	363	<i>peruviana</i>	41
<i>cymbalarifolia</i>	304	<i>echinatus</i>	364	<i>reniformis</i>	41
<i>interrupta</i>	303	<i>effusus</i>	359	<i>virginica</i>	41

	Page	IONICERA	Page		Page
<b>LIGUSTICUM</b>	312	<i>dioica</i>	243	<b>MARISCUS</b>	57
<i>actaeifolium</i>	313	<i>flava</i>	243	<i>cyperiformis</i>	64
<i>barbinode</i>	317	<i>grata</i>	244	<i>echinatus</i>	58
<i>scoticum</i>	312	<i>hirsuta</i>	242	<i>ovularis</i>	58
<b>LIGUSTRUM</b>	6	<i>media</i>	243	<i>retrofractus</i>	57
<i>vulgare</i>	6	<i>parviflora</i>	243	<i>umbellatus</i>	64
<b>LILIUM</b>	348	<i>sempervirens</i>	244	<b>MATTUSCHKEA</b>	380
<i>canadense</i>	348	<i>Symphoricarpus</i>	246	<i>aquatica</i>	381
<i>Catesbei</i>	349	<i>villosa</i>	245	<b>MEDEOLA</b>	374
<i>pennsylvanicum</i>	349	<b>LUDWIGIA</b>	180	<i>virginica</i>	374
<i>philadelphicum</i>	348	<i>alternifolia</i>	180	<b>MEGASTACHYA</b>	107
<i>spectabile</i>	349	<i>apetala</i>	182	<i>canadensis</i>	112
<i>superbum</i>	349	<i>aurantiaca</i>	181	<i>hypnoides</i>	115
<b>LIMNETIS</b>	69	<i>hirsuta</i>	181	<i>reptans</i>	115
<i>cynosuroides</i>	69	<i>hirtella</i>	181	<i>spectabilis</i>	114
<i>juncea</i>	70	<i>macrocarpa</i>	180	<b>MELANTHIUM</b>	366
<i>polystachya</i>	69	<i>nitida</i>	182	<i>densum</i>	370
<b>LINDERNIA</b>	14	<i>palustris</i>	182	<i>dioicum</i>	370
<i>attenuata</i>	14	<i>pilosa</i>	181	<i>glaucum</i>	367
<i>dilatata</i>	14	<i>ramosissima</i>	181	<i>hybridum</i>	367
<i>monticola</i>	15	<i>uniflora</i>	181	<i>latum</i>	369
<i>pyxidaria</i>	14	<b>LUZULA</b>	365	<i>muscatoxicum</i>	369
<b>LINNEA</b>	175	<i>campestris</i>	365	<i>phalangoides</i>	369
<i>borealis</i>	175	<i>melanocarpa</i>	366	<i>racemosum</i>	367, 371
<b>LINUM</b>	329	<i>pilosa</i>	365	<i>virginicum</i>	367
<i>virginianum</i>	330	<i>spicata</i>	366	<b>MELICA</b>	138
<i>usitatissimum</i>	330	<i>vernalis</i>	365	<i>altissima</i>	139
<b>LITHOSPERMUM</b>	202	<b>LYCOPUS</b>	21	<i>glabra</i>	139
<i>arvense</i>	202	<i>americanus</i>	21	<i>mutica</i>	139
<i>canescens</i>	203	<i>angustifolius</i>	21	<i>speciosa</i>	139
<i>carolinianum</i>	205	<i>Europæus β.</i>	21	<b>MENYANTHES</b>	214
<i>denticulatum</i>	203	<i>Europæus</i>	21	<i>trachysperma</i>	215
<i>hirtum</i>	204	<i>exaltatus</i>	21	<i>trifonata</i>	214
<i>latifolium</i>	204	<i>humilis</i>	22	<b>MENZIESIA</b>	394
<i>maritimum</i>	203	<i>virginicus</i>	22	<i>cœrulea</i>	394
<i>molle</i>	205	<i>uniflorus</i>	22	<i>ferruginea</i>	395
<i>officinale</i>	202	<b>LYCOPSIS</b>	207	<i>globularis</i>	395
<i>pulchellum</i>	201	<i>arvensis</i>	207	<i>pilosa</i>	395
<i>virginianum</i>	204	<i>virginica</i>	207	<i>Smithii</i>	395
<b>LOBELIUM</b>	324	<b>LYONIA</b>	421	<b>MERTENSIA</b>	202
<i>aromaticum</i>	324	<i>ligustrina</i>	421	<b>MESPILUS</b>	475
<b>LOBELIA</b>	238	<b>LYSIMACHIA</b>	219	<i>arborea</i>	479
<i>Cardinalis</i>	242	<i>angustifolia</i>	211	<i>arbutifolia</i>	478
<i>Claytoniana</i>	240	<i>bulbifera</i>	210	<i>axillaris</i>	474
<i>Dortmanna</i>	239	<i>capitata</i>	212	<i>canadensis</i>	479
<i>goodenoides</i>	240	<i>ciliata</i>	210	<i>cuneifolia</i>	476
<i>gracilis</i>	240	<i>heterophylla</i>	211	<i>lacinata</i>	475
<i>inflata</i>	241	<i>hirsuta</i>	210	<i>lucida</i>	476
<i>Kalmii</i>	249	<i>hybrida</i>	211	<i>Xanthocarpus</i>	475
<i>Kalmii</i>	240	<i>longifolia</i>	211	<b>MIKROPETA-</b>	
<i>Nuttallii</i>	240	<i>punctata</i>	210	<b>LUM</b>	452
<i>pallida</i>	240	<i>quadrifolia</i>	210	<i>gramineum</i>	452
<i>pubulosa</i>	239	<i>racemosa</i>	210	<i>lanceolatum</i>	453
<i>puberula</i>	240	<i>revoluta</i>	212	<b>MILIUM</b>	77
<i>siphilitica</i>	241	<i>stricta</i>	210	<i>amphicarpum</i>	77
<i>spicata</i>	240	<i>thysiflora</i>	212	<i>ciliatum</i>	77
<b>LOISELURIA</b>	232	<b>LYTHRUM</b>	471	<i>effusum</i>	77
<i>procumbens</i>	233	<i>Cuphea</i>	472	<i>paspalodes</i>	154
<b>LOLIUM</b>	233	<i>hyssopifolia</i>	472	<i>pungens</i>	78
<i>perenne</i>	133	<i>petiolatum</i>	472	<i>racemosum</i>	79
<i>temulentum</i>	134	<i>Salicaria</i>	471	<i>rigidifolium</i>	79
<i>vulgare</i>	134	<i>verticillatum</i>	471	<b>MITCHELLA</b>	174
<b>LOPHIOLA</b>	343	<b>MAIANTHEMUM</b>	353	<i>repens</i>	174
<i>aurea</i>	343	<i>canadense</i>	354	<b>MITELLA</b>	446
<b>LONICERA</b>	242	<b>MALUS</b>	480	<i>cordifolia</i>	446
<i>ciliata</i>	245	<i>angustifolia</i>	480	<i>diphylla</i>	446
<i>Diervilla</i>	238	<i>coronaria</i>	480	<i>reniformis</i>	446

	Page	ONGSMODIUM	Page		Page
<b>MOLLUGO</b>	159	hispidum	204	<b>PARNASSIA</b>	323
verticillata	160	molle	204	<i>americana</i>	324
<b>MONARDA</b>	24	<i>scabrum</i>	205	caroliniana	324
<i>ciliata</i>	27	<b>ORNITHOGALUM</b>	347	<i>ovata</i>	324
clinopodia	26	umbellatum	348	palustris	324
<i>coccinea</i>	24	<b>ORNUS</b>	7	<b>PASPALUM</b>	75
didyma	24	americana	8	ciliatifolium	75
fistulosa	26	<i>europæa</i>	8	<i>ciliatum</i>	75
hirsuta	27	<b>ORONTIUM</b>	357	<i>dasyphyllum</i>	75
<i>Kalmiana</i>	25	aquaticum	357	kevc	76
<i>lutea</i>	26	<b>ORYZOPSIS</b>	71	<i>pubescens</i>	76
<i>mollis</i>	25	asperifolia	71	<i>racemosum</i>	76
oblongata	25	<i>melanocarpa</i>	79	setaceum	76
punctata	26	<b>OXALIS</b>	461	stoloniferum	76
<i>purpurea</i>	24	Acetosella	461	<b>PASPALUS</b>	75
<b>MONOTROPA</b>	430	corniculata	462	<i>filiformis</i>	155
Hypopithys	451	stricta	462	<i>levis</i>	76
<i>Hypopithys</i>	430	violacea	462	<i>serotinus</i>	155
kanuginosa	430	<b>OXYCOCCUS</b>	393	<i>setaceus</i>	76
<i>Morisoniana</i>	431	<i>hispidulus</i>	413	<i>stoloniferus</i>	77
uniflora	431	macrocarpus	493	<b>PASTINACA</b>	314
<b>MUHLENBERGIA</b>	82	<i>vulgaris</i>	393	ambigua	315
<i>aristata</i>	102	<b>PANAX</b>	291	rigida	314
diffusa	82	<i>pusillum</i>	291	sativa	314
<i>erecta</i>	102	quinquefolium	292	<i>triquinata</i>	315
<b>MYOSOTIS</b>	206	trifolium	291	<b>PAVIA</b>	384
arvensis	206	<b>PANICUM</b>	140	<i>ohioensis</i>	384
<i>Lappula</i>	208	agrostoides	146	<b>PENNISETUM</b>	152
palustris	206	<i>agrostidiformis</i>	147	<b>PENTHORUM</b>	463
<i>scorpioides</i>	206	anceps	147	sedoides	463
<i>verna</i>	207	<i>alopécuroideum</i>	152	<b>PEPLIS</b>	32
<i>virginiana</i>	209	capillare	149	americana	32
<b>MYRRHIS</b>	309	clandestinum	141	<b>PERILOCA</b>	277
canadensis	310	Crus Galli	141	græca	277
Claytoni	309	<i>Dactylon</i>	99	<b>PERSICARIA</b>	402
longistylis	310	depauperatum	144	<b>PHACELIA</b>	220
procumbens	309	dichotomum	145	bipinnata	220
<b>NARTHECIUM</b>	347	dichotomiflorum	148	fimbriata	220
americanum	347	<i>discolor</i>	146	parviflora	220
<i>pubens</i>	371	<i>elongatum</i>	147	<b>PHALANGIUM</b>	346
<b>NECTRIS</b>	339	<i>filiforme</i>	155	esulentum	346
<i>pinnata</i>	359	<i>geniculatum</i>	148	<i>Quamash</i>	346
<b>NEGUNDIUM</b>	398	<i>glabrum</i>	154	<i>ossifragum</i>	347
<b>NEGUNDO</b>	398	<i>glaucum</i>	152	<b>PHALARIS</b>	100
<i>fraxinifolium</i>	398	hispidum	141	americana	100
<b>NICOTIANA</b>	223	involutum	144	<i>arundinacea</i>	100
rustica	223	latifolium	141	canariensis	100
<b>OBOLARIA</b>	187	<i>latifolium</i> β.	142	<i>caroliniana</i>	100
virginica	188	longifolium	149	<b>PHLEUM</b>	98
<b>OENANTHE</b>	314	macrocarpum	143	pratense	98
<i>rigida</i>	314	<i>miliceum</i>	148	<b>PHLOX</b>	227
<b>OENOTHERA</b>	387	<i>nurricatum</i>	142	aristata	228
biennis	387	nervosum	143	divaricata	229
canadensis	390	nitidum	145	<i>latifolia</i>	227
chrysantha	390	pedunculatum	241	maculata	228
fruticosa	389	<i>pennsylvanicum</i>	147	paniculata	227
grandiflora	388	proliferum	148	pyramidalis	227
incana	389	pubescens	144	reptans	229
muricata	388	rectum	148	setacea	229
parviflora	388	<i>rostratum</i>	147	<i>stolonifera</i>	229
pumila	390	<i>sanguinale</i>	154	<b>PHRAGMITES</b>	102
pusilla	390	seoparium	142	communis	102
sinuata	388	<i>strictum</i>	148	<b>PHYLLADOCCE</b>	394
<b>OLDENLANDIA</b>	171	<i>strigosum</i>	149	<i>taxifolius</i>	394
glomerata	171	virgatum	147	<b>PHYSALIS</b>	233
uniflora	171	<i>viride</i>	152	lanceolata	234
<b>ONOSMODIUM</b>	204	<i>Walteri</i>	141, 142	obscura	233



PHYSALIS	Page	POA	Page	POTAMOGETON	Page
<i>pennsylvanica</i>	234	<i>striata</i>	111	<i>lucens</i>	197
<i>pruinosa</i>	233	<i>subverticillata</i>	118	<i>marinum</i>	198
<i>viscosa</i>	233	<i>tenella</i>	114	<i>natans</i>	196
<b>PHYTOLACCA</b>	464	<i>trivialis</i>	110	<i>pauciflorum</i>	198
<i>deandra</i>	464	<i>viridis</i>	109	<i>pectinaceum</i>	198
<b>PIPTATHERUM</b>	79	<b>PODALYRIA</b>	441	<i>perfoliatum</i>	197
<i>nigrum</i>	79	<i>tinctoria</i>	441	<i>setaceum</i>	198
<b>PLINERA</b>	299	<b>PODOPHYLLUM</b>	399	<b>POTENTILLA</b>	494
<i>Richardi</i>	299	<i>diphyllum</i>	399	<i>argentea</i>	497
<b>PLANTAGO</b>	182	<b>POLLINIA</b>	157	<i>Anserina</i>	498
<i>cordata</i>	182	<i>scoparia</i>	156	<i>canadensis</i>	496
<i>cucullata</i>	185	<b>POLYGONATUM</b>	356	<i>caroliniana</i>	497
<i>hybrida</i>	185	<i>angustifolium</i>	358	<i>Comarum</i>	498
<i>interrupta</i>	185	<i>biflorum</i>	358	<i>confertiflora</i>	499
<i>kentuckensis</i>	182	<i>canaliculatum</i>	357	<i>floribunda</i>	497
<i>lanceolata</i>	184	<i>latifolium</i>	357	<i>fruticosa</i>	497
<i>linearifolia</i>	185	<i>multiflorum</i>	356	<i>geoides</i>	500
<i>major</i>	183	<i>pubescens</i>	356	<i>hirsuta</i>	495
<i>maritima</i>	184	<b>POLYGONUM</b>	400	<i>Morisoni</i>	495
<i>maxima</i>	185	<i>amphibium</i>	403	<i>monspehiense</i>	495
<i>media</i>	183	<i>arifolium</i>	407	<i>norwegica</i>	496
<i>oliganthos</i>	184	<i>articulatum</i>	405	<i>palustris</i>	498
<i>pauciflora</i>	184	<i>aviculare</i>	400	<i>pennsylvanica</i>	499
<i>pusilla</i>	184	<i>barbatum</i>	402	<i>pumila</i>	496
<i>virginica</i>	183	<i>Bistorta</i>	403	<i>sarmentosa</i>	497
<b>POA</b>	106	<i>ciliode</i>	406	<i>simplex</i>	497
<i>alpina</i>	108	<i>coccineum</i>	404	<i>supina</i>	498
<i>amabilis</i>	114	<i>Convulvulus</i>	406	<i>tridentata</i>	495
<i>annua</i>	107	<i>erectum</i>	400	<b>POTHOS</b>	191
<i>aquatica</i>	108	<i>glaucum</i>	400	<i>fetida</i>	191
<i>arundinacea</i>	108	<i>Hydropiper</i>	402	<i>ovata</i>	358
<i>autumnalis</i>	109	<i>hydropiperoides</i>	402	<b>PRIMULA</b>	112
<i>brevifolia</i>	108	<i>incarnatum</i>	404	<i>farinosa</i>	213
<i>canadensis</i>	112	<i>lapathifolium</i>	404	<i>pusilla</i>	213
<i>capillaris</i>	123	<i>linifolium</i>	401	<b>PRINOS</b>	337
<i>compressa</i>	110	<i>maritimum</i>	401	<i>ambiguus</i>	338
<i>crocata</i>	111	<i>marinum</i>	401	<i>glabra</i>	338
<i>dentata</i>	107	<i>nitida</i>	402	<i>Gronovii</i>	337
<i>elongata</i>	112	<i>natans</i>	404	<i>laevigatus</i>	338
<i>Eragrostis</i>	115	<i>orientale</i>	405	<i>padifolius</i>	338
<i>fasciculata</i>	107	<i>pennsylvanicum</i>	404	<i>verticillatus</i>	357
<i>flexuosa</i>	109	<i>Persicaria</i>	405	<b>PROSERPINACA</b>	161
<i>frutans</i>	103	<i>punctatum</i>	402	<i>palustris</i>	161
<i>hirsuta</i>	114	<i>sagittatum</i>	407	<i>pectinacea</i>	162
<i>hydrophylla</i>	111	<i>scandens</i>	406	<b>PRUNUS</b>	467
<i>hypnoides</i>	115	<i>tenuis</i>	401	<i>acuminata</i>	470
<i>laxa</i>	118	<i>virginianum</i>	403	<i>borealis</i>	468
<i>lineata</i>	111	<i>viviparum</i>	403	<i>canadensis</i>	468
<i>maritima</i>	108	<b>POLYGONELLA</b>	403	<i>depressa</i>	470
<i>nemorialis</i>	111	<b>POLYPOGON</b>	91	<i>lanceolata</i>	468
<i>nervata</i>	111	<i>glomeratus</i>	92	<i>maritima</i>	470
<i>obtusata</i>	112	<i>racemosus</i>	92	<i>mollis</i>	470
<i>obtusata</i>	115	<i>setosus</i>	92	<i>nigra</i>	469
<i>palustris</i>	111	<b>PONTEDERIA</b>	342	<i>pennsylvanica</i>	468
<i>purviflora</i>	112	<i>angustifolia</i>	343	<i>pubescens</i>	469
<i>pectinacea</i>	114	<i>cordata</i>	342	<i>pumila</i>	469
<i>pilosa</i>	114	<i>mucronata</i>	343	<i>pygmaea</i>	469
<i>plumosa</i>	114	<b>POTAMOGETON</b>	195	<i>serotina</i>	467
<i>pratensis</i>	109	<i>capillaceum</i>	196	<i>sphaerocarpha</i>	469
<i>pungens</i>	109	<i>compressum</i>	198	<i>virginiana</i>	467
<i>quinquefida</i>	118	<i>crispum</i>	198	<b>PSAMMA</b>	95
<i>reptans</i>	114	<i>diversifolium</i>	197	<i>arenaria</i>	95
<i>serotina</i>	110	<i>exstipulaceum</i>	198	<b>P'LEEA</b>	189
<i>serotina</i> β.	111	<i>fluitans</i>	196	<i>trifoliata</i>	189
<i>sesleroides</i>	118	<i>gramineum</i>	198	<b>PTEROSPORA</b>	428
<i>stolonifera</i>	110	<i>heterophyllum</i>	196	<i>Andromedea</i>	429
<i>spectabilis</i>	114	<i>hybridum</i>	196	<b>PULMONARIA</b>	361

	Page	RHYNCHOSPORA	Page	SABBATTIA	Page
<b>PULMONARIA</b>		<i>glomerata</i>	55	<i>angularis</i>	218
<i>denticulata</i>	203	<i>laxa</i>	57	<i>calicosa</i>	218
<i>maritima</i>	203	<i>longirostris</i>	57	<i>chloroides</i>	218
<i>parviflora</i>	203	<i>sparsa</i>	56	<i>corymbosa</i>	219
<i>sibirica</i>	203	<b>RIBES</b>	267	<i>gracilis</i>	217
<i>virginica</i>	201	<i>albinervium</i>	267	<i>paniculata</i>	219
<b>PURSHIA</b>	204	<i>Cynosbati</i>	269	<i>stellaris</i>	217
<i>hispida</i>	204	<i>Cynosbati</i>	273	<b>SAGINA</b>	195
<i>mollis</i>	205	<i>floridum</i>	267	<i>apetala</i>	195
<b>PYROLA</b>	432	<i>glandulosum</i>	268	<i>procumbens</i>	195
<i>asarifolia</i>	433	<i>gracile</i>	269	<i>virginica</i>	185
<i>chlorantha</i>	433	<i>hirtellum</i>	269	<b>SALICORNIA</b>	1
<i>elliptica</i>	433	<i>lacustre</i>	270	<i>ambigua</i>	2
<i>maculata</i>	435	<i>oxyanthoides</i>	270	<i>herbacea</i>	1
<i>minor</i>	434	<i>oxycanthoides</i>	270	<i>virginica</i>	1
<i>rotundifolia</i>	432	<i>pennsylvanicum</i>	268	<b>SALSOLA</b>	297
<i>secunda</i>	434	<i>prostratum</i>	267	<i>caroliniana</i>	297
<i>umbellata</i>	435	<i>recurvatum</i>	267	<i>Kali</i>	297
<i>uniflora</i>	434	<i>rigens</i>	268	<i>linearis</i>	297
<b>PYRULARIA</b>	271	<i>trifidum</i>	268	<i>Salsa</i>	297
<i>oleifera</i>	271	<i>triflorum</i>	269	<i>Soda</i>	298
<b>PYRUS</b>	485	<b>RIVINIA</b>	190	<i>Tragus</i>	298
<i>angustifolia</i>	480	<i>levis</i>	190	<b>SALVIA</b>	27
<i>arbutifolia</i>	478	<b>ROCHELIA</b>	208	<i>Claytoni</i>	28
<i>Botryapium</i>	479	<i>Lappula</i>	208	<i>Grata</i>	28
<i>coronaria</i>	480	<i>virginiana</i>	209	<i>urticifolia</i>	27
<i>melanocarpa</i>	479	<b>ROSA</b>	484	<i>verbenaca</i>	28
<i>ovalis</i>	479	<i>carolina</i>	486	<b>SAMBUCUS</b>	321
<b>PYRIDANTHERA</b>	231	<i>caroliniana</i>	485	<i>canadensis</i>	321
<i>barbulata</i>	231	<i>corymbosa</i>	486	<i>pubens</i>	321
<b>QUERUS</b>	273	<i>gemella</i>	485	<i>pubescens</i>	322
<i>canadensis</i>	273	<i>lucida</i>	485	<b>SAMOLUS</b>	216
<i>capillacea</i>	273	<i>nitida</i>	485	<i>Valerandi</i>	216
<b>RHAMNUS</b>	263	<i>parviflora</i>	485	<b>SANGUISORBA</b>	175
<i>alnifolius</i>	263	<i>pennsylvanica</i>	485	<i>canadensis</i>	176
<i>catharticus</i>	263	<i>ruginosa</i>	486	<i>media</i>	176
<i>franguloides</i>	263	<i>surveolens</i>	486	<b>SANICULA</b>	302
<b>RHEXIA</b>	385	<i>virginica</i>	486	<i>canadensis</i>	302
<i>ciliosa</i>	386	<b>RUBUS</b>	486	<i>marilandica</i>	302
<i>mariana</i>	386	<i>canadensis</i>	488	<b>SAPONARIA</b>	447
<i>petiolata</i>	387	<i>Chamaemorus</i>	490	<i>officinalis</i>	447
<i>virginica</i>	385	<i>cuneifolius</i>	488	<b>SAURURUS</b>	380
<b>RHODODENDRON</b>	423	<i>Dalibarda</i>	491	<i>cernuus</i>	381
<i>arboreum</i>	425	<i>hispidus</i>	489	<b>SAXIFRAGA</b>	443
<i>calendulaceum</i>	425	<i>Idæus</i>	487	<i>nivalis</i>	444
<i>hispidum</i>	425	<i>obovalis</i>	490	<i>pennsylvanica</i>	444
<i>lapponicum</i>	426	<i>occidentalis</i>	489	<i>vernalis</i>	444
<i>maximum</i>	426	<i>odoratus</i>	490	<i>virginensis</i>	444
<i>nitidum</i>	425	<i>parvifolius</i>	488	<b>SCANDIX</b>	309
<i>nudiflorum</i>	424	<i>pennsylvanicus</i>	488	<i>duicis</i>	309
<i>viscosum</i>	424	<i>procumbens</i>	489	<i>procumbens</i>	309
<b>RHODORA</b>	427	<i>saxatilis</i> β.	490	<b>SCHENODORUS</b>	120
<i>canadensis</i>	427	<i>strigosus</i>	488	<i>elatior</i>	121
<b>RHUS</b>	322	<i>trivialis</i>	489	<i>obtusus</i>	121
<i>aromaticum</i>	324	<i>villosus</i>	487	<i>pratensis</i>	121
<i>copallinum</i>	323	<b>RUMEX</b>	377	<i>tenellus</i>	120
<i>glabrum</i>	322	<i>Acetosella</i>	378	<b>SCHUCHTZERIA</b>	372
<i>radicans</i>	324	<i>aquaticus</i>	378	<i>palustris</i>	372
<i>surveolens</i>	324	<i>Britannica</i>	378	<b>SCHCENUS</b>	53
<b>Toxicodendron</b>	323	<i>britannicus</i>	379	<i>albus</i>	53
<i>typhinum</i>	322	<i>crispus</i>	378	<i>angustifolius</i>	58
<b>Vernix</b>	323	<i>obtusifolius</i>	379	<i>capitatus</i>	55
<b>RHYNCHOSPORA</b>	54	<i>sanguineus</i>	378	<i>capitellatus</i>	55
<i>alba</i>	54	<i>verticillatus</i>	379	<i>corniculatus</i>	57
<i>capillacea</i>	55	<b>RUPPIA</b>	198	<i>cymosus</i>	56
<i>capitellata</i>	58	<i>maritima</i>	199	<i>fuscus</i>	55
<i>cymosa</i>	56	<b>SABBATTIA</b>	227	<i>glomeratus</i>	55
<i>fusca</i>	55				

## INDEX.

513

	Page		Page		Page
SCHUENUS		<i>SELINUM</i>		SORBUS	
<i>longirostris</i>	57	<i>canadense</i>	306	<i>microcarpa</i>	477
<i>marisoides</i>	54	SESUVIUM	477	SPARTINA	69
<i>Marriscus</i>	54	<i>portulacastrum</i>	478	<i>cynosuroides</i>	69
<i>setaceus</i>	56	sessile	478	<i>glabra</i>	70
<i>sparsus</i>	56	SETARIA	152	<i>juncea</i>	70
<i>spathaceus</i>	58	<i>glaucā</i>	152	<i>polystachya</i>	69
SCHOLLERA	40	<i>italica</i>	153	<i>pumila</i>	70
<i>graminifolia</i>	41	<i>purpurascens</i>	153	SPERGULA	457
SCILLA	347	<i>verticillata</i>	153	<i>arvensis</i>	457
<i>esculenta</i>	347	<i>viridis</i>	152	<i>decumbens</i>	457
SCIRPUS	43	SIBBALDIA	330	<i>nodosa</i>	457
<i>acutus</i>	49	<i>procumbens</i>	330	<i>sagmoides</i>	457
<i>acicularis</i>	45	SILENE	450	SPERGULAS-	
<i>atrovirens</i>	49	<i>antirrhina</i>	450	TRUM	452
<i>autumnalis</i>	52	<i>caroliniana</i>	450	<i>gramineum</i>	452
<i>americanus</i>	47	<i>Catesbæi</i>	450	<i>lanceolatum</i>	453
<i>brunneus</i>	49	<i>inflata</i>	449	SPERMACOCE	170
<i>capillaceus</i>	45	<i>nivea</i>	449	<i>diodina</i>	170
<i>capitatus</i>	45	<i>nocturna</i>	451	SPIGELIA	221
<i>capillaris</i>	52	<i>pennsylvanica</i>	450	<i>marilandica</i>	221
<i>cespitosus</i>	47	<i>virginica</i>	450	SPIRÆA	480
<i>ciliatifolius</i>	52	virginica	450	<i>alba</i>	481
<i>cyperiformis</i>	63	SISON	305	<i>Arunceus</i> $\beta$ .	482
<i>debilis</i>	48	<i>aureus</i>	305	<i>chamædrifolia</i>	482
<i>echinatus</i>	58	<i>bulbosum</i>	304	<i>corymbosa</i>	482
Eriophorum	50	<i>canadense</i>	304	<i>crenata</i>	482
<i>eriphorum</i>	50	<i>capillaceus</i>	306	<i>hypericifolia</i>	482
<i>exaltatus</i>	49	<i>integerrimus</i>	305	<i>lobata</i>	483
<i>ferrugineus</i>	53	<i>marginatum</i>	314	<i>opulifolia</i>	482
<i>glaucescens</i>	45	SISYRINCHIUM	42	<i>salicifolia</i>	481
<i>glaucus</i>	44	<i>anceps</i>	42	<i>stipulata</i>	484
<i>intermedius</i>	46	<i>bermudicum</i>	42	<i>tomentosa</i>	481
<i>lineatus</i>	51	<i>gramineum</i>	42	<i>trifoliata</i>	483
<i>lacustris</i>	48	<i>mucronatum</i>	43	SPOROBIOLUS	84
<i>marisciformis</i>	63	SIUM	311	STAPHYLEA	325
<i>maritimus</i>	50	<i>denticulatum</i>	311	<i>trifolia</i>	325
<i>macrostachyos</i>	50	<i>latifolium</i>	311	STATICE	528
<i>minus</i>	51	<i>lineare</i>	311	<i>Armeria</i>	328
<i>mucronatus</i>	48	<i>longifolium</i>	315	<i>caroliniana</i>	329
<i>mucronulatus</i>	52	<i>rigidum</i>	314	<i>Limonium</i>	529
<i>obtusus</i>	45	<i>tenuifolium</i>	312	STELLARIA	451
<i>palustris</i>	45	SMILACINÆ	353	<i>graminea</i>	452
<i>pendulus</i>	51	<i>borealis</i>	355	<i>lanceolata</i>	453
<i>planifolius</i>	46	<i>canadensis</i>	363	<i>longifolia</i>	452
<i>polyphyllus</i>	56	<i>racemosa</i>	355	<i>longipes</i>	451
<i>puberulus</i>	53	<i>stellata</i>	354	<i>media</i>	452
<i>pusillus</i>	46	<i>trifolia</i>	354	<i>pubera</i>	452
<i>retrofractus</i>	57	<i>umbellata</i>	355	<i>uniflora</i>	455
<i>robustus</i>	50	SMYRNIUM	307	STIPA	80
<i>spathaceus</i>	59	<i>atropurpureum</i>	307	<i>avenacea</i>	80
<i>spadiceus</i>	53	<i>aureum</i>	305	<i>barbata</i>	80
<i>subsquarrosus</i>	51	<i>cordatum</i>	307	<i>bicolor</i>	80
<i>subterminalis</i>	47	<i>integerrimum</i>	305	<i>capillaris</i>	93
<i>thyrsiflorus</i>	50	<i>trifoliatum</i>	307	<i>diffusa</i>	93
<i>trichodes</i>	45	SOLANUM	235	<i>sericea</i>	93
<i>triqueter</i>	47	<i>alatum</i>	235	<i>virginica</i>	80
<i>tenuis</i>	44	<i>carolinianum</i>	235	STREPTOPUS	352
<i>validus</i>	48	<i>Dulcamara</i>	235	<i>distortus</i>	353
SCLERANTHIUS	448	<i>nigrum</i>	235	<i>lanuginosus</i>	353
<i>annuus</i>	448	<i>pterocaulis</i>	235	<i>roseus</i>	352
SECALE	136	SOLEA	258	SWERTIA	186
<i>cereale</i>	136	<i>stricta</i>	258	<i>corniculata</i>	186
SEDUM	463	SOPHORA	441	<i>deflexa</i>	186
<i>portulacoides</i>	463	<i>tinetoria</i>	441	<i>Michauxiana</i>	186
<i>telephioides</i>	463	SORBUS	477	<i>pusillus</i>	187
<i>ternatum</i>	464	<i>americana</i>	477	SYMPLOCARPA	246
SELINUM	306	<i>Aucuparia</i>	477	<i>glomerata</i>	246

	Page		Page		Page
<b>SYMPHORIA</b>		<b>TRILLIUM</b>		<b>VACCINIUM</b>	
<i>racemosa</i>	247	<i>Catesbei</i>	376	<i>album</i>	414
<b>SYMPHORICAR-</b>		<i>cernuum</i>	376	<i>amoenum</i>	415
<b>PUS</b>	246	<i>erectum</i>	376	<i>corymbosum</i>	416
<i>racemosus</i>	246	<i>erythrocarpum</i>	375	<i>disomorphum</i>	416
<i>vulgaris</i>	246	<i>foetidum</i>	376	<i>dumosum</i>	414
<b>SYMPLOCARPUS</b>	191	<i>grandiflorum</i>	377	<i>frondosum</i>	415
<i>laetida</i>	191	<i>pendulum</i>	377	<i>frondosum</i>	415
<b>SYNTHERISMA</b>	154	<i>pictum</i>	375	<i>fuscatum</i>	416
<i>præcox</i>	154	<i>pumilum</i>	376	<i>gaultherioides</i>	417
<i>serotina</i>	155	<i>pusillum</i>	376	<i>glaucum</i>	415
<b>THAPSIÀ</b>	317	<i>rhomboideum</i>	375	<i>hirtellum</i>	415
<i>trifoliata</i>	317	<i>sessile</i>	374	<i>hispidulum</i>	413
<b>THASPIUM</b>	305	<i>stylosum</i>	376	<i>ligustrium</i>	417
<i>actæifolium</i>	315	<i>undulatum</i>	375	<i>ligustrinum</i>	421
<i>atropurpureum</i>	307	<b>TRIODIA</b>	107	<i>macrocarpon</i>	393
<i>aureum</i>	305	<i>pallida</i>	107	<i>Oxycoccus</i>	393, 394
<i>barbinode</i>	317	<i>cuprea</i>	118	<i>pennsylvanicum</i>	416
<b>THESIUM</b>	271	<b>TRIOSTEUM</b>	247	<i>resinosum</i>	415
<i>umbellatum</i>	272	<i>perfoliatum</i>	247	<i>stamineum</i>	414
<b>TIARELLA</b>	445	<b>TRISETUM</b>	126	<i>tenellum</i>	417
<i>cordifolia</i>	445	<i>palustre</i>	126	<i>tenellum</i>	416
<b>TOFIELDIA</b>	371	<i>pennsylvanicum</i>	131	<i>uliginosum</i>	417
<i>palustris</i>	372	<i>purpurascens</i>	127	<i>virgatum</i>	416
<i>pubens</i>	371	<b>TRITICUM</b>	135	<i>Vitis</i> Idæa	418
<i>pubescens</i>	371	<i>æstivum</i>	155	<b>VALERIANA</b>	35
<b>TORRESIA</b>	150	<i>caninum</i>	136	<i>locusta</i>	35
<b>TRACHYNOTIA</b>	69	<i>repens</i>	135	<i>radiata</i>	35
<i>cynosuroides</i>	69	<b>ULMUS</b>	298	<b>VERATRUM</b>	368
<i>juncea</i>	70	<i>americana</i>	298	<i>album</i>	368
<i>polystachya</i>	69	<i>aspera</i>	299	<i>luteum</i>	370
<b>TRADESCANTIA</b>	334	<i>fulva</i>	299	<i>viride</i>	368
<i>aristata</i>	335	<i>nemoralis</i>	299	<b>VERBASCUM</b>	322
<i>rosea</i>	335	<i>rubra</i>	299	<i>Blattaria</i>	223
<i>virginica</i>	335	<b>UNIOLA</b>	104	<i>Lychnites</i>	223
<i>virginica</i>	335	<i>distichophylla</i>	104	<i>Thapsus</i>	223
<b>TRIGËNA</b>	139	<i>gracilis</i>	105	<b>VERONICA</b>	8
<b>TRICHOCHELOA</b>	93	<i>latifolia</i>	105	<i>agrestis</i>	10
<i>capillaris</i>	93	<i>spicata</i>	105	<i>anagallis</i>	9
<i>filiformis</i>	86	<b>URALEPIS</b>	117	<i>arvensis</i>	10
<i>glomerata</i>	92	<i>aristulata</i>	117	<i>Beccabunga</i>	9
<i>longiseta</i>	87	<i>purpurea</i>	118	<i>carnulosa</i>	10
<i>setosa</i>	92	<b>URASPERMUM</b>	309	<i>caroliniana</i>	11
<i>scabifera</i>	87	<i>Claytoni</i>	309	<i>marilandica</i>	11
<b>TRICHODIUM</b>	82	<b>UTRICULARIA</b>	17	<i>officinalis</i>	8
<i>elatum</i>	83	<i>ceratophylla</i>	18	<i>peregrina</i>	10
<i>laviflorum</i>	83	<i>cornuta</i>	19	<i>reniformis</i>	11
<i>montanum</i>	84	<i>gibba</i>	19	<i>romana</i>	11
<i>scabrum</i>	83	<i>inflata</i>	17	<i>scutellata</i>	9
<i>strictum</i>	85	<i>macrophylla</i>	19	<i>serpyllifolia</i>	8
<b>TRICHOPHO-</b>		<i>minor</i>	19	<i>virginica</i>	11
<b>RUM</b>	43, 44	<i>pumila</i>	19	<b>VIBURNUM</b>	317
<i>alpinum</i>	65	<i>purpurea</i>	20	<i>acerifolium</i>	320
<i>cyperinum</i>	50	<i>saccata</i>	20	<i>dentatum</i>	319
<i>lineatum</i>	51	<i>setacea</i>	19	<i>edule</i>	321
<b>TRICUSPIS</b>	118	<i>striata</i>	20	<i>Lantanoides</i>	319
<i>seslerioides</i>	118	<i>subulata</i>	19	<i>Lantago</i>	318
<b>TRIDENS</b>	118	<i>vulgaris</i>	18	<i>nudum</i>	318
<i>quinquefida</i>	118	<b>UVULARIA</b>	351	<i>Opulus</i>	320
<b>TRIENTALIS</b>	382	<i>amplexifolia</i>	353	<i>Oxycoccus</i>	320
<i>americana</i>	382	<i>flava</i>	351	<i>Rafinesquianum</i>	320
<i>europæa</i>	382	<i>grandiflora</i>	351	<i>prunifolium</i>	318
<b>TRIGLOCHIN</b>	372	<i>lanceolata</i>	352	<i>pubescens</i>	320
<i>elatum</i>	373	<i>lanuginosa</i>	353	<i>pyrifolium</i>	318
<i>marginatum</i>	378	<i>perfoliata</i>	357	<i>squamatum</i>	319
<i>palustre</i>	373	<i>rosea</i>	352	<i>tomentosum</i>	320
<b>TRILLIUM</b>	374	<i>sessilifolia</i>	352	<i>trilobum</i>	320
<i>atropurpureum</i>	376	<b>VACCINIUM</b>	414	<i>villosum</i>	320

# INDEX.

	Page		Page		Page
<b>VILFA</b>	84	<b>VIOLA</b>		<b>WINDSORIA</b>	118
<b>VILLARSIA</b>	215	ochroleuca	255	<i>pallda</i>	107
<i>aquatica</i>	215	ovata	251	<i>poæformis</i>	118
lacunosa	215	palmata	250	<b>WURMBEA</b>	345
trachysperma	215	papilionacea	251	<i>bulata</i>	345
<b>VINCETOXICUM</b>	278	pedata	249	<b>XANTHORHIZA</b>	333
<b>VIOLA</b>	249	<i>pennsylvanica</i>	257	<i>apiifolia</i>	333
<i>aquatica</i>	253	<i>primulifolia</i>	253	<i>simplicissima</i>	333
arvensis	258	<i>primulifolia</i>	251	<i>tinctoria</i>	333
<i>asarifolia</i>	256	<i>pubescens</i>	257	<b>XEROPHYLLUM</b>	370
<i>bicolor</i>	258	<i>rotundifolia</i>	252	<i>setifolium</i>	370
<i>barbata</i>	252	<i>rostrata</i>	256	<b>XYLOSTEUM</b>	244
<i>blanda</i>	252	<i>sagittata</i>	250	<i>ciliatum</i>	245
<i>canadensis</i>	255	<i>sororia</i>	252	<i>oblongifolium</i>	245
<i>ciliata</i>	251	<i>striata</i>	252	<i>Solanis</i>	245
<i>elandestina</i>	254	<i>tenella</i>	257	<i>tartaricum</i>	245
<i>concolor</i>	258	<i>uliginosa</i>	256	<i>villosum</i>	245
<i>cordata</i>	252	<i>villosa</i>	252	<b>XYRIS</b>	40
<i>eucullata</i>	251	<b>VITIS</b>	261	<i>brevifolia</i>	30
<i>debilis</i>	256	<i>æstivalis</i>	265	<i>caroliniana</i>	40
<i>dentata</i>	258	<i>cordifolia</i>	264	<i>flexuosa</i>	40
<i>digitata</i>	249	<i>hederacea</i>	266	<i>jupicai</i>	40
<i>eriocarpa</i>	257	<i>intermedia</i>	265	<b>ZEOCRITON</b>	158
<i>hastata</i>	257	<i>Labrusca</i>	264	<b>ZIZIPHORA</b>	22
<i>lanceolata</i>	253	<i>odoratissima</i>	265	<i>glabella</i>	23
<i>Muhlenbergii</i>	256	<i>quinquefolia</i>	266	<i>mariana</i>	22
<i>obliqua</i>	251	<i>riparia</i>	265	<i>pulegioides</i>	24
		<i>vulpina</i>	264		

# ENGLISH INDEX.

	Page		Page		Page
Agrimony	475	Buck-bean	214	Darnel	133
Alum-root	290	Buck-eye	384	Day-flower	38
American centaury	218	Buck-thorn	263	Day-lily	345
Columbo	187	Bull-rush	360	Deer-berry	414
cowslip	214	Burning-bush	261	Deer-grass	386
herb paris	374	Burr-grass	368	Devil's-bit	370
laurel	432	Butterfly-weed	285	Dewberry	490
Anglicia	328	Button-bush	154	Dock	373
Apple	481	Calamus	359	Dodder	289
Arrow-grass	373	Calico-bush	422	Dog's-bane	275
Arrow-wood	319	Campion	449	Dog's-tooth violet	350
Asparagus	357	Canary-grass	100	Dog-wood	177
Avens	492	Cancer-weed	28	Duck's-meat	30
Balsam	248	Cardinal-flower	242	Elder	321
Barberry	336	Carrot	309	Elk-nut	271
Barley	158	Carolina allspice	501	Elm	298
Bastard-aloë	346	Carolina pink-root	222	Enchanter's nightshade	29
Bastard-loosestrife	180	Catalpa	16	False sanicle	446
Bastard-toadflax	272	Catchfly	450	Feather-grass	80
Beach-plum	470	Cat's-tail-grass	98	Fescue-grass	119
Bear-berry	411	Cherry	467	Fever-bush	409
Beard-grass	155	Chess	128	Fever-wort	447
Beaver-wood	300	Chickweed	428	Florin-grass	86
Bed-straw	165	Chickweed-winter-		Five-finger	497
Bell-flower	236	green	383	Flag	35
Bell-wort	351	Choke-berry	479	Flax	530
Bent-grass	85	Choke-cherry	468	Flower-de-luce	35
Bermuda-grass	98	Cinquefoil	494	Flowering ash	8
Bind-weed	224	Cleavers	165	Forked-chickweed	273
Bird's-nest	430	Club-rush	43	Fox-tail-grass	67
Bitter-sweet	263	Cockle	461	Fringe-tree	7
Blackberry	487	Cock's-foot-grass	141	Gentian	286
Black-heart	405	Cohosh	336	Ginseng	292
Black salt-wort	274	Colic-root	345	Glass-wort	1
Black snake-root	302	Columbo-root	187	Goat's-beard	483
Bladder campion	449	Corn-cockle	461	Golden-pert	13
Bladder-nut	323	Cornel	177	Golden-club	358
Bladder-wort	17	Cotton-grass	65	Golden-martagon	349
Blue-eyed-grass	42	Couch-grass	137	Golden-saxifrage	445
Blue-grass	110	Cow-parsnip	314	Good-King-Henry	294
Bog-rush	360	Crab-apple	380	Gooseberry	267
Bottle-grass	152	Crab-grass	154	Goose-foot	294
Box-elder	398	Craberry	393	Grape	264
Brome-grass	126	Culver's physic	12	Grass-poly	271
Brook-lime	9	Curraut	267	Grass of Parnassus	226
Brook-weed	216	Cypress-grass	59	Great-burnet	176

	Page		Page		Page
Crow-weil	202	Nightshade	335	Skunk-cabbage	192
Ground-cherry	235	Night-willow-herb	287	Slippery-elm	299
Ground-laurel	428	Nine-bark	482	Small bugloss	207
Hackberry	309, 319	Oak of Jerusalem	296	Soap-wort	447
Hair-grass	133	Oak-grass	131	Soft-grass	151
Hard-hack	481	Oil-nut	271	Solomon's-seal	352
Hawthorn	474	Onion	340	Sorrel-tree	421
Hedge-hyssop	12	Orache	292	Snow-berry	246
Hemlock	112	Orchard-grass	125	Speed-well	5
Henbane	224	Oswego-tea	231	Spice-wood	468
Holly	194	Panic-grass	130	Spider-wort	334
Honeysuckle	242	Parasnip	514	Spike-grass	104
Honey-wort	505	Partridge-berry	175, 412	Spikenard	325
Hoop-ash	300	Pear	480	Sumble-tree	261
Horse-chesnut	384	Pearl-wort	194	Spurrey	457
Horse-mint	26	Penny-royal	24	Staff-tree	262
Horse-weed	29	Persicaria	580	Stag's-horn	523
Indian-chickweed	160	Peter's-wort	246	Star-grass	342
Indian-cucumber	374	Pickerel-weed	343	Star of Bethlehem	317
Indian-hemp	275	Pimpernel	299	Stitch-wort	452
Indian-physic	000	Pine-sap	430	Stone-crop	463
Indian-tobacco	241	Pink	447	Straw-berry	500
Ink-berry	339	Pink-root	222	Strawberry-tree	261
Jacob's-ladder	230	Pipissisewa	435	Strawberry-spinach	7
Judas'-tree	441	Plantain	182	Sumach	322
June-berry	479	Plant	467	Sugar-maple	397
Knawel	448	Poison-elder	523	Sun-dew	331
Knot-grass	400	Poison-oak	324	Sunflow-wort	279
Knot-root	29, 409	Poison-vine	324	Swamp-hellebore	363
Labrador-tea	436	Poke	484	Swamp-sumach	323
Lady's-thumb	405	Poke-root	368	Sweet-birch	485
Lady's-mantle	190	Pond-weed	196	Sweet-cicely	519
Leather-wood	398	Prickly-ash	328	Sweet-flag	359
Lily	343	Prickly-pear	467	Sweet-pepper-bush	409
Lily-of-the-valley	353	Pima	7	Sweet-scented vernal grass	101
Lizard's-tail	380	Primrose	213	Thimble-berry	489
Loosestrife	210	Privet	7	Thin-grass	83
Lang-wort	201	Quaking-grass	107	Thorn-apple	232
Lyme-grass	137	Raspberry	499	Thrift	528
Magoty-bay-leean	440	Red-bay	408	Tobacco	223
Maple	395	Red-bud	441	Turk's-cap	349
Marc's-tail	2	Red-elm	299	Upright-honeysuckle	370
Marsh-grass	69	Red-root	58, 260	Venus'-pride	173
Marsh-penny-wort	303	Red-maple	396	Vine	264
Marsh-rosemary	392	Red-top	55, 119	Violet	249
Marsh-samphire	1	Red-grass	74	Virginian stone-crop	463
Marsh-trefoil	214	Rose	484	Water-avens	494
May-bush	479	Rush	359	Water-chickweed	3
Meadow-grass	107	Rye	136	Water-dock	373
Meadow-sweet	480	Sage	27	Water-feather	216
Mechoecanna	225	Salt-wort	297	Water-horehound	21
Melic-grass	159	Sand-cherries	469	Water-leaf	219
Millet-grass	77	Sand-myrtle	438	Water-plantain	381
Moose-wood	398	Sand-wort	453	Waxwork	263
Mountain-ash	477	Sanicie	502	Wheat	135
Mountain-avens	491	Sassafras	408	White-ash	7
Mountain-balm	24	Saxifrage	445	White-elm	299
Mountain-dittany	23	Scorpion-grass	208	White-hellebore	363
Mountain-leek	241	Seneca-grass	150	White-thortle-berry	414
Mountain-laurel	423	Sensitive-pea	440	Wild-allspice	409
Mountain-pink	229	Service-tree	447	Wild-cherry	467
Mountain-sumach	323	Shad-flower	479	Wild-elder	329
Mouse-ear-chickweed	458	Sheep-sorrel	480	Wild-garlic	341
Mullein	222	Shrubby-trefoil	190	Wild-indigo	441
Nettle-tree	300	Silk-weed	279		
New-Jersey-tea	260	Sipsisewa	435		

Wild-pea	Page 439	Willow-herb	Page 391	Woodbine	Page 242
Wild-penny-royal	24	Winter-berry	337	Wood-sorrel	461
Wild-pink	451	Winter-cherry	233	Worm-seed	296
Wild-potato	225	Winter-green	432	Yard-grass	135
Wild-sarsaparilla	327	Wire-grass	139	Yellow-eyed-grass	40
Wild-timothy	159	Witch-hazel	192	Yellow-root	333

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*.  
 186, 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*.  
 356, line 25, for *Smilacina*, l. *Polygonatum*, &c.  
 376, line 19 from bottom, for *stylisum*, l. *stylosum*.  
 416, line 14, for *dismorphum*, l. *disomorphum*.











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