A
Bethlehem Seminary
SKETCH

OF THE

BOTANY

OF

SOUTH-CAROLINA AND GEORGIA.

IN TWO VOLUMES.

BY STEPHEN ELLIOTT, LL.D.

VOLUME II.

CHARLESTON:
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1824.
AFTER many interruptions this Sketch of the phænogamous plants of South-Carolina and Georgia has at length been terminated. It was commenced when a work of this description was much wanted; it has been continued after that want has been in a great measure supplied, from a sense of obligation to those who had encouraged its publication.

That this work should be imperfect was unavoidable. The author has never had leisure or opportunity to visit every portion of the district whose plants it includes; he has had no access to Botanic Gardens where he might observe and examine those plants which had escaped his own researches; he has been able to consult but a very small number of the costly works, or even of the journals in which in Europe descriptions of the plants of North America are occasionally published, and he has had no opportunity of inspecting any herbarium but the one which through the kindness of his friends and his own exertions he has himself formed. Under such circumstances it will not be surprising if he shall
be found to have published under new names some species already known in Europe, some which may have been imperfectly or incorrectly described by preceding authors, or some which he himself may have mistaken. While therefore he hopes that the errors from these sources will not be numerous, he could yet only offer it as "a sketch" in which he has included all such plants within the limits of South-Carolina and Georgia as he has had an opportunity of examining, and such as had been ascribed to the same districts by Botanists on whose authority he thought himself compelled to rely.

He trusts, however, that this Sketch will be found to have somewhat extended the knowledge of the Botany of the Southern States; that it contains descriptions of many plants not heretofore known; that it has rectified some errors; that it has elucidated some of the doubtful plants in the works of our older writers, and that it contains a careful, and he hopes a faithful description of such plants as he himself has seen.

In the time which has elapsed since the publication of the early numbers of this work many changes have taken place in Botanical nomenclature, many reforms which by limiting more strictly generic characters, have led to many subdivisions of old genera. The natural order of the Gramineæ in particular has been remodelled, and in some of the most natural families, the Cruciferae, the Umbelliferae, and the Compositæ, an almost entirely new distribution of
the species has taken place. It would require a new edition rather than a supplement, to indicate all of these changes, and any one who is conversant with the Genera as determined by Schreber and Willdenow, will readily comprehend the principles on which these changes have been made, and the characters of the new genera which have been adopted or proposed. Most of the alterations which have been made in American plants will be found in Nuttall's "Genera of North American Plants," or in the valuable Flora of the Northern States now publishing by Dr. Torrey of New-York.

If however the friends who have hitherto by their contributions added so much to the value of this work shall not find their patience exhausted; if they and if others who may be attracted to the study of this interesting science will continue to communicate to the author such plants as he may appear to have omitted, such as he may have inaccurately or imperfectly described, and will point out errors of any kind which he may have committed, he may hope at a future day to present this work in a form more worthy of their approbation.

To those friends he feels gratified to make public his acknowledgements. With the late Dr. Muhlenberg of Lancaster, Penn. he was accustomed for many years to compare and collate the plants of Carolina and Pennsylvania, and derived from this correspondence
much instruction when his attention was first directed to Botanical pursuits.

To Dr. Lewis de Schweinitz he is indebted for notes on many genera and species of our plants, for a long and friendly correspondence, and for many specimens of plants from North-Carolina.

To Zaccheus Collins, Esq. of Philadelphia, he wishes to return his thanks for repeated acts of kindness, for many and very beautiful specimens of Northern plants which served him as standards of comparison, for some rare and interesting minerals, and for much information on subjects connected with his researches.

To Dr. John Torrey of New-York, he is indebted for many of the plants of New-Jersey and New-York, for an opportunity of comparing many doubtful species, and of ascertaining many of the plants of Pursh which were to him uncertain or obscure.

To Mr. Rafinesque of Lexington, Kentucky, he is under obligations for many plants of the Western States, and for the pleasure of an interesting correspondence.

To Dr. Bigelow and Mr. F. Boott of Boston, he wishes also to express his obligations for many very beautiful specimens of plants from the Eastern States.

To Mr. Nuttall he is also indebted for some rare plants from the Arkansaw and Missouri.

To those who have aided him in collecting the plants from which this sketch has been com-
piled, he feels his manifold obligations; he wishes to express them particularly to Mr. James Jackson of Louisville, Georgia, from whom he has received many new and many rare plants, and whose notes have always rendered his specimens more valuable.

To Dr. Samuel Boykin of Milledgeville, who residing in a most interesting district of country, has added much to his knowledge of its Flora by the valuable collection of specimens occasionally sent him.

To Mr. N. Herbecmont of Columbia, South-Carolina, for many specimens of rare plants, collected around Columbia and in the upper districts of Carolina.

To Dr. Wm. Baldwin of the United States Navy, a Botanist of distinguished talents and indefatigable activity, who while residing in the southern districts of Georgia communicated many new species to the early numbers of this work, and would have continued to enrich it with his discoveries if he had not unfortunately been recalled to other stations and to climes less favourable to his health. In the pursuit of his favourite studies he died on the banks of the Missouri, in the expedition of Major Long to the Rocky Mountains.

But principally to the late Dr. James Macbride a tribute is due not only for the services which he himself actually rendered, but for the contributions which he induced others to offer. Devotedly attached to science, he had the talent
to make it popular wherever his influence extended. Profoundly skilled in his profession and high in the confidence of his fellow citizens, he fell a victim to the fatigues and exposure of an extensive practice. In the midst of a brilliant career, with prospects of increasing usefulness and extended reputation, he died at the early age of 33. He left to many friends a mournful inheritance—the task of lamenting one so highly gifted, so prematurely lost. To his memory this volume is inscribed as a testimonial of long continued friendship and of unabated respect. It is among the incidents which embitter life that those who have shared in common labours should so often be separated before the termination of their pursuits. The individuals who took most interest in the compilation of this sketch, scarcely lived to see the commencement of its publication. It is to the dead the author has to consecrate the result of his labours.
### SKETCH OF THE BOTANY OF South-Carolina and Georgia.

#### CLASS XIII.

**POLYANDRIA.**

<table>
<thead>
<tr>
<th>Monogynia</th>
<th>Polygynia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tilia</td>
<td>Hypericum</td>
</tr>
<tr>
<td>Helianthemum</td>
<td>Ilex</td>
</tr>
<tr>
<td>Nymphæa</td>
<td>Magnolia</td>
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<tr>
<td>Numphar</td>
<td>Liriodendron</td>
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<tr>
<td>Sarracenia</td>
<td>Asimina</td>
</tr>
<tr>
<td>Argemone</td>
<td>Clematis</td>
</tr>
<tr>
<td>Sanguinaria</td>
<td>Thalictrum</td>
</tr>
<tr>
<td>Podophyllum</td>
<td>Anemone</td>
</tr>
<tr>
<td>Actæa</td>
<td>Hesperis</td>
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<tr>
<td>Di-Pentagynia</td>
<td>Ilex</td>
</tr>
<tr>
<td>Cimicifuga</td>
<td>Magnolia</td>
</tr>
<tr>
<td>Delphinium</td>
<td>Liriodendron</td>
</tr>
<tr>
<td>Aconitum</td>
<td>Asimina</td>
</tr>
<tr>
<td>Aquilegia</td>
<td>Clematis</td>
</tr>
<tr>
<td>Ascyrum</td>
<td>Thalictrum</td>
</tr>
</tbody>
</table>

**Tilia.**

Calyx inferior, 5-partitud, deciduus. Petals 5. Capsule immature 5-locularis, 5-valvis, 5-sperma; mature submonosperma, basi dehiscens.

**Gen. pl. 948.**

Calyx inferior, 5-parted, deciduous. Petals 5. Capsule when immature 5-celled, 5-valved, 5-seeded; when mature 1-seeded, opening at base.
1. **Glabra**, Vent.

*T. foliis suborbiculato-cordatis, acuminatis, argute serratis, glabris; petalis apice truncatis; nuce ovali.*

*Pursh, 2. p. 362.*

Leaves cordate, nearly orbicular, acutely serrate, glabrous; petals truncated at the summit; nut oval.


A large and ornamental tree, growing in favorable soils, 70 to 80 feet high, and 3—4 in diameter. Leaves alternate, large, with large and very acute serratures, cordate at base, and sometimes obliquely truncated. Flowers in small cymes, of a greenish yellow colour. Peduncles, as in all the species of this genus, somewhat geniculate, and attached at base to the middle of an oblong, membranous, strongly veined and almost reticulate bractea.

The bark of this tree, commonly known under the name of bass-wood, spoon-wood, is thick and fibrous, and when macerated and prepared, is used on farms for many domestic purposes, where coarse cordage is required. The wood is white and soft, and is much used in the northern States by cabinet and carriage makers. In the southern States it is generally confined to the mountains. Mich.

Grows in rich, light soils, in the vallies of the Alleghany mountains. Flowers May—June.


*T. foliis cordatis, sensim acuminatis, rariter dentatis, membranaceis, glabris; paniculis laxifloris; stylo petalis longiore.*


Leaves cordate, gradually acuminate, sparingly toothed, membranaceous, glabrous; panicles loosely flowered; style longer than the petals.

With this tree, whose description I have taken from Pursh, and which he considers as a species very distinct from the preceding, I am unacquainted. The reference to Michaux possibly belongs to the next species. Grows along the sea coast from Maryland to Georgia. Flowers May and June.
POLYANDRIA MONOGYNYA.

3. **Pubescens.**

T. foliis obliquis, cordatis truncatisque, acuminatis, denticulato-serratis, subitus pubescentibus; cymis confertifloris; style petalis subaequali; nucce globosa.

Leaves obliquely cordate and truncate, acuminate, denticulate and serrate, pubescent underneath; cymes with crowded flowers; style as long as the petals; nut globose.


A Tree 20-50 feet high, with the old branches glabrous, the young ones very pubescent. Leaves alternate, cordate, obliquely truncated, so as sometimes to efface the sinus at base, slightly acuminate, serrate, glabrous on the upper surface, underneath slightly scabrous and very pubescent when young, the down wearing off by age. Petiole and peduncles pubescent. Cymes axillary.—Bractea oblong oval, as long as the cymes, entire, veined, scabrous, of a yellowish green colour. Calyx deeply divided, deciduous; leaflets ovate, lanceolate, acute, white, somewhat woolly. Petals nearly lanceolate, obtuse, white, longer than the calyx. Nectary composed of 5 small leaves, obovate, crenate, shorter than the calyx, enveloped by the petals, and attached with them to the base of the germ. Filaments numerous (nearly 50,) united in five clusters, splitting finally to the base; shorter than the corolla, white, 2 cleft at the summit; anthers incumbent, 2 lobed, with the lobes distinct. Germ superior, ovate, sulcate, hairy. Stigma obtuse. Capsule globose, coriaceous, generally marked with sutures where the 5 valves unite, bursting tardily at base, at first 5 celled, but rarely maturing more than one seed. Seed round, smooth.

Grows in fertile soils along the sea coast of Carolina and Georgia.

Flowers May, June.

**HELIANTHEMUM.** Tourn.

*Calycis laciniæ 5,*  *Segments of the calyx 5,* often unequal, the 2 exterior small. *Petala 5.* *Capsula 1-* *Petals 5.* *Capsule 1-celled, 3-valved; valves bearing a partition in the middle.*

*sæpius inæuales,*  *Segmenx 5,* often unequal, *extimis minoribus.* *Locularis, 3-valvis; medio septiferis.*
*Extipulata; herbacea.*

1 Canadense.

H. folis alternis, lineari-lanceolatis, planis, subtus tomentosis; racemis terminalibus, paucifloris; calycis laciniiis lato-ovatis, acuminatis; capsulis calice brevioribus.


Root perennial; Stem herbaceous, erect, 6-10 inches high, tomentose when young. Leaves oval, entire, rather obtuse, pubescent, and tomentose on the under surface, nearly sessile. Racemes few flowered, generally terminal, pedicels solitary. Flowers yellow.

Grows in dry soils. Flowers May—June.


H. foliis alternis, oblongis ovalibusque, subtus tomentosis; ramulis brevibus, summitate subtrifloris; calycibus fructiferis globosis. Mx.


Whole plant tomentose, 6-10 inches high. Leaves generally oval, 2 exterior leaves of the calyx linear. Corolla yellow, and, with the leaves, longer than in the preceding species. Unless the H. ramuliflorum of Michaux has been misunderstood by our Botanists, it requires a careful comparison with the preceding species. Excepting in the size of the leaves and flowers, our Southern plant differs very little from specimens of the H. Canadense which I have received from New-York.

H. hirsutum; foliis ovalibus, subdenticulatis; pedunculis solitariis, intra axillaribus unifloris; calyce capsulam superante.

Hirsute: leaves oval, sparingly toothed; peduncles solitary, 1-flowered, between the axils; calyx longer than the capsule.

Cistus Carolinianus. Walt. p. 152.

Root perennial. Stem erect, herbaceous, 8-12 inches high, generally purple, variegated with white stellular pubescence. Leaves nearly sessile, crowded at the base of the stem, sometimes nearly round, very villous, pubescence as on the stem stellular. Flowers few, near the summit of the stem, larger than those of any other of our species, bright yellow. Peduncles nearly an inch long. Calyx 5 leaved, persistent, the two exterior leaflets linear, generally expanding; the three interior, larger, ovate lanceolate, acuminate, 3 nerved, covering the capsule. Petals twice as long as the calyx. Filaments numerous (30-40,) attached to the base of the germ, unequal, much shorter than the corolla. Germ superior, ovate, glabrous. Style short. Sepgima globose, obscurely 3-lobed. Seed numerous, small, attached by the base to a central receptacle.

Grows in dry and moderately fertile soils.

Flowers May to June.

This is an ornamental plant, but its flowers, as in this whole genus, only expand for a few hours in the morning.

H. foliis oblongo-ovalibus lanceolatisque, tomentosis, subtus ca-nescentibus; corym-bis multifloris, fasti-giatis.

Leaves oblong oval and lanceolate, tomentose, underneath hoary; corymbs many flowered, fastigate.


Roots creeping? perennial. Stem about a foot high, sometimes branching, very tomentose when young, pubescence (as perhaps in all of the species) stellular. Flowers very much crowded in the corymb.—Calyx villous, about as long as the capsule; the two exterior leaves long and linear. Corolla yellow. The flowers in this species are much smaller than those of the H. Carolinianum, but nearly equal in size those of our other species. Frequently in a corymb, one or two flowers rise conspicuously above the rest, and the capsules then become much larger.
Grows in poor, dry, sandy soils, along the sea-coast of Carolina and Georgia. Flowers April, May, and again in October.

5 Rosmarinifolium?

**H. erectum, ramo-sum, tomentosum; foliis linearibus, margi-nibus revolutis; race-mis parvis, axillari-bus, confertifloris.**

Pursh. 2. p. 364.

Stem erect, 12-18 inches high, apparently more frutescent than in any other of our species, branches simple and slender. Leaves and the whole plant, covered with a hoary down. Racemes about half as long as the leaves, many flowered. Calyx very small, the two exterior leaves linear. Corolla twice or three times as large as the calyx, bright yellow.

This plant differs so much in habit and appearance from the other species of this genus, as to excite some suspicion of its real connection with them. I collected it whilst travelling hastily in the upper country without leisure to examine it. Specimens which I sent to Dr. Muhlenberg, were marked by him as a variety of the H. Canadense. Under this impression it remained in my Herbarium until lately, when having received specimens of the H. Canadense from New-York, from my friend Mr. Raffinesque, and perceiving their entire resemblance to one of our own common species, I was led again to examine this plant. My specimens appear to agree exactly with the H. Rosmarinifolium of Pursh, described from specimens collected by Mr. Enslen in the middle districts of Georgia. I have therefore described them under this name.

Grows at Rocky mount on the Catawba River. Flowers June, July.

**NYMPHÆA.** Gen. Pl. 886.

Calyx 4—5-phyl-lus. Petala plurima, germini sub stamini-bus inserta. Stigma radiatum, sessile, me-dio nectariferum.—

Calyx 4—5-leav-ed. Petals numerous, inserted on the germ under the stamens. Stigma radiated, ses-sile, bearing a necta-
**Polyandria Monogynia.**

*Bacca multilocularis, polysperma.*

1. Odorata.

*N. foliis orbiculato-cordatis, integerrimis, subemarginatis, lobis divaricatis, acumin obtuso; petalis calyi 4-phyllo æqualibus; stigmate radiis 16-24 erectis. Sp. pl. 2. p. 1153.

Fursh. 2. p. 368.


_Root_ perennial, creeping, tuberous, nodose and woody. _Stem_ 0.

_Leaves_ on the summit of long, smooth, somewhat spiral petioles 1-6 feet long (so as to support the leaf always on the surface of the water,) peltate-cordate, circular in its outline, slightly emarginate, coriaceous, glabrous; dotted and strongly veined and generally coloured underneath. _Peduncles_, like the petioles, spiral, rising to the surface of the water, bearing one terminal flower. _Calyx_ 4-leaved, leaflets lanceolate, coriaceous, glabrous. _Petals_ about 30, large lanceolate, somewhat obtuse, very white. _Filaments_ very numerous, the exterior ones larger, lanceolate, slightly acuminate. _Anthers_ attached to the margins of the filaments. _Germ_ thick, somewhat cylindrical. _Style_ none. _Stigma_ large, concave, yellow, bearing a globular nectary in the centre, with the margin radiated, and the rays linear, incurved. _Fruit_ a rude berry, many celled. _Seed_ small, oval, numerous in each cell.

The number of cells in the berry, is, I believe, always equal to the number of rays in the stigma, it might therefore be considered a polygynous plant with the stigmas firmly united.

The flowers of this plant are among the most ornamental in our country. The white petals, and the yellow stamens and stigma, are all conspicuous from the brilliancy of their colors. When recently gathered, they are fragrant; but the odour in a short time becomes strong and disagreeable.

Grows every where in shallow stagnant or slowly running streams of fresh water.

Flowers March to October.
NUPHAR. SMITH.

Calyx 5—6 phyl¬lus. Petala plurima, receptaculo cum stam¬minibus inserta, dor¬so nectarifera. Stig¬ma radiato-sulcatum, sessile. Bacca multilocularis, polysper¬ma.

1. Advena?

N. foliis cordatis, integerrimis, lobis ro¬tundatis; calyce 6¬phyllo; stigmate leviti¬ter umbilicato, 10—14 radiato; pericarpio sul¬cato.

Pursh 2. p. 369.

Root perennial, tuberous, creeping. Leaves on spiral petioles, large, exactly cordate (with lobes somewhat truncate,) coriaceous, glabrous, sometimes erect, sometimes floating on the surface of the water. Flow¬ers solitary, terminal, on spiral peduncles, generally elevated a few inches above the surface of the water. The three exterior leaves of the calyce small, round, green; the three interior larger, round, yellow, tinged with green at base. Filaments very short. Stigma with 10 to 14 rays and the margin entire.

Grows in the fresh water rivers; abundant about the head of tide wa¬ter, rarely found in the vicinity of salt water.

Flowers from April to August; perhaps later.

2. Sagittæfolia. Walt.

N. foliis elongatis, sagittato-cordatis, ob¬tusis; calyce 6-phyllo,

Leaves long, cor¬date and sagittate, ob¬tuse; calyx 6-leav¬
petalis nullis, antheris subsessilibus. | ed; petals 0; anthers nearly sessile.

Pursh. 2. p. 370.
Nymphaea sagittifolia. Walt. 155.
Nymphaea longifolia. Mich. 1. p. 312?

Leaves floating, oblong, 6—8 inches long, 2—3 wide, sagitate at base, thinner than usual in this genus and in its kindred genera. Pericarp rather small, ovate. Stigma with 14 rays, margin entire.

Grows in the Pee Dee river above the head of tide water.

To me a rare species. The flowers I have never seen. Found with mature fruit in the middle of November.

SARRACENIA. Gen. Pl. 385.


1. Purpurea.

S. foliis brevibus, tubo ventricoso, fauce coarctato; ala ventrali amplissima, arcuata; appendice erecta, reniformi; flore purpureo.

Leaves short with the tube ventricose, contracted at the throat; longitudinal wing very large, arched; appendix erect, reniform; flowers purple.


Root perennial. Leaves as in all of the species springing from the root, 4—6 inches high, hollow, tubular, bulging in the middle, contracted at the throat, the appendage large, reniform, emarginate very hairy on the inner surface. Scapæ about a foot high, bearing a solitary terminal flower, exterior Calyx very small; the interior large and coloured, (purple.)

Grows in wet swampy lands in the middle districts of Carolina and Georgia, rarely found along the sea coasts.

Flowers April and May.

2. Rubra. Walt.

*S. foliis gracilibus, ala ventrali lineari; appendice ovata, erecta, obtusa, mucronata, basi sub coarctata; floribus rubro-purpureis.*


Leaves slender from 6 to 10 inches high; tube regular, increasing to the summit; throat not contracted; appendix slightly contracted at base, erect, cloathed with very fine hair on its inner surface, marginal wing narrow, nearly uniform in its whole length. Flowers much smaller than in the preceding species. Petals obovate, attenuated at base of a dark reddish purple.

The S. Psyttacina of Michaux, (vol. 1. p. 311.) has been usually referred to this species, yet in many respects particularly in its recurved, fornicated appendix, it appears materially to differ, and may possibly be found to constitute a distinct species.

Grows in bogs and swamps in the middle country of Carolina.

Flowers April and May.

3. Flava.

*S. foliis majusculis, infundibuliformibus, fauce patula; ala ventrali subnulla; appendice erecta, basi coarctata, lateribus retroflexis; floribus flavis.*

The largest species of this genus. *Leaves* 18—24 inches high, large and generally dilated at the summit of the tube; appendix large, reniform, mucronate, very much contracted at the base, with the sides reflected, cloathed on the inner surface, with very fine hair scarcely visible without the aid of a glass. *Flowers* very large. *Petals* oblong, obovate, yellow. *Stigma* nearly two inches in diameter, with each angle two cleft.

Grows in swamps, abundant in the middle districts of Carolina and Georgia, rarely found along the sea coast.

*Flowers* in April.

4. *Catesbaei*. E.

*S. foliis stricte erectis; tubo infundibuliformi; ala ventrali lineari; fauce recto; appendice erecta, subreniformi, reticulata, venis coloratis.*

Catesby, tab. 69. f. b.

*Leaves* 12—18 inches high, regularly tapering to the base; the upper part of the leaves and the appendix distinguished by their coloured veins, the inner surface of the appendix covered by long and very conspicuous hair.

This plant which has been probably united with the *S. Flava*, and which can be connected with no other species, appears to me sufficiently distinct; it differs by its rigidly erect leaves, by its throat which is straight and not expanding, and by its appendix of which the sides are not reflected. It differs also from the *S. Flava* by its darkly colored purple veins and hairy appendix. My specimens agree exactly with the figure in Catesby, to which I have referred and were collected by Dr. Macbride along the margins of the rivulets amidst the high sand hills of Chesterfield district in S. Carolina.

The flowers I have not seen.


*S. foliis paulo ventricosis, tubo superne dorso maculato; appendice fornicata, incurvata; ala ventrali* | *Leaves* slightly ventricose, with the tube near the summit spotted on the back; appendix arched, in-

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**Note:** The text is a transcription of a botanical description, detailing the characteristics of a plant species, including its leaves, flowers, and grows in specific environments. The text is organized into sections, each focusing on different aspects of the plant. It is a detailed and descriptive piece typical of botanical literature, aimed at providing a thorough understanding of the plant in question.
sub dilatata; floribus | curved; longitudinal
flavis. | wing slightly dilated;

S. Minor Walt. p. 153. Sp. pl. 2. p. 1150,

Leaves 12—18 inches high. Tube a little ventricose, colored near the
summit, and curiously marked on the back with transparent spots. Appen-
dix arched and vaulted so as in this species nearly to cover the contracted
throat. Wing along the central suture more dilated than in any other spe-
cies except the S. purpurea. Petals spathulate-obovate, yellowish. Stig-
ma acute at the angles.

Grows around pine barren ponds, very common along the sea coast of
Carolina and Georgia.

Flowers in April and May.

The plants belonging to this genus, form one of the most singular vari-
eties which the vegetable creation exhibits. Their long tubular leaves al-
ways contain water, produced probably by secretion, and are generally fil-
led for two or three inches, with dead and decaying insects. How far the
water contained in these leaves may be necessary to the support of the
plant, has not yet been sufficiently ascertained, but the insects although at-
tracted and destroyed by its very remarkable structure, yet can have little
or no connection with its existence. For the first accurate examination of
these leaves, I believe, we are indebted to the late Dr. Macbride. Some
of his observations on the Sarracenia have been published in the transac-
tions of the Linnaean Society of London, (Vol. 12.) and some remain among
the unpublished papers of the Literary and Philosophical Society of South-
Carolina.

It may be sufficient here to remark that the throat or orifice of these
leaves is generally covered with a saccharine secretion or exudation. Im-
mediately below the throat for the space of nearly an inch, the surface
is highly polished, while the lower part of the tube is covered with hairs
all pointing downwards. When an insect attracted in the first instance
by the secretion of the plant, or perhaps even by the water descends as
it easily can do along this declining pubescence, it appears incapable of
ascending by its feet alone and canonly escape by a flight so perpendicu-
lar as to surpass the power of most insects. Whenever they touch the
bristy sides of the tube they are precipitated again to the bottom, and
have to renew their efforts, and many insects even of a large size perish
in this arduous and hopeless struggle.

ARGEMONE. Gen. Pl. 382.

1. Mexicana.

A. capsulis 5-valvibus; foliis pinnatifidis incisis spinosis; floribus axillaribus.

Capsules 5-valved; leaves pinnatifid, notched, spiny; flowers axillary.


Annual. Stem erect, about 3 feet high, branching, armed with small prickles, and when broken or wounded discharging a coloured sap. Leaves alternate, sessile, embracing the stem, lobed and angled somewhat glaucous, glabrous, but with the margins and veins underneath armed with prickles. Flowers solitary, axillary. Peduncles 1—3 inches long. Calyx caducous. Leaflets broad, oval, concave, prickly, with the dorsal horn compressed and projecting beyond the summit. Petals 6, obtuse, much larger than the calyx, yellow. Stamens very numerous as long as the germ. Germ superior, furrowed, spiny. Style very short. Stigma dilated, 5 lobed with the lobes reflected, forming 5 cylindrical tubes. Capsule oval, spiny, divided about half way down into 5 valves; 1 celled. Seeds numerous, globose, reticulate, attached to the interior angle of the valve.

The variety with white flowers is an ornamental plant, and is probably a distinct species, but the notes which I formerly took have been mislaid, and I have had no opportunity for a few years past of comparing the two plants in a living state.

Grows in dry soils around buildings and is probably a naturalized exotic.

Flowers June to August.

SANGUINARIA. GGN. PL. 878.


1. Canadensis.


Root perennial, oblong, tuberous, succulent, externally brown, emitting when cut or broken a bright orange coloured juice. Stem 0. A single leaf and flower generally proceed from each bud of the tuber enveloped at base with glaucous and somewhat succulent sheaths. Petioles 2—4
POLYANDRIA MONOGYNIA.

Inches long. Leaves reniform lobed, distinctly veined, glaucous, very glabrous. Flowers rising in front of the leaf by which it appears to be enfolded when young. Peduncle 2—6 inches long, smooth. Leaves of the calyx ovate, obtuse. Petals variable 8—10—12 or more, appearing sometimes like a double flower, white. Stamens numerous, shorter than the corolla. Style 0. Stigma thick, slightly furrowed. Capsule oblong lanceolate. Seeds numerous, compressed.

Grows in rich dry soils, meriting culture as an ornamental plant both on account of its leaf and flower. Flowers February, March.

PODOPHYLLUM. Gen. Pl.

Calyx 3-phyllus. Calyx 3-leaved.

1. Peltatum.

Root perennial, creeping, tuberous. Stem herbaceous, erect, 4—8 inches high, glabrous, generally streaked, dividing near the middle into 2 equal branches, each bearing a terminal peltated leaf, clothed at base with a membranaceous persistent sheath. Leaves peltate, deeply 5 lobed, lobe dissected and toothed, glabrous on the upper surface, slightly pubescent underneath along the veins and margin. Flower solitary in the division of the stem. Peduncle 1 1-2 inches long, slightly incurved. Petals 6—9 connivent, caducous, white. Filaments 12 to 16 much shorter than the corolla, flat. Anthers oblong attached to the sides of the filaments. Germ superior. Style short thick. Seeds attached to a pulpy receptacle.

Grows in patches in close soils. Flowers February, March.

ACTEA. Gen. Pl.

1. **Pachypoda.** E.

<table>
<thead>
<tr>
<th>A. foliis decompositis, foliolis ovatis, acuminatis, inciso serratis; baccis parvulis, pedicellis incrassatis suffultis.</th>
<th>Leaves decomposed, leaflets ovate, acuminated, deeply serrate; berries small, supported on thick footstalks.</th>
</tr>
</thead>
</table>

Big. Flor. Bos. page 129.


*Root* perennial. *Leaves* compound, acutely serrate, notched, slightly pubescent along the veins, the terminal leaflets frequently three lobed and somewhat cordate at base. *Flowers* crowded in terminal racemes. *Berries* small sitting on singularly thickened pedicels, which seem at base partly to embrace the stem and nearly equal in diameter the berry itself.—

The Flowers I have not seen. Gathered by Dr. Macbride on the Saluda Mountains.

However nearly this plant may be allied to Cimicifuga; its berried fruit I think should preserve its as a distinct genus. Macrotys may be properly connected with Cimicifuga as they differ in no respect but in the number of their germs.

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**DI—PENTAGYNIA.**

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**CIMICIFUGA.**

- *Flores monogyni.*
- *Macrotys,* Raf:

---

**GEN. PL. 993.**

*Calyx* 4—5 leaved. *Petals* 4. *Capsules* 1—5 or more, oblong, opening along a lateral suture, many seeded.

*Flores monogyni.*
1. Racemosa.

C. foliis decompositis, foliolis ovato-oblongis, incisis, dentatis; racemis elongatis, subpaniculatis; floribus monogynis; capsulis ovatis.

C. serpentina, Pursh. 2. p. 372.


Grows very abundantly in the upper districts of Carolina and Georgia. Its long racemes of white flowers make it very conspicuous, but its odour is unpleasant if not offensive.

Flowers June, July.

**Flores Polygyni.**


C. germinibus 4–5, pedicellatis, glabris; racemis paniculatis; foliis decompositis.


Perennial; Stem herbaceous, 2 feet high, with the habit of C. racemosa. Calyx of five ovate concave leaves. Capsules 4 or 5, smooth, compressed, pointed with the styles, and each supported by a stalk half of its own length. —De Candolle.

3. **Cordifolia.** Pursh.

*C. germinibus* 2–3, glabris, sessilibus; racemis paniculatis; foliis biternatis, foliolis 5–7 lobatis, serratis, basi cordatis. *Pursh.*

Germs 2–3, glabrous, sessile; racemes paniculate; leaves biternate, leaflets 5–7 lobed, serrate, cordate at base.

2. p. 373.


Resembles *C. racemosa* and *podocarpa*, differing from the former in having numerous capsules, from the latter in their being sessile. *Leaves* smooth. *Racemes* long, smooth.

Grows in the mountains of Carolina. *Flowers* July.


*L. germinibus* plurimis 12–15; floribus dichotome-paniculatis, subcorymbosis; capsulis brevissimis, sub-globoso-capitatis; foliis simplicibus, palmatis.

Germs numerous, 12–15, flowers in a dichotomous panicle, somewhat corymbose; capsules very short, forming globular heads; leaves simple, palmate.


This plant, though belonging to the same natural family, yet differs in habit, in foliage, and in the number of its styles from the preceding species.

Grows among the mountains of Carolina. *Flowers* June, July.
POLYANDRIA DI—PENTAGNYIA.

DELPHINIUM. Gen. Pl.

Calyx 0. Petala 5. Nectarium 2-fidum, postice in calcar camerum productum. Capsuleae 1–3

1. Tricorne.

D. petiolis basi vix dilatatis; glabris; foliis 5-partitis; lobis 3–5 fidis, lobulis linearibus; nectario corolla breviore; capsulis a basi patulo—reflexis arcuatis.


Root perennial, somewhat tuberous. Stem 8—12 inches high, glabrous. Petioles 2—4 inches long, pubescent near the summit. Flowers in terminal racemes, large, bright blue, hairy on the outside. Spur straight, shorter than the corolla. Capsules 3, divaricate, acuminated with a persistent style.

Grows among the highest mountains of Carolina. Mich.

Flowers April and May.

2. Azureum.

D. petiolis basi vix dilatatis; foliis 3—5 partitis, multifidis, lobis linearibus; race-mo stricto; nectario apice barbato, basi et latere inferiore villosissimis.


D. carolinianum Walt. 135.

Petiole at base scarcely dilated and glabrous; leaves 5 parted, lobes 3–5 cleft with the segments linear; nectary shorter than the corolla; capsules arched, expanding from the base.
Root perennial. Stem 3—5 feet high and probably more, pubescent. Leaves on short petioles, pubescent, very much dissected, the segments all linear. Flowers in long terminal racemes, on short pubescent peduncles, pale blue, rather smaller than in the preceding species, the three upper petals, sprinkled with hair, particularly along the margins, the two lower, as described by Walter, spotted with yellow and very villous.

Grows in the middle districts of Carolina.
Flowers May, June.

3. Exaltatum.

\[ D. \text{ petiolis basi non dilatatis; foliis planis ultra medium 3-fidis, lobis cuneiformibus, apice trifidis, acuminate, lateralibus sape bilobis; racemo stric-} \]

\[ \text{to; calcare recto longitudine corollae.} \]

Petioles not dilated at base; leaves flat, 3-cleft below the middle, lobes wedge shaped, 3 cleft at the summit, and acuminate, the lateral ones often 2-lobed; racemes straight; spur straight, as long as the corolla.


Stem 2—4 feet high, branching, pubescent towards the summit. Petioles 2—5 inches long, pubescent when young, lower leaves divided into 3—5 segments, segments generally tripartite, upper leaves tripartite, segments lanceolate or entire, all pubescent. Corolla bright blue, pubescent on the outer surface, the lower petals fringed. Spur straight, horizontal, as long as the calyx. Capsules 3, straight and pubescent.

Grows among the mountains of Carolina.
Flowers June to August.

ACONITUM. Gen. Pl.

Calyx 0. Petala 5, supremo fornicato.— Nectaria 2, pedunculata, recurva. Capsulae 3 seu 5.

Calyx 0. Petals 5, the upper one vaulted. Nectaries 2, on peduncles, recurved. Capsules 3 or 5.
A. Uncinatum.

Stem flexuous; leaves 3–5 lobed, palmate, notched and toothed; helmet of the corolla long, convex, beaked.


Perennial. Stem twining, branching, pubescent only when very young. Leaves coriaceous, truncate at base, deeply lobed, lobes somewhat three ribbed. Flowers solitary, 3–4 near the summit of each branch on peduncles 1–2 inches long, two small bracteas, generally below the middle of the peduncles. Flowers of a bright violet purple, hood large, convex, tapering to an obtuse beak, wings nearly orbicular, the lower petals oblong lanceolate, all a little hairy particularly near the margins. This very ornamental plant grows among the mountains of Carolina.

Flowers June to August.

AQUILEGIA. Gen. Pl.

Calyx 0. Petals 5. Nectaries 5, bearing spurs between the petals. Capsules 5 distinct.

1. Canadensis.

A. calcaribus rectis; stylis et staminibus exertis; floribus pendulis; foliorum segmentis 3-partitis, apices subobtusis, inciso-dentatis.

Spurs straight; styles and stamens exserted; flowers pendulous; segments of the leaves 3 parted, obtuse at the summit, notched and toothed.

FOLYANDRIA
DI—PENTAGYNIA.

Root perennial. Stem 12—18 inches high, lower leaves on long three cleft footstalks, ternate and biternate, leaflets lobed and crenate, glaucous particularly underneath. Petals 5, deciduous. Nectaries 5 between the petals, extending into hollow straight spurs, callous at the point. Nectaries and Petals scarlet tinged with yellow. Stamens numerous, disposed into 5 or 10 parcels. Germs downy, with long slender styles. Capsules many seeded.

Grows in the upper and mountainous districts of Carolina and Georgia, Flowers April—May.

ASCYRUM. Gen. Pl. 1225.


1. Pumilum.

A. pusilum, prostratum, ramosissimum; foliis lineari-ovalibus, obtusis; pedunculis longis reflexis; floribus monogy-nisis.


Stem prostrate, somewhat woody, slightly winged, 6—10 inches long, Leaves opposite, sessile, very narrow, dotted, perennial. Flowers solitary, axillary, and in the division of the stem. Peduncles 1-2 inch to an inch long, reflected, with two stipules near the base. Large leaves of the calyx ovate, somewhat acute, and like the leaves marked with pellucid dots. Petals obovate, yellow, a little longer than the calyx. Stamens numerous, united at the base of the germ, the division into sections not distinct. Style 1, shorter than the germ. Capsule ovate. Seeds attached to the margins of the valves.

This appears to be the A. pauciflorum of Nuttall. I have always considered it the A. pumilum of Michaux, but it is possible that the real plant of Michaux may have escaped my notice.
Grows in dry pine barrens. Common in the upper parts of Chatham county, Georgia.

Flowers March—April.

2. Crux. Andrew.

A. erectum, multicaule, diffusum; foliis sublanceolato—oblongis, obtusis; corymbo terminali; floribus subsessilibus, 2 gynis; caule subtereti.

Erect, much divided, spreading; leaves somewhat lanceolate, oblong, obtuse, corymb terminal; flowers nearly sessile, digynous; stem terete.


A. Multicaule, Mich.

Stem frutescent, 2—3 feet high. Leaves small, sessile, and with the calyx dotted. Flowers solitary, axillary, and terminal, on short peduncles. The two large leaves of the calyx cordate, ovate, acute, nerved, the interior leaflets very small, ovate-lanceolate, membranaceous, 2 small bracteal leaves at the base of the calyx. Corolla yellow. Petals oblong, nearly elliptical. Filaments about 20, as long as the corolla. Styles 2. Stigmas single.

This species varies so much in the size and number of its leaves, in its peduncles, and in the number of its styles, that it merits culture to determine whether more than one species are not included under this name.

Grows in all soils excepting those which are inundated. Flowers through the whole summer.

3. Hypericoides.

A. erectum, parceramosum, ramis anci-pitibus; foliis oblongis basi biglandulosis; floribus terminalibus, solitariis, breviter pedicellatis, 3-gynis.

Erect, sparingly branched, with the branches compressed; leaves oblong with 2 glands at base; flowers terminal, solitary, on short peduncles, trigynous.


Stem about 2 feet high, sparingly branched near the summit, with the young branches conspicuously compressed. Leaves large (1 to 1 1/2 inches long) entire, dotted. Flowers solitary, axillary, frequently opposite. Peduncles 1 to 1 1/2 inches long. The exterior leaves of the calyx large, cordate-ovate, nearly round, dotted, nerved. Corolla yellow. Petals obovate, as long as the calyx. Filaments very numerous (60 to 100) shorter than the corolla. Germ pyramidal, 3 sided. Styles 3, slightly recurved. Capsule 3 valved.

Grows generally in damp soils.

Flowers the whole summer.


A. erectum, parce-ramosum; ramis anci-pitibus; foliis ovato-oblongis, amplexicau-libus, foliolis calycinis exterioribus cordatis; floribus 3–4-gynis. Erect, sparingly branched with the branches compressed; leaves ovate, oblong, amplexicaule; exterior or leaves of the calyx cordate; flowers 3–4 gynous.


Stem 1 to 2 feet high, branching towards the summit. Leaves cordate, obtuse, closely sitting, and with the calyx conspicuously dotted. Corolla yellow. Petals obovate. Stamens very numerous, about half as long as the corolla. Styles frequently 4.

Grows in the southern parts of Georgia, near St. Mary’s.

Flowers through the summer.

HYPERICUM. Gen. Pl. 1224.


1. Parviflorum.
   H. erectum, ramosum, glabrum; caule subtetragono; foliiis ovato-oblongis, subcordatis, obtusis, nervosis, sessilibus; paniculis terminalibus dichotomo-corymbosis; petalulis calyce lancealato brevioribus.

   Erect, branching, glabrous; stem 4-angled; leaves oblong, ovate, somewhat cordate, obtuse, nervced, sessile; panicles terminal, dichotomous, corymbose; petals shorter than the lanceolate calyx.


   Grows in damp soils, very common in ditches and around the margins of ponds.

   Flowers June, September.

2. Canadense.
   H. floribus alaribus, pedunculatis, solitariis; foliiis sessilibus, linearibus, basi attenuatis; caule herbaceo, tetragono, superne dichotomo; capsulis longis, conoideis, coloratis.

   Flowers solitary on winged peduncles; leaves sessile, linear, tapering at base; stem herbaceous, 4-angled, dichotomous towards the summit; capsules long, conical, coloured.


   Stem 1—2 feet high, slightly angled. Leaves linear, obtuse, dotted, obscurely 3 nervced, lower branches of the panicle opposite, the upper dichotomous. Corolla and Stamens about as long as the Calyx. Capsule much longer than the calyx, of a dull red colour.

   Grows in wet Pine barrens.

   Flowers July—September.
3. Angulosum.

H. erectum; caule-tetragono; foliis oblongo-lanceolatis, acutis, arcte sessilibus; panicula terminali, dichotoma; ramis divaricatis, distanter alternifloris; petalis dente unico laterali.

Erect; stem 4-angled; leaves oblong lanceolate, acute, sessile; panicle terminal, dichotomous; branches divaricate with flowers distant, alternate; petals with one lateral tooth.

H. denticulatum Walt. p. 190.

Stem about 2 feet high, simple, branching towards the summit. Leaves appressed, dotted, somewhat amplexicaule at base. Flowers scattered in the Panicle and alternate, frequently in the division of the stem. Calyx somewhat tubular and angulated at base. Segments equal, dotted. Petals obovate twice as long as the calyx, almost orange colored. Filaments numerous, shorter than the corolla. Styles 3, frequently united. Capsule 3 valved, 1 celled.

Grows in wet Pine barrens.

Flowers May—September.

4. Pilosum.

H. pilosum; caule virgato, simplici; foliis patentibus, ovatis, acutis, basi attenuatis; panicula pauciflora.

Hairy; stem hairy, simple; leaves expanding, ovate, acute, tapering at base; panicle few-flowered.

Plukenet t. 245. f. 6.

Mr. Nuttall, who has revived or established this species, remarks that it is perfectly distinct from the H. simplex of Michaux, as the latter produces oblong ovate leaves, partly connate at the base, and always pressed close to the stem, and the whole plant instead of being pilose, is covered with a short matted and somewhat scabrous pubescence. (Nutt. loc. cit.) I doubt, however, whether Walter did not mean by his H. pilosum the H. simplex of Michaux, as he mentions the appressed leaves as a part of its character, or, perhaps, as has here tofore been done, he confused both under that name; if however I have not mistaken this plant, I must add
that the pubescence differs in quantity, rather than in its properties; in both it is tomentose, but this is comparatively naked. Grows in wet Pine barrens, 8 miles from Charleston. Flowers June—September.

5. **Simplex.**

**H. erectum, lanul.** | Erect, woolly; stem virgate, simple, terete; leaves ovate-lanceolate, closely sessile, appressed; panicle, terminal, few flowered.

Stem 1—2 feet high, covered with a jointed tomentum. **Leaves** acute, dotted, and somewhat amplexicaule. **Panicle** small. **Flowers** alternate, and in the division of the stem. **Leaflets** of the calyx unequal, 2 narrower than the rest. **Petals** yellow, oblong, longer than the calyx. **Stamens** shorter than the corolla. **Styles** 3. **Capsule** 1 celled, 3 valved. Grows in wet Pine barrens. Flowers June—September.

6. **Acutifolium.** E. **H. caule herbaceo?** | Stem herbaceous? branching, glabrous; leaves narrow lanceolate, acute; panicle many flowered; capsules scarcely longer than the calyx.

Stem herbaceous? branching, slightly angled. **Leaves** sessile, 10—14 lines long, tapering at the base. **Panicle** many flowered, flowers alternate and in the division of the stem, on pedicels 1—2 lines long. **Leaves of the calyx** equal. **Petals** yellow, nearly lanceolate, twice as long as the calyx. **Stamens** numerous, longer than the calyx. **Styles** 3, united.— **Capsule** 1 celled, 3 valved. This plant which was sent to me from Milledgeville in Georgia by Dr. Boykin, differs considerably from any species in my herbarium. It resembles most the H. Canadense, but differs in size, being in every respect larger, so as to make it doubtful whether it is really an herbaceous species,
it differs also in its acute leaves, in the capsule, which is proportionally short, and in a panicle which is much more compact.

Flowers.


Erect, glabrous dotted with black; leaves cordate-ovate and oval, sessile; panicles terminal; closely flowered, somewhat corymbose.


Stem about 2 feet high, terete, and with every part of the plant, except the filaments and styles, spotted with black dots. Leaves sometimes acute, sitting so closely as to embrace the stem. Flowers in a compound compact and somewhat pyramidal panicle. Leaves of the calyx united and tubular at base, the segments equal. Petals obovate, twice as long as the calyx. Filaments numerous, a little shorter than the corolla. Styles 3, longer than the stamens. Stigmas obtuse, purple. Capsule 3 celled, 3 valved.

Grows in dry pine barrens.

Flowers May, August.

The species of this section it has been proposed by Mr. Rafinesque and others, to separate from this genus, and to unite with the Sarothra, as they differ from the shrubby Hypericum’s in their habit, and by their 1 celled capsule. It is probable however that the germs of these species are naturally 3 celled, but the partitions being very delicate are effaced by age. In the H. maculatum these partitions are at all times distinctly visible.

**Fruticosa, trigyna.**

8. Aspalathoides.

Flowers trigynous; solitary, winged; styles united; leaves clustered, linear, acute, striate; stem frutescent, dichotomous.

Walt.

**Shrubby, trigynous.**

Stem shrubby, dichotomous at the summit. Flowers solitary, yellow; nearly sessile in the division of the branches. La Marck. encycl. 4. p.153. Grows in Carolina. La Marck.

Flowers


**H. floribus trigynis**, paniculatis, terminalibus; stylis coadunatis; foliis linearibus, sessilibus, margine revolutis; caule suffruticoso. Willd.

Flowers trigynous; panicles terminal; styles united; leaves linear, sessile, with their margins revolute; stem somewhat shrubby.


Does this really differ from the next species?

Grows in sandy moist places. *Flowers* July—September.


**H. ramulis tetragonis**, foliis confertis quasi verticillatim fasciculatis, filiformelinearibus, obtusis, sessilibus; pedunculis in apice ramulorum axillaribus, 1–3 floris; calycibus filiformibus, stylis coadunatis.

Branches 4-angled; leaves crowded as if in verticillate clusters, filiform, linear, obtuse, sessile; peduncles near the summit of the branches, axillary, 1–3 flowered; calyx filiform; styles united.

H. coris. Walt. p. 190.

*Stem* shrubby 1—2 feet high, with the whole plant glabrous. *Leaves* thick, dotted. *Flowers* axillary, opposite; sometimes the peduncles become triflorous with the intermediate flowers sessile. *Leaves* of the calyx
exactly resembling the leaves of the plant. *Stamens* rather longer than
the corolla, both much longer than the calyx. *Petals* yellow, oblong,

Grows in wet pine barrens.
Flowers June—August.

11. Rosmarinifolium?

**H. ramulis teretibus; foliis lineari-lanceolatis, acutis, basi
attenuatis, subfasciculatis; panicula elongata; pedunculis in apice
ramorum axillaribus, trifloris; stylis coadunatis.**

Sp. pl. 3. p. 1450?

*Stem* shrubby, 2—3 feet high, with its numerous branches terete, smooth,
and generally coloured. *Leaves* shining, and as in most of the species, with
the margins revolute, and the surface sprinkled with pellucid dots. *Panicle*
very ornamental from the number of its flowers on its compoundly tri-
chotomous branches. *Calyx* with its segments like the leaves, linear-lan-
ceolate. *Corolla* yellow. *Petals* obovate, larger than the calyx. *Filaments*
numerous, much shorter than the corolla. *Styles* 3, at first united,
expanding after the flower decays. *Capsule* 3 celled, with the angles
rounded.

I have found some difficulty in determining this plant. It is evidently
the *H. fasciculatum* of Willdenow, but Willdenow has certainly mistaken
the *H. fasciculatum* of Michaux, which he had probably already descri-
based as the *H. galioides*. This plant was considered by Dr. Muhlenberg
as the *H. rosmarinifolium* of La Marck, and as the name is peculiarly ap-
propriate, I have retained it.

It has always appeared to me remarkable that this, which in the low
country of Carolina and Georgia, is the most common of our frutescent
species, should have been overlooked by both Walter and Michaux.

Grows in damp soils.
Flowers June—August.
12. Ambiguum. E.

H. ramulis ancipitibus, foliis lineari-lanceolatis, acutis, mucronatis; floribus axillaribus terminalibusque; calycis foliolis inaequalibus, linearlanceolatis, corollam subaequantibus; petalis inapice unidentatis; stilis 3, coadunatis.

Branches compressed; leaves linear-lanceolate, acute, mucronate; flowers axillary and terminal; leaves of the calyx unequal, linear lanceolate, as long as the corolla; petals toothed near the summit; styles 3, united.

Shrub 2—4 feet high with a scaly bark, and with its numerous opposite branches strongly compressed. Leaves tapering at base almost to a petiole, with the point nearly white. Flowers towards the summit of the branches, commonly 5—7 on each branch. Petals obliquely obovate, a little longer than the stamens, with a tooth or angle near the summit. Styles as usual, separating as the capsule matures. Capsule 3 celled.

In the shape and size of the leaf this plant strongly resembles the H. rosmarinifolium, it differs from it however widely in many respects; to the H. Kalmianum it has a much closer affinity, but its flowers are not at all corymbose, and I have found them invariably trigynous.

Grows near Columbia
Flowers May—June.

13. Prolificum.

H. ramis ancipitibus; foliis angusto-lanceolatis, subacutis; panicula pauciflora; ramulis dichotomis; petalis staminibus paulo longioribus; stilis coadunatis.

Branches compressed; leaves narrow, lanceolate, somewhat acute; panicle few flowered; branches dichotomous; petals a little longer than the stamens; styles united.

Shrub 2—3 feet high. Branches very much compressed. Leaves lanceolate, rather narrow, generally acute, about 2 inches long. Peduncles near the summit of the branches axillary, opposite, generally 3 flowered, the intermediate flower almost sessile, the others on peduncles nearly an inch long. Calyx leaflike, segments lanceolate, acute. Corolla and Styles rather longer than the stamens.

Grows near Columbia, South-Carolina.

Flowers June—August.

14. AMOENUM. Pursh.

H. diffusum; ramis ancipitibus; foliis ovalibus, subtus glaucis; floribus axillaribus, subsolitariis; calycis foliolis ovatis, acutis; petalis deflexis, staminibus longioribus.

Diffuse, with branches compressed; leaves oval, glaucous underneath; flowers axillary, in general solitary; leaves of the calyx ovate, acute; petals deflected; longer than the stamens.

Pursh. 2. p. 374.

A small shrub rarely exceeding 2 feet in height, but very much diffused and divided. Leaves rather large, somewhat attenuated at base, with the margins slightly undulate. Flowers much larger than those of any other of our species, solitary, generally opposite, on short peduncles. Stamens very numerous, forming a ball in the centre of the flower, and apparently depressing the petals by their number. Styles 3, at first united, separating as the fruit matures.

This elegant species has not been found to the north of the Oakmulgee river in Georgia.

Grows abundantly on the Flint river.

Flowers June—August.

15. FASTIGIATUM. E.

H. ramulis paulocompressis; foliis angusto-lanceolatis, acutissimis; corymbis terminalibus, multifloris, fastigiatis; stylis coadunatis. E.

Branches somewhat compressed; leaves narrow-lanceolate, very acute; corymb terminal, many flowered, fastigiate; styles united.
A shrub about 3 feet high. Leaves about 3 inches long, tapering yet connate at base, dotted, paler on the under surface. Flowers very numerous in fastigiate corymbs, with solitary flowers nearly sessile in the lower divisions of the corymb. Corolla and Stamens generally longer than the calyx. Styles firmly united, not separating as the pod matures.

Found in the Pine barrens of Scriven county, Georgia. Flowers May—July.


H. ramis alatis; foliis oblongo-ovatis, obtusis, sessilibus; paniculis terminalibus, nudatis, compositis; corolla calycem longior; stilis coadunatis.


H. virginicum? Walt. 189.

Really frutescent, but many of its branches decay every year, and new ones are produced, which give it frequently an herbaceous appearance. Branches angled and winged. Leaves sometimes lanceolate, dotted, of a pale and somewhat glaucous complexion. Panicle compoundly dichotomous, with a flower in each division of the stem on short peduncles. Leaves of the calyx lanceolate. Corolla obovate, nearly twice as long as the calyx. Styles 3, sometimes 4, united, but separated at their summits. Capsule 3 celled, coloured.

Grows around the margins of ponds, and in shallow swamps. Flowers August—September.

17. **Glaucum?**

H. caule tereti; foliis cordato-ovatis semiamplexicaulis, glaucescentibus; panicula divaricato-dichotoma, foliosa; corolla calycem æquan-te; stilis coadunatis.


Stem terete; leaves cordate-ovate, half embracing the stem, somewhat glaucous; panicle divaricate, dichotomous, leafy; corolla as long as the calyx; styles united.
A small straggling shrub, rarely exceeding 18 inches in height, with a few opposite branches. Leaves very smooth, dotted, and somewhat glaucous, particularly on the under surface. Flowers in the division of the stem, on peduncles 2—5 lines long. Leaves of the calyx ovate and slightly acuminate. Petals about as long as the calyx, with a tooth or angle near the summit. Stamens very numerous, little shorter than the corolla. Styles united at first, separating as the fruit matures.

Grows in ponds about a quarter of a mile to the north of Ogeechee Ferry. Flowers May—June.

**ELODEA.** Adanson.

|---|---|

1. **Virginica.**

E. foliis sessilibus amplexicaulibus cor-dato oblongis, obtus-sissimis; pedunculis paucifloris, axillaribus terminalibusque; stam-nibus 9, levissime basi coalitis.

Leaves sessile, amplexicaule, cordate, oblong, very obtuse; peduncles axillary and terminal, few flowered; stamens 9, slightly united at base.

Nutt. 2. p. 17.  
Hypericum campanulatum. Walt. 191.  

Root perennial. Stem herbaceous, about 2 feet high, terete, glabrous, with opposite branches. Leaves opposite, with pellucid dots, glaucous underneath. Peduncles axillary, triflorous, with the middle flower sessile; the terminal peduncle compound, naked, forming a small panicle of 9 or
more flowers, common peduncle about an inch long. Segments of the calyx oval, seven nerved, glabrous, not dotted. Petals oval, twice as long as the calyx, dotted, of an obscurely red color. Stamens generally 9, as long as the corolla, united at base into 3 phalanxes, an ovate orange colored gland between the phalanxes. Styles 3, separate, as long as the stamens. Capsule 3 celled.

Grows in wet soils and ditches and around ponds. Flowers August and September.

2. Tubulosa. Walt.

E. floribus trigynis; corollis tubulosis; staminum corporibus plusquam ad medium connatis; foliis sessilibus.


This plant still rests on the authority of Walter. It is one of the very few of his species which has not been identified.

Grows


E. foliis petiolatis oblongo-ovalibus, obtusis; floribus oppositis, axillarisibus, subsessili—bus, subternis; staminibus ad medium usque connatis, capsulis oblongis.

Hypericum petiolatum. Wal. 191.

Root perennial. Stem herbaceous, about 2 feet high, glabrous. Leaves opposite, emarginate, tapering at base, dotted, and somewhat glaucous underneath, petioles about half an inch long. Common peduncle 3—4
POLYANDRIA POLYGYNIA.

35

lines long, generally 3 flowered. Segments of the calyx oval, obtuse, nerved, with the margins membranaceous. Petals lanceolate, nearly acute, of a dull red colour and a little longer than the calyx. Filaments 9, united almost to the summit in 3 phalanxes. Capsule 3 celled.

Grows in ditches and around ponds.
Flowers August and September.

While in compliance with the practice of modern botanists, I have removed the 3 last genera from Polyadelphia to Polyandria, it has at least led to a very anomalous insertion of this genus; for while the Hypericums of North America appear to be really polyandrous, and without the distinct features which belong to the class Polyadelphia, the genus Elodea is distinctly Polyadelphous, and is not Polyandrous. By a student of Botany, it certainly would never be sought for in this class. Its species are the most truly enneandrous plants that I have ever met with.

POLYGYNIA.

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ILLICIUM. Gen. Pl, 940.

Calyx 6-phyllus. Petala 27 (interdum 6—9, Nuttall.) Capsulae plures, in orbem digestae, 2-valves, 1-spermæ.

1. Parviflorum.

I. foliis alternis, lanceolatis, integerrimis, glaberrimis, coriaceis, perennantibus; floribus pusillis, cernuis; petalis calyceque rotundatis, concavis.


Leaves alternate, lanceolate, entire and glabrous, coriaceous, perennial; flowers small, nodding; petals and leaves of the calyx round, concave.


This plant, originally, I believe, from the banks of St. John’s, East-Florida, is now common in our gardens, and is almost naturalized.

*Flowers* May—June.

**MAGNOLIA.**

*Calyx* 3- phyllus. | *Calyx* 3-leaved.
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1. **Grandiflora.**

*M. foliis perennantibus, ovali-lanceolatis, crassis, coriaceis, subtus ferrugineis; petalis dilatato-obovatis, abrupte in unguem angustatis.*

*Leaves* perennial, oval lanceolate, thick, coriaceous, ferruginous underneath; petals obovate, abruptly contracted into a claw.


This magnificent tree is almost too well known to need description. It rises sometimes 60, 70, or 80 feet in height, with a naked smooth columnar stem, and the head when not injured by accident is always regularly pyramidal, or semi elliptical. From May to August in favorable situations it is almost always covered with its brilliant white flowers, terminating the young branches. The petals are large, oval, or obovate, abruptly narrowed at base; concave, coriaceous, of a brilliant white, but becoming instantly ferruginous, when scratched or bruised. Letters can easily be written on them with the point of any sharp instrument. *Stamens* very numerous, imbricate, much shorter than the corolla. *Germ* superior aggregated on an oblong, ovate receptacle. *Style* short, recurved. *Capsules* sitting on the receptacle, imbricated, splitting longitudinally.
POLYANDRIA POLYGYNIA.

Seeds 1 or 2 in each capsule, covered with a scarlet pulp, hanging for a few days after they quit the capsule by a thread attached to their base.

Grows in rich, light soils, very common all along the sea coast of Georgia and Carolina; rarely found in Carolina more than 40 miles from the sea coast—in Georgia it extends higher up the country being found in the neighbourhood of Milledgeville, and in the Alabama I saw it growing plentifully as high up as Fort Jackson.

Flowers May—August.

2. GLAUCA.

M. foliis ovali lanceolatis, subtus glau-cis; petalis obovatis, basi attenuatis.  

Leaves oval lanceolate, glaucous underneath; petals obovate, tapering at base.


A shrub frequently becoming a small tree, remarkable for its white or somewhat glaucous bark. Leaves alternate, on petioles about an inch long, acute, shining, and when young pubescent, underneath glaucous, pubescence when young having a silken lustre. Flowers solitary, terminal. Leaves of the calyx oval, glabrous, membranaceous, sprinkled with pellucid dots, as long as the corolla. Petals generally 9, obovate, white, as long as the receptacle. Filaments very numerous, compressed, with the point acuminate and extending beyond the anthers. Anthers attached to the inner side of the filaments.

This is probably the most fragrant plant in our forests. It grows in great profusion along the margin of the rich swamps which border our rivers, and in the morning and evening during the period of its flowering, the atmosphere of our streams is often literally perfumed with its fragrance.

We have a variety with perennial leaves which sometimes becomes a tree 50—60 feet high. I have been able to discover no other distinction between these two plants than this difference of habit.

Grows in swamps and wet soils, though extremely abundant in the low country of Carolina—it is very rarely found upon the islands which border the sea coasts.

Flowers April—May.

3. ACUMINATA.

M. foliis ovalibus, acuminatis, subtus pubescentibus; petalis o-bovatis, obtusiusculis.

Leaves oval, acuminate, pubescent underneath; petals obovate, rather obtuse.

A tree which in favourable soils and situations, particularly in the fertile vallies among the mountains of Tennessee, grows 70 feet high, with a trunk 2—3 feet in diameter. Leaves oval, sometimes broad and lanceolate, acuminate, soft and pubescent underneath. Petals oval or oblong, of a dull yellow colour tinged with blue. Fruit cylindrical 2—3 inches long.

Grows in the upper and mountainous districts of Carolina and Georgia, not found along the sea-coasts. Flowers June—July.

Cucumber Tree.

4. Tripetala.

M. foliis amplis, cuneato lanceolatis, junioribus holosericeis; petalis 9, ovali lanceolatis, acutis, exterioribus reflexis.

Leaves large, cuneate-lanceolate, acute, when young silky; petals 9, oval-lanceolate, acute, the exterior ones reflected.


A tree which sometimes attains the height of 30—35 feet, though generally smaller, and contrary to the usual habit of this genus, remarkable for the irregular direction and growth of its branches. Its leaves are very large 15—20 inches long, and 6—8 wide, gradually tapering at base and slightly acuminate at the summit, alternate but crowded near the extremity of the branches. Petals oblong lanceolate, white, about 3 inches long. Cone oval or obovate.

Grows in every part of the Southern States in very rich soils, though rare along the sea-coast, and very rare upon the islands.

Flowers May—June.

Umbrella Tree.

5. Cordata.

M. foliis lato-ovali vel ovato-lanceolatis, basi subcordatis, subtus subtomentosis; petalis oblongo-lanceolatis, acutis.

Leaves broad, oval or ovate-lanceolate, at base slightly cordate, somewhat tomentose underneath; petals oblong lanceolate, acute.

A tree which is said by Michaux to grow sometimes to the height of 40 or 50 feet, though generally about 24—40, *Leaves* 4—6 inches long, 3—5 wide, sometimes nearly round, and in general very slightly cordate at base. Leaves of the *calyx* small. *Petals* oblong-lanceolate, yellowish, faintly streaked with red. *Cones* cylindric, about 3 inches long.

Grows in the upper districts of Carolina and Georgia, more common around Augusta, than in any other part of the country with which I am acquainted.

Flowers April—May.

6. **Auriculata.**

*M. folii obovato-lanceolatis, acutis, utrinque viridibus, basi cordatis, auriculatis; petalis lanceolatis.*

Leaves obovate-lanceolate, acute, green on each surface, cordate and auriculate at base; petals lanceolate.


M. Fraseri Walt. 159.

M. pyramidata? Bartram.

A tree 30—40 feet high, with a stem about 1 in diameter. *Leaves* large, 8—12 inches long, 4—6 wide, very acute, glabrous, in none of my specimens glaucous underneath, tapering to the base and cordate with rounded lobes. *Petals* lanceolate, 2—3 inches long, white, fragrant.

Grows among the mountains of Carolina and Georgia, but said by Michaux, to have been seen at the Sisters-ferry, 35 miles above Savannah on Savannah-river.

Flowers April—May.

I have inserted the *M. Pyramidata* of Bartram, which has eluded the researches of recent botanists, as a variety of the *M. auriculata*, yet it must be remarked, that the specimens I possess of the *M. pyramidata*, are distinguished by leaves much shorter and proportionally wider, and the sinus at the base is more abrupt and angular. Its habitat too may excite some suspicion of a difference in the species. This plant was discovered by Bartram along the sea coast of East Florida. Mr. Kin of Philadelphia assures me he found it on the south bank of the Altamaha nearly opposite to Darien, while Michaux the younger remarks that the *M. auriculata* is so exclusively confined to the mountains, that excepting the plant he discovered at the Sisters' Ferry, he had never met with it between the mountains and the ocean. May not this low country plant of Michaux really belong to the pyramidata of Bartram?
POLYANDRIA POLYGYNIA.

7. MACROPHYLLA.

M. foliis amplissimis, oblongo subcuneato-obovatis, basi sinuato subauriculatis, subtus glaucis, petalis 6, ovatis, obtusis. | Leaves very large, oblong, cuneate, ovate, sinuate and auriculate at base, glaucous underneath; petals 6, ovate, obtuse.


A small tree, but rarely exceeding 30—35 feet in height. The stem and very fragile branches covered with a white bark. The leaves alternate, and crowded near the summit of the branches, exceed in magnitude those of any other of our plants, they have been found 35 inches long, and 9—10 inches wide. They are acute at the summit; tapering and cordate, but scarcely auriculate at base, glaucous underneath, and when young clothed with a silvery silken pubescence. Petals 4—5 inches long, ovate, white, tinged with purple at the base, fragrant. Cone oval.

To complete the view of this interesting genus, I have inserted this species although it has never yet been found within the limits strictly assigned to this work, yet, in Lincoln county, North-Carolina, it approaches so near the frontiers of this State, that it would be a matter of some surprise if it should not yet be discovered along the southern declivities of the Saluda Mountains.

Grows 10 or 12 miles to the South-east of Lincoln Court-house, North-Carolina, and in Tennessee.

Flowers May to July.

LIRIODENDRON. GEN. PL.

Calyx 3-phyllus. | Calyx 3-leaved.

1. Tulipifera.

L. foliis abscisso-truncatis, 4-lobatis, calyce triphylo. | Leaves truncated, præmorse, 4-lobed; calyx three leaved.

This is one of the largest trees of the American forests. In the low
country of Carolina and Georgia, it is somewhat rare, and seldom ex-
ceeds 3 feet in diameter, but in the fertile soils of the western country in
Kentucky, Tennessee and Alabama, it is sometimes found 7 to 9; and
120 to 140 feet in height. The wood of this tree though soft is durable. The leaves are alternate, 3 lobed, with the middle lobe truncate, and varying
with the angles of the lobe obtuse, acute, and acuminate, glabrous,
on petiotes 2 to 3 inches long. Flowers solitary, terminal. Leaves of the
calyx concave. Petals obovate, lanceolate, of a dull yellow colour tinged
with red. Stamens numerous, disposed in a simple series shorter than the
petals. Germs numerous on a conical receptacle.
Grows in most fertile soils.
Flowers May—June.

ASIMINA. Adanson.

Calyx 3-phyllus. Petala 6, interiora minora. Stigmata sessilia obtusa. Baccæ
plures aut abortione subsolitariae. Semina plurima, unica? serie disposita.

1. Parviflora.

A. foliis cuneato-ovatis, mucronatis, subtus ramulisque rufo-pubescentibus; pet-
talis exterioribus calyce vix duplo longioribus.


A small shrub rarely exceeding 2 feet in height, with a few branches
near the summit. The young branches clothed with a velvet like, ferru-
ginous pubescence. Leaves alternate, obovate, abruptly acute and
slightly acuminate, a little hairy on the upper surface, pubescent under-
neath, on very short petiotes. Flowers solitary, nearly sessile. Calyx
very pubescent, deciduous. *Corolla* greenish purple, the 3 exterior petals twice as long as the calyx, the 3 interior as long as the calyx, all ovate, nearly acute, pubescent. *Stamens* shorter than the corolla. *Fruit* about an inch and a half long, irregularly oval, rarely ripening.

The species of this genus are all remarkable for the strength of their bark and for the foetid odour which it diffuses when bruised.

Grows in sandy pastures along the sea coast of Carolina and Georgia.

Flowers April—May.

### 2. *Triloba.*

*A. foliis glabrius-culis oblonge cuneato-obovatis; petalis exterioribus calyce quadruplo longioribus, subrotundo-ovatis.*

Leaves glabrous, long, cuneate-obovate; exterior petals four-times as long as the calyx, nearly round.

De Candolle 1. p. 479.


Porcelia triloba Pursh. 2. p. 383.

A small tree generally 15—20 feet high. *Branches* alternate, slender, nearly glabrous. *Leaves* alternate on very short petioles, obovate, cuneate, acuminate, entire, glabrous and shining on the upper surface, slightly pubescent underneath. *Flowers* solitary, on short peduncles, shooting from the bud of the preceding year. *Corolla* much larger than the calyx, brownish purple, the exterior petals larger, nearly round. *Stamens* much shorter than the corolla. *Germs* numerous, rarely more than 1 or 2 fertile. *Fruit* 2—3 inches long, pulpy, eatable, though insipidly sweet. *Seeds* 6—8.

Grows in rich soils, along the margin of creeks and rivers in the middle and upper country, descending along the large streams to the head of tide water; Beck's ferry on Savannah river.

Flowers March—April.

### 3. *Grandiflora.*

*A. foliis cuneato-ovatis, obtusis, subtus ramulisque rufopubescentibus; petalis exterioribus obovatis,*

Leaves cuneate, obovate, obtuse, the under surface and branches clothed with a rufous pubescence;
A shrub rarely exceeding 18 or 24 inches in height, sometimes very much branched, with creeping roots. The young leaves, branches, and calyx soft, flexible, tomentose, ferruginous. Flowers few, scattered along the stem on short peduncles, shooting with the young branches from the bud of the last year, very large for the size of the plant, the exterior petals obovate or nearly round, the interior smaller, oblong, all yellowish white. The fruit I have not seen.

Not found I believe to the North of the Altamaha. Very common in the dry pine barrens between that river and the Satilla. Flowers March—April.

4. Pygmaea.

Leaves long, linear, cuneate, obtuse, coriaceous and with the branches glabrous; exterior petals much larger than the calyx, obovate, oblong.

De Candolle 1. p. 479.

A small shrub 6—18 inches high. Leaves nearly sessile 4—6 inches long, very narrow, reticulate, perennial. Flowers solitary, axillary, large, on short peduncles. Petals reddish brown, the exterior obovate oblong, the interior elliptic, small.

Grows in the southern frontier of Georgia and in East-Florida. Flowers March—April.
pressa in caudam sæpium barbato-plumosam producta.

1. Virginiana.

C. scandens; foliis ternatis, foliolis ovatis subcordatis, inciso-dentatis lobatisque; floribus paniculatis, dioicis.

Climbing; leaves ternate, leaflets ovate, somewhat cordate, notched, toothed and lobed; flowers in panicles, dioecious.


Plant climbing over shrubs and sometimes covering with its foliage and flowers small trees 15—20 feet high. Stem terete, glabrous, pubescent when young. Leaves opposite, leaflets acute and acuminate, with the veins and margins pubescent. Corymb or panicles, axillary, opposite, somewhat trichotomously compound, with two small leaflets at each division. Petals 4, oval, pubescent, white, fragrant. Germs in the male, and stamens in the female flowers abortive. Seed small, the tail clothed with silken hair.

Grows in fertile soils.

Flowers in August.


C. floribus paniculatis, subdioicis; foliis biternatim sectis; segmentis subcordatis, trilobis.

Flowers paniculate somewhat dioecious; leaves divided, biternate, segments slightly acuminate and 3-lobed.


Similar to the preceding species; scandent, pubescent. Leaves doubly ternate, the segments slightly cordate, 3 lobed, lobes entire, acuminate with the nerves underneath pubescent. Panicle divaricate, dichotomous. Flowers small, the female florets bearing abortive stamens. Petals 4 oblong, downy on the outer surface. Stamens shorter than the petals. Styles bearded. De Cand.

Grows in South-Carolina. Catesbey—Pursh.

Flowers.

*C. scandens,* foliis ternatim sectis, segmentis oblongo-lanceolatis, integris, utrinque pubescentibus; floribus paniculato-corymbosis, dioicis, petalis linearibus staminibus longioribus.


Described by Pursh from the herbarium of Walter.

Grows in Carolina.

Flowers.


*C. pedunculis unifloris,* petalis acutissimis; foliis pinnatim sec-ritis, glabris, segmentis integris aut tripartitiis, lobis linearibus.

De Cand.

Peduncles one flowered; petals very acute; leaves divided, pinnate, glabrous, with the segments entire or 3-parted.

Stem terete, slender, glabrous. *Leaves* glabrous, segments 3—4 pair, the lower ones tripartite, others undivided, lobes all linear, entire, acute, more than an inch long, scarcely 2 lines wide. *Petioles* tortuous resembling cirrhi. *Peduncles* terminal, solitary, 1-flowered, shorter than the leaves. *Petals* nearly an inch long, acute, externally glabrous, pubescent along the margins, nearly twice as long as the stamens. De Cand.

Described from specimens collected by Fraser in the low country of Carolina.

Flowers.


*C. scandens,* foliis pinnatim sectis, triju-

Climbing; leaves divided, pinnate, leaf-
gisc, foliolis divaricatais, petiolatis, linear-lanceolatis, acutis, integerrimis, subtus glaucis; floribus solitariis, petalis ellipticis, staminibus duplo longioribus.


Leaves terminating with tendrils. Flowers white.

Described by Pursh from specimens in the Herbarium of Walter.
Grows in Carolina. Pursh.
Flowers.

6. Viorna.

C. scandens; foliis glabris, pinnatim sectis, segmentis oval-lanceolatis, utrinque acutis, trifidis integerrimisque; floribus solitariis, campanulatis; petalis crassis, acuminatis.


Climbing; leaves glabrous, divided, pinnate, segments oval-lanceolate, acute at each end, 3-cleft and entire; flowers solitary, campanulate; petals thick, acuminated.

Stem pubescent, leaflets broad, lanceolate, acute, sometimes notched but generally entire, pubescent particularly along the margins and veins of the under surface. Peduncles solitary, axillary and terminal, sometimes 3-flowered De Cand. Petals coriaceous, rugose, purple, pubescent along the margins, with the summits acute, reflected, not dilated as in C. Crispa. Stamens nearly as long as the tube of the corolla. Tails of the seeds long, plumose.

Grows in the middle and upper District of Carolina and Georgia.
Flowers May—August.
7. **Cylindrica.**

*C. scandens;* foliis pinnatim decompositis, segmentis ovatis, utrinque acutis, glabris, simplicibus, pedicellatis; pedunculis terminalibus, solitariis; corollis cernuis, cylindricis, petalis coriaceis, undulatis; aristis seminum plumosis.


Nearly allied to *C. Viorna, Reticulata* and *Crispa.* From *C. Viorna* it differs, in having all the segments of the leaves entire, flowers twice as large, and petals thin with the margins undulate. From *C. Reticulata* it differs, by its leaves thin and not coriaceous, scarcely veined, not reticulate. From *C. Crispa,* which it nearly resembles in habit and inflorescence, it differs by a larger flower, by the margin of the corolla undulate, not revolute, and particularly by the long and bearded tails of the seed. De Cand.

Grows in Carolina.

Flowers in the summer.

8. **Reticulata.** Walt.

*C. scandens;* foliis coriaceis, reticulatim nervosis, glabris, pinnatim sectis, segmentis ovatis, omnibus integris petiolatisque, membranaceis; floribus solitariis; petalis subcoriaceis; aristis seminum plumosis.


Climbing; leaves coriaceous, reticulate; petals coriaceous; tails of the seed plumose.
A vine running over small shrubs, glabrous. *Leaves* pinnate, with 3 or 4 pair of leaflets. *Leaflets* ovate, very glabrous, distinctly veined on both surfaces, rigid, coriaceous, sometimes obtuse, but sometimes acute and even mucronate. *Flowers* solitary, terminal, of a dull purple colour, on small branches. Tails of the *seed* long and conspicuously feathered.

Grows in the middle and upper districts of Carolina and Georgia. *Flowers* May to August.


*C. erecta*, simplex, pubescens; *foliis* simplicibus, calycibusque sericeis; *pedunculo* terminali, solitario; *flore* inclinato. | Erect, simple, pubescent; leaves simple ovate, entire, the young leaves and calyx silky; peduncle terminal, solitary; flower leaning.


*Root* perennial. *Stem* firmly erect, very villous, particularly near the summit. *Leaves* opposite, large, simple, entire, ovate, rather acute, reticulately veined, very pubescent, or villous on the under surface, on very short footstalks. *Flowers* solitary, terminal, yellowish. *Seeds* large, very conspicuously tailed and feathered.

Grows in the upper districts of Carolina and Georgia, Mr. Herbemont; among the Saluda Mountains, Dr. Macbride. *Flowers* May—July.

10. **Ovata**. Pursh.

*C. erecta*; *foliis* ovatis, acutis, glabris, utrinque reticulato venosis, insimis subcordatis; *pedunculis* unifloris; floribus erectis; aristis seminum plumosis. | Erect, leaves ovate, acute, glabrous, reticulate on both surfaces, the lower slightly cordate; peduncles 1-flowered; flowers erect; tails of the seed plumose.

**POLYANDRIA POLYGYNIA.**

_**Stem**_ simple. _**Leaves**_ ovate, acute, on short petioles. _**Peduncle**_ terminal, solitary. _Tails of the seed_ very long. Pursh.

Described by Pursh, from specimens collected in Carolina by Catesby.

Flowers

11. **Crispa.**

*C. scandens; foliis pinnatis ternatisque, segmentis divaricatis, ovato-lanceolatis, acutis, trilobis integerrimisve; floribus solitariis; corollis campanulatis; petalis acuminati, revolutis, margine undulatis; aristis seminum subulatis, nudis._

Climbing; leaves pinnate and ternate; segments divericate, ovate-lanceolate, acute, 3-lobed or entire; flowers solitary; corolla campanulate; petals acuminate, revolute, with the margins undulate; tails of the seed subulate, naked.


_**Root**_ perennial and somewhat creeping. _**Stem**_ pubescent, climbing over small shrubs. _**Branches**_ opposite, divericate. _Leaves_ glabrous, though sprinkled occasionally with a few hairs. _Flowers_ scattered, solitary, on the summit of small branches, campanulate, of a bright purple. _Pétals_ coriaceous, rugose, towards the summit dilated, then acuminate, the margins undulate. _Stamens_ very numerous, shorter than the tube of the corolla. _Anthers_ attached to the sides of the filaments. _Germs_ very numerous, tomentose. _Styles_ longer than the stamens.

Grows in close, damp, rich soils, very common in the river swamps in the low country.

Flowers April—May.

**THALICTRUM. Gen. Pl.**

_Calyx_ 0. _**Petala**_ 4—5. _**Stamina longissima. Semina e-caudata, striata.**_

1. **Revolutum. De Cand.**

_T. floribus dioicis polygamisve; filamentis or polygamous; fila-

**VOL. II.**
tis filiformibus; foliom segmentis ovatis, subtilobis, margine subtus revolutis, subtus velutino-pubescentibus. De Cand.

De Candolle 1. p. 173.  

Stem slender, glabrous, erect. Leaves bi or triternate; with the segments ovate, slightly cordate, or cuneate, entire or 3-lobed, with the lobes acute, the margins when dry slightly revolute, somewhat rugose on the upper surface, clothed on the under with a fine tomentum. Panicle terminal, nearly naked, pedicels divaricate, longer than the leaves. Petals 4—5, oval. Anthers yellow, oblong, mucronate at the summit. De Cand.

Grows in the lower districts of Carolina. Fraser.  
Flowers June—August.

2. Dioicum.

T. floribus dioicis, filamentis filiformibus; foliorum segmentis subrotundis, cordatis, obtuse lobatis, glabris; pedunculis axillaris, folio brevioribus. De Cand.


Root perennial. Stem herbaceous, 1—2 feet high. Leaves generally triternate, very glabrous. Flowers sessile, in small axillary clusters or umbels. Footstalks of the umbels generally shorter than the leaves, sometimes extending and becoming compound and paniculate. Corolla small, white. Stamens in this genus generally longer than the corolla. Seeds deeply striate.

Flowers May—July. Pursh.

T. floribus dioicis, filamentis filiformibus; foliorum segmentis ovatis, 3–5 dentatis, glabris, subtus glaucis; pedunculris axillaribus, folio longioribus. De Cand.


Allied to T. dioicum, but differs in having the segments of the leaves oval, less round, or cordate, and more glaucous underneath, and by its peduncles longer than the leaves, more paniculate and divaricate. Fruit ovate, tapering at each end, stipitate, striate, with the ribs acute. De Cand.


Flowers

4. Rugosum.

T. caule erecto, tereti, striato; panicula erecta multiplici; floribus confertis; foliorum segmentis ovatis, subcordatis, grosse 3–5 crenatis, subtus glaucis, superne lucidis. De Cand.


Root perennial. Stem 2 to 5 feet high. Leaves compound, with the lobes somewhat acute. Leaves shining and deep green on the upper surface. Flowers in terminal panicles frequently dioecious. Corolla small, white.

Grows in the mountains of Carolina. Pursh.

Flowers June—August.
5. Anemonoides.

**T. radice grumosa;** Root grumous; flowers umbellate; floral leaves on petioles, divided, biternate, forming an involucrum.

**floribus umbellatis; foliis floralibus petiolatis, biternatim sectis, involucrum constitutibus.**

Root grumous; flowers umbellate; floral leaves on petioles, divided, biternate, forming an involucrum.


**Root tuberous, perennial. Leaves all radical on long footstalks. Scape 6—12 inches high, terminating in a small umbel surrounded by an involucrum of 6 or 7 pedicellate leaves. Leaflets of the involucrum resembling exactly those from the root. Umbels 3—6 flowered. Peduncles scarcely exceeding an inch in length. Petals generally 6, lanceolate, white. Seeds deeply striate.**

This plant appears to connect the genus Anemone with that of the Thalictrum. It resembles the Anemone in its inflorescence and habit. The Thalictrum in its foliage and seed. Its place in the system, therefore has often been changed. I have followed Michaux and De Candolle in uniting it with the Thalictrum.

Grows in the Mountains of Carolina.

Flowers March—May.

6. Ranunculinum.

**T. foliis simplicibus,** Leaves simple, lobed, serrate; flowers corymbose. Willd.

**5 lobis, serratis, floribus corymbosis.**


I have no knowledge of this plant but from the short notice which Pursh has copied from Willdenow.

Grows in Carolina. Willd.

**ANEMONE.**


A. folis ternatis, foliolis incisis serratisque; involucro trifoliato, foliolis trisidis; petalis 14 to 20 ovatis, exterioribus subcoriaceis. E. 

Leaves ternate, leaflets notched and serrated; involucrum 3-leaved, leaflets 3-cleft, petals 14–20 ovate, the exterior somewhat coriaceous.


Root perennial. Leaves on petioles 2–3 inches long. Scape 1-flowered, slender, 8–16 inches long, covered particularly towards the summit, with a silky down. Involucrum near the middle of the scape, the leaflets very regularly 3-cleft. Petals oblong, oval, white, the exterior 6–8 thicker and sprinkled with purple specks, the interior 8–14 very thin and delicate. Filaments short yellow. Stigma hooked. Seed sitting on a cylindrical receptacle, covered with a silky down.

This beautiful and fragrant plant, has probably escaped the notice of all our botanists, except Walter, for it is very doubtful whether the A. tenella of Pursh, is the same plant. Its habitat in this country is very limited. The taste is acrid, but fugitive. The petals are persistent, covering the seed, and the scape continues to grow until the seed ripens.

Found hitherto only in one or two places in the oak lands bordering the Santee swamps, near Laneau’s ferry.

Flowers generally between the 8–16th of March.

2. Nemorosa.

A. foliis ternatis, foliolis cuneatis, inciso-lobatis, dentatis, acutis; caule unifloro; corollis 5–6 petalis; seminibus ovatis, stylo brevi uncinatis. 

Leaves ternate, leaflets cuneate, lobed, toothed acute; stem one flowered; corolla 5–6 petalled; seeds ovate, with a short hooked point.


Stem about 6–12 inches high, leaves of the involucrum on petioles, leaflets lanceolate acute more or less deeply notched. Peduncle pubescent near the summit. Petals white, tinged with purple.

Grows in the mountains of Carolina.

Flowers March–April.
3. Virginiana.

A. caule dichotomo; foliis ternatis, superiores oppositis, foliolis inciso lobatis serratisque, acutis; pedunculis solitariis, unifloris, elongatis; seminibus mucronatis, in receptaculo oblongo, lanato, aggregatis.


Root tuberous, small. Stem herbaceous, simple, pubescent, almost villos, 2—3 feet high, divided; at the first involucrum producing 1—4, 1-flowered peduncles. Leaves of the involucrum similar to those of the root, all rugose, hairy. Petals generally 5, of an obscure white colour, the two exterior green and pubescent on the outer surface, lanceolate, acute, three interior obovate, obtuse and also pubescent on the outer surface. Stamens very numerous, much shorter than the corolla. Germs very numerous collected into an oblong ovate capitulum; receptacle woolly. Seeds compressed mucronate.

Grows in shaded fertile soils, found within three miles of Charleston. Flowers July—August.


A. foliis radicalibus palmatis, longius petiolatis; pedunculo radicali, longo, erecto, unifloro; petalis 5; radice tuberosa.


Following Pursh and De Candolle, I add this plant of Walter, as probably a species of Anemone, without having it in my power to add any information on the subject, or to ascertain what plant was really described under this name.
P0LYANDR1A
FOLYGYN1A.
HEPATICA.
Willd.

Calyx 3-phyllus. | Calyx 3-leaved.

1. TRILOBA.
H. foliis cordatis, trilobis, lobis integer-rimis.

Leaves cordate, 3-trilobed, lobes entire.


Root perennial. Stem 0. Leaves all radical, on petioles 2—3 inch-es long, nearly glabrous, 3 lobed with the lobes nearly round, cordate at base, thick, coriaceous. Peduncles sometimes numerous, shorter than the leaves, covered with silky hair, each 1-flowered, proceeding from sheaths at the crown of the root. Sheaths nearly glabrous externally, very villous within. Calyx very villous. Corolla twice as long as the stamens or calyx, of a beautiful rose or pink colour, sometimes variegated with white.

Grows in rich light soils in the upper districts of Carolina and Georgia. Flowers February—March.

HYDRASTIS. Gen. Pl.

Calyx 0. Petala | Calyx 0. Petals 3.
3. Bacca composita, acinis monospermis. | Berry compound, with the pulpy grains one seeded.

1. CANADENSIS.


Root perennial, yellow. Stem herbaceous, alternately 2-leaved. Leaves slightly cordate, palmate, the segments acutely serrate, glabrous. Flowers solitary, terminal. Petals of a pale rose colour. Stamens shorter than the petals. Germs numerous, aggregated in a convex capitulum, somewhat pulpy, maturing but one seed, though said by Michaux to contain generally when young rudiments of two.

Grows in rich soils in the mountains. Flowers April—May.
RANUNCULUS. Gen. Pl. 953.

**Calyx** 5-phyllus. **Petala** 5, intra basin unguiculatum poro mellisero, sæpius squamula obtecto. **Sema** nina nuda.

*Semina (vel pericarpia) transverse rugosa striata; petala alba ungue flava fovea nectarifera notata.* **Batrachium.**

1. **Hederaceus.**

*R. caule repente, foliis subreniformibus sub 3—5 lobis, lobulis latis, integris, obtusissimis; petalis oblongis, calyce vix longioribus; staminibus 5—12; carpellis glabris. De Candolle 1. p. 233.*

Sp. pl. 2. p. 1351.

This species, originally a native of Europe, was found by Bosc growing and apparently naturalized around Charleston. If not extinct it has become rare.

Grows in ditches and wet places.

Flowers in the summer.

2. **Pantothrix.**

*R. caule natante; foliis omnibus capilla-| Stem swimming; leaves all capillary,
eeo multifidis; petals obovatis calyce majoribus, seminibus glabris. De Candolle 1. p. 235.


Root perennial. Stem flexible, floating, branching. Leaves alternate, very finely dissected. Flowers on axillary peduncles 1—2 inches long.

Grows in tranquil streams in the upper Districts of Carolina. Pursh. It does not occur in the low country.

Flowers June—August.

** Floribus luteis; foliis integris dentatis—ve, radice fibrosoa.**


R. glaber; foliis omnibus petiolatis, denticulatis, inferioribus subcordato-ovatis, superioribus lineari-lanceolatis, superioribus lineari-lanceolatis, supermis linearibus; pedunculis oppositifoliis, solitariis, unifloris; petalis calycis longitudine.

Glabrous; leaves all petiolate, denticulate, the lower ovate, slightly cordate, the upper lanceolate, and linear; peduncles opposite the leaves, solitary, one flowered; petals as long as the calyx.


Root fibrous, perennial? Stem herbaceous, generally decumbent, sparingly branched, 6—12 inches high. Leaves on petioles (the lower 2—3 inches long) very obtuse and sometimes slightly cordate at base. Flowers very small at the summit of the small branches. Leaves of the calyx ovate, obtuse, deciduous. Petals scarcely larger than the calyx, about 1-line long, nearly round, yellow, the pore near the base of the petal not on the claw. Stamens 7—8, shorter than the calyx. Germs numeros, ag.

Grows in wet soils, very common

Flowers February—April.

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4. **OBLONGIFOLIUS. E.**

*R. folis petiolatis, denticulatis, inferioribus oblongo-ovalibus, superioribus linearis lanceolatis; caulibus ramosis; petalis calyce paulolongioribus; seminibus globosis, muticis, laevibus. E.*

Leaves petiolate, denticulate, the lower oblong-oval, the upper linear lanceolate; stems branching; petals a little longer than the calyx; seeds globose, not pointed, smooth.

*R. foliis petiolatis, denticulatis, inferioribus oblongo-ovalibus, superioribus linearis lanceolatis; caulibus ramosis; petalis calyce paulolongioribus; seminibus globosis, muticis, laevibus. E.*

Root fibrous. *Stem* 1—2 feet high, generally erect or declining, glabrous, smooth, branching and from the smallness of the upper leaves appearing naked towards the summit. *Leaves* oblong, irregularly denticulate, glabrous, the lower on petioles 1—3 inches long. *Peduncles* 10—15 lines long. *Calyx* at first closely appressed. *Petals* rather longer than the calyx. *Seeds* smooth without a vestige of the style, globose, with a slight longitudinal cicatrice.

This species which I propose with hesitation, differs from the preceding much in size, and appears to differ in the corolla and seed. It requires however, to be further examined.

Grows in ditches and wet places. Collected 12 miles from Savannah on the Augusta road. St. John's Berkley. Dr. Macbride.

Flowers May—July.

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3. **Floribus luteis; foliis incisis multifidis; radice fibrosa; pericarpiis laevibus.**

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5. **ABORTIVUS.**

*R. foliis glabris, radicalibus petiolatis, cordato-orbiculatis, crenatis, nonnullis tripartitis trisectisve, cauli-

Leaves glabrous, those of the root on petioles, cordate, orbicular, crenate, sometimes 3 parted or
nis in lobos oblongo-lineares 3–5 partitis; calyce glabro petalis sublongiore.

notched, stem leaves divided into 3–5 long, linear lobes; calyx glabrous, rather longer than the petals.


Root fibrous, perennial. Radical leaves cordate or reniform, on petioles 1—3 inches long. Flowers small. Petals yellow, about as long as the calyx, with a large scale at their base. Seeds smooth, collected in an oval capitulum.

Grows in wet grounds. Not common in the low country of Carolina. Flowers

6. SCeleratus.

R. foliis glabris, radicalibus petiolatis, tripartitis, lobis trilobatis, obtuse subincisis, summis tripartitis, lobis oblongo linearibus integris, floralibus oblongis; calyce glabro; carpellis minimis in spicam oblongam dispositis. De Cand.

Leaves glabrous; those from the root on petioles, 3-parted, the segments obtusely 3-lobed, and notched, upper leaves 3-parted, with the segments oblong, linear, entire, floral leaves oblong; calyx glabrous; seeds small, forming an oblong spike.

R. nitidus. Walt. p. 159.

Root perennial? fibrous. Stem about a foot and a half high, fistulous slightly angled, glabrous, branching and dichotomous. Lower petioles 4—5 inches long, embracing the stem with their dilated base. Flowers solitary, opposite the leaf, or in the division of the stem. Peduncles 5—10 lines long. Calyx sprinkled with hair, yellowish, finally reflected. Corolla small, shining, pale yellow, a little longer than the calyx, with a round pore at the base of the petals. Filaments 12—16, shorter than
the corolla. Germs many, forming at first an ovate head, extending afterwards into a cylindrical spike. Seeds a little roughened.

Grows in wet grounds common around Charleston.

Flowers April—June.

7. Repens.

R. foliis pinnatim trisectis, segmentis cuneatis, trilobatis, inciso dentatis; caule suberecta flagellis repentibus; calyce adpresso; seminibus acumine recto. De Cand.

Leaves pinnately 3 parted, segments cuneate, 3 lobed, notched and toothed; stem nearly erect, creeping; calyx appressed; seeds with a straight point.


This species is said by De Candolle, to vary very much in Europe, which is probably its native country. It is found with stems all prostrate and creeping, or with the central stem erect, or with all erect and without runners; with the surface of the leaves, when growing in dry soils, villous or pubescent, when in water very glabrous and lucid, and frequently spotted; with the segments of the leaves trifid or three parted and the segments frequently many cleft; with the flowers single or double, &c.

I have inserted this plant while I entertain much doubt whether it belongs to the Southern States. I formerly found along the banks of the Edisto, plants which I referred to this species, but they were glabrous, and Pursh describes the American R. repens as hirsute.

Grows in shady wet woods, particularly in the mountains—Pursh.


R. foliistripartitis, inæqualiter trifidis, lanceolatis, subincisis dentatisque, glabris; calyce reflexo; petalis ovalibus, calyce duplo longioribus; seminibus acumine subrecurvo. E.

Leaves 3 parted, segments unequally 3 cleft, lanceolate, notched, toothed, glabrous; calyx reflexed; petals oval, twice as long as the calyx; seed with a curved point.
Folyandria polygyxia.

Root fibrous, perennial. Stem procumbent and erect, about two feet high, furrowed, and a little hairy. Leaves with the lateral segments unequal at the base, the middle one sometimes on a long petiole, all shining, glabrous, with a few hairs along the under surface of the veins, petioles of the root leaves sometimes 1 foot long. Flowers on peduncles 2—6 inches long. Calyx a little hairy. Petals 7—8, bright yellow, glossy, veiny, with a square scale at base. Filaments 60—80 very short. Germs 20 or more, collected in a globose head. Seeds compressed, with a very distinct border, and the point recurved.

This plant, the R. nitidus of Muhlenberg's Catalogue, but not of Walter, is nearly allied to the R. repens, but differs from it by the want of runners, by its reflected calyx, by its petals that are simply obtuse, never obcordate nor even emarginate, by the recurved summit of its seed, and by its leaves, which if we judge by the figure of the R. repens in Smith's English Botany, are larger, with the segments more distinctly separated, more regularly lanceolate and more acutely serrate.

Grows in wet grounds. Very common in the river swamps of Georgia. Flowers March and April.

9. Palmatus? E.

R. pilosus, pilis adpressis; foliis omnibus petiolatis, radicalibus palmato tripartitis, lobis dentatis; superioribus trisidis integris; seminibus marginatis acutis recto. E. Hairy, with the hairs appressed; leaves all on footstalks, those of the root palmately 3 parted, with the lobes toothed, the upper 3-cleft or entire; seeds marginated, with the point straight.

Root fibrous. Stem 12 to 18 inches high, branching, hairy, and with the hair as in every part of the plant, closely appressed. Leaves obtuse at base, 3 parted with the lobes expanding and dentate, the upper leaves with 2 lateral teeth, when small, entire. Petioles of the root leaves 4—5 inches long. Flowers opposite the leaves, on long slender peduncles.—The calyx and corolla I have not seen. Seed compressed, smooth, and like the seed of many of our species, with an incrassated margin.

Grows in St. John's Berkley. Flowers April—May.

10. Carolinianus.

R. caule erecto subramoso, petiolisque | Stem erect, branching and with the petio-
Radical leaves trisected or three lobed, segment and lobes ovate, obtuse, and obtusely toothed. De Cand.

This plant appears to resemble the preceding species, but in the R. palmatus, the leaves as far as I have seen them, are never divided to the base, and are very hairy.

Grows in the low country of Carolina. Bosc.

Flowers

11. Hispidus.

R. caule erecto, ramoso petiolisque patentim pilosissimis; foliis tri-sectis tri-partitisve, segmentis ovalibus, acutis, incisodentatis; pedicellis adpressae pubescentibus; calyce adpresso.

Stem erect, branching, and with the petioles densely cloathed with expanding hair; leaves 3-cleft or 3-parted, segments oval, acute, sharply toothed; peduncles with the hair appressed; calyx appressed.


Root fibrous, perennial. Root leaves 3 parted, with the segments generally separated, the middle one on a petiole sometimes nearly an inch long, segments deeply 3-lobed, with the lobes acutely toothed, all very hairy, petioles sometimes 6—8 inches long, very hispid, with the hair expanding. Stem 12—18 inches high sparingly branched. Flowers on long peduncles, less hairy than the petioles, and with the hair generally appressed. Petals obovate, much longer than the calyx or stamens. Seed smooth, compressed, with a short straight point.

Grows in very rich shaded soils.

Flowers from April—July.
12. Recurvatus.

*R. caule erecto petiolisque patenti sim pilosisimis; foliis tri-
-partitis adpresse villosis, partitionibus ov- 
libus subinciso-dentatibus; calyce reflexo; 
carpellis stylo uncinato.

Stem erect and with the petioles cloathed with expanding hair; 
leaves 3 parted, villous, with the hair appressed, segments oval, sharply toothed; 
calyx reflected; seed with a hooked point.


Root perennial, fibrous, somewhat tuberous at the crown. Stem 12— 
18 inches high. Leaves 3 parted, but not to the base, the segments ovate 
and acutely serrate. Flowers small, on long peduncles. Seeds collected 
in a globose head.

Flowers June to August. Pursh.

13. Pennsylvanicus.

*R. caule erecto, peti- 
tiolisque rigide paten-
timque pilosis; foliis 
trisectis adpressius vil- 
lossis, segmentis sub-
petiolatis, acute trilo-
bis, inciso serratis; ca-
lyce reflexo, carpellis 
stylo recto. De Cand.

Stem erect, and with the petioles hairy with rigid expanding hair; 
leaves 3-cleft, villous, with the hair appressed; segments somewhat petiolate, acutely 
3-lobed, sharply serrate; calyx reflected; seed with a straight point.


Stem erect, 1—2 feet high, branching, hair of the stem and petioles ri-
gid and expanding, of the peduncles and leaves appressed. Flowers small 
yellow. Petals elliptic, as long as the calyx. Seeds compressed, smooth, 
collected in an ovate head. De Cand.
The Ranunculi of the U. States still require further examination. I have specimens from Milledgeville, in Georgia, which I can refer to no other described species, yet they differ from the above description, by having the corolla twice as long as the calyx, and the seed slightly hooked at the summit.

Grows in the upper districts of Carolina and Georgia. Flowers in the Summer.

14. **Tomentosus.**

*R. caule patentim villosissimo ascendentem 1—2 floro; foliis petiolatis tomentosis, trisectis, summo sessili, ovato, integro; calyce villosissimo subreflexo. De Cand.*

Stem ascending, very villous with the hair expanding, 1—2 flowered; leaves on petioles, tomentose, 3-cleft, the upper ones sessile, ovate, entire; calyx very villous, somewhat reflected.


*Root fibrous, perennial. Stem short, ascending at the summit, loaded with soft expanding hair. Leaves three parted, segments 3 lobed, lobes ovate, toothed, with the hair appressed. Petals obovate a little longer than the calyx. De Candolle.*

Grows in the upper Districts of Carolina. Bosc.

Flowers.

**** *Floribus luteis; foliis incisis multitidisve; radice fibrosa; pericarpiis tuberculosis, echinatisve.*

**** *Flowers yellow; leaves notched or many cleft; root fibrous; seed tubercled or prickly.*

15. **Muricatus.**

*R. foliis glabris, petiolatis, suborbicularis, trilobis, grosse dentatis; caule erectiusculo aut diffuso;*

Leaves glabrous, on petioles, nearly round, 3-lobed, coarsely toothed; stem erect or diffuse; pe-
pedunculis oppositifoliiis; calyce patente; carpillis utrinque tuberculoso-aculeatis, incornu acuminatum rectum desinentibus. De Cand.


Root annual. Stem procumbent, branching, 12—18 inches high, succulent, sprinkled with a few white hairs, which, as usual, are more numerous near the summits. Lower leaves simple, slightly cordate and nearly round, shining and bright green, 3-lobed, the lobes deeply toothed, glabrous underneath, sprinkled on the upper surface with a hispid pubescence, upper leaves trifoliate and simple, leaflets, sometimes cuneate and dentate, the simple leaves lanceolate. Corolla on peduncles about an inch long. Leaves of the calyx lanceolate, reflected. Petals obovate, bright yellow, with a scale at base, longer than the calyx. Stamens numerous, about 16, shorter than the corolla. Germs numerous, compressed. Styles 0. Stigmas simple. Seed surrounded by a strong thick margin, the centre translucid and thickly muricated with translucid obtuse prickles, point broad; straight or very slightly recurved.

Grows in cultivated land and along the road side. Common near Charleston. Probably an exotic.

Flowers March—May.

16. Trachysperma. E.

R. caule petiolis foliisque patentim villosis; foliiis trisectis, lobis acute incisis; pedunculis brevibus oppositifoliiis; seminibus tuberculosis, acuminato.

Stem, petioles and leaves villous with the hair expanding; leaves 3-cleft with the lobes acutely notched; peduncles short, opposite the leaves; seed tubercled with the point hooked.

Stem erect, 12—15 inches high, branching, thinly clothed with soft expanding hair. Leaves small, generally divided to the base, the segments acutely notched and toothed, rather more hairy than the stem. Petioles 2—3 inches long. Seeds compressed, conspicuously muricated on both
surfaces, with the point short and hooked, smaller and less distinctly thickened along the margins, than those of the R. muricatus. The calyx and corolla I have not seen.

Collected in St. John's Berkley, by Dr. Macbride. Flowers April and May.

CALTHA.  Gen. Pl. 959.


1. Ficarioides.

C. caule erecto unifloro, unifolio; foliis radicalibus cordato-ovatis, obtusissimis, paucidentatis, multi-nervibus; petalis ellipticis.


Root perennial.  Stem herbaceous.  Flowers yellow. This plant with which I am unacquainted, I have inserted from Pursh. Grows in Cedar swamps. Pursh. Flowers June—July.

BRASENIA.  Gen. Pl. 933.

Calyx 6-phyllus persistens. Corolla 0. Capsulae 6—12 ob-longae, dispermae.

1. Peltata.

Root perennial. Stem 1—10 feet long. Leaves alternate, somewhat crowded near the summit of the stem, elliptic, peltate, entire, floating on the surface of the water, glabrous and shining on the upper surface, the under surface purple, and together with the petioles and peduncle completely enveloped in a tenacious gelatinous fluid. Petioles 3—6 inches long. Flowers solitary, axillary. Peduncles 3—6 inches, and with the whole plant except the upper surface of the leaves, purple. Leaves of the calyx oval, nearly equal, the three interior membranaceous. Stamens 20—30, a little shorter than the calyx. Germs 8—12, slightly compressed, pubescent. Styles oblique. Stigma decurrent. Capsules a little ventricose, acute at each end, pubescent, 1-celled. Seeds 1—2 in each capsule, attached by the point to the dorsal suture.

For a very excellent description of the structure of the leaves of this plant, consult Nutall's Genera of North American Plants, a work abounding in accurate information respecting the plants of this country.

Grows very common in stagnant water. Flowers May—August.

**CYAMUS.**

**CALYX** 4—5 phyl-lus. *Petala plurima.*

*Fructus* turbinatus, indisco truncato soveis plurimis monospermis excavatus. *Nuces o-vatae,* stylo persistente coronatae.

1. Luteus.

*C. foliis peltatis, orbiculatis, integerrimis; corolla polypetala; antheris superne linearibus.*

**Nymphea Nelumbo.** Walt. p. 155.


**Root** perennial. **Leaves** larger than those of any other species of our aquatic plants, peltate, orbicular, entire, generally floating, but sometimes rising above the surface of the water. **Petioles and Peduncles** slightly
muricate. Flowers large. Petals of a pale yellow colour. Pericarp woody, 3—4 inches in diameter, with a truncated disk, perforated with 15 or 20 cells, each containing an oval nut, about the size of an acorn.

This plant seems capable of growing in deeper water than either the Nymphæa or the Nuphar. Its leaves appear late in the spring, and its flowers do not expand until mid-summer. The upper surface of the leaves possess in a greater degree, than the leaves of any other plant with which I am acquainted, the power of repelling water.

2. Pentapetalus.

C. foliis peltatis orbiculatis integerrimis; calyce pentaphyllo; corolla pentapetala. — Leaves peltate, orbicular, entire, calyx 5-leaved; corolla 5-petalled.

Walt.

Cyamus pentapetalus Pursh 2. p. 389.

This species and the succeeding, still rest on the authority of Walter. No botanist, has recently seen them. They should probably be sought for in the lagoons, along the Santee-river.

3. Reniformis.

C. foliis reniformibus, corolla polypetalous. — Leaves reniform; corolla polypetalous.

Walt.

Cyamus reniformis. Pursh. 2 p. 398.
Nelumbium reniforme Sp. pl. 2. p. 1260.
Didynamia Gymnospermia.

Class XIV.

Didynamia.

Gymnospermia.

358 Teucrium.
359 Hyssopus.
360 Nepeta.
361 Mentha.
362 Lamium.
363 Stachys.
364 Marrubium.
365 Leonurus.
366 Hystery.
367 Pycnanthemum.
368 Dracophyllum.
369 Macbridea.
370 Prunella.
371 Scutellaria.
372 Calamintha.
373 Ceranthera.
374 Trichostema:

Angiospermia.

375 Phryma.

376 Verbena.
377 Zapania.
378 Lantana.
379 Herpestis.
380 Scrophularia.
381 Bignonia.
382 Ruellia.
383 Buchnera.
384 Antirrhinum.
385 Gerardia.
386 Seymeria.
387 Pedicularis.
388 Minulis.
389 Chelone.
390 Pentstemon.
391 Martynia.
392 Schwalbea.
393 Eucroma.
394 Melampyrum.
395 Obolaria.
396 Orobanchus.


Corollae labium superior infra basin fissum, divaricatum. Stamina extantia. Smith.

Upper lip of the corolla divided beyond the base. Segments divaricate. Stamen projecting.

1. Canadense.

T. foliis ovato lanceolatis, petiolatis, acute serratis pubescentibus, subtuscanes.

Leaves ovate lanceolate, on petioles, acutely serrate, pubescent, underneath hoa.
centibus; racemis sub-verticillatis, terminalibus; bracteis calyce duplo longioribus.


Root perennial. Stem herbaceous, erect, 2—3 feet high, square with the angles rounded, furrowed, somewhat jointed, pubescent. Leaves opposite, bractiate, somewhat rugose, hoary and almost tomentose underneath, on very short petioles. Racemes terminal. Flowers generally verticillate, 4—6 in each whorl, the upper flowers irregular; bracteas subulate at the base of each peduncle, about as long as the calyx. Peduncles short. Calyx pubescent, ribbed, erect, 5-cleft, the three upper segments broad, the two lower narrower, all acute. Corolla pubescent, pale blue or violet coloured, the tube as long as the calyx, the upper lip divided into two distant acute segments, the fissure extending into the tube, the lower lip elongated, 3-cleft, the middle lobe extended and rounded. Filaments 4, prominent between the division of the upper lip. Style as long as the stamens. Stigmas 2, acute. Seeds 4, covered by the persistent calyx.

The two American species of this plant, are still insufficiently discriminated. It will be perceived by the foregoing description, that our southern plant agrees in its bracteas and perhaps its petioles with the next species, while its leaves belong to the T. canadense.

Grows in wet soils, very common. Flowers July—September.

2. Virginicum.

T. pubescens; foliis ovato-oblongis serratis, superioribus sub-sessilibus, caule erecto; racemis verticillatis, confertis; bracteis longitudine calycis.


This doubtful or obscure species is said to grow in bogs. Pursh. I have however a specimen sent me from Pennsylvania by Mr. Nuttall as the T. virginicum, in which the leaves are more ovate, on longer footstalks and evidently less discoloured than in our common species. I can in this specimen discover no other difference. Grows in wet ground from Pennsylvania to Carolina.

Flowers probably like the other species from July to September.
HYSSOPUS. Gen. Pl. 963.

*Corylce* labium inferius tripartitum, lacinula intermedia crenata. *Stamina* recta, distantia.

2. *Scrophularifolius.*

*H. spicis verticillatis, cylindricis; stulis corolla longioribus; foliis cordatis, ovatis, acuminatis, obtuse dentatis.*

*Root* perennial. *Stem* herbaceous 2—3 feet high, square, glabrous, excepting near the summit, where it is a little pubescent. *Leaves* opposite, ovate-lanceolate, slightly acuminate, sprinkled with a few hairs, on pubescent petioles, from half an inch to an inch long. *Flowers* crowded in whorls, forming a long cylindrical spike. *Bracteas* ovate, acuminate, with the calyx nearly glabrous. The *corolla* of an obscure red. *Stamens* long and distant. *Styles* longer than the corolla.

Grows in the mountains of Carolina and Georgia. Found on the Saluda mountains by Dr. Macbride.  
*Flowers* July to September.

NEPETA. Gen. Pl. 964.


1. *Cataria.*

*N. floribus spicatis, verticillis subpedicellatis.*  
*Calyx* dry, streaked. Lower lip of the *corolla* crenate. Margin of the *throat* reflected. *Stamens* near together.

Flowers in spikes, whorls on short foot-
DIDYNAMIA GYMNOSPERMIA.

Flavitis; folii petiolatis, cordatis, dentato-seratatis. | stalks; leaves on petioles, cordate, coarsely serrated.


Root perennial. Stem 2—3 feet high, 4-angled, pubescent. Leaves cordate, acute, like the whole plant pubescent, and on the under surface somewhat hoary. Petioles nearly an inch long, diminishing in length towards the summit of the stem. Calyx tubular, ribbed, 5-toothed, teeth unequal, the upper one the longest. Corolla small, nearly white, the upper lip straight, slightly emarginated, the lower 3-lobed, the lateral lobes small, reflected, the intermediate dilated, crenated, and sprinkled with crimson or purple dots. Stamens shorter than the corolla.


MENTHA. Gen. Pl. 967.

Corolla subaequalis, quadrifida, lacinia latiore emarginata. Sta mina erecta, distantia.

1. Tenuis.

M. glabra; folii ovato-lanceolatis, serrulatis, petiolatis; spica gracilis, terminali, verticillis minimis interrumpita; staminibus inclusis.

Glabrous; leaves ovate lanceolate, serrulate, on petioles; spike slender, terminal, with verticils very small, distant at base; stamens shorter than the corolla.


Root perennial. Stem procumbent, and assurgent, 1—2 feet long, 4-angled, glabrous, branching, throwing out roots at the joints, and with the whole of the plant punctured with glandular dots. Leaves opposite, generally acute, delicate, on petioles, about 3—4 lines long. Flowers
numeros in each whorl. Whorls rather distant at the base of the spike, crowded near the summit. Calyx tubular, glabrous, ciliate, erect with 5-equal and very acute teeth. Corolla funnel formed, bluish, the tube a little longer than the calyx, the border almost equally 4-cleft, the segments obtuse and a little expanding, the upper one emarginate. Stamens very short, included in the tube of the corolla, equally distant, not approximated by pairs. Anthers white. Style longer than the corolla. Stigmas two, acute, revolute. Seeds 4-oval, protected as in all of this order, by a persistent calyx.

Grows in wet ground, rare, found around a spring, near the Club-house, about 3 miles from Beaufort. Flowers August—September.

Several European species of Mentha are becoming naturalized in our country, this is the only species I have seen which appears indigenous.

LAMiUM. Gen. Pl.

Corollae labium superius integrum, fornicatum, labium infe-rrius bilobum; faux utrinque margine dentata.

1. AMplexicaule.

L. foliis floralibus sessilibus, amplexicaulis, obtusis.


A small annual plant, the stems branching at base, about a foot high, square and pubescent. Leaves opposite, nearly round, notched, rugose, pubescent, the upper ones sessile, the lower on petioles from half an inch to an inch long. The flowers in axillary whorls, in the bosom of the upper leaves. Calyx tubular, hairy, with the border five cleft. Corolla bilabiate, the tube twice as long as the calyx, bright purple, the throat and lower lip marked with paler spots. Stamens included in the upper lip of the corolla. Style about as long as the stamens. Stigmas two, acute. A plant probably imported; now everywhere in cultivated lands. Flowers February—April.
**Stachys**


1. Hyssopifolia.

*S. glabrìuscula, gracilis, erecta; foliis sessi-libus lineari-lanceolate linearibusque, ra-riter subdentatis, verticalis subquadrifloris. 

Somewhat glabrous, slender, erect; leaves sessile, linear lanceolate and linear, rarely toothed; whorls generally 4-flowered.


*S. palustris. Walt?*

Stem erect, smooth, 12—15 inches high, generally simple. Leaves sessile, very finely serrulate, about an inch long, glabrous, frequently linear; at the base of the leaves are found a few bristles performing probably the function of stipules. Flowers sessile. *Calyx* glabrous, the teeth very acute, almost spinous. *Corolla* much longer than the calyx, a little hairy on the inside. Stamens nearly as long as the corolla. Anthers two lobed, incumbent. Stigmas two, acute.

Grows like all the other species of this Genus, in wet pine-barrens, most common in the middle country of Carolina and Georgia. Flowers June—August.

2. Hispida.

*S. caule foliisque hispidis; foliis petiola-tis, ovato-oblongis, a-cutis, obtuse serratis; 

Stem and leaves hispid; leaves on pe-tioles, ovate-oblong, acute, obtusely ser-
verticillis subquadri- | rate; whorls generally
floris; calycibus gla- | 4-flowered; calyx gla-
briusculis. | brous.

S. arvensis Walter p. 162.

Stem about 2 feet high, square, hispid along the angles, the bristles generally retrorse. Leaves nearly sessile, very oblong, ovate, acute, serrate rather than obtusely serrate, somewhat hispid on both surfaces. Calyx generally 4 in each whorl, the teeth prominent and very acute, their margins and the angles of the calyx pubescent. Corolla larger than in our other species, rather longer than the stamens, yellowish purple.

Grows in the wet pine barrens of Carolina.
Flowers June—August.

3. Aspera.

S. caulibus erectis, | Stems erect, retror-
retrorsum hispidis; fo- | sely hispid; leaves li-
liis lineari lanceolatis, | near lanceolate, ser-
serratis, glabriusculis; | rate, nearly glabrous;
verticillis subsexfloris, | whorls generally 6-
calycebuis divaricato- | flowered; teeth of the
cspinuescentibus. | calyx divaricate, spiny.


I am uncertain whether I am not referring to the S. Aspera of Michaux a plant which may belong to another species. Stem 18—24 inches high, square, the angles fringed with retrorsum bristles. Leaves long (2—3 inches) very narrow, sessile, acute, finely serrate, the margins fringed and the veins sprinkled with short acute bristles. Flowers generally 6 in a whorl. Teeth of the calyx very acute, somewhat divergent and with the angles fringed with short bristles. Corolla much longer than the calyx, purplish Stamens as long as the corolla.

Grows in the pine barrens of Carolina.
Flowers June—August.

4. Tenuifolia.

S. caule erecto, an- | Stem erect, angled,
gulato, sublævi; foliis | nearly smooth; leaves
petiolatis, ovali lanceo- | on petioles, oval-

DIDYNAMIA GYMNOSPERMIA.

latis, serratis, acuminatis; verticillis sexfloris; calycibus pubescentissimis.

Sp. pl. 3. p. 100.
S. Annuas Walt. 161.

Stem 18 to 24 inches, angled, nearly glabrous, sprinkled with a few hairs, particularly at the summit and near the joints.

MARRUBIUM. Gen. Pl. 976

Calyx hypocrateriformis, rigidus, 10-striatus. Corollae labium superius bifidum, lineare, rectum.

1. VULGARE.

M. foliis subrotundo-ovatis, dentatis, rugoso-venosis; calycibus dentibus setaceis, uncinatis.

Sp. pl. 3. 111. Pursh 2. 408.

A perennial plant, growing in dense tufts. Stems about a foot high, branching at base, square, with the whole plant tomentose and hoary. Leaves very rugose, attenuated at base into petioles about half an inch long. Flowers in axillary whorls, very numerous. Teeth of the calyx acute, and somewhat spinous. Corolla small, white, lower lip 3-lobed. Stamens and styles shorter than the corolla.

This plant though originally a foreign one, is now naturalized. It grows very common about buildings in dry soils. Flowers during the greater part of the summer.

LEONURUS.

Calyx 5-gonus, 5-dentatus. Corollae labium superius villosus.

Calyx 5-angled, 5-toothed. Upper lip of the corolla villous,
sum, planum, integrum; inferius tripartitum, lacinia media indivisa.

flat, entire; the lower 3-parted, with the middle segment undivided.

1. Cardiaca.

Leaves obovate, 3-lobed, toothed, cuneate at base; corolla longer than the sharp toothed calyx, the middle segment of the lower lip acute.


Root biennial or perennial. Stem about 3 feet high, 4 angled, with the angles pubescent. Leaves generally 3 lobed, sometimes dentate, the upper ones entire, pubescent along the veins, cuneate at base, erect, supported on petioles rather more than half an inch long. Flowers in axillary whorls extending along the greater part of the stem. Calyx nearly glabrous with 5 very acute expanding teeth. Corolla small, very vilious on the outer surface. Anthers sprinkled before they burst with white globular points. Stamens shorter than the corolla.

Grows in rich soils about buildings, a foreign plant becoming naturalized.

Flowers May—August

**HYPTIS.**

Calyx 5-dentatus. Corolla ringens, labium superius bifidum, inferius tripartitum, lacinia media sacculiformi. Stamina tubiventri inserta, declinata.

Calyx 5-toothed. Corolla ringent, the upper lip 2-cleft, the lower 3-parted, the middle segment forming a small sack. Stamens inserted in the middle of the tube, declining.
1. Radiata.

H. capitulis oppositis; bracteis lanceolatis calyce longioribus, foliis oblongo lanceolatis, dentatis, basi attenuatis.

Heads of flowers opposite; bracteas lanceolate, longer than the calyx; leaves oblong lanceolate, dentate, tapering at base.

Sp. pl. 3. p. 84. Pursh 2. p. 408.
Clino podium rugosum Walt. p. 164.

Root perennial somewhat creeping. Stem herbaceous, erect, 3—4 feet high, 4-angled, pubescent, and somewhat scabrous near the summit. Leaves opposite, sessile, pubescent, dotted underneath, sometimes 2 or 3 of the teeth very large, the base very long and tapering. Flowers on axillary heads, on long peduncles, the lower peduncles sometimes as long as the internodes, the upper ones much shorter. The involucrum many leaved (about 12) persistent, the leaflets generally in two series, unequal, the exterior ones larger, but all much longer than the calyx. Calyx somewhat tubular, very pubescent, villous at base, the border 5-toothed, the teeth long, linear, equal. Corolla white, a little sprinkled with purple, the lower lip 3-cleft, the lateral segments small and obtuse, the intermediate long, with a scale at base. Stamens shorter than the corolla. Anthers incumbent, reflexed. Style as long as the stamens. Stigma oblique. Seed 4, oval.

Grows in damp soils in pastures, very common. Flowers July to September.

2. Capitata.

H. capitulis oppositis; pedunculo internodiis longitudine; bracteis lanceolatis, calyce frugifer o brevioribus; foliis oblongis, utrinque attenuatis, inaequaliter serratis.

Heads of flowers opposite; peduncle as long as the internodes; bracteas lanceolate, shorter than the calyx of the fruit; leaves oblong, tapering at each end, unequally serrate.

I doubt much whether this West Indian species notwithstanding the references to Mich. and Pursh, belongs to our Flora. Mich. describes but one species, and the preceding is diffused everywhere over our country. Michaux besides was so cautious in proposing new species, that he hesitated to separate our plant from the original species of Jacquin, and Pursh's information respecting our southern plants was not always accurate.

**PYCNANTHEMUM. Mich.**


* Staminibus exsertis.

1. **Incana.**

P. foliis oblongo-ovatis, acutis, sub serratis, cano-tomentosis, petiolatis; capitulis compositis, lateralibus terminalibusque; bracteis setacensis.

<table>
<thead>
<tr>
<th>Capitulum surrounded by an involucrum of many leaves. Calyx tubular, striate. Upper lip of the Corolla nearly entire, the lower 3-parted. Stamens equal, distant.</th>
<th>Leaves oblong ovate, acute, somewhat serrate, hoary, tomentose, on petioles; heads compound, lateral and terminal; bracteas setaceous.</th>
</tr>
</thead>
</table>


*Root* perennial. *Stem* herbaceous, branching, 3—6 feet high, 4-angled, with the angles rounded, glabrous at base, very pubescent near the summit. *Leaves* opposite, acute at each extremity, pubescent, the pubescence on the lower surface of the lower leaves, and on both sides of the upper, double, the shorter in floccose spots, giving the leaves a discoloured appearance. *Flowers* in heads, composed of compact cymes, the lateral ones on short footstalks, bracteas linear or setaceous, longer than the calyx.
Calyx tubular, tomentose, striate, with the border 5-toothed. Corolla yellowish, spotted with purple, pubescent on the inner surface, the upper lip small and nearly round, the lower longer, 3-parted. Stamens scarcely longer than the corolla. Anthers incumbent. Styles as long as the stamens. Stigmas 2, acute. Seed 4, rugose.

Grows in dry fertile soils. Flowers August—September.

2. Aristatum.

P. foliis angusto lanceolatis, subserratis, brevissime petiolatis, subcandicansibus; capitulis terminalibus; bracteis aristatis.

Leaves narrow, lanceolate, slightly serrate, on very short petioles, somewhat hoary; heads terminal; bracteas awned.

Nepeta virginica. Sp. pl. 3. p. 56.

Stem 2—3 feet high, square, much branched, and with the whole plant pubescent. Leaves in my specimens very narrow, nearly entire, bracteas subulate, and with the teeth of the calyx terminated by long awns. Corolla small, white, smooth on the inner surface.

Grows on the mountains of Carolina. Flowers July—August.


P. foliis ovali lanceolatis, serratis, sub sessilibus; capitulo sessili; bracteis ciliatis, acuminatis; calycibus erectis, breviter dentatis.

Leaves oval lanceolate, serrate, nearly sessile; head sessile; bracteas fringed, acuminate, calyx erect with short teeth.


Stem purple, smooth, about 1 foot high. Whorls sometimes 1 or 2 below the terminal one. Orifice of the corolla pubescent. Stamens exserted. Corolla purplish, spotted. Seed bearded at the summit. Nuttall.

Grows on the highest mountains of North and South-Carolina. Flowers.

**P. pubescens**; foliis abrupte petiolatis sub. cordato-ovalibus serratis; bracteis magnis, coloratis, ciliatis; calycibus summate barbatis.


Stem 2—3 feet high. Leaves on petioles nearly an inch long, very obtuse, rather than cordate at base, slightly acuminate and strongly serrate. Bracteas about twice as long as the calyx. Corolla small, pale red.

In my specimens which were collected by Dr. Macbride on the Saluda mountains, the stem and the leaves, except along the margins are nearly glabrous, if they had exhibited whorls below the terminal one, according to the habit of the genus, they would pretty accurately represent the Origanum Clinopodioides of Walt. p. 165. Grows on the Saluda mountains. Flowers July—August.


**P. glaberrimum**; caule sub simplici; foliis oblongo-ovatis, integerrimis, sessilibus; capitulis pedicellatis, paucifloris, nudis; staminibus exsertis. Nutt. Gen. 2. p. 34.

Stem 2 feet high. Leaves very smooth, about an inch long, prominently veined, heads numerous and small, subtended by bracteas about the same length. Flowers distinct. Bracteas smooth, lanceolate, and with the calyx awnless, both conspicuously covered with resinous punctures. Orifice and exterior of the corolla pubescent. Lobes of the lower lip nearly equal. Seeds smooth. Nutt.

Grows in the mountains of Carolina and Georgia.
6. *VIRGINICUM.*

<table>
<thead>
<tr>
<th>P. pubescens; foliis sessilibus, linear-lanceolatis, integris, punctatis; capitulis terminalibus, corymbosis; bracteis acuminatis.</th>
<th>Pubescent; leaves sessile, linear lanceolate, entire, dotted; heads terminal, corymbose; bracteas acuminate.</th>
</tr>
</thead>
</table>

*Stem* erect, and the branches generally erect. The heads terminal, forming irregular clustered corymbbs. The *Bracteas* and *Calyx* villous. The *Corolla* externally pubescent, white and spotted, the middle segment of the lower oblong, incurved at the point.

Grows in damp lands in the middle and upper country of Carolina.

Flowers July—August.

7. *LINIFOLIUM.*

<table>
<thead>
<tr>
<th>P. glabrum; foliis linearibus, integerrimis, nervosis, punctatis, acutis; capitulis terminalibus, subcorymbosis; bracteis breviter aristatis; staminibus vix corolla longioribus.</th>
<th>Glabrous; leaves linear, entire, nerved, dotted, acute; heads terminal, somewhat corymbose; bracteas with short awns; stamens scarcely longer than the corolla.</th>
</tr>
</thead>
</table>

*Stem* erect and much branched, branches fastigate. *Leaves* generally clustered, terminal, capituli hemispherical and very compact. The *bracteas* ovate, ciliate and with the calyx awned. *Flowers* hairy, internally spotted, the middle segment of the lower lip oblong and incurved at the point. *Stamens* about as long as the corolla.

This and the preceding species which are very nearly allied, were both included by Linnaeus under the *T. virginicus.* They differ much in ap-
pearance from the other species of this genus, I have followed Mr. Nuttall generally in their arrangement and characters. Grows in damp soils in the mountains of Carolina. Flowers July—August.

** Staminibus inclusis.  ** ** Stamens included.**

8. Mutilcum.

P. foliis lanceolatis, leviter rariterque dentatis, nervoso-costatis, glabellis; bracteis lanceolatis, acutis.

Leaves lanceolate slightly toothed, ribbed, glabrous; bracteas lanceolate, acute.

Pursh 2. p. 410.


Grows in the upper districts of Georgia and Carolina. Dr. Baldwin and Michaux.

Flowers.


P. foliis ovato lanceolatis, interdum denticulatis, pubescentibus, verticillis compactis; bracteis acuminitatis.

Leaves ovate, lanceolate, sometimes toothed, pubescent; whorls compact; bracteas acuminate.

Pursh 2. p. 410.

Stem 18—24 inches, square, branching, when young very pubescent. Leaves sessile, very acute, many of them very distinctly though remotely denticulate,pubescent and not as distinctly ribbed as the preceding species. Bracteas acuminate and with the calyx almost villous, teeth of the calyx short but slightly acuminate, the whole plant dotted; the calyx sprinkled with resinous atoms, flowers small.

Grows in the mountains of Carolina. Flowers July—August.
DIAYNAMIA GYMNOSPERMIA.

DRACOCEPHALUM. Gen. Pl. 984.

Calyx 5-fidus, dentibus subæqualibus.
Corollaæ faus inflata, labium superius concavum.

1. Virginianum.

D. spicis elongatis conserfloris; bracteis parvulis, subulatis; calycis dentibus brevibus, subæqualibus; foliis lineari-lanceolatis, acute serratis.


Root perennial and in all the species creeping. Stem glabrous, square, 2—3 feet high, pubescent near the summit. Leaves opposite, sessile, 2—3 inches long, narrow, very acutely serrate towards the summit, serratures almost acuminate. Spikes terminal. Flowers generally opposite. Bracteas subulate, slightly acuminate, scarcely half as long as the calyx, and with the calyx very pubescent. Corolla inflated at the throat, bright purple, handsome, two or three times as long as the calyx, longer than the stamens.


D. spicis brevibus tetragonis; bracteis ovatis, acuminatis, calycem æquantibus; calycis dentibus pauci lo inæqualibus; foliis arcte sessilibus, ob-

Spikes short, square; bracteas ovate, acuminate, as long as the calyx; teeth of the calyx a little unequal; leaves closely sessile, oblong lan-
longo lanceolatis, sub- | ceolate, toothed near
perne denticulatis. | the summit.

Pursh 2. p. 411.  
Prasium incarnatum.  Walt. p. 165.

_Stem_ about 3 feet high, square, glabrous, with the angles cartilaginous. _Leaves_ long, lanceolate, very acute, obtusely serrulate or denticulate particularly towards the summit, semiamplexicaule, but the lower ones much attenuated above the base, all glabrous. _Bracteas_ and _Calyx_ pubescent. _Corolla_ ringent, bright purple, pubescent, 4 times as long as the calyx, inflated, the border 4 cleft, the upper segment large, rounded, the 3 inferior oblong, emarginate, the intermediate one streaked and spotted. _Filaments_ hairy, shorter than the corolla. _Anthers_ two lobed, adhering only at the summit, toothed at base, dark purple with a white fissure. _Style_ hairy. _Stigmas_ two, acute. _A gland_ longer than the germs is attached to their base, slightly angled, tapering, obtuse. _Seeds_ ovate, angled on the inner side.

Grows in marshy soils, on the margins of rivers.  
Flowers May—June.

3. Denticulatum.

_D. spicis elongatis, remotifloris; bracteis parvulis, lato-subulatis; calycis dentibus subæqualibus; foliis ovato?-lanceolatis, denticulatis._  

Smaller than _D. Virginicum_. (Pursh.) _Stem_ square, glabrous and very minutely pubescent at the summit. _Leaves_ closely sitting, oblong and generally ovate lanceolate, rather acutely serrulate than denticulate, glabrous. _Bracteas_ about half as long as the calyx, and with the calyx minutely pubescent. _Corolla_ moderately large, handsome, variegated on the lower lip, longer than the stamens.

My specimens appear to differ in their leaves at least from the original description of the _D. denticulatum_ of Aiton, but they agree minutely with the figure in Curtis’s Botanical Magazine, Vol. 6. tab. 214.

Grows in the mountains.  
Carolina to Pennsylvania.  
Flowers July—September.
4. Obovatum. E.

D. spicis brevibus; Spikes short; leaves
foliis sessilibus, cune-
ato-obovatis, superne | leaves sessile, cuneate, obo-
dentatis; bracteis mini-
minus, ovatis, acum-

Stem about 15 inches high, square, glabrous, pubescent at the summit. | Corolla pubescent.

Leaves about an inch and a half long, semiamplexicaule at base, strongly toothed towards the summit. Flowers opposite, not crowded in the spike. Bracteas smaller than in any of the preceding species, with the calyx pubescent, teeth of the calyx nearly equal. Corolla pubescent.

If my specimen gives a fair exhibition of this species, it is, when compared with the preceding species, a smaller plant, with the corolla less inflated. Can this have been the original D. denticulatum of Aiton? Collected near St. Mary's Georgia by Dr. Baldwin.

Flowers May—July.

MACBRIDEA. E.

Calyx subturbina-

tus, trifidus; laciniiis | Calyx turbinate, 3-
duabus majoribus. cleft, with 2 segments

Corolla bilabiata, la-

bio superiore integro, large. Corolla two

inferiore tripartito. lipped, the upper en-

Antheræ bilobæ, lobis tire, the lower 3-part-
divariicatis, spinoso ed. Anthers 2-lobed,
ciliatis. the lobes divaricate,

1. Pulchra. Thymbra caroliniana. Nutt. 2. p. 36. fringed with small

Nutt. 2. p. 162.

Root perennial, creeping. Stem herbaceous, erect, simple, 12 to 18

inches high, square, glabrous, a little hairy at the joints. Leaves oppo-
site, lanceolate, acute, serrulate, dotted, ciliate, glabrous underneath, a

little hairy on the upper surface, the upper ones sessile, the lower attenu-
ated at base as if on petioles about half an inch long. Flowers verticil

inflated. Can this have been the original D. denticulatum of Aiton? Collected near St. Mary's Georgia by Dr. Baldwin.

Flowers May—July.
ate in terminal spikes, whorls 4-flowered, a bractea at the base of each flower nearly as long as the calyx, ovate, acute, dotted, fringed and sprinkled with capitate glandular hair. *Calyx* erect, striate, the border 3-cleft, 2 segments, large, rounded, the third narrow, obtuse, a little shorter. *Corolla* bilabiate, the tube longer than the calyx, streaked with bright purple and white, the upper lip entire, large, slightly vaulted, the lower lip shorter, 3-lobed, the lobes obtuse and reflexed. Filaments shorter than the corolla, a little hairy, appressed to the upper lip, the anthers 2-lobed, nearly black, villous, the lobes divaricate, very acute and as it were fringed with short spines. *Germ* 4, glabrous. *Style* as long as the two shorter stamens. *Stigmas* 2, simple, acute. A white oval gland larger than the germs is placed at their base.

This plant, nearly allied to Melittis, appears to differ in its calyx, corolla, anthers and perhaps by its glands. I have therefore inserted a minute description that it may be compared with that genus. Its habit is peculiar, each whorl when in flower appears to be on the summit of the stem, two flowers generally shoot up at a time, these are large for this order, rather exceeding an inch in length, and are fancifully said to resemble two ears, sometimes, though very rarely, all the flowers of the whorl expand at the same time. While the first whorl is flowering, the stem insensibly extends, and when the first flowers have decayed a second whorl appears on the summit of the stem ready to expand its two most forward buds. There are rarely more than three or four whorls, on each stem. I have named this genus in commemoration of the late Dr. James Macbride whose untimely death, Medicine and Natural History, and an admiring country equally deplore.

Grows in the narrow swamps, through the pine barrens in the middle districts of Carolina. Very abundant between Saltcatcher bridge and Murphy's bridge on the Edisto river.

Flowers August—September.

**PRUNELLA. Gen. Pl.**


Upper lip of the corolla dilated. Filaments forked, one summit bearing an anther. *Stigma* 2-cleft.

1. **Vulgaris.**

*P. foliis petiolatis oblongo-ovatis, basi* oblong ovate, toothed
SCUTELLARIA. Gen. Pl.

Calyx with the mouth entire, closed and covered with a lid after flowering. Tube of the corolla long.

1. Integrifolia.

Densely pubescent; lower leaves ovate, crenate, attenuate at base, upper ones linear-lanceolate, obtuse.

Calyx with the mouth entire, closed and covered with a lid after flowering. Tube of the corolla long.

S. dense pubescent; foliis inferiorioribus, ovatis, crenatibus, basi attenuatis, superioribus linearis.

Calyx with the mouth entire, closed and covered with a lid after flowering. Tube of the corolla long.

Integri folia, post florescentiam clauso, operculato. Corolla tubus elongatus.
DIDYNAMIA GYMNOSPERMIA.

lanceolatis, obtusis, | entire, sessile; ra-
integerrimis, sessili-
bis; racemis laxiflo-
ris foliosis.


Root creeping, perennial. Stem about 2 feet high, 4 angled, frequently branching. The lower leaves attenuated at base into a short petiole, obtuse, the upper ones narrow, almost linear. Flowers in vigorous plants paniculate. The panicles composed of simple opposite branching racemes. Flowers opposite. Bractea a leaf at the base of each peduncle, lanceolate, entire, longer than the peduncle and calyx. Calyx bilabiate, lips nearly equal, entire, the upper one furnished with a transverse appendage like a crest on its back. Corolla 2-lipped, villous, pale blue, spotted in the throat with white; the upper lip 3-cleft, the lateral segments small, slightly reflexed, the intermediate compressed, vaulted, emarginate, the lower lip shorter, 2 cleft, obtuse. Stamens shorter than the corolla. Anthers hairy. Style about as long as the stamens. Stigmas 2, acute. Seed globose dotted, 1, 2, or 3, frequently abortive.

This plant when young has frequently all of its leaves entire, in this state it is said to be the S. Hyssopifolia of Linnaeus, it varies however so much not only in the leaf but in the size of the flower, as to make it doubtful whether two species are not yet included under this name. The name itself ought to be changed, Integrifolia is surely missapplied when given to a plant of which every mature leaf has its margin indented.

Grows in ditches and damp lands, very common along the sides of roads.

Flowers May—August.

2. CAROLINIANA. Lamark.

S. ramosa, glaberrima; foliis petiolatis, lineari-lanceolatis, acute, integerrimis; racemis laxis, foliosis; calycibus obtusis. Lam. encyc. 7. p. 706.

Pursh 2. p. 412.

With this plant I am unacquainted. Mr. Nuttall hints that it is probably a smooth variety of the preceding species. But Lamark must have possessed at least good specimens of the plant, since he published a figure
of it. And no one can doubt that many unknown plants, particularly among the small and herbaceous species are still concealed in our forests.

Grows in Carolina. Fraser.

Flowers.

3. Serrata.

S. ramosa, pubescens; foliis ovatis, acuminatis, serratis, breviter petiolatis; racemis terminalibus, laxifloris, plerumque paniculatis; bracteis lanceolatis, brevibus.

Branching, pubescent; leaves ovate, acuminate, serrate, on short petioles; racemes terminal, loosely flowered, frequently paniculate; bracteas lanceolate, short.

Pursh 2. p. 413.

Stem erect, tall, 4 angled, and with the whole plant minutely pubescent. Leaves sometimes oval, very acute at base, dotted on the under surface, on petioles about half an inch long, acuminate, and the serratures on the lower leaves frequently rounded. Flowers distant on the racemes, large, pale blue. Stamens shorter than the corolla.

Grows in fields and meadows. Virginia and Carolina. (Pursh.) Not common along the sea coast.

Flowers June—September.

4. Villosa. E.

S. caule erecto, ramoso, vilioso; foliis majusculis, lanceolatis, utrinque acutis grosse dentatis, subtus villosis, supra sub hispidis; racemis paniculatis, confertifloris. E.

Stem erect, branching, villous; leaves large, lanceolate, acute at each end, coarsely toothed, villous underneath, hispid above; racemes paniculate, with the flowers crowded.

Stem firmly erect, 2—3 feet high, very villous, almost tomentose. Leaves large, 3—4 1/2 inches long, 2 wide, exactly lanceolate, the under surface, particularly along the veins, villous, the upper hairy and
somewhat hispid, supported by petioles about half an inch long. *Panicle* composed of opposite, brachiate racemes. *Bracteas* lanceolate, entire, with a long attenuated base, apparently longer than the calyx. The *Flowers* I have not seen, I suspect from the composition of the *panicle* they are not large.

Grows in Georgia between the Oakmulgee and Flint Rivers, along the road leading from Fort Hawkins to the Indian Agency. Flowers May—July.

5. **Pilosa.** Mich.

*S. pilosa*; *foliis remotis, ovatis, obtusis, rotundato crenatis rugosis, petiolatis, inferioribus subcordatis; racemis paniculatis, confertifloris; bracteis lanceolatis, integris.*

S. Caroliniana. Walt. p. 163.

*Stem* erect, generally about 18 inches high and tinged with purple. The lower *leaves* cordate and very obtuse, the upper ones ovate and nearly acute, all rugose, hairy and dotted on the under surface. The lower *petioles* an inch and a half long, the upper very short. The *calyx* hispid. *Corolla* nearly hispid on the outer surface glabrous within, almost white but tinged with violet at the throat and summit. *Anthers* very villous.

Grows in dry and somewhat fertile soils. Flowers May—July.

6. **Cordifolia.** Muhl.

*S. pubescens*; *foliis cordatis, obtuse dentatis, acutis, longe petiolatis; racemis oppositis terminalibusque, laxifloris, bracteis sparsis.*

Pubescent; *leaves* cordate, obtusely toothed, acute, on long *petioles*; *racemes* opposite and terminal, loosely flowered;
thulato-ovatis, acutis | bracteas spatulate ovate, acute and acuminatisque.

Muhl. Cat. p. 56.

Stem 2—3 feet high, pubescent. Leaves strictly cordate, acute, but not at all acuminate, somewhat rugose, pubescent or rather hairy on both surfaces, on petioles 1—3 inches long. Bracteas longer than the peduncle and calyx, abruptly attenuated at base, the lower ones acuminate, the upper simply acute. Calyx villous, tinged with purple. The upper lip of the corolla, bright bluish purple, the lower lip paler, almost white.

I have described this species from excellent specimens sent me by my friend Mr. Collins of Philadelphia.

Grows in Carolina. Muhl.
Flowers July—August.

7. Lateriflora.

S. ramosissima, Branches very numerous, nearly glabrous; leaves on very long petioles, ovate, toothed, those on the stem slightly cordate; racemes lateral, leafy.

Grows in the upper and mountainous districts of Carolina and Georgia.
Flowers June—September.
**Didynamia Gymnospermia.**

**Calamintha.**

*Calyx* desfloratus villis clausus. *Corolla* fauce inflata, labio superiore emarginato, inferiore tripartito; lacinia intermedia integra, subemarginata, aut crenulata.

1. *Grandiflora.*

*C. suffruticosa; foliis ovatis, obtusis, crenatis, laevibus; verticillis multifloris, subpedunculatis, folio brevioribus.*

*Suffruticose; leaves ovate, obtuse, crenate, smooth; whorls many flowered, on short peduncles, shorter than the leaves.*


Thymus Carolinianus.  Mich. 2. p. 9

A small suffruticose plant, growing from 12—18 inches high, the stem round and a little pubescent.  *Leaves* slightly toothed, somewhat ribbed, dotted.  *Flowers* in opposite dichotomous clusters.  *Peduncles* about as long as the calyx.  The *calyx* tubular, ribbed, glabrous, the upper lip 3-toothed, the lower 2-cleft, the throat of the calyx closed with hair.  *Corolla* pale rose colour, spotted on the lower lip with purple, pubescent, the tube longer than the calyx, the upper lip erect, slightly emarginate, the segments of the lower obtuse, equal.  *Stamens* shorter than the corolla.  *Anthers* two lobed, somewhat crescent shaped, hollow and purple at each summit.  *Styles* longer than the stamens.  *Stigmas* two, acute.

Grows in the drift sand along the margins of rivers in the middle and upper country, abundant near Columbia, S. C.

Flowers June—August.

**Ceranthera.** E:

*Calyx* bilabiatus, labio superiore emarginato, inferiore bifide.  *Calyx* two lipped, the upper lip emarginate, the lower 2-cleft.
Corollae labium superius 2-labium, inferius 3-partitum. Stamina exserta distantia. Anthers incumbentis utrinque aristatae.

Upper lip of the corolla 2 lobed, the lower 3-parted. Stamens distant, exserted. Anthers incumbent, awned at each end.

1. Linearifolia.

Root annual. Stem about a foot high, glabrous, branching. Leaves opposite, linear, dotted, about an inch long, sometimes clustered. Flowers in terminal racemes, peduncles opposite, generally 2-flowered. Calyx striate, dotted, minutely pubescent at the summit, generally tinged with purple, upper lip short, segments of the lower lip acuminate. Corolla glabrous, twice as long as the calyx, of a pale pink colour; beautifully spotted with violet, tube small, throat inflated, the upper lip rather longer than the lower. Stamens four, distant, longer than the corolla. Anthers 2-lobed, lying horizontally on the summit of the filaments, terminating at each point with an awn rather longer than the anther itself. Style longer than the stamens, minutely hispid. Stigmas 2, equal, acute. Seeds four, oval. Grows abundantly in the high pine barren ridges between the Flint and Chatahouchie rivers.

Flowers September and October.

TRICHOSTEMA. Gen. Pl.

Corollae labium superius falcatum. Stamina longissima.

Upper lip of the corolla falcate. Stamens very long.

1. Dichotoma.

T. foliis ovato-lanceolatis, pubescentibus; staminibus longissimis. Leaves ovate lanceolate pubescent; stamens very long.


Annual. Stem erect, 1-2 feet high, four angled, with the angles rounded, branching. Leaves opposite acute at base, rather obtuse at the summit, entire, cloathed with a very soft pubescence. Flowers in dichotomous panicles, solitary in the divisions of the branches. Peduncles about half
an inch long with the calyx almost hispid. Calyx somewhat two lipped and ribbed, the upper lip much larger, 3 cleft, the lower small, 2 cleft. Corolla 2 lipped, of a deep bright blue, the tube very short, the upper lip 2 cleft with the segments somewhat falcate, the lower 3 cleft. Filaments unequal, four times as long as the corolla, incurved and with the style of a deep bright blue. Style nearly as long as the stamens. Stigmas 2, ob- tuse. Seeds 4, nearly round, slightly rugose.

Grows in dry soils, very common in old pastures. Flowers July—September.


T. foliis linearibus, glabris, sessilibus, utrinque acutis; dentibus calycis aristatis; staminibus longissimis. Nuttall.

Leaves linear, glabrous, sessile, acute at each end; teeth of the calyx awned; stamens very long.


This species resembles the preceding very much in habit and in its flowers, it appears however to be sufficiently distinct; Mr. Nuttall remarks that it is always smaller, the leaves invariably smooth and rather thick, while the rest of the plant is covered with a viscid pubescence, and that the teeth of the calyx are conspicuously awned.

Grows like the preceding in dry soils, more common in the middle and upper country of Carolina than along the sea coasts. Flowers July—September.

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**ANGIOSPERMIA.**

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**PHRYMA.**

Calyx cylindricus, Calyx cylindrical, supra longior, trispidus, upper lip longer, 3-
infra bidentatus. Corolla labium superius emarginatum, inferius majus. Semen unicum.

1. Leptostachya.


Root perennial. Stem herbaceous, erect, about a foot high, sparingly branched and with the whole plant very pubescent. Leaves opposite, spatulate ovate, acute, toothed, the lower ones on petioles about an inch long. Flowers opposite on an erect simple terminal spike. Bracteas three at the base of each flower, subulate, persistent, half as long as the calyx. Calyx after flowering reflected, closely appressed to the stem, tubular, 5 ribbed, 2 lipped, the upper lip with three secataceous segments, the lower lip longer, 2 cleft. Corolla somewhat tubular, two lipped, white tinged with purple, the upper lip short, obtusely two toothed, the lower one larger, 3 lobed. Seed one.

Grows in shady light rich soils. Flowers June to September.

VERBENA. Gen. Pl.


1. Aubletia.

V. assurgens; spicis solitariis pedunculatis, imbricatis; corollarum laciniiis emarginatis; foliis ovalibus, inciso serratis, dissectisque, petiolatis.

Assurgent; spikes solitary, imbricate, on long peduncles; segments of the corolla emarginate; leaves oval, deeply serrated, and divided on petioles.

Root perennial. Stem creeping, throwing out roots and offsets, finally assurgent, four angled and with the whole plant hairy. Leaves opposite, ovate, lanceolate, somewhat 3-lobed, with the lobes notched and toothed; dotted on the upper surface, tapering at base to a slightly winged petiole about an inch long. Flowers in terminal spikes so crowded that when flowering they resemble a corymb, bracteas linear at the base of each flower, about half as long as the calyx. Calyx angled with the border 5 cleft, segments setaceous, unequal. Corolla somewhat hypocrateriform; purple, tube nearly twice as long as the calyx, enlarged at the summit and clothed with hair, border 5 cleft, expanding. Filaments very short in the tube of the corolla, the longer pair very villous. The style as long as the tube. Stigma obliquely capitate. Seeds four, oblong, dotted.

Grows in the dry pine barrens of the middle country of Carolina and Georgia. Flowers April—September.

2. Spuria.

V. caule decumbente, ramosissimo, divaricato; foliis multifido laciniatis, spicis filiformibus; bracteis calyce superantibus.

Stem decumbent, branching, divaricate; leaves laciniate, much divided; spikes filiform; bracteas longer than the calyx.


3. Hastata.

V. erecta, elatior; foliis lanceolatis, acuminis, insciso serratis, nonnullis insciso-hastatis; spicis linear-
DIDYNAMIA ANGIOSPERMIA.

ibus, paniculatis, sub- | ar, paniculate, some-
imbricatis. | what imbricate.


Perennial. Stem 2—4 feet high, pubescent or hairy. Leaves generally lanceolate and acuminate, the lower or early leaves have frequently lateral lobes and become hastate, but this is not the general character of the plant, all the leaves somewhat rugose and a little hairy particularly on the under surface. Spikes linear, short. Bracteas ovate, acuminate, rather shorter than the calyx. Corolla small, purple. Stamens and Styles much shorter than the corolla.

Grows in the middle country of Carolina and Georgia, generally in dry soils. Flowers July—August.

4. PANICULATA. Lamark.

V. erecta, scabriuscula; foliis lanceolatis grosse serratis, indivisis; spicis filiformibus, imbricatis, corymboso paniculatis. Erect, scabrous; leaves lanceolate, coarsely serrate, undivided; spikes filiform, imbricate, forming a corymbose panicule.

Pursh 2. p. 416.

Stem 4—6 feet high, with the whole plant scabrous and hairy, almost hispid. Leaves long, lanceolate, very acutely serrate. Spikes numerous near the summit of the stem, linear. Bracteas subulate, shorter than the calyx. Flowers small, purple.


3. URTICIFOLIA.

V. erecta, subpubescens; foliis ovatis, acutis, serratis, petiolaris; spicis filiformibus, Erect, somewhat pubescent; leaves ovate, acute, serrate, petiolate; spikes fili-
distinctifloris, axillari-
bus terminalibusque. form, axillary and
terminal, with the
flowers distinct.


Perennial. Stem herbaceous, 2—3 feet high, 4 angled, hairy, almost
hispid, with many slender branches. Leaves opposite, scabrous, covered
with short rigid hair, abruptly narrowed at base. Bracteas subulate,
shorter than the calyx. Teeth of the calyx equal. Corolla small, bearded
in the throat, white, tinged with purple, the border 5-cleft, segments
oval, nearly equal. Stamens shorter than the tube of the corolla, in
which they are inserted. Style as long as the stamens. Stigma? glo-
bose, seated in the division of the style. Seeds 4, somewhat united at the
inner angles.

Grows in damp soils; very common.
Flowers July—October.


V. caulibus rigide
erectis; foliis sessili-
bus, obovatis, serratis,
subtomentoso hirsutis-
simis, albicantibus;
spicis strictis, imbrica-
tis, subfasciculatis.

Pursh, 2. p. 417.

Spikes straight long pubescent. Corolla large, pale blue. Michaux.
With this plant I am unacquainted, it is inserted here on the somewhat
doubtful authority of Pursh.
Grows in Carolina and the Illinois country.
Flowers July and August.

7. Caroliniana.

V? erecta, scabra; Erect, scabrous;
foliis oblongo-obova-
leaves oblong, obo-
tis obtusis, inaequaliter serratis, basi attenuatis, subsessilibus; spicis longissimis, filiformibus, distinctifloris.

vate, obtuse, unequally serrate, tapering at base, nearly sessile; spikes very long, filiform, with the flowers distinct.

Phryma Caroliniensis.

Stem about two feet high, simple, four-angled, scabrous, hairy and with the calyx viscid. Leaves acutely and irregularly serrate, sometimes slightly lobed, the interior obtuse, the upper ones acute, rugose, the veins pellucid. Bracteas subulate, shorter than the calyx. Calyx tubular, teeth unequal. Corolla twice as long as the calyx, pale purple, hairy within, the border 4 cleft, somewhat two lipped, the upper segment short, wide and emarginate, the three lower oval. Filaments very short. Anthers almost sessile in the tube of the corolla. Style very short, with a lateral tooth, beneath the capitate stigma. Capsule? very hard, almost a nut, oblong, 4 celled, not opening. Can this be called a naked seed with four cells?

This plant has entirely the appearance of a Verbena; by its corolla and seed it differs from that genus. I have little doubt from its fruit that it is the plant Walter intended by the Phryma Caroliniensis.

Grows in dry soils, common.
Flowers May—July.

ZAPANIA. Scopoli.

Flores capitati. | Flowers capitate.
Calyx 5 dentatus? | Calyx 5 toothed?
Corolla 5 fida. | Corolla 5-cleft.
Stamina 4-fertilia. | Stigmas 4, fertile.
Stigma peltate-capitatum, | Stigma capitate, oblique.
obliquum. | Fruit covered, an evanescent utriculus connecting the seeds.
Fructus tectus; utriculus evanescent nectens semina 2.
1. **Nodiflora.**

*Z. foliis obovatis, cuneiformibus, supemae serratis; spicis capitato-conicis, solitariis, elongato-pedunculatis; caule herbaceo repente.*

Leaves obovate, cuneate, serrate near the summit; spikes solitary, on long peduncles, forming conical heads; stem herbaceous, creeping.

Pursh 2. p. 417.
Verbena nodiflora. Sp. pl. 1. p. 117.

*Stem* procumbent, branching, creeping, somewhat scabrous. *Leaves* opposite, glabrous, attenuated at base to a very short petiole. *Flowers* closely imbricated in small oval or cylindric heads, on axillary peduncles, 4—6 inches long. *Bractea* broad, ovate, with a short point scarious and purple along the margin. *Calyx* two leaved, compressed, persistent, much smaller than the bractea, white and hairy along the back. *Corolla* white, small, the tube as long as the bracteas, border 2 lipped, the upper small, emarginate, reflexed, the inferior 3-cleft. *Stamens* very short in the tube of the corolla. *Style* very short. *Stigma* capitate. The *fruit* somewhat compressed, divisible, covered with a persistent bractea and calyx. *Seeds* 2.

I have described this plant as it appears to me. It will be perceived that my description, in some respects, and especially in the calyx, does not agree with the commonly received character.

Grows in almost all soils, preferring those that are damp. Flowers through the whole summer.

2. **Lanceolata.**

*Z. foliis lineari-lanceolatis argute serratis; spicis capitato-conicis, solitariis, elongato-pedunculatis; caule herbaceo, repente.*

Leaves linear lanceolate, acutely serrate; spikes solitary, on long peduncles, forming conical heads; stem herbaceous, creeping.

Pursh 2. p. 418.
Lippia lanceolata, Mich. 2. p. 15.
Excepting in the leaf I have been able to see no difference between this and the preceding species. The leaves are more strictly lanceolate and more acutely serrate. Its character after all is obscure.


**LANTANA.**

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**Flores capitati.**


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**Gen. Pl. 1026.**

**Flowers** capitate. *Calyx* obtusely 4-toothed. Border of the *corolla* 4-cleft, unequal, with the throat open. *Stigma* refracted, hooked. *Drupe* containing a smooth, 2-celled nut.

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**1. CAMARA.**

*L. foliis oppositis,* ovato lanceolatis, crenato-serratis, scabris; *caule inermi, asperato; floribus capitato umbellatis, aphyllis.*

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Leaves opposite, ovate lanceolate, crenate and serrate, scabrous; stem rough, not prickly; flowers in umbellate heads, without leaves.

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Sp. pl. 3. p.

Pluk. alm. t. 114. f. 4.

A shrub 2-4 feet high, branching. *Stem* square, not prickly but always rough. *Leaves* opposite, scabrous on both surfaces, a little rugose, pubescent along the veins, tapering at base to a short petiole. *Peduncles* axillary, opposite, about 2 inches long, thickened towards the summit. *Flowers* numerous in each head. *Bracteas* subulate, longer than the calyx. *Corolla* bright yellow or orange color. *Stamens* included in the tube of the corolla. *Drupes* globular, forming a very compact head of a dark blue color when ripe.

The roots of this flower were sent to me from St. Mary's by Dr. Baldwin. I am uncertain however, whether they were collected in Georgia or Florida.

*Flowers* June—November:
HERPESTIS. Gaertner.


Calyx 5-eleft, unequal. Corolla tubular, somewhat 2-lipped. Stamens included. Capsule 2-valved, 2-celled, with the partitions parallel with the valves.

* Bracteis 2 ad basin calycis.

* Bracteas 2 at the base of the calyx.

1. Cuneifolia.

H. glaberrima; foliis cuneato-obovatis, superne obsolete-subcrenatis; pedunculis folia subaequantibus; corolla quinquesfida.

Very glabrous; leaves cuneate, obovate, obscurely crenate near the summit; peduncles as long as the leaves; corolla 5-cleft.

Pursh 2. p. 418.

Root perennial. Stem prostrate, branching, creeping and with the whole plant very glabrous and succulent. Leaves opposite, sessile, somewhat amplexicaule. Flowers solitary, axillary, peduncles various in their length, generally shorter than the leaves. The three exterior leaves of the calyx broad, generally unequal among themselves, the two interior very narrow, acute. Bracteas 2, small, linear lanceolate, at the base of the calyx. Corolla nearly campanulate, pale purple, border 5 cleft, the segments oval, nearly equal and expanding. Stamens very short in the tube of the corolla. Style short. Stigma capitate. Seeds numerous, slightly reticulate, attached to a central receptacle.

Grows on sandy shores that are occasionally overflowed by salt-water. Flowers May—October.
**Bracteis nullis.**

**Bracteas wanting.**

2. *Rutundifolia.*

H. minutim pubescent; foliis subovalis, orbiculatis, multinervibus; pedunculis passim oppositis folia subaequantibus; corolla quadrifida.

Finely pubescent; leaves oval, nearly round, many nerved; peduncles opposite, as long as the leaves; corolla 4-cleft.

Pursh 2. p. 418.

I have specimens collected in this State agreeing exactly with the H. rotundifolia. excepting in the length of the peduncle, a character somewhat variable in this genus. Stem procumbent creeping and finally assurgent, hairy, the hairs pellucid and jointed. Leaves nearly orbicular, slightly serrulate, a little hairy, leaves half embracing the stem. Peduncles about half as long as the leaves, sometimes longer. The three outward leaves of the calyx large, the first almost leaf-like, the two interior subulate, very small. Corolla azure, the border 4-cleft, the segments obovate and emarginate. Stamens short, inserted between the segments of the corolla. Anthers sagittate. Style short, 2-cleft. Stigma simple. Seed oblong, truncate, dotted.

Grows along the margin of ponds in wet soils in the middle country of Carolina and Georgia.
Flowers July—September.

3. *Amplexicaulis.*

H. caulibus lanatis; foliis cordato-ovalibus, amplexicaulis, integris, obtusis, pedunculis folio brevioribus; corolla quadrifida.

Stem woolly; leaves cordate, embracing the stem, entire, obtuse; peduncles shorter than the leaves; corolla 4-cleft.

Pursh 2. p. 418.
Monniera amplexicaulis. Mich. 2. p. 22;
Obolaria caroliniana. Walt. p. 166.
To this plant the description of the preceding will apply almost entirely. The *Leaves* are narrower, less nerved and denticulate, but merely in proportion to their size. The *Peduncles* are shorter, and Mich. remarks that the *corolla* is larger. These two species require to be further examined. They differ in appearance very much from the plants with which they are associated—they are both very fragrant, particularly when bruised, so that you can discover them when riding through the grounds in which they grow by the aromatic odour which they exhale under the hoofs of your horses. In this respect they differ very much from the insipid earthy smelling species of *Gratiola*, *Lindernia* and other plants to which they are allied. They will perhaps constitute a distinct genus.

From character and from tradition I can have no hesitation in referring to this plant the *Obolaria Caroliniana* of Walter—with the *Obolaria Virginica* he appears to have been unacquainted.

Grows in the pine barren ponds of the middle country, rare in the immediate neighbourhood of the ocean.

Flowers July—September.

4. **Micrantha.**

**H. glabra, succulent**; *folii arcte sessilibus, ovatis ovalibusque, obtusis, integerrimis, striato-nervosis; pedunculis folio brevioribus; calyx 5-phyllo; stylo bifo.

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Glabrous, succulent; *leaves closely sessile, ovate and oval, obtuse, entire, nerved; peduncles shorter than the leaves; calyx 5-cleft; style 2-cleft.

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Pursh 2. p. 418.

*Gratiola repens?* Sp. pl. 1. p. 103.

A small plant prostrate and creeping. *Leaves* sometimes nearly round, very glabrous, half embracing the stem. *Peduncles* axillary, short. The three outer leaves of the *Calyx* large, the two interior subulate. *Flowers* very small, white.

I neglected to notice, and my specimen will not now determine whether the corolla is 4 or 5 cleft. The calyx however separates all of the plants placed in this genus, very distinctly from *Lindernia*.

Grows on the margins of fresh water rivers in soils subject to inundation. To me a rare plant, I have only met with it upon the banks of the Ogeechee river.

Flowers September—October.
SCROPHULARIA. Gen. Pl. 1014.

Corolla subglobosa, resupinata. Capsula 2-locularis.

1. Marylandica.

S. foliis cordatis, serratis, acutis, basi rotundatis; petiolis inferne ciliatis; paniculæ fasciculis laxepaucifloris.

Leaves cordate, serrate, acute, rounded at base; petioles fringed near the base; branches of the panicle composed of loosely flowered clusters.


Root perennial. Stem herbaceous, 2–4 feet high, very much branched, 4angled, glabrous, but sprinkled near the summits of the branches with capitate hairs. Leaves opposite, ovate, lanceolate, rugose, a little hairy, the lower ones sometimes slightly cordate. Flowers in long compound terminal panicles, on pubescent peduncles. Calyx somewhat campanulate, 5-cleft, with the segments equal, erect. Corolla glabrous, greenish, tinged with purple; the tube globose, twice as long as the calyx, the border 5-cleft, with segments unequal, the four upper ones erect, the lower small, reflexed. A small spathulate purple appendage is attached to the tube of the corolla just below the base of the upper segment. Stamens longer than the tube of the corolla, the two longer ones appear to be later than the other two, in coming to maturity. Filaments hairy, dilated towards the summit. Anthers 1-celled, opening transversely. Style longer than the stamens. Stigma obtuse. Capsule ovate, somewhat compressed, opening at the summit. Seeds numerous, a little rough.

Grows in rich, shaded, loose soils.

Flowers August—October.

BIGNONIA. Gen. Pl. 1018

Calyx 5-fidus, cyathiformis. Corolla | Calyx 5-cleft, cup-shaped. Corolla with


1. **Capreolata.**

1. **C. Racemis.**

*B. foliis conjugatis cirirosis, inferioribus ternatis, foliolis ovato-cordatis, acuminate; racemis axillaris; caule muricato.*

Leaves conjugate, bearing tendrils, the lower ternate; leaflets ovate, cordate, acuminate; racemes axillary; stem roughened.

*Bignonia crucigera.* Walt. p. 169.

A vine, climbing over small trees and shrubs, but not adhering to them. *Leaves* opposite, conjugate, somewhat lanceolate but cordate at base, glabrous, entire, the margins and petiole sometimes coloured. *Peduncles* axillary, 1-flowered, sometimes many from each axil. *Calyx* obtusely 5-toothed. *Corolla* large, of an obscure red colour on the outer surface, yellow within, the segments obcordate. (*Capsule* flat, linear. *Mich.)*

Grows in dry soils.
Flowers March—April.

2. **Radicans.**

2. **R. Racemis.**

*B. foliis pinnatis, foliolis ovatis, dentatis, acuminitis; corymbo terminali; tubo corollae calyce tri-

Leaves pinnate, leaflets ovate, dentate, acuminate; corymbs terminal; tube of the corolla thrice as long
plo longiore; caule as the calyx; stem radicante.


A luxuriant ornamental vine, climbing over buildings and the loftiest trees, throwing out radicles all along the stem by which it attaches itself firmly to walls, fences or the bark of trees. Leaflets somewhat ribbed, smooth on the upper surface, pubescent underneath, particularly along the veins. Flowers in corymb-like racemes, on peduncles about half an inch long. Corolla tubular, a little ventricose underneath, of a blood red colour, the inside tinged with yellow, the tube twice as long as the calyx, border 5-cleft, the segments nearly round and equal. Stamens nearly as long as the corolla, inserted in the tube, within which is perceptible the rudiment of a fifth filament. Anthers divaricate at base. Style as long as the stamens. Stigma compressed, flat. Silique very long, terete. Seeds winged.

Grows very common, preferring damp, rich soils. Flowers June—September.

**Ruellia.**


1. **Strepens.**

*R.* erecta, hirsuta; foliis petiolatis, lanceolate-ovatis, integerrimos; pedunculis 1—3 floris; calycis laciniiis lineari-lanceolatis, a-

**General. Pl. 1050.**

cutissimis, hispidis, tubo corollae brevioribus.

lanceolate, very acute, hispid, shorter than the tube of the corolla.

Anon. Caroliniensis. Walt.

Stem 18—20 inches high, 4-angled, and with the whole plant hairy. Leaves ovate and oval, lanceolate, entire, attenuated at base into a petiole half an inch long. Flowers axillary, generally 3 in each axil. The larger Bracteal leaves as long as the calyx, the lesser about half as long. Calyx 5-parted, linear lanceolate, the upper half almost setaceous, very hispid. Corolla pale blue, the tube longer than the calyx, the border somewhat campanulate, 5-parted, with the segments rounded, nearly equal. Stamens shorter than the corolla. Style longer than the stamens, slightly 2-cleft at the summit. Stigmas equal. Seeds few, (4, Walter.) in each cell of the elastic capsule,

I know not how Pursh could have called the segments of the calyx lanceolate, they are very accurately represented by Dill. Hort. Elth. T. 249. F. 321. excepting that in number 5 and 6 the setaceous points are not sufficiently extended, but in number 1 from which he derived the epithet Comosa, the representation is very accurate.

Grows generally in damp soils, may be found in great luxuriance in the high ridges in river swamps. Flowers through the whole Summer, beginning in May.

2. HIRSUTA. E.

R. hirsuta, ramosa; foliis ovali-lanceolatis, sub acutis, sessilibus; calycis laciniiis subulatis, hispidis, tubum corollae paulo superantibus.

Hirsute, branching; leaves oval lanceolate, nearly acute, sessile, segments of the calyx subulate, hispid, a little longer than the tube of the corolla.

Stem erect, 12 to 18 inches high, very obtusely 4-angled, sparingly branched, very hirsute. Leaves opposite, acute at each end, slightly undulate, almost hispid. Flowers generally one in each axil. Segments of the Calyx regularly subulate, rather longer than the tube of the corolla. Corolla pale blue. Style very long. Every part of the plant much smaller than in the preceding species.
I have introduced this plant, though not collected strictly within the limits of Georgia, on account of its close affinity to the *R. hybrida* of Pursh which Mr. Nuttall rejects as a var. of *R. oblongifolia*. To that plant however this species has no affinity.

Grows near the Alabama River in dry soils.

Flowers probably through the summer. Found in flower at the commencement of October.


*R. erecta*, *ramosa*; foliis subsessilibus, o-vato-oblongis, margine nervis venisque pilis albis longe ciliatis; bracteis lanceolatis, brevibus; calycis laciniiis subulatis tubo corollae quadruplo brevioribus. P. 2. p. 420.

Erect, branching; leaves nearly sessile, ovate oblong, with the margins, nerves and veins fringed with long white hair; bracteas lanceolate, short; segments of the calyx subulate, as long as one fourth of the tube of the corolla.

Described by Pursh from specimens collected in Georgia and principally near Savannah by Mr. Enslen. Distinguished, if the character should prove permanent, by the short segments of the calyx.

Flowers through the summer.


*R. repens*, assurgens, pubescens; foliiis sessilibus, obovatis ovalibusque, obtusis; floribus subsolitariis; calycis laciniiis filiformibus, longitudine tubi corollae.

Creeping, assurgent, pubescent; leaves sessile, obovate and oval, obtuse; flowers generally solitary; segments of the calyx filiform, as long as the tube of the corolla.


*R. biflora*?
**DIDYNAMIA ANGIOSPERMIA**

*Root* perennial, creeping. *Stem* about a foot high, obtusely 4-angled, occasionally branched. *Leaves* all obtuse, with a margin slightly undulate, the lower ones nearly round. *Calyx* with a short tube, the segments subulate, almost setaceous, hispid; in the former species the calyx is generally divided to the base. Border of the *Corolla* equally 5-cleft, slightly. emarginate, pale blue or purple, spotted with a dusky yellow. *Stamens* shorter than the corolla. *Germ* surrounded at base with an orange coloured glandular ring. *Style* a little longer than the stamens. *Stigmas* simple. *Seeds* few in each cell of the capsule.

The R. Biflora of Linnaeus probably belongs to this species, I have omitted the name as evidently incorrect; the habit of the plant is to produce in the first instance one flower in each axil, if it grows luxuriantly two lateral opposite flowers are next produced, so that the axils are 1 or 3 flowered and may increase afterwards regularly by pairs. It may occasionally happen that one of the lateral buds will prove abortive, or one may shoot up and expand before the other, in either of these cases a biform specimen may be collected, but this is accidental and not the habit of the genus.

Grows in sandy pine barrens.

Flowers from May to the close of the summer.

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**5. HUMISTRATA. Mich.**

*R. glabriuscula, diffusa, radicans;* foliis in petiolum longiuscula angustatis, ovalibus, obtusis; floribus subsessilibus; capsulis linearibus.

Glabrous, diffuse, radicant; leaves attenuated at base into a long petiole, oval, obtuse; flowers nearly sessile; capsule linear.


Found by Michaux in the Southern parts of Georgia. I have found no species exactly agreeing with the description.

Flowers probably through the whole summer.

The plants described under this head will undoubtedly belong to Ruellia, however the genus may be limited. In fact they agree so much among themselves, that it is difficult to find specific distinctions. But between the almost campanulate flower of the Ruellia and the bilabiate somewhat ringent, corolla of the Justicia, at least as the species are presented to us in this country, the difference is so great that nothing but the capsule appears to connect the two genera. See Smith's observations on Ruellia in Rees' Cyclopædia.
BUCHNERA.  Gen. Pl. 1035.

Calyx 5-dentatus.  Calyx 5-toothed.
Corollæ limbus 5-fidus, æqualis, lobis obcordatis. Capsula 5-locularis.

1. Americana.  Stem simple; leaves
B. caule simplici; foliis lanceolatis, subdentatis, asperis, trinervibus; spicis remotifloris.

Capsule 5-celled.


Perennial. Stem from 1—2 feet high, terete and with the whole plant scabrous and a little hairy. Leaves opposite, sessile. Flowers at first crowded on the spikes, becoming remote as the spike lengthens. Bractea, a leaf at the base of each flower, ovate, acute, nerved, with two lateral leaves smaller, linear-lanceolate. Calyx cylindrical, slightly incurved, nerved, with the border somewhat bilabiate, the upper lip 3-cleft, the lower 2-parted, the segments all erect, acute. Corolla hairy, purple, the tube twice as long as the calyx, and a little incurved, the two upper segments of the border rather smaller than the lower. Stamens very short, in the tube of the corolla. Style shorter than the stamens. Stigma obtuse. Seeds several in each cell of the capsule, furrowed, attached to a central receptacle.

Grows in damp pastures. Common. Flowers from May to September.

ANTIRRHINUM.  Gen. Pl. 1007.

Calyx 5-phyllos.  Calyx 5-leaved.
Corolla calcarata, rincens, rictu clauso, palato prominente. Cap-

Corolla bearing a spur, ringent, with the throat closed and the
DIDYMIA ANGIOSPERMIA.

sula 2-locularis, 2-valvis.  

1. Canadense.

A. assurgens, glabrum, simplicissimum; foliis sparsis, erectis, linearibus, obtusis; floribus racemosis; stolonibus procumbentibus.


The Root of this species appears in this country to be perennial, the whole plant glabrous, the sterile branches 4—6 inches long, procumbent, the fertile assurgent 12—18 inches long. Leaves dotted, by threes or verticillate on the sterile, alternate, but clustered at base on the fertile branches. Calyx deeply 5-parted? gibbous at the base; segments lanceolate, acute, pubescent. Corolla blue, tube short, the upper lip 2-cleft and reflexed, the lower larger, 3-cleft, the spur at base long, slender, subulate. Stamens short. Style shorter than the stamens. Stigma capitate. Capsule compressed, oval. Seeds angled, truncate, attached to a central receptacle.

Grows very common in almost all soils. Flowers March—April.

GERARDIA: Gen. Pl. 1004.

Calyx 5-dentatus.  

Corolla subcampanulata, inaequaliter quinquefida, laciniis rotundatis. Capsula 2-locularis, apice deliscentes.

Vol. II.

Calyx 5-toothed.  

Corolla somewhat campanulate, unequally 5-cleft, with the segments round. Capsule 2-celled, opening at the summit.

G. caule nudo, sub-simplici, squamis oppositis, ovatis, parvulis, deciduis; corollis pedunculo longioribus.  

Stem naked, nearly simple, with scales opposite, ovate, small, deciduous; corolla longer than the peduncle.

Nutt. 2. p. 38.

Annual. Stem about 3 feet high, erect, very sparingly branched. Very minute leaves are sometimes, but sparingly found. In their place, are minute, sphacelate scales. Calyx minutely 5-toothed. Corolla rather small. Capsule ovate, longer than the calyx. Nuttall. First discovered by Dr. Baldwin in E. Florida.

Grows sparingly along the coast as far as Wilmington, N. Carolina. Flowers probably during the summer.

2. Plukenetii. E.

G. caule ramosissimo; foliis setaceis, glabris; floribus axillaribus terminalibusque; pedunculis folio brevioribus; calycis dentibus setaceis, brevissimis.

Stem much branched; leaves setaceous, glabrous; flowers axillary and terminal; peduncles shorter than the leaves; teeth of the calyx setaceous, very short.


Stem erect, about 2 feet high, slightly angled, very much branched. Leaves scarcely an inch long, perfectly setaceous, incurved when dry. Flowers numerous near the summit of the branches, generally terminal, sometimes opposite and axillary. Peduncles about half as long as the leaves. Calyx truncate, with 5 minute, acute teeth. Corolla rather small for this genus, pubescent. Capsule globular, longer than the calyx.

This plant agrees minutely with the figure of Plukenet to which I have referred, and which is alluded to in Linnaeus as a variety of his G. Purpurea.

Grows in wet spungy soils, very common between the Oakmulgee and Chatahouchee Rivers, and probably extends through the middle country of Carolina and Georgia.

Flowers August—October.
3. **Setacea.** Pursh.

G. caule ramosissimo; foliis setaceis, glabris; floribus terminalibus axillaribus—que sparsis; pedunculis folio multo longioribus.


Apparentlly annual. Stem slender, about 2 feet high, slightly angled, glabrous. Leaves opposite, about an inch long, with the margins a little rough. Peduncles opposite and alternate, and as they frequently bear leaves and branches, they may all be considered as real branches bearing terminal flowers, but to the eye the upper ones resemble simple peduncles about 2 inches long. Calyx truncate, teeth subulate, small, acute. Corolla rather small, purple, white in the tube, with 2 yellow streaks, hairy, the border equally 5-cleft, segments rounded, fringed. Filaments shorter than the corolla, the longer pair villous. Anthers sagittate, very villous and as in all of this genus 2 cleft and mucronate at base. Style about as long as the stamens. Stigma thick, extending along the side of the style. Capsules ovate.

Grows in damp lands along the margins of swamps and dry galls. Flowers August—October.

4. **Fasciculata.** E.

G. caule rigido, erecto, superne ramoso; foliis oppositis ternisque, interdum alternis, linearibus, fasciculatis, scaberri- mis; floribus majusculis; pedunculis folio multo brevioribus.

Stem rigid, erect, branching near the summit; leaves opposite and by threes, sometimes alternate, linear, clustered, very scabrous; flowers large; peduncles much shorter than the leaves.
Root annual. Stem firmly erect, 3—5 feet high, marked with lines de-
current from the leaves, very scabrous. Leaves linear, acute, producing
in each axil, small branchlets, with 8 or 10 small leaves, these towards the
summit of the stem, become real branches. The Leaves and Flowers
near the summit of the branches are sometimes alternate, but this is evi-
dently accidental. The Peduncles are very short, rarely exceeding 2 lines in
length. Calyx truncate, the teeth subulate, acute, longer than any other
species in this division. Corolla as large as that of G. Purpurea., bright
purple, hairy along the side of the tube, marked with 2 yellow streaks,
spotted with red, the border equally 5-cleft, the two upper segments emargi-
nate, reflexed and very villous, 3 lower pubescent and fringed. Filaments
very villous, the 2 longer as long as the tube of the corolla. Style longer
than the corolla. Stigma obtuse. Seeds very numerous and small, attach-
ed to a central receptacle.

Grows principally in lands subject to occasional inundation from the
ocean—on Eding's Island near Beaufort very common.

Flowers August—October.


G. caule tereti, ramoso; foliis filiformibus, subfasciculatis, glabris, alternis; ca-
lycis laciniis acute dentatis; pedunculis foliis longioribus. Nutt. 2. p. 48.

Leaves filiform, about an inch long, nearly terete, smooth and very slen-
der, collected in axillary clusters. Flowers purple, as large as those of G.
Purpurea. Orifice of the Corolla pubescent and ventricose. Peduncles
nearly an inch and a half long. Nuttall.

This species has a close affinity to the preceding, but its smooth leaves
and long peduncle render it sufficiently distinct. The leaves perhaps
are only accidentally as in the preceding species alternate.

Found by Dr. Baldwin near St. Mary's and along the coast of E. Flo-

orida.

Flowers probably from August to October.

6. Purpurea.

G. caule ramosissimo; foliis linearibus, utrinque acutis, sca-

Stem much branch-
ed; leaves linear, a-
cute at each end, ve-
berrimis; floribus majusculis, subsessilibus; calycis dentibus subulatis, brevibus, acutis. | ry scabrous; flowers large, nearly sessile; teeth of the calyx subulate, short, acute.


Root annual? Stem 2—4 feet high, scabrous and very much branched. The Leaves sometimes nearly 2 inches long by 1 1-2 lines wide, larger and more linear lanceolate than in any of the preceding species. Corolla large, pubescent, bright purple. Peduncles rarely more than 2 lines in length. Anthers scarcely as long as the tube of the corolla. Style longer than the stamens.

This species differs from G. Fasciculata in its habit which is more diffuse and spreading, and by its leaves which are larger and more distinctly linear lanceolate, though still very narrow and not fasciculate. From all the other species it is sufficiently distinct.

Grows in damp soils, very generally diffused. Flowers August—October.

7. Tenuifolia.

G. caule ramosissimo, laevi; foliis linearis, utrinque acutis, laevibus; floribus parvulis; calycis dentibus parvis, acutis; pedunculis folio paulo brevioribus. | Stem much branched, smooth; leaves linear, acute at each end, smooth; flowers small; teeth of the calyx small, acute; peduncles a little shorter than the leaves.


Stem very much branched, diffuse, about 2 feet high, four angled, nearly smooth. Leaves about 1 1-2 inches long, acute at each end and smooth, except along the margins. Peduncles about an inch long, a little shorter than the leaves but longer than the corolla. Teeth of the calyx very minute. Corolla ventricose, scarcely an inch long, pubescent. The border equally 5-cleft, segments ciliate, purple. The tube nearly white, marked with two yellow streaks speckled with purple. The 2 longer filaments and all the
Anthers very villous. The 2 shorter filaments only hairy at the base, 
*Style* as long as the stamens. *Stigma* compressed.

This species resembles the *G. Purpurea* in the size and form of its 
leaves, but differs by its smoothness, and very widely in its corolla and pe-
duncle.

The plants I have examined, appear also to differ in many respects from 
the *G. Tenuifolia* of Nuttall, perhaps many species remain yet to be distin-
guished.

Grows in dry sandy soils, about 2 miles from Beaufort on the Battery 
road, to me very rare. 
*Flowers* August—October.


*G. caule tereti, vir-
gato; folis linearibus, 
acutis, lævibus, ap-
pressis; calyce trunc-
cato, denticulato; co-
rolla majuscula, extus 
pubescente, intus vil-
losa; pedunculis folio 
paulo brevioribus.*

Nuttall 2. p. 47. 

*Root* perennial, creeping, Nutt. *Stem* 2—3 feet high, virgate, with 
slender, erect, twiggy branches. *Leaves* as in the two preceding species ve-
ry narrow, linear lanceolate, in general closely appressed to the stem. *Pe-
duncles*, during the expansion of the flower, shorter than the leaves, before 
the capsules ripen as long or longer. *Calyx* very minutely 5-toothed. 
*Corolla* large, purple. *Stamens* about half as long as the corolla. *Style* 
as long as the stamens. *Stigma* acute.

This species is very remarkable by its erect virgate branches, Its leaves 
in general are not shorter than the peduncles, yet if it it is not the G. 
Erecta of Walter that species remains to be detected.

Grows in and around pine barren ponds. 
*Flowers* August—September.
9. **Cuneifolia.**

*G. paniculato-ramosa,* ramis erectis; foliis cuneato-lanceolatis, inaequaliter serratis, superioribus alternis; pedunculis axillaribus, folio longioribus; calycibus 5-partitis.

Pursh 2. p. 423.

Described by Pursh from specimens in the Herbarium of Sir J. Banks, collected in Georgia by Bartram. With this plant I am unacquainted, and I think it probable as suggested by Mr. Nuttall that it does not belong to this genus.

**Floribus flavis.**

10. **Flava.**

*G. pubescens; caulibus subsimplicibus; foliis lanceolatis, integerrimis vel dentatis,* inferioribus subpinatifido-incisis; floribus axillaribus, oppositis, subsessilibus.


Perennial. *Stem* rarely more than 2 feet high, obtusely 4-angled, pubescent, simple or but sparingly branched. *Leaves* sometimes deeply serrate, all attenuated at base to petioles of various lengths, generally very short. *Flowers* on very short peduncles. *Segments of the calyx* subulate, nearly as long as the tube. *Corolla* large, yellow.

I have not been accustomed to see this plant in its living state and therefore cannot point out with satisfaction to myself the distinction between
this and the succeeding species. They differ much in size and perhaps in pubescence, and the leaves of this species are, I think, thinner in substance and the laciniate leaves less dentate than those of G. Quercifolia. The petioles and peduncles afford no certain character. I have for the present used Pursh's description of this species though dissatisfied with it.

Grows in dry shaded and rocky soils—found in the upper and mountainous districts of Carolina and Georgia. Flowers July—September.


G. glabra; caule erecto, ramosa; foliis petiolatis, pinnatifidis, summis lanceolatis, integerrimis, scabriusculis; floribus axillari-bus, oppositis, pedicellatis; calycis laci-niis sublanceolatis, tubum æquantiumibus. | Glabrous; stem erect, branching; leaves on petioles, pinnatifid, the upper lanceolate, entire, slightly scabrous; flowers axillary, opposite, on pedicels; segments of the calyx somewhat lanceolate, as long as the tube.

Pursh 2. p. 423.

Root perennial, creeping. Stem firmly erect, 3—6 feet high, branching, obtusely angled, purple, glabrous except near the summit. Upper leaves lanceolate, acute, slightly mucronate, with translucent veins, the upper surface and margins slightly scabrous, the lower leaves pinnatifid, the segments acute and toothed, and somewhat scabrous on both surfaces. Peduncles about 3 lines long. Calyx when young, pubescent, when old glabrous. Corolla about 2 inches long, ventricose, yellow, hairy on the inner surface, the border equally 5 cleft. Filaments nearly as long as the corolla, very villous at base, the long pair fringed along the back. Anthers hairy, bifid, and awned at base. Style as long as the stamens. Stigma obtuse. Capsule a little compressed at the summit.

This is probably the G. flava of Walter.

Grows in dry rich soils, very common. Flowers from May to September.
12. Pedicularia.

G. villosa, ramossissima; foliiis oblongis duplicato-inciso serratis, pinnatifidisque; floribus axillaribus oppositis pedicellatis; calycri laciniis foliaceis inciso-dentatis.

Villous, much branched; leaves oblong, doubly notched, serrated and pinnatifid; flowers axillary, opposite on pedicels; segments of the calyx leaflike, notched and toothed.


Root apparently annual. Stem 2—3 feet high, branching from its base, terete, purple, and with the whole plant viscid and clothed with very soft and dense pubescence. Leaves sessile, opposite, variously dissected. Peduncles about half an inch long. Segments of the Calyx foliaceous, incised and serrate. Corolla large, yellow, villous on the outside. Stamens shorter than the corolla, villous. Style longer than the stamens. Stigma obtuse. Capsule slightly compressed at the summit. Seeds numerous, very small, attached to a central receptacle.

Grows in dry sandy pine barrens, common in such situations. Flowers July—September.

SEYMERIA. Pursh.

Calyx profunde 5-partitus. Corolla campanulata, sub æqualiter 5-fida. Filamenta 4, brevia, sub æqualia, fauce inserta. Antheræ biloculares, poris apice dehiscentes. Capsula ventricoso-ovata, 2-valvis, 2-valvis,

Calyx deeply 5-parted. Corolla campanulate, equally 5-cleft. Filaments 4, short, nearly equal, inserted in the throat of the corolla. Anthers 2-celled, opening through pores at the summit. Capsule q-
2-locularis apice dehis-cens. venter, ventricose, 2-valved, 2-celled, opening at the summit.

1. Tenuifolia. Pursh.

S. glabriuscula, ramosissima; foliis composite pinnatifidis, laciniis oppositis alternisque, filiformibus; corolla sub rotata; capsulis glabris.

Glabrous, profusely branched; leaves compoundly pinnatifid, with the segments opposite and alternate, filiform; corolla somewhat rotate; capsules glabrous.

Anonyma Cassioides. Walt. p. 171.

Root annual? Stem 3—4 feet high, with numerous brachiate branches, terete, rough. Leaves opposite, sessile, about an inch long, compoundly pinnatifid. Flowers near the summit of the branches axillary, opposite, on peduncles about an inch long. Calyx somewhat campanulate, the segments subulate, about twice as long as the tube. Corolla about half an inch long, of an obscure yellow, sprinkled in the throat with purple, pubescent, the border 5-cleft. Filaments villous at base, rather shorter than the corolla. Anthers incumbent, yellow, opening at the summit, the cells separate, and mucronate at base. Style declining, longer than the stamens. Stigma obtuse. Capsule compressed at the summit. Seeds numerous, very small.

The Anthers in this species, of which alone I can speak with certainty, bear a striking affinity to those of the Cassia. Hence and not from the corolla the specific name of Walter. Grows very common in the low country in wet pine barrens. Flowers August—September.


S. viscido pubes-cens, ramossissima; foliis pectinato pinnatifidis; laciniis indivisi, linearibus, acutis; Viscidly pubescent, profusely branched; leaves pectinately pinnatifid, with the segments undivided, lin-
corolla subrotata; capsulis pubescentibus. ear, acute; corolla somewhat rotate; capsules pubescent.


The specific character above recited contains the character of the S. pectinata as given by Pursh and Nuttall. The observations which follow apply to a species which has been many years in my herbarium under the trivial name of S. Jacksoni, and which I refer to this species with some hesitation.

Root annual? Stem 2—4 feet high, profusely and brachiately branched, obtusely 4-angled and with the whole plant cloathed with a viscid pubescence. Leaves lanceolate in their outline, the lower always pinnatifid, 1—2 inches long, the upper small, and frequently entire. Flowers axillary, opposite, on peduncles longer than the upper leaves. Corolla somewhat rotate, of an obscure yellow. Stamens as long as the corolla. Capsule pubescent?

First sent to me from Louisville, Ga. by Mr. Jackson. Along the direct road from Milledgeville to the Alabama, by the Indian agency, it occurs not unfrequently. In the low country I have not seen it. Flowers August—October.

PEDICULARIS. Gen. Pl.: 1003.


1. Canadensis.

P. caule simplici; foliis pinnatifidis, inciso-dentatis; capitulo basi folioso, hirsuto; corollis galea setaceo-
bidentata; calycibus deorsum truncatis. with 2 setaceous teeth; calyx obliquely truncated.


Root perennial, creeping. Stem 6—12 inches high, terete, succulent and very pubescent. Radical leaves crowded, stem leaves alternate, all lanceolate in their outline, pinnatifid, with the segments notched and toothed, somewhat reticulate underneath, when young very pubescent, when old glabrous. Petioles compressed and slightly fringed. Flowers in crowded leafy spikes. Bracteas resembling the leaves. Calyx slightly angled, 2-cleft at the summit, obliquely truncated backwards so as to have no under lip. Corolla twice as long as the calyx, yellowish, tinged with purple, the lower lip 3-lobed, the intermediate lobe the smallest. Stamens a little shorter than the corolla, the 2 longer filaments bearded near the summit. Style longer than the corolla. Stigma slightly capitate. Capsule compressed and opening at the summit. Seeds few in each cell, slightly angled.

Grows in rich shaded soils, rare along the sea coasts. Flowers March—April.

**MIMULUS.**

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**Calyx prismaticus,** 5-dentatus. **Corolla ringens,** labio superiore lateribus replicato. **Stigma crassum. Capsula 2-locularis, polysperma,**

1. **Ringens,**

M. erectus, glaber; foliis sessilibus, lanceolatis, acuminatis, serratis; pedunculis axillaribus, oppositis, flore longioribus; den-

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**Calyx prismatic,** 5-toothed. **Corolla ringent,** the upper lip with the sides folded back. **Stigma thick. Capsule 2-celled, many seeded.**

Erect, glabrous; leaves sessile, lanceolate, acuminate, serrate; peduncles axillary, opposite, longer than the flowers;
DIDYNAMIA ANGIOSPERMIA.

tibus calycis oblongis, | teeth of the calyx ob-
acuminatis. | long, acuminate.


Perennial. *Stem* erect, 4-angled. *Leaves* opposite, narrow, lanceolate, slightly acuminate, serrate, sessile, semiamplexicaule, and with the whole plant glabrous. *Flowers* opposite, axillary near the summit of the stem, on peduncles nearly as long as the leaves. *Calyx* angulated, the segments subulate, long. *Corolla* pale blue, the tube rather longer than the calyx, the lower lip larger than the upper, 3-lobed. *Stamens* very short, in the tube of the corolla. *Style* about as long as the stamens. *Seeds,* many in each cell, small, oval, attached to a central receptacle.

Grows in damp soils in the middle and upper country of Carolina. 
*Flowers* July—September.

2. **Alatus**.

*M. erectus,* glaber; 
foliis petiolatis, ovatis, 
acuminatis, serratis; 
pedunculis axillaribus, 
oppositis, flore brevioribus; 
dentibus calycis rotundatis mucronatis; 
caule tetragono, alato.

Erect, glabrous; 
leaves petiolate, ovate, acuminate, serrate; 
peduncles axillary, opposite, shorter than the flower; 
teeth of the calyx round, mucronate; 
stem 4-angled, winged.


*Stem* 1—2 feet high, square, slightly winged along the angles. *Leaves* broad, lanceolate, sometimes ovate lanceolate, serrate, when large almost dentate, like the whole plant glabrous, tapering at base to petioles half an inch long. *Flowers* on peduncles about as long as the petioles. Teeth of the calyx acuminate mucronate. *Corolla* very similar to that of the preceding species, pale blue, tinged in the throat with the yellow.

These two species have many points of resemblance, the former can be distinguished by its sessile leaves, long peduncles, and larger corolla. This by its larger leaves and stem more distinctly winged.

Grows in the flat pine barrens of Carolina. 
*Flowers* August—September.
CHELONE.  Gen. Pl. 1005.

**Calyx** 5-partitus, 3-bracteatus. **Corolla** ringens, ventricosa. **Filamentum** quintum sterile, cæteris brevius. **Capsula** 2-locularis, 2-valvis. **Semina** plurima, margine membranacea.

1. **Glabra**.

*C. foliis oblongis, lanceolatis, acuminate, serratis, subsessilibus, glabris; floribus albis.*


Root perennial. Stem herbaceous, angled, taking root at the joints, 2—3 feet high. Leaves generally opposite, 2—4 inches long, slightly acuminate, nearly sessile, and rather obtuse at base, somewhat rugose yet glabrous. Flowers in all the species, in compact, imbricate, terminal spikes. Bracteas shorter than the calyx. Segments of the calyx obtuse, nearly round. Corolla large, white, bearded internally on the lower lip. Stamens shorter than the corolla. Anthers as in the whole genus, woolly


Leaves lanceolate, conspicuously acuminate, serrate, sessile, under surface pubescent. Bracteas scarcely dilated. Segments of the calyx oblong. Probably a distinct species. Nutt. Near Columbia and through the middle country the C. Glabra of Walter (p. 172.) is found and agrees very nearly with this variety. The leaves are larger than those of any specimens I have seen from the Northern States, pubescent, almost hairy underneath, the flowers large, numerous and very compactly imbricated. Sent me by Mr. Herbemont.

Flowers in the summer. (July—August. Pursh.)
2. **Obliqua**.

*C. folii petiolatis, obliquis, lanceolatis, oppositis; floribus purpureis.*

Leaves petiolate, oblique, lanceolate, opposite; flowers purple.


With this plant I am unacquainted. Michaux and Pursh consider it as a variety of the *C. Glabra*. Linæus, (after Miller,) Muhlenberg and Nuttall admit it a species. Miller remarks that it differs from the preceding by roots less disposed to creep, broader leaves more deeply serrated and by its purple flowers. Plukenet however, to whom Linæus refers, describes and figures his Purpurea with very narrow leaves, but as distinctly petiolate.


**Flowers August.**

3. **Lyoni.** Pursh.

*C. glabra, ramosa; foliis petiolatis, cordato-ovatis, serratis; spicis terminalibus densifloris.*

Glabrous, branching; leaves on petioles, cordate-ovate, serrate; spikes terminal, with the flowers clustered.


A fine large species, with purple flowers. Collected in the upper districts of Carolina and Georgia by Mr. Lyons. Pursh. Near Wilmington, N. C. Nuttall.

**Flowers July—September.**

4. **Latifolia.** Muhl. Cat.

*C. glabra; folii lato-ovatis ovalibus, serratis, abrupte acuminatis, basi at-

Glabrous; leaves wide, ovate and oval, serrate, abruptly acuminate, tapering at
tenuatis, petiolatis; floribus confertis; bracteis calycibusque ciliatis. E.

This plant which was discovered also by Mr. Lyon along the base of the mountains of Carolina, but principally in Burke county N. C. I have always supposed to be the C. Latifolia of Muhlenberg’s Catalogue. Plant generally about 2 feet, obtusely angled, very glabrous. Leaves opposite, on petioles nearly an inch long, tapering and somewhat acuminate at base, in my specimens not even obtuse much less cordate, about 4 long by 2 wide. Flowers as usual in a dense terminal spike. Segments of the calyx oblong and their margins with those of the bracteal leaves pubescent or rather finely fringed. Corolla rose coloured, rather smaller than those of the first species. Flowers August.

PENTSTEMON. Gen. Pl. 1758.


1. Lævigatum

P. caule glabro; foliis lævigatis, ovato oblongis, amplexicaulis, tenuissime denticulatis, inferioribus integerrimis; floribus base, on petioles; flowers crowded; bracts and calyx ciliate.


Stem glabrous; leaves smooth, ovate oblong amplexicaule, slightly denticulate, the lower ones entire; flowers paniculate, the
paniculatis, filamento sterili superne barbatō.

sterile filament bearded near the summit.

Chelone Pentstemon. Walt. p 172.

Root perennial. Stem 1—2 feet high, nearly terete, generally a little pubescent. Leaves of the root lanceolate, acute, frequently entire, sometimes sparingly denticulate, attenuated at base into a petiole 3—5 inches long, slightly winged; of the stem opposite, ovate, acuminate and sometimes pubescent near the base. Flowers in terminal panicles. Leaves of the calyx ovate lanceolate, externally hairy. Corolla pale purple, streaked with deeper tints, pubescent, hairy, within, upper lip 2-cleft with the segments slightly reflected, the lower 3-cleft. Stamens shorter than the corolla, the sterile filament sometimes divided. Style shorter than the stamens. Stigma simple. Capsule ovate, acuminate, sometimes 3 celled.
Grows in dry fertile soils.
Flowers June—September.

2. Pubescens.

P. caule pubescence; foliis serrulatis, lanceolato oblongis, sessilibus, amplexicaulis; floribus paniculatis; filamento sterile ab apice infra mediatem barbatō.

Stem pubescent; leaves serrulate, lanceolate oblong, sessile, amplexicaule; flowers in panicles; the sterile filament bearded from the summit below the middle.


Perennial. Stem herbaceous, 1—2 feet high, pubescent, almost tomentose. Leaves sessile, amplexicaule, long, tapering, acutely serrulate, pubescent, those of the root sometimes oval and generally denticulate. Panicle as in the preceding species. Corolla pale purple.
Grows in dry soils in the upper country of Georgia and Carolina.
Flowers May—Sept.

3. Dissectum. E.

P? foliis oppositis, Leaves opposite, sessilibus composite sessile, compoundly
D1DYNAMIA ANGIOSPERMIA.

dissectis, laciniiis line-| dissected, the seg- |
arisbus plerumque ob-| ments linear and gen- |
tusis; floribus panicu-| erally obtuse; flowers |
latis. E. | in panicles.

Stem about 2 feet high, slightly pubescent. Leaves glabrous, divided to the base, compoundly dissected or pinnatifid, the segments irregular in length, not pectinate, all linear, and generally obtuse. Flowers in a panicle composed of opposite branches, bearing a few flowers near and at the summit of the stem. Corolla purple, segments of the upper lip longer than those of the lower and more obtuse. Stamens shorter than the corolla, sterile filament as long or longer. Style nearly as long as the stamens. Stigma simple.

This remarkable species was sent me as a Pentstemon from Louisville, Georgia, by Mr. Jackson, its leaves have some affinity to the Seymeria, but the structure of the panicle and of the flower as far as the specimen permitted me to examine it, is exactly similar to the other species of this genus.

Flowers.


Calyx 5-fidus. Corolla ringens. Capsula lignosa, corticata, 4-locularis, 2-valvis, rostro hamato.

Calyx 5-cleft. Corolla ringent. Capsule woody, coated, 4-celled, 2-valved, the valves terminating in a hooked beak.

1. Proboscidea.

M. caule ramoso; foliis alternis, rotundato cordatis, sub repandis, integerrimis.

Stem branching; leaves alternate, cordate, nearly round, slightly repand, entire.


Annual. Stem generally procumbent, 1—2 feet high, branching, fistulous, and with the whole plant foetid, viscid and pubescent. Leaves sometimes opposite, on petioles 2—6 inches long. Flowers axillary, on peduncles 1—3 inches long. In this species there are two lanceolate, small,
DIDYNAMIA ANGIOSPERMIA.

131

persistent leaves attached to the base of the calyx and forming in some measure an exterior calyx, the proper calyx is split on the under side to the base, the border 5 cleft, the 2 lateral lobes round, the intermediate longer and acute. Corolla of an obscure yellow, with brighter streaks and spotted with purple and brown, border 5 cleft, the 2 upper segments reflected, the 3 lower expanding. Stamens shorter than the corolla which contains also the rudiment of a fifth filament. Style longer than the stamens, dilated towards the summit. Stigma two lobed, compressed, possessing some irritability. Capsule rather large, with the surface furrowed like bark, tapering to the summit and each valve terminating in an incurved beak 2—3 inches long. Seeds ovate, covered with a pulpy coat.

Grows in dry soils, about buildings, Beaufort, Columbia, generally diffused but I suspect not indigenous.

Flowers June—August.


Calyx ventricosotubulosus, 4-fidus, lacinia superiore minima, insima maxima, emarginata. Corolla ringens. Capsula 2-locularis, 2-valvis, dissepimento duplicato. Semina paleacea.

Calyx tubular, ventricose, 4-cleft, the upper segment very small, the lower very large, emarginate. Corollaringent. Capsule 2-celled, 2-valved with a double partition. Seeds winged.

1. Americana.


Root perennial. Stem herbaceous, about 2 feet high, angled and with the whole plant pubescent. Leaves alternate, sessile, lanceolate, entire, somewhat 3 nerved. Flowers alternate in a terminal raceme. Peduncles 1—2 lines long. Bracteas 2, linear lanceolate, as long as the calyx. Calyx furrowed, 4-cleft, with the lower segments gradually increasing in length. Corolla twice as long as the calyx, of a dull purplish yellow colour, the upper lip arched, entire; the lower shorter, 3 cleft. Stamens shorter than the corolla. Anthers somewhat crescent shaped. Style

**EUCHROMA. Nutt.**


1. **Coccinea.**

_E. foliis bracteisque coloratis divaricato 3-fidis; calyce bifido, corollam subæquante, laciniiis retusis, emarginatis. Nut. 2. p. 55._


Annual or biennial. *Stem* 12—18 inches high, pubescent. Root *leaves* lanceolate, 3 nerved, entire, hairy. Stem *leaves* alternate narrow, long, divided into 3 almost linear segments, pubescent. *Flowers* in a terminal spike. *Bracteas* large, persistent, slightly lobed, enfolding the flower,
red, frequently very brightly coloured near the summit. *Corolla* yellowish, long, the upper lip narrow enclosing the stamens, the lower much shorter, with the segments plaited, acute. (*Anthers* long, linear, with the lobes unequal, cohering, producing a polleniferous disk. *Nutt.*)

Grows in damp soils in the middle and upper districts of Carolina and Georgia.

Flowers June—August.

**MELAMPyRUM. Gen. Plant. 999.**


1. **Lineare.** Lamark.

**M. foliis inferioribus linearibus, integris, floralibus lanceolatis postice dentatis; floribus axillaribus distinctis.**


Annual. *Stem* about 12 inches high, branching, terete, slightly pubescent. Lower leaves linear, the upper generally lanceolate, all opposite, on short petioles, the youngest dentate near the base. Flowers axillary, small, on short peduncles. *Corolla* pale yellow, 2 lipped, the lower lip 3 cleft. *Stamens* nearly equal. *Capsule* oblique, compressed, acute, reflected? *Seeds* cartilaginous, oblong.

Grows in the mountains of Carolina. Dr. Macbride.
OBOLARIA. Gen. Pl. 1044.


1. VIRGINICA.


Root perennial? Stem herbaceous, 4—6 inches high, smooth. Leaves obovate, obtuse, sessile, and slightly decurrent, entire, smooth, glaucous. Flowers generally 2—3 on the summit of small, opposite, axillary branches, sometimes sessile. Bracteas? 2 leaves similar to the leaves of the stem at the base of each flower, performing perhaps the functions of a calyx. Corolla campanulat, deeply divided, white; segments equal, acuminate, sometimes fimbriate. Filaments inserted in the divisions of the corolla, about half as long as the segments. Germ superior. Style rather longer than the filaments. Stigma deeply 2 cleft. Capsule 2 valved, 4 celled? or perhaps 1 celled with the rudiments of partitions. Seeds very small.

This plant, from the structure of the corolla and the insertion of the stamens, certainly belongs to the class Tetrandria where it has been correctly placed by Mr. Nuttall.

Grows in rich soils, near Clouter’s spring, 6 miles from Charleston. Flowers March?

OROBANCHE. Gen. Pl. 1045.


1. **Americana.**

O. caule simplicissimo, squamis ovato-lanceolatis, imbricatis, obtecto; spica terminali, glabra; corollis recurvatis; staminibus exertis.


Root perennial, somewhat tuberous, parasitic. Stems clustered, forming compact patches, 1—2 feet in diameter, simple, carnose, clothed with long ovate scales, tapering towards the summit, of a pale brown colour. Flowers in a terminal spike, one or more from each bud, covered and protected by the scales of the stem. Calyx 5? parted unequally, with 2 small bracteal leaves at base. Corolla slightly incurved, 5 lobed, nearly white, a little longer than the calyx. Style nearly as long as the corolla. Stigma capitate.

Grows in rich shaded soils.

Flowers March—April.

2. **Uniflora.**

O? scapis nudis unifloris; calyce ebracteato; corolla recurvata.


Root perennial, somewhat tuberous, parasitic. Stems very short, numerous from each root, covered with scales, bearing one or two flowers near the summit. Flowers in my specimens invariably solitary, on naked, pubescent scapes, 2—4 inches long. Calyx somewhat campanulate, deeply 5-cleft, pubescent. Corolla 3 times as long as the calyx, slightly curved, of a yellowish white colour, with deeper veins, border 5-cleft, segments oval, edged with a very fine blue fringe. Stamens and Style much shorter than the corolla. (Anthers obcordate with the filaments smooth. Stigma bilamellate, perforated, lobes rounded and acuminate, the lower lobe arched over the stamens. Nutt.)

Grows in the pine barrens of the middle country of Carolina. Dr. Macbride.

Flowers April.
3. **Virginiana.**

O? caule ramoso; floribus alternis distantibus; corollis deciduis, 4-dentatis; capsulis oblique truncatis, hinc dehiscentibus.

Stem branching; flowers alternate, distant; corolla deciduous, 4-toothed; capsule obliquely truncated, opening on one side.


Root parasitic, somewhat tuberous, perennial. Stem 12—18 inches high, branching, smooth, carnose, bearing small remote scales. Flowers alternate, distant, nearly sessile, the lower ones bearing fruit, the upper ones generally abortive. Calyx short, 4-toothed. Corolla 4-toothed, the sterile flowers much larger than the fertile, white, streaked with purple. Stamen about as long as the corolla. Style simple. Stigma capitate. Capsule nearly round, dilating, after it opens, very much in the shape of a cup.

Grows on the roots of Beech trees, to which tree it is exclusively attached.

Flowers August—September.

These three plants probably belong to distinct genera. The O. Americana alone resembles strongly the European species of this genus. Mr. Nuttall, and I believe Mr. Rafinesque before him has pointed out the propriety of separating the O. Virginica from the other species. I am not able at present to turn to the observations of Mr. Rafinesque whose name would have at least the claim of priority, and I have continued to use the ancient arrangement.
TETRADYNAMIA SILICULOSA.

CLASS XV.

TETRADYNAMIA

SILICULOSA.

397 CAKILE,
398 DRABA,
399 CORONOPUS,
400 LEPIDIUM,
401 THLASPI.

SILIQUOSA.

402 DENTARIA,
403 CARDAMINE,
404 SISYMBRIUM,
405 ERYSIMUM,
406 ARABIS,
407 CLEOME.

CAKILE. Gært.

Silicula lanceolata, subtetragona, medio utrinque dente instructa, biarticulata, ad articulos secedens; articulis monospermis, evalvibus.

Pod lanceolate, somewhat 4-angled, toothed near the middle on each side, 2-jointed, separating at the joints. Joints 1-seeded, without valves.


C. folis carnosis, glaberrimis, spathulato ovatis, sinuatis; lobis obtusis, subdentatis; articulo siliquae inferiori subtereti, superiori compresso.

Leaves fleshy, glabrous, spathulate-ovate, sinuate; lobes obtuse, toothed; lower joint of the pod somewhat terete, the upper compressed.

Nuttall 2. p. 62.
**TETRADYNAMIA SILICULOSA.**

*Root* annual. *Stem* erect, with expanding branches, slightly angled towards the summit. *Leaves* alternate, not glaucous, the upper ones lanceolate, the lower almost hastate. *Flowers* in terminal racemes, but forming corymbose clusters when they first begin to expand; common peduncle 1—3 inches, the partial 2—3 lines long. *Calyx* 4-leaved, deciduous; leaflets linear lanceolate, slightly gibbous at base. *Corolla* cruciform. *Petals* 4, obcordate, white, with claws a little longer than the calyx. *Filaments* 6, of which 2 are shorter than the others. *Germ* superior, slightly compressed, jointed below the middle. *Style* 0. *Stigma* thick. *Glands* 4, two at the base of the shorter filaments, and one between the base of each longer pair. *Pod* 2-jointed, without valves. *Seed* 1 in each joint, oval, glabrous.

Grows in the drifting sands along the margins of the ocean. Cultivated sometimes for the table, and much commended.

*Flowers* April—July.

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**DRABA. GEN. PL. 1076.**

*Silicula integra, ovali-oblonga, valvis planiusculis, dissepimento parallelis.*

*Pod entire, oval oblong; valves somewhat flat, parallel with the partition.*

1. **Caroliniana.**

*D. foliis ovali-lanceolatis, hirsutissimis; ramulis floriferis nudis; siliculis longolinearibus, glabris, approximatis.*

*Leaves* oval lanceolate, very hairy; flower bearing stems naked; pods linear, glabrous, approximate.


*Root* annual. *Stem* very short, covered like the leaves with a stellular pubescence, and divided almost at the surface of the earth into 4 or 5 naked flower bearing branches, each about 2 inches long. *Leaves* clustered on the stem, small, more or less acute, and covered with a stellular pubescence. *Flowers* on the summit of the branches. *Calyx* 4 leaved, deciduous. *Corolla* 4-petalled, oblong, with a base tapering to a claw, white, in the later florets probably wanting. *Stamens* half as long as the petals. *Style* very short. *Stigma* quadrifid. *Pod* 3—4 lines long, linear lanceolate. *Seeds* many. *Dissepiment* generally persistent.

**CORONOPUS. GÆRT.**

*Silicula reniformis,* compressa, corrugata; *Pod reniform, compressed, corrugate; localis evalvibus, mon-ospermis.*

Pods emarginate, in pairs, reticulate, rugose; style obsolete; corymb many flowered.

1. **Didyma.**

*C. siliculis emarginatis, didymis, reticulato-rugosis; stylo obsolento; corymbis multifloris.*

Pods emarginate, in pairs, reticulate, rugose; style obsolete; corymb many flowered.

Biscutella apetala. Walt. 174.
Cochlearia humifusa. Mich. 2. p. 27.

*Root fibrous, in our climate almost perennial. Stem branching, prostrate, 1 to 2 feet long, a little hairy. Leaves alternate, sessile, glabrous, pinnatifid; the segments linear lanceolate, sometimes toothed, mucronate. Flowers in small corymbs opposite the leaves. The Rachis as in most of this class increasing in length after flowering, and forming racemes when in fruit. Calyx 4-leaved, leaves lanceolate, acute, glabrous, 2 appressed, the others expanding, all somewhat persistent but falling before the fruit matures. Corolla 0. Filaments 2 fertile, subulate, as long as the calyx, 4 sterile, 2 at the base of each fertile filament. Anthers incumbent, erect. Germs superior, compressed, orbicular. Style none. Stigma sessile. Pod 2-lobed, emarginate at each end, without valves. Seeds 1 in each cell.*

Grows very common in open grounds and pastures, is eaten freely by cattle early in the spring and communicates to their milk and butter a disagreeable flavor.

Flowers from February to July. **Pepper Grass.**

2. **Ruellii.**

*C. siliculis integris cristato-muricatis; sty-| Pod entire, with a muricated margin;
lo porrecto; corymbis | style prominent; co-
 paucifloris. | rymb few flowered.


This plant which I have inserted from Pursh and Nuttall has escaped my observation. It is said to grow in pastures intermingling with the C. Didyma, and to be a larger species.

**LEPIDIDIUM.** Gen. Pl. 1077.

Silicula emarginata, cordata, polysperma. Valvulis carinatis disseipimento contrariis.

| Pod emarginate, cordate, many seeded. Valves keeled, with a transverse keeled partition. |

1. Virginicum.

L. foliis radicalibus pinnatifidis, cauliniis linearis lanceolatis, subinciso serratis; floribus 4-petalis, diandris; siliculis lentiformibus.

Radical leaves pinnatifid, those of the stem linear lanceolate, deeply serrate; flowers 4-petalled, dian-
drous; pod lens shaped.

Sp. pl. 3. p. 440.
Walter 175.

Root perennial. Stem herbaceous, 12—15 inches high, glabrous. Leaves alternate, sessile, finely ciliate, more or less deeply notched, the upper ones diminishing in size, and nearly entire. Flowers in terminal racemes. Calyx 4-cleft, leaflets lanceolate, appressed, membranaceous along the margin, pubescent on the back, deciduous. Petals 4, white, ob-
ovate, a little longer than the calyx. Glands 4, very small, at the base of the germ. Filaments 2, sometimes 3, as long as the calyx. Anthers incumbent. Germ orbicular, compressed. Style 0. Stigma globose. Pod orbicular, compressed, slightly emarginate, 2 celled. Seeds in each cell.

Grows in pastures and about buildings. Very common.
Flowers April—May.
**TETRADYNAMIA SILIQUEOSA.**

**THLASPI. Gen. Pl. 1078.**


1. **Bursa pastoris.**

*T. hirsutum; sili- culis deltoideo-obcordatis; foliis radicalibus pinnatifidis.*

Pod emarginate, obcordate, many seeded. *Valves* boat shaped, keeled.

Hirsute; pods deltoid, obcordate; root leaves pinnatifid.


*Root* fusiform, annual. Radical *Leaves* long, lanceolate, deeply pinnatifid, with a long naked base. Stem *Leaves* lanceolate, dentateulate, sagittate and amplexicaule at base, all hairy but scarcely hirsute. *Flowers* in long racemes. *Calyx* 4-leaved, leaflets lanceolate, deciduous, membranaceous along the margins. *Petals* obovate, white, longer than the calyx. *Stamens* 6, about as long as the calyx, two a little shorter than the others. *Germ* superior, obovate. *Style* very short. *Stigma* glandular. *Pod* triangular, deeply emarginate along the upper line, not distinctly keeled, 2 celled. *Seeds* many in each cell, oval.


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**SILIQUOSA.**

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**DENTARIA. Gen. Pl. 1087.**

emarginatum. Ca-
ginate. Calyx con-

1. Laciniata.

D. foliis ternatis, Leaves ternate, foliolis tripartitis, leaflets 3-parted, lacinii oblongis, inciso segments oblong, notched and incisi-dentatis; radice mon-
toothed; root mon-
iliform.


Root perennial, composed of small tubers, slightly connected together. Stem herbaceous, 6—8 inches high, bearing 2—3 leaves, each compound-ly 3-cleft, with the segments somewhat lanceolate, and irregularly notched. Flowers in terminal racemes. Calyx lanceolate, acute. Corolla 3 times as large as the calyx, pale purple. Stamens longer than the calyx, not as long as the corolla.

2. Diphylla.

D. caulibus diphyllis, leaflets three, ovate oblongis, unequally oblong, unequally stomata; leaflets many parted, segments linear.


D. caulibus diphyllis; foliolis multipartitis, Stems two leaved; leaflets many parted, lacinii linearibus. segments linear.

TETRADYNAMIA SILIQUOSA.

Stem nearly a foot high, glabrous. Leaves 2, opposite, 2—3 inches long, variously and irregularly divided, the segments all linear and somewhat acute. Flowers in a terminal raceme. Leaves of the Calyx lanceolate, appressed. Corolla of a pale purple, more than twice as long as the calyx. Stamens all longer than the stamens. Stigma capitate.  

Grows in the mountains of Carolina.

Flowers.

CARDAMINE.  


1. Spathulata.  

C. parvula; cauli-bus decumbentibus; foliis radicalibus spathulatis, pubescentibus; caulinis linearies, cuneatis, integris dentatisque; siliquis divaricato-laxis.  

Small; stems decumbent; root leaves spathulate, pubescent; stem leaves narrow, cuneate, entire and toothed; pods loosely divericate.

Gen. Pl. 1088.  

Pod opening elastically, with the valves revolute. Stigma entire. Calyx expanding at the top.

A plant has been sent me by Dr. Anderson from Claremont county, S. Carolina, as the C. Spathulata of Michaux, which though differing a little from the description, I know not where else to refer. Root annual? Stem erect, 6—12 inches high, hairy, and the pubescence on the stem and leaves stellatar. Root Leaves lanceolate, spathulate, rather obtuse, scarcely an inch long. Stem naked below, leaves towards the summit of the stem linear lanceolate. Flowers in racemes axillary and terminal. Calyx 4-leaved, hairy, leaflets oval. Corolla white, petals oblong and obovate, twice as long as the calyx. Stamens nearly as long as the corolla. Style very short. Stigma capitate. Pod terete, linear, about an inch long.  

None of the pods in my specimen were mature, but they appeared to exhibit the character of this genus. 

Grows in the middle districts of Carolina.  

Flowers March—April.
2. VIRGINICA.

C. glabra, erecta; leaves pinnate, leaflets lanceolate, somewhat auriculate; pods long, erect, straight.

C. glabris pinnatis, foliolis subauriculatis, siliquis stricte erectis.


Root perennial? Stem 8—12 inches high, a little hairy. Leaves alternate, pinnate, leaflets somewhat lanceolate, generally angled on the under side, the upper ones larger. Flowers in terminal racemes, small. Corolla white, a little longer than the calyx. Pod terete, linear.

Grows in the upper districts of Carolina. Flowers April—May.

3. PENNSYLVANICA.

C. glabra, ramosa; leaves pinnate, leaflets nearly round, obtuse, toothed and angled; pods narrow, erect.

C. glabris pinnatis, foliolis subrotundo-obtusis angulato-dentatis; siliquis angustis, erectis.


Root annual? Stem erect, about a foot high, branching, angled and glabrous. Leaves pinnate or rather pinnatifid, glabrous, leaflets 4—6 pair, obtuse, toothed, entire when very small. Flowers in terminal racemes. Leaflets of the calyx linear lanceolate, glabrous, deciduous. Petals twice as long as the calyx, obovate, white. Stamens a little longer than the germ. Style 0. Stigma obtuse. Pod about an inch long, terete and very slender.

To the preceding species this bears much resemblance, it is distinguished however, by its glabrous stem and leaves, by its larger and more distinctly toothed leaflets, and by a pod longer and much more slender. The two species have probably been united by Michaux.

Grows in wet lands. Very common in the tide swamps, resembling very much in flavour the garden cress, for which it is frequently used as a substitute.

Flowers February—April.
TETRADYNAMIA SILIQUOSA.

SISYMBRIUM. Gen. Pl. 1089.

Siliqua rostro bre-vi, tereti, dehiscens, valvulis rectiusculis. Calyx, Corollaque patentes.

1. Nasturtium.

S. siliquis declinatis brevibus; folis pinnatis, foliolis subrotundis, repando-dentatis.

Pod with the beak short, terete, opening, and the valves straight. Calyx and Corolla expanding.

1. Nasturtium.

S. siliquis declinatis brevibus; foliis pinnatis, foliolis subrotundis, repando-dentatis.

Pods declining, short; leaves pinnate, leaflets nearly round, repand, sparingly toothed.


Root perennial. Stem 12—18 inches high, branching. Root Leaves 2—3 inches long, pinnatifid, with the upper segments much dilated, very glabrous. Flowers in terminal racemes. Leaves of the calyx ovate. Petals twice as long as the calyx, obovate, bright yellow. Stamens shorter than the corolla. Pods about an inch long, many seeded, slightly incurved.

This plant, the common cress of our gardens, is becoming naturalized in our country, but in the low country of South-Carolina, it certainly is not indigenous.

Grows in close and damp soils.

Flowers February—May.

2. Palustre.

S. siliquis declinatis oblongo-ovatis; foliis pinnatifidis serratis; petalis calyce bre-vioribus.

Pods declining, oblong, ovate; leaves pinnatifid, serrate; petals shorter than the calyx.


With this species I am unacquainted. (Root annual. Flowers yellow. Pursh.)

Grows in inundated and low ground, from Canada to Carolina. Pursh.

Flowers July—August.
3. **Walteri** E.

*S. ramosissimum*, procumbens; foliis pinnatifidis, laciniis obtusis, sinuato-dentatis, supremis confluentibus; siliquis brevibus, sub erectis. E.


*Root* perennial? *Stem* generally procumbent, 6—14 inches long, angled and sprinkled with a transparent pubescence. *Leaves* pinnatifid, glabrous, toothed and sinuate, the segments very gradually increasing in size towards the summit. *Flowers* in simple racemes; racemes axillary, opposite the leaves and terminal. Leaves of the *Calyx* lanceolate, a little hairy, appressed. *Petals* nearly linear, tapering at base, scarcely as long as the calyx, yellow. The long *Stamens* just equal to the germ. *Anthers* somewhat globose. *Style* very short. *Stigma* capitate. *Pod* scarcely half an inch long, terete, slightly incurved, opening from the base.

Very nearly allied to the preceding species, from which it appears to differ by its procumbent stems and terete pod.


4. **Amphibium.**

*S. siliquis declinatis oblongo ovatis; foliis oblongo lanceolatis pinnatifidisve, serratis; petalis calyce longioribus,* Pods declining, oblong ovate; leaves oblong, lanceolate, sometimes deeply serrate and pinnatifid; petals longer than the calyx.


*Root* perennial? *Stem* erect, about a foot high, branching, angled, glabrous. *Leaves* lanceolate, acute, deeply toothed, the lower ones pinnatifid, sinuate, and tapering at base. *Flowers* in terminal racemes. Leaves of the *Calyx* oval, appressed, deciduous, a little hairy near the

Grows along the margins of ditches and in wet places. Common in the river swamps of Ogeechee.

Flowers March—April and sometimes in the autumn.

5. **Canescens.** Nutt.

*S. foliis bipinnatifidis, canescentibus, laciniiis dentatis, obtusis, interdum obovatis; petalis calycem æquantibus; siliquis sub angulatis, adscendentibus, pedunculo brevioribus.*

Leaves doubly-pin-natifid, hoary; segments dentate, obtuse, sometimes obo-vate; petals as long as the calyx; pods slightly angled, ascending, shorter than the peduncle.

Nutt. 2. p. 68.


While looking over my specimens I have had reason to believe that we have another species in this country closely allied to the present, with leaves more finely dissected and with longer pods, but I have not materials to complete its character.

Grows in sandy pastures, very common.
Flowers March—April.

**ERYSIMUM.** **Gen. Pl.** 1090.

*Siliqua columnaris, tetraeda. Calyx clausus.*

*Pod* columnar, square. *Calyx* closed.
1. **Officinale.**

E. siliquis spicæ ad pressis; foliis runcinate. | Pods appressed to the stem; leaves runcinate.


*Root* annual. *Stem* 1—3 feet high, erect, glabrous, with expanding branches. Lower *Leaves* large and runcinate, the upper ones somewhat hastate. *Flowers* on long, very slender racemes, very small. *Corolla* pale yellow, a little longer than the calyx. *Pod* 6—8 lines long, tapering to an acute point, closely appressed to the stem.

An European plant, partially naturalized in our country. Grows along the road side from Canada to Carolina. Pursh. Not found in the low country of Carolina.

Flowers May—June. Pursh.

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**ARABIS.**

*Gen. Pl. 1049.*


| Pod linear, generally compressed, crowned with the sessile stigma, valves veined. | Seed arranged in one row. *Calyx* erect. |

1. **Canadensis.**

A. foliis lanceolatis, utrinque angustatis, remote dentatis, sessilibus; siliquis pendulis, ancipitibus, falcatis. | Leaves lanceolate, narrow at each end, remotely toothed, sessile; pods pendulous, compressed, falcate.


*Root* perennial. *Stem* 2 to 4 or 5 feet high, a little hairy near the base. *Leaves* alternate, sessile, pubescent, irregularly toothed. *Flowers* in long
TETRADYNAMIA SILIQUEOSA. 149

Terminal racemes. Corolla small, white. Pods very long (3—5 inches) linear, recurved, sometimes pendulous.

Grows in rocky shady situations. Pursh.
Sent me from Milledgeville, Georgia, by Dr. Boykin.
Flowers May—June.

2. RHOMBOIDEA.

A. foliis glabris, rhomboideis, repando-dentatis, insimis rotundatis, longe petiolatis, radice tuberosa. | Leaves glabrous, rhomboidal, repand, toothed, the lower ones nearly round, on long petioles; root tuberous.


Root a small bulb or tuber. Stem 12—18 inches long, erect, glabrous, simple. Root Leaves nearly round and entire and on petioles 4—6 inches long. Stem Leaves on short petioles, ovate, remotely toothed or angled. Flowers in terminal racemes. Petals white, three times as long as the calyx. Stamens longer than the calyx. Pods on long peduncles, te-trete, mucronate.

Grows in the upper districts of Carolina and Georgia.
Sent to me with the preceeding from Milledgeville by Dr. Boykin.
Flowers March to May. Pursh.

CLEOME. GEN. PL. 1099.


Nectariferous glands 3, one at each division of the calyx except the lowest. Petals all ascending. Germ stipitate. Pod 1-celled, 2-valved.
1. Pentaphylla.

C. floribus gynandris; foliis quinatis; caule inermi. | Flowers gynandrous; leaves quinate; stem unarmed.


Root annual. Stem 2—3 feet high, sometimes branching, glabrous, viscid. Leaves on petioles, 3—5 inches long, Leaflets lanceolate, very finely and irregularly serrulate, upper leaves sometimes undivided. Flowers in long terminal racemes. Peduncles 1—2 inches long. Calyx small, (5 leaved. Nutt.) Petals obovate or nearly round, white, with very long capillary claws. Germ linear, supported by a pedicel much longer than the petals, to the middle of which 6 linear anthers are attached on long filaments. Style very short. Stigma capitate. Capsule 2—3 inches long, linear, on a long footstalk. Seeds few, and distant in each pod.

Grows in cultivated grounds, and about buildings. Flowers May—July.


C. foliis simplicibus, subsessilibus, ob-ovatis ovalibusque, basi cuneatis; floribus hexandris, terminal-fasciculatis. | Leaves simple, nearly sessile, obovate, cuneate at base; flowers hexandrous in terminal clusters.

Muhl. Cat. p. 61. Pursh. 2. p. 73.

Root annual? Stem 12—18 inches high, erect, much branched near the summit, glabrous. Leaves about an inch long, slightly retuse, entire. Flowers in clusters at the summit of the branches. Peduncles 1—6 lines long. Calyx very minute. Corolla obovate or nearly round, supported on long slender claws, white, tinged with purple. Stamens rather longer than the corolla, inserted just within, and sometimes between the petals. Anthers linear. Germ stipitate. Style 0. Stigma obtuse. Pod nearly 2 inches long, filiform and very slender.

Grows very abundantly in the dry ridges between Milledgeville and the Chatahouchie. Flowers June—August.
MONADELPHIA TRIANDRIA.

CLASS XVI.

MONADELPHIA.

TRIANDRIA.

408 SISYRINCHIUM,

PENTANDRIA.

409 PASSIFLORA,
410 OPLORHECA,

OCTANDRIA.

411 PISTIA,

DECANDRIA.

412 GERANIUM,
413 SCHRANKIA,

POLYANDRIA.

414 SIDA.
415 MALVA,
416 MALOPE,
417 HIBISCUS,
418 GORDONIA,
419 STEWARTIA,
420 HOPEA.

SISYRINCHIUM. Gen. Pl. 1101.


1. Mucronatum.

S. caule simplici, ancipiti, foliisque angustissimo; spatha colorata; valva altera in mucronem longum desinente.


S. bermudiana? Walt. 219.
Root fibrous, perennial. Leaves resembling the blades of grass, 4—6 inches long, very narrow, acute, generally tinged with blue at base. Flower Stem rather longer than the leaves, compressed. Flowers in 2? terminal clusters, each 4—5 flowered; common sheath 2-leaved, compressed, acute, unequal, 1 longer than the flowers; partial sheaths small, somewhat membranaceous, each enveloping the base of a single peduncle. Peduncles 5—6 lines long. Calyx 0. Petals bright blue, emarginate, mucronate, expanding. Filaments 3, shorter than the corolla, united into a tube. Germ inferior, globose. Style triquetrous, a little longer than the stamens. Stigma 3, acute. Capsule globose, 3-valved, 3-celled. Seeds several in each cell.

Grows in meadows and damp land along the range of mountains from Pennsylvania to Carolina.

2. Bermudiana.

S. caule ancipiti, ramoso, folioso; spath this muticus flore bre vioribus; petalis mu cronatis; foliis ensiformibus.

Stem compressed, branching, leafy, spathes unawned, shorter than the flowers; petals mucronate; leaves ensiform.


Root perennial. fibrous. Stem erect, 12—18 inches high, generally divided near the summit into two unequal branches, compressed, striate, very glabrous. Leaves ensiform, very acute, glabrous, shorter than the stem. Flowers in terminal clusters; common spathe 2-leaved, each leaf sheathing a cluster of 4 or 5 flowers, flowers longer than the sheath, proper spathe one small membranaceous leaf at the base of each peduncle. Petals 6, oval, emarginate, mucronate, hairy, of a very bright azure colour, yellow and united just at the base. Stamens shorter than the corolla, united into a tube. Anthers conspicuously 2-lobed at base. Germ inferior, globose, hairy. Style longer than the stamens. Stigmas acute, glandular. Capsule furrowed, hairy, 3-valved, 3-celled. Seeds many in each cell, globose, dotted, attached to a central receptacle. Grows in stiff, damp, clayey soils. Flowers March—May.

3. Anceps.

S. scapo ancipiti, a lato, simplici, subaphyl- Scape compressed, winged, simple, gen-
lo; spatha subquadri-flora, inæquali, floribus longiore; petalis mucronatis; foliis ensiformibus.

erally without leaves; spathe commonly 4-flowered, unequal, longer than the flowers; petals mucronate; leaves ensiform.


This is generally considered as our common species, but all the plants which I have examined, and those which have been sent me under this name, all agree in character with the S. Bermudiana, so far at least as to have their spathes manifestly shorter than their flowers.

It is said to be smaller than the preceding species and its flowers to be much less conspicuous.

Grows in dry hills and pastures from Canada to Carolina. Pursh.

Flowers July—August. Pursh.

**PENTANDRIA.**

**PASSIFLORA.** Gen. Pl. 509.

*Calyx* 5-partitus.  

| Calyx 5-parted. |
| Petals 5, inserted on the calyx. |
| Nectary a filamentose crown. |
| Styles three. |
| Fruit (pepo or berry) pedicellate. |

1. **Incarnata.**

*P. foliis* trilobis, serratis, lobis oblong-is, acutis; petiolis bi-glandulosis; involucro triphyillo, foliolis lan-ceolatis glandulos-o-

Leaves 3 lobed, serrate, lobes oblong, acute; petioles bearing 2 glands; involucrum 3 leaved, leaves lanceolate with glandular
dentatis; filis coronae | teeth; rays of the
corolla longioribus. | corolla longer than the

corolla.


Root perennial, composed of thick, fleshy, creeping fibres, sometimes swelling into tubers. Stem herbaceous, voluble, sometimes climbing 20 to 30 feet high. Leaves alternate, finely pubescent along the veins, the lateral lobes unequal, the intermediate lanceolate, all serrate and slightly acuminate. Petioles about an inch long. Tendrils axillary, 6—8 inches long, spiral towards the summit. Flowers axillary, solitary, on a jointed peduncle 3—5 inches long. Involucrum situated near the joint of the peduncle; leaflets short, obovate, acuminate. Calyx 5-parted, pubescent; segments oval, slightly angled on the back with a projecting point near the summit. Petals 5, oval, as long as the calyx to the base of which they are attached, white. Nectary in a triple series, the 2 exterior composed of radiating filaments as long as, or longer than the corolla, forming a double crown, purple with a pale nearly white circle at some distance from the centre; the interior composed of short, erect, incarnate rays, surrounding the base of the pedicel of the germ. Filaments 5, about half an inch long, compressed, speckled, attached to the summit of the pedicel of the germ, united at base into a tube. Anthers incumbent, oblong. Germ superior, oval, pubescent, supported on a speckled pedicel nearly half an inch long. Styles 3, slightly recurved, thickened near the summit. Stigmas globose, viscid. Berry? oval, glabrous, about the size of an egg, covered with a leathery coat, pale yellow when ripe. Seeds very numerous, small, enveloped in a gelatinous edible pulp.

Grows in dry soils.

Flowers May to July.

2. Lutea.

P. foliis cordatis, trilobis, obtusis, glabris; petiolis eglandulosis; pedunculis axillaribus, geminis; petals calyce duplo angustioribus.

Leaves cordate, 3-lobed, obtuse, glabrous; petioles without glands; peduncles axillary, by pairs; petals much narrower than the calyx.


Root perennial, composed of thick and somewhat fleshy fibres. Stem herbaceous, slender, climbing over small shrubs, a little hairy. Leaves
small, obtusely 3 lobed, of a very pale green, smooth on the upper surface. Peduncles 1—2 inches long, each bearing a single flower. Flowers small, the petals and nectary of a greenish yellow colour. The fruit small.

Grows in close damp soils, very generally diffused over the country but not very common.

Flowers May—July.

**OPLOTHECA. Nuttall.**

*Calyx* duplex, exterior diphyllus, truncatus; interior longior, monophyllus, 5 fidus, tomentosus. *Corolla* 0. *Utriculus* monospermus, calyce muricato inclusus.

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1. **Floridana**:

Nutt. 2. p. 79.

Root perennial? Stem herbaceous, erect, sparingly branched towards the summit, pubescent, 3 to 4 feet high, tumid at the joints with long internodes. Leaves opposite, sessile, linear lanceolate, entire, a little scaberous on the upper surface, lanuginous underneath. Flowers in long compact spikes 1—3 inches long, forming a loose straggling terminal panicle. Exterior *Calyx* membranaceous, half the length of the interior—the interior ovate, slightly compressed, 5 cleft at the summit and covered with a cotton like tomentum. Staminiferous tube (Lepanthium) cylindric, bearing 5 stamens nearly as long as the interior calyx. Seed finally inclosed by the interior calyx which hardens and becomes muricated with 2 crested margins and 2 dorsal protuberances on each side near the base.

This plant which has been very accurately described by Mr. Nuttall, was first found by Dr. Baldwin in Florida. It grows very abundantly on the high pine ridges between the Flint and Chatahouchie rivers along the Federal road.

Flowers through the summer.
**MONADELPHIA OCTANDRIA.—DECANDRIA.**

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**OCTANDRIA.**

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**PISTIA. Gen. Pl. 1112.**

Calyx spathe tubulosa, cucullata, lingulata. *Corolla 0. Filamenta lateralia, 3—8. Capsula 1 locularis, polysperma.*


P. foliis in petiolum abrupte angustatis, superne dilatatis, rotundato-obtusis.


A floating aquatic. Leaves all radical, expanded in a circle. Flowers axillary, subsessile, solitary, white. Nuttall.

This plant, which is said to grow in the stagnant waters and streams of Florida and the southern parts of Georgia, I have not seen. Flowers through the whole summer.

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**DECANDRIA.**

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**GERANUM. Gen. Pl. 1118.**

Calyx 5 phyllus. | Calyx 5 leaved.
mata 5. Arilli 5, monosperm, aristati.

1. Carolinianum.

G. diffusum, pubescent; folii oppositis, 5-lobis, lobis trisitdincisis; pedunculis bifloris; petalis emarginatis, longitudine calycis, aristatis; arillus villosis.

Diffuse, pubescent; leaves opposite, 5 lobed, lobes three cleft; peduncles two flowered; petals emarginate as long as the calyx, awned; arils villous.


Root annual, fusiform. Stem procumbent and assurgent, divided, pubescent with the hairs reflected. Leaves opposite at the division of the stem, 5—7 lobed, the lobes generally 3 cleft and the segments again notched and divided, the margins of the leaves as well as the stem are frequently tinged with purple. Petioles 4—6 inches long. Stipules 2, subulate, at the base of each petiole. Flowers in the division of the stem. Peduncles 2—4 inches long, 2 flowered. Calyx 5 leaved, angled, persistent; leaves ovate, 3 nerved, fringed and mucronate. Petals obovate, emarginate, hairy at base, pale purple, as long as the calyx. Stamen 10, about half as long as the corolla, 5 exterior and a little shorter than the others; all slightly united at base but scarcely monadelphous. Nectary 2 yellow glands at the base of each shorter filament. Germ superior, very villous. Styles 5? united. Stigma 5, thick, oblong. Arilli black, hairy, mucronated with the straight persistent style. Seeds 2 in each arillus, oval.

Grows in all cultivated grounds very abundantly. Flowers from March to May.

2. Maculatum.

G. erectum, retrorsum pubescens; caule dichotomo; folii oppositis 3—5 partitis, incisis; pedunculis e-

Erect, retrorsely pubescent; stem dichotomous; leaves opposite, 3—5 parted, notched; peduncles
longatis bifloris; petals obovatis.  


Root tuberous, perennial.  Stem 6—12 inches high, sparingly divided, pubescent with the hairs reflected.  Root leaves on long petioles; stem leaves opposite, the upper pair nearly sessile; all 5 parted, the lobes obovate, notched and toothed, pubescent.  Peduncles few, terminal, 2 flowered.  Calyx hairy, conspicuously mucronate.  Corolla purple.  Petals twice as long as the calyx, not emarginate.

The flowers of this species are conspicuous and ornamental.

Grows in the rich oak lands of the upper country.

Flowers April—May.

SCHRANKIA.  WILDL.


1. Ucnicinata:


Mimosa Intsia.  Walt. p. 252.


Root perennial.  Stem herbaceous, prostrate, 2—3 feet long, angled, thickly armed with retrorse uncinate prickles.  Leaves alternate, abruptly bipinnate.  Common petioles about 3 inches long, angled, prickly and glabrous like the stem, pinnate, opposite.  Leaflets small, nearly elliptic, gibbous at base, thinly sprinkled with hair, irritable, closing at the touch as quickly and as completely as any species of the Mimosa.  Flowers numerous, aggregated in spherical heads.  Peduncles in pairs, axillary, from 1—2 inches long, prickly like the stem.  Calyx very minute, 5 toothed.  Corolla tubular, small, but many times longer than the calyx, 5 cleft, of a bright purple.  Stamens generally about 10, 2—3 times as long as the corolla, slightly cohering at base.  Anthers incumbent, 2 lobed, somewhat elliptic, yellow.  Germ superior, long, slender.  Style as long as the stamens.  Stigma simple.  Legumen oblong, prickly, 4 valved.  Seeds several in each valve.

Grows in dry sandy pine barrens.

Flowers from May—July, perhaps through the summer.
MONADELPHIA POLYANDRIA.

POLYANDRIA.

SIDA. Gen. Pl. 1129.


1. **Gracilis.**

S. caule gracili, glabro; foliis linearibus serratis; pedunculis solitariis, axillaris, longitudine petiolorum; capsulis (10) bicornibus, glabris.

Stem slender, glabrous; leaves linear, serrate; peduncles solitary, axillary, as long as the petioles; capsules (10) two horned, glabrous.


Grows in sandy soils upon the Sea Islands. Common about Beaufort. Flowers August—September.

2. **Hispida.**

S. hispido-pilosa; Hispid; leaves lanceolates, serrates; pedunculis soli-
tariis, axillaribus, longitundine petiolorum; lary, as long as the petioles; exterior calyx filiform.

Among the undetermined specimens in my herbarium, I have one which may possibly belong to this species.

Root perennial? Stem 12—18 inches high, branching, tomentose rather than hispid, pubescence stellular. Leaves lanceolate, somewhat rhomboidal, serrate, a little hairy on both surfaces, on petioles 1—2 lines long. Flowers on small axillary branches, so crowded and so nearly sessile that though strictly solitary on each axil, they appear fasciculated. Stipules subulate, hairy, longer than the petioles or peduncles. Calyx angular, hairy. Petals yellow, a little longer than the calyx.

The mature capsule I have not seen.

This plant has no exterior calyx, but in the dried specimens the stipules are very often found adhering to the calyx as if connected with it.

Grows in sandy soils.

Flowers July—August.

3. RHOMBIFOLIA.

S. foliis oblongo-lanceolatis, dentatis, basi cuneiformibus, integerrimis; pedunculis petiolis multo longioribus; capsulis bicornibus.

Leaves oblong, lanceolate, toothed, cuneate and entire at base; peduncles much longer than the petioles; capsules two horned.


Root perennial, stoloniferous. Stem suffruticose, 1—2 feet high, branching, covered as well as the under surface of the leaves with a stellular pubescence. Leaves in alternate clusters, a little hairy on the upper surface slightly glaucous underneath. Petioles 2—3 lines long. Stipules setaceous, as long as the petioles. Flowers axillary, in general solitary. Peduncles 2—3 inches long. Calyx 5-angled, pubescent, persistent, 5-cleft. Petals obovate, yellow, about an inch long. Staminiferous column scarcely half as long as the corolla. Style as long as the stamens. Capsules about 12, aggregated in a depressed spherical head. Seed 1 in each capsule.

Grows in dry pastures.

Flowers from July—October.
4. **Spinosa.**

*S. caule patulo, axillis subspinosis; foliis cordato-ovatis, dentatis; pedunculis solitariis, axillaribus; stipulis setaceis, pedunculo longioribus; capsulis birostratis.*

Branches expanding, with the axils somewhat spiny; leaves cordate ovate, toothed; peduncles solitary, axillary; stipules setaceous, longer than the peduncles; capsules two horned.


Root annual?  Stem 1—2 feet high, branching, pubescent. Leaves alternate, ovate, very obtuse or cordate at base, coarsely serrate, pubescent, particularly on the under surface. Petioles about an inch long. Stipules setaceous, erect. Flowers axillary, solitary. Peduncles 1—2 lines long. Calyx angled, pubescent. Tube short; border deeply 5-cleft. Petals obovate, yellow, scarcely longer than the calyx. Stami-ferous column about half as long as the corolla. Style longer than the stamens, 5-cleft. Capsules 5, with 2 erect beaks, hairy on the angles, united in an ovate head.

I have seen nothing in this plant, as growing with us or in the specimens that have been sent me, which could authorise the trivial name of Spinosa.

Grows in sandy soils.

Flowers May—July.

5. **Crispa.**

*S. foliis oblongo-cordatis, acuminatis, crenatis, summis sessilibus; pedunculis solitariis, petiolo longioribus, fructiferis deflexis; capsulis inflatis, muticis, undulato-crispis.*

Leaves oblong, cordate, acuminate, crenate, the upper ones sessile; peduncles solitary, longer than the petiole, deflected when in fruit; capsules inflated, unawned, waved and curled.

With this plant I am unacquainted. *Flowers white, small.* Pursh.
Grows on the sea coast of Carolina. Pursh.
*Flowers July to September.*

### 6. *Abutilon,*

<table>
<thead>
<tr>
<th>S. foliis subrotundis, acuminate, dentatis, tomentosi; pedunculis solitariis, petiolo brevioribus; capsulis biaurispatais, truncatis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaves cordate, nearly orbicular, acuminate, toothed, tomentose; peduncles solitary, shorter than the petiole; capsules two awned, truncate.</td>
</tr>
</tbody>
</table>


Grows in the middle country of Carolina and Georgia, very luxuriantly in the river swamps near Granby, S. C.
*Flowers May July.*


*Calyx* double, the exterior 3-leaved. *Petals* 5. *Capsules numerous, without valves, one seeded.*
1. **Rotundifolia.**

   M. caule prostrato; foliis cordato-orbicularis, obsolete 5-lobis; pedunculis fructiferis declinatis.

   Stem prostrate; leaves cordate, orbicular, obscurely 5-lobed; peduncles declining when in fruit.


   An exotic becoming naturalized in our country. Grows about buildings. Flowers May to July.

2. **Caroliniana.**

   M. foliis 5-lobis palmatisve, inciso-dentatis; pedunculis petiolo longioribus; petalis integris; fructu villoso; caule prostrato.

   Leaves 5-lobed or palmate, notched and toothed; peduncles longer than the petioles; petals entire; fruit villous; stem prostrate.


merous, 15—20, hispid, 2-horned, united in a truncated head. Seeds 2 in each capsule, compressed, nearly round, emarginate at base.

Grows very common about buildings and in rich soils.

Flowers April—June.

3. **Abutiloides.**

M. foliis 5-angulari-lobatis, tomentosis; pedunculis sub-4-floris, bifidis, axillaribus; capsulis polyspermis.

Leaves with 5 angular lobes, tomentose; peduncles 2 cleft, generally 4-flowered, axillary; capsules many seeded.


This plant, a native of the Bahama Islands, I have never seen growing in an indigenous state in this country. I believe it is sometimes cultivated in gardens.

**MALOPE.**


*Calyx* duplex, exterior 3-phyllus. *Capsulae* absque ordine glomeratae, monospermæ.

*Calyx* double, the exterior 3-leaved. *Capsules* clustered without order, one seeded.

1. **Malacoides.**

M. foliis oblongis, obtusis, integris, crenatis, supra glabris; pedunculis solitariis, axillaribus.

Leaves oblong, obtuse, entire, crenate, glabrous on the upper surface; peduncles solitary, axillary.


Plant annual, 12—18 inches high, sparingly branched. Stem nearly covered towards the summit with white transparent hair. Leaves ovate, dentate, very obtuse at base, nearly glabrous on the upper surface, hairy along the veins underneath. Petioles about an inch long. Flowers ax-
illary, solitary. *Stipules* lanceolate, hairy. *Pedicels* 2—3 lines long. Exterior *Calyx* setaceous, nearly as long as the interior. Interior 5-cleft, both hairy. *Petals* about twice as long as the calyx, yellow. *Stamini-feros tube* and *style* about as long as the calyx. *Capsules* hispid, collected in a depressed globular head. *Seeds* 1 in each capsule, compressed, emarginate at base.

This is the plant which has been referred to by Mr. Nuttall as seen in my herbarium. I have little doubt that it is the plant described as a Malope by Walter, I must however add that a specimen sent to me from Pennsylvania by Dr. Muhlenberg, as the Malva Americana, is unquestionably the same plant; it certainly is not the Malva Americana of Willdenow although it apparently belongs to that genus. I did not however examine the only living plant I have seen with sufficient care to enable me now to arrange it with any thing like certainty.

Grows probably near the mountains from Pennsylvania to Carolina.—The plant I saw sprung up in a box, where seeds from the central Districts of Virginia had been planted, in soil dug from the pastures around Charleston.

**HIBISCUS.**


1. *Moscheutos.*

*H. foliis ovatis, acuminatis, serratis, subtrilobis, sub-5-nervibus, subtus incanomentosis; petiolis floriferis; calycibus tomentosis; capsulis glabris.*

*Calyx* double, the exterior many leaved. *Petals* 5. *Capsules* 5-celled, many seed-ed.

Leaves ovate, acuminate, serrate, generally 3-lobed and 5-nerved, hoary and tomentose underneath; petioles bearing the flower; calyx tomentose; capsules glabrous.


*Root* perennial. *Stem* as in all the rest of the species, herbaceous or suffruticose, erect, 4—6 feet high, branching, a little rough, and purple.
Leaves as in all of the genus alternate, ovate, acuminate, entire, obtusely toothed, 3-nerved, cordate; above sprinkled with short hair, underneath tomentose and glaucous. Petioles 1—2 inches long. Flowers growing towards the summit of the stem, solitary, axillary, attached to the petiole. The proper peduncle about an inch long, pubescent. The petiole after the junction of the peduncle, dilated and obtusely winged. Calyx persistent, pubescent; the exterior 15-leaved, leaves subulate, acute, about half as long as the interior calyx: the interior 1-leaved, campanulate, 5-parted, with the segments acuminate and nerved. Petals obovate, white, with a purple base, pubescent on the outer surface, 3—4 inches long. The staminiferous column 1—2 inches long, furrowed, toothed at its naked summit. Proper Filaments 4—6 lines long, growing by pairs. Germ superior, ovate, glabrous, 5-furrowed. Style shorter than the corolla, 5-cleft at the summit. Stigmas nearly spherical, glandular, white. Capsule ovate, 5-celled, 5-valved. Seeds many in each cell, obovate.

Grows on the margins of ponds.

Flowers from June to September.

2. Palustris.

H. foliis lato-ovatis, obtuse-serratis, subtrilobis, 3-nervibus, subtus tomentosis; pedunculis axillaribus, petiolo longioribus.

Leaves broad, o-vate, obtusely serrate, generally 3-lobed, 3-nerved, tomentose underneath; peduncles axillary, longer than the petiole.


Plant 3—4 feet high. Leaves rather broader than in the preceding species, more generally angled or 3-lobed, glaucous underneath and conspicuously acuminate. Flowers rather smaller than the H. Moscheutos, (purple. Pursh.) inserted in the base of the petiole.

I feel doubtful whether Walter ever saw the real H. Palustris, and whether his H. Moscheutos and Palustris are distinct species. This species has never occurred to me in the low country of Carolina, and Pursh speaks of it as a Northern plant.

Grows in wet soils.

Flowers July—September.


H. foliis amplis, coriaceis, cordatis, trilo-aceous, cordate, 3-lo-
bis, utrinque tomentosis, subtus incanis; capsulis tomentosis, subtruncatis.

Bed, tomentose on both surfaces, hoary underneath; capsules tomentose, slightly truncated.


Stem 5—7 feet high. Leaves very large, 3-lobed, covered with a soft, velvet like tomentum, glaucous on both surfaces though more conspicuously so on the under. Petioles 6 inches long. Peduncles axillary, 2—4 inches long, jointed, inserted at the base of the petiole. Calyx like the leaves covered with a fine tomentum; the exterior 12 leaved. Petals nearly 6 inches long, obovate, ribbed, finely reticulate, flesh coloured, with a deep red base. Seeds as in all of the species, numerous in each cell and generally attached in 2 rows to a central receptacle.

Grows around ponds in the Southern parts of Georgia. Flowers July—September.

4. Incanus.

H. foliis ovatis, acuminate, obtuse serratis, utrinque inconstantis; pedunculis axillaribus; calycibus tomentosis, subaequalibus.

Leaves ovate, acuminate, obtusely serrate, hoary and tomentose on both surfaces; peduncles axillary; calyces tomentose, nearly equal.


This species, which is said to have been discovered by Bartram, has I believed escaped the notice of all recent botanists.

5. Virginicus.

H. undique tomentosus; foliis acuminate, inaequaliter dentatis, cordatis, inferi-oribus indivisis, supe-

Tomentose; leaves acuminate, unequally toothed, cordate, the lower undivided, the upper oblong, 3-lobed;
rioribus oblongis, tri-
lobis; racemo ter-
minali; floribus cer-
nuis; pistillis nutan-
tibus.

H. Clypeatus. Walt. 177.

**Stem** 2—4 feet high, and with the leaves tomentose and scabrous, the lower and upper leaves cordate, ovate, acuminate, the intermediate and fully grown 3-lobed, the lateral lobes short and slightly angled, the petioles 1—4 inches long. **Flowers** in paniculate racemes. **Peduncles** about 2 inches long. **Calyx** tomentose, the exterior 8 or 9 leaved, leaves subulate and very narrow. **Petals** about 2 inches long, bright purple, fringed and hairy on the outer surface. **Capsule** hispid, 5-angled, with the angles acute.

Grows in wet soils, very common on the Islands near the ocean.

**Flowers** July—September.

6. **CAROLINIANUS. Muhl?**

**H. foliis cordato o-
vatis, acuminatis, serr-
atis, utrinque laevi-
ibus, interdum laevis-
sime trilobis; floribus
purpureis; seminibus
hispidis.**

**Leaves** cordate, o-
vate, acuminate, serr-
rate, smooth on both
surfaces, sometimes
slightly 3-lobed; flow-
ers purple; seeds his-
pid.

**Stem** 4—6 feet high, smooth. **Leaves** large, sometimes 6 inches long, obscurely 3-lobed when old, veins prominent on the under surface. **Petioles** as long as the leaves. **Flowers** axillary. **Peduncles** 2—3 inches long, slightly adhering to the petioles. **Calyx** a little scabrous, the exterior 12 leaved. **Petals** 4 inches long, smooth on the outer surface and pubescent on the inner. **Capsule** nearly round, hairy on the inside. **Seeds** obovate, a little angled, hispid with short rigid hair.

This plant was raised in my garden from seeds collected by Mr. Oem-bler on Wilmington Island, Georgia.

**Flowers** July—September.

7. **MILITARIS.**

**H. glaberrimus; fo-
liis 3-lobo-hastatis, a-**

Glabrous; leaves 3
lobed, hastate, acumi-
M0NADELPH1A FOLYANDR1A.
cuminatis serratis; corolla tubulato-campanulata; capsulis o-vatis, acuminatis, glabris; seminibus holosericeis.
nate, serrate; corolla tubular, slightly campanulate; capsules o-vate, acuminate, glabrous; seeds silken.

H. Virginicus.  Walt. 177.

Root perennial.  Stem herbaceous, smooth, 3—4 feet high, branching. Leaves at first ovate lanceolate, afterwards hastate, serrate, the middle lobe long and acuminate. Petioles long, terete. Flowers solitary, axillary. Peduncles about 2 inches long, jointed. Exterior Calyx 10-leaved, leaves subulate; the interior 5-cleft. Petals about 3 inches long, obovate, finely pubescent, of a pale rose colour, with a red base. Capsule ovate, 5-valved, 5-celled, glabrous, hairy within. Seeds obovate, hispid.

Grows along the margin of rivers in the middle and upper country, found though rarely in the swamps near Savannah. Flowers July—September.

8. SCABER.

H. caule scabro; folliis infimis cordatis, angulatis, superioribus palmatis, 3—5 lobis; calycibus hispidissimis.  

H. Aculeatus.  Walt. 177

Root perennial. Stem about 3 feet high, very scabrous, covered as well as the leaves, petioles, peduncles and calyx with small glands frequently coloured, from which proceed rigid hair. The early Leaves are said by Walter to be angular, cordate and serrate—the upper are deeply 3 or 5 lobed, with the margins of the lobes irregularly dentate and angled. Petioles 1—2 inches long. Flowers solitary, axillary. Peduncles 2—3 lines long, not adhering to the petioles. Exterior Calyx 12-leaved, leaves subulate, 2 cleft at the summit; the interior calyx twice as long as the exterior, 5-cleft, the segments 3 ribbed. Petals about 3 inches long, hairy.

Grows in damp clayey soils.

*Flowers* from June to September.

9. **Speciosus.** Ait.

*H. glaberrimus*, foliis palmatis, 5-partitis, laciniiis lineari-lanceolatis, acuminatis, remote-serratis; *corolla* patula.

Very glabrous; leaves palmate, 5-parted, the segments linear lanceolate, acuminate, distantly serrate; corolla expanding.


*Stem* 4—6—7 feet high, branching. *Leaves* alternate, cordate, deeply divided, the lobes irregularly toothed, the veins generally coloured. *Petioles* 4—8 inches long, tinged with purple. *Stipules* very small, setaceous. *Petals* 4—5 inches long, obovate, a little pubescent near the base, of a deep red colour. *Staminiferous column* nearly as long as the petals. *Capsule* glabrous, ovate, acute and somewhat angled. *Seeds* pubescent.

I know not why the name of Bartram and Walter has been superseded, it is at least as appropriate as that of Aiton.

Found in damp soils in Florida and perhaps in the southern parts of Georgia. It is enumerated by Walter among the plants of Carolina, but I have never seen it in the woods, although it is a common inhabitant of our gardens.

*Flowers* from July to September.

### GORDONIA.

**Gen. Pl. 1144.**

<table>
<thead>
<tr>
<th>Calyx 5-phyllus.</th>
<th>Calyx 5-leaved.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Stylus</em> 5-gonus,</td>
<td><em>Style</em> 5-angled.</td>
</tr>
<tr>
<td><em>Stigmate</em> 5-sido.</td>
<td><em>Stigma</em> 5-cleft.</td>
</tr>
<tr>
<td><em>Capsula</em> 5-locularis.</td>
<td><em>Capsule</em> 5-celled.</td>
</tr>
<tr>
<td><em>Semina</em> bina, ala foliacea.</td>
<td><em>Seeds</em> two, winged.</td>
</tr>
</tbody>
</table>
1. Lasianthus.

G. foliis lanceolato oblongis, glaberrimis, nitidis, coriaceis; floribus longe pedunculatis; capsulis conoidis, acuminatis.

Leaves lanceolate, oblong, very glabrous, shining, coriaceous; flowers on long peduncles; capsules conical, acuminate.


A tree sometimes growing to 60—80 feet in height. Leaves alternate, long, lanceolate, serrate, glabrous, lucid, coriaceous, perennial. Petioles scarcely half an inch long. Flowers solitary, axillary towards the summit of the branches. Peduncles 2—3 1-2 inches long, furnished towards the summit with 2 or 4 caducous scales. Calyx 5-leaved, persistent; leaves ovate, nearly round, fringed and covered with a velvet like pubescence. Petals 5, obovate, united at base with a staminiferous tube. Anthers incumbent, yellow. Germ superior, ovate, slightly angled. Style as long as the stamens. Stigma 5-cleft. Capsule ovate, acuminate, 5-celled, 5-valved.

This tree, which when young is one of the handsomest in our forests, begins to decay from the summit at a very early age. It is remarkable for the superficial direction of its roots which appear to spread almost entirely on the surface of the ground. The bark is said to be nearly, if not quite equal to that of the oak for the uses of the tanner, and its wood resembles mahogany in colour, but its grain is rather too coarse to be used for fine articles of furniture.

Grows in springy lands, in shallow swamps, and particularly in what are called turfy soils.

Flowers from May to August.

2. Pubescens.

G. foliis cuneato, lanceolatis, serrulatis, subtus pubescentibus, deciduis; capsulis sphericis.

Leaves cuneate, lanceolate, serrulate, pubescent underneath, deciduous; capsules spherical.

A tree 40—50 feet high, spreading more widely than the G. Lasianthus, the young branches very smooth and finely pubescent at the summit. Leaves sessile, glabrous and lucid on the upper surface, pubescent underneath. Flowers solitary, axillary, on short thick peduncles. Leaves of the calyx rounded, covered with a silky tomentum. Corolla white, exter-
nally pubescent, segments obovate, slightly undulate. Stamens very nu-
numerous, unequal, inserted into the thickened base of the corolla. Filaments about one third the length of the corolla, orange coloured. Anthers erect, yellow. Germ villous. Style short. Capsule nearly globular, 5-
celled.

The habitat of this tree appears to be very limited, a few trees were
found by Bartram near Fort Barrington on the Altamaha, and from the
same spot all the plants now in the gardens have been derived.

Flowers through the summer.

STUARTIA. Gen. Pl. 1142—1143.

Calyx 5 partitus. Petala 5. Stigma capitatum, sub 5-lo-
bum. Capsula 5-lo-
cularis, 5-valvis, val-
vulis medio septiferis. Semina 1—2, ossea.

Calyx 5-parted. Petals 5. Stigma ca.
pitate, somewhat 5-lo-
bled. Capsule 5-cel-
led, 5-valved, the
valves bearing the
partitions in the mid-
dle. Seeds 1—2, bo-
ny.

1. VIRGINICA.

S. folii ovatis, a-
cuminatis; floribus ax-
illaribus subbinis; ca-
lycibus ovatis, obtusis;
petalis integris; stylis
coalitis.

Leaves ovate, acu-
minate; flowers axil-
lary, generally in pairs;
calyx ovate, obtuse;
petals entire; styles
united.


A handsome shrub 6–12 feet high, with branches a little geniculate and
when young pubescent. Leaves lanceolate, acuminate, serrate, very pu-
escent on the under surface. Petioles 2–3 lines long. Flowers nearly
sessile, axillary, generally solitary though sometimes by pairs. Bracteas
2 at the base of the calyx, ovate, acuminate, covered like the calyx with a
silken pubescence. Calyx 1-leaved, campanulate, persistent, 5-cleft with
the segments mucronate. Petals 5, obovate, erose, a little hairy, white
and united at base with a staminiferous tube. Stamens much shorter than
the corolla, hairy at base, bright purple. Germs superior, ovate, hairy,
tapering to a short style. *Stigma* capitate, 5-lobed. *Capsule* globose, hairy, resembling a juiceless pome, very austere to the taste, 5-celled. *Seeds* 2 in each cell.

Grows in dry rich soils.

Flowers April—May.

2. *Pentagyna*.

*S. foliis ovatis acuminatis; floribus axillaribus, solitariis; calycibus lanceolatis, calyculatis; petalis undulato incisis; stylis distinctis.*

Leaves ovate, acuminate; flowers axillary, solitary; calyx lanceolate, calyculate; petals waved and notched; styles distinct.


This species, which on account of its 5 styles has been proposed as a distinct genus, appears too nearly allied to the preceeding to be separated from it. In its general habit and appearance it closely resembles the *S. Virginica*, its flowers however are rather larger, and of a cream colour rather than white.

Grows in the mountains of Carolina and Georgia.

Flowers May—July.

**HOPEA.**


A small tree, rarely exceeding 15—18 feet in height, and frequently not growing beyond the size of common shrubs. *Stem* erect, branches expanding, smooth, generally trichotomous. *Leaves* alternate, crowded near the summit of the branches, lanceolate, somewhat acuminate, serrulate, smooth and lucid on the upper surface, a little glaucous and pubescent underneath. *Petioles* about half an inch long. *Flowers* sessile, in axillary clusters, 6—14 in each cluster, 4 or more obtuse scales clothe the base of each calyx. *Calyx* 1-leaved, campanulate, rather perigynous than superior. *Petals* 5, oval, yellow, 5 times as long as the calyx. *Filaments* numerous, united into 5 phalanxes, 5—7 in each phalanx, longer than the corolla. *Germ* clothed at base with the calyx, 5 at the summit. *Style* as long as the stamens. *Stigma* capitate.

This tree appears to ripen its fruit very sparingly in the low country, its leaves afford a yellow dye, are very sweet, and as they are nearly perennial they are eaten with avidity by cattle and horses during the winter season.

Grows in all rich soils not liable to inundation.

*Flowers* in March.
CLASS XVII.

DIADELPHIA PENTANDRIA.

§ 1. Stamens all connected, monadelphous.

421 PETALOSTEMUM, HEXANDRIA.

426 AMORPHA,
427 ERYTHRINA,
428 LUPINUS,
429 CROTOLARIA,
§ 2. Stamens diadelphous.

∗ Legume mostly 1-seeded.

430 DALEA,
431 PSORALEA,
432 MELILOTUS,
433 TRIFOLIUM,
434 STYLOSANthes,
435 LEHEPEDEZA.

** Legume many seeded, generally articulated.

436 HEDYSARUM,
437 ZORNIA,
438 ÆSCHYNOMENE,
439 SESBANIA,

*** Legume many seeded. Stigma pubescent.

440 LATHYRUS,
441 VICIA,
442 PHACA,
443 ASTRAGALUS,

**** Legume many seeded, 1-celled, not included in the preceding sections.

444 PHASEOLUS,
445 STROPHOSTYLES,
446 DOLICHOS,
447 APIOS,
448 AMPHICARPA,
449 GLYCINE,
450 THYRSANTHUS,
451 GALACTIA,
452 CLITORIA,
453 ROBINA,
454 INDIGOGERA,
455 TEPHRROSA,
456 MEDICAGO.

PETALOSTEMUM. Mich.

Petala 4, staminibus interjecta utraque in tubum fissum connata; vexillum nullum, ejus loco quintum petalum. **Legumen calyce tectum, 1-sepermum.

Petals 4, alternating with the stamens and united with them in a cloven tube, a fifth petal occupying the place of the vexillum. **Legumen 1-seeded, cloathed with the calyx.
1. **Carneum.**

**P. spica cylindrica**, pedunculata; bracteis subulatis, longitudinal calycis; calycibus glabris; foliolis lanceolatis.


*Root* perennial. *Stem* 2—3 feet high, glabrous. *Leaves* in alternate fasciculate clusters, pinnate, generally with three pair of leaflets and an odd one. *Leaflets* linear lanceolate, entire, small. The common petiole rarely an inch long, entire, glabrous. *Flowers* in terminal cylindrical heads. *Bracteas* subulate, when young much longer than the calyx, giving the spike a square appearance, but not longer than the calyx when in flower. *Calyx* ovate, striate, glabrous, 5-toothed, deeply cloven on the upper side, the teeth when young pubescent on the inner surface. *Petals* obovate, on long claws, the upper one larger than the rest and slightly emarginate, all brilliantly white. *Stamens* and *Style* nearly as long as the corolla.

This plant which grows in great abundance on the sand hills between the Flint and Chatahouche rivers, notwithstanding the colour of its corolla agrees in too many respects with the *P. Carneum* of Michaux to be separated from it without a careful examination of his original plant. Specimens which I have received from Florida under this name differ much in their general aspect from the one I have described.—There are probably still some unknown species in the extensive pine forests along the southern line of Georgia and in East-Florida.

*Flowers* July—August.

2. **Corymbosum.**

**P. pedunculis paniculato-corymbosis; calycibus plumosis; foliolis lineariis, muticis.**


Dalea Kuhnistera. Sp. pl. 3. p. 1337.

*Root* perennial. *Stem* erect, branching, glabrous, about 2 feet high. *Leaves* generally 3—4 pair. *Leaflets* linear, entire, glabrous, dotted un-
DIADELPHIA HEXANDRIA.

underneath. The common petioles scarcely an inch long. Stipules 2, small, subulate, at the base of the petioles. Flowers in heads forming terminal corymbs. Peduncles or small branches angled, roughened with small glands. Bractea, a scale around the base of each flower, nearly round, membranaceous, dotted, fringed, mucronate, sometimes with three approximate points, the 8 or 10 inferior bracteas generally without flowers, the lowest with their joints frequently dilated into leaves. Calyx deeply 5-parted, the segments linear, plumose. Petals white, upper one with a claw as long as the calyx and attached to its base, the 4 others alternating with their stamens. Germs ovate, very villous. Style as long as the stamens. Stigma simple, obtuse. Legumen small, included in the calyx. Seed 1, oblong.

Grows in dry sandy pine barrens. Flowers September—October.

HEXANDRIA.

DICLYTRA. MOCNCK.

Petala 4, 2 exterio- ra basi æqualiter cal- carata aut gibbosa. Siliqua bivalvis, poly- sperma.

Petals 4, the 2 exterior either gibbous or bearing a spur at base. Pod 2-valved, many seeded.

1. FORMOSA.


Root tuberous, perennial. Leaves all radical, on petioles 4—6 inches long, deeply and triternately notched, with the segments acute. Scape 6—10 inches long, branching towards the summit. Flowers somewhat crowded on the scape. Bracteas subulate. Calyx 2-leaved, slightly toothed along the margin. Corolla somewhat goblet shaped, of a bright

VOL. II.

Z
purple colour, the 2 exterior petals concave, with a short slightly incurved spur at base. Stamens 6, attached to the base of the petals. Germ oblong. Stigma sessile. Pod 2-valved, compressed, many seeded.

Grows in the fissures of the rocks on the mountains.

Flowers May—July.

CORYDALIS. VENTENAT.

Petala 4, unicum basi calcaratum. Siliqua bivalvis, compressa, polysperma. Petals 4, one bearing a spur at base. Pod 2-valved, compressed, many seeded.

1. Aurea.

C. caule ramosa, diffusa; foliis glaucis, bipinnatisectis, lobis oblongo linearibus; bracteis oblongis, acuminatis; siliquis linearibus, pedicello quadruplo longioribus. De Candolle.


A plant slightly glaucous. Stem 6—10 inches high, branching. Leaves alternate, variously dissected, segments linear, acute. Racemes opposite the leaves and terminal. Bracteas linear, acuminate, nearly as long as the pedicel. Calyx 2-leaved, very small. Petals yellow, about half an inch long. Spur straight, obtuse, much shorter than the flower. Pod compressed, slightly arched, pointed with the style.

I have specimens of this plant from Pennsylvania and from the mountains of Carolina, in the latter the flowers appear to be smaller, and the leaves though dissected after the manner of the genus are much less extended and divided.

Grows among the mountains in the fissures of rocks.

Flowers May—July.
FUMARIA.

Petalum unicum basi gibbum aut calcaratum. Fructus (cariopsis) indehiscent, 1-seed. One petal gibbous or spurred at base. Fruit (a cariopsis) 1-seeded, not opening.

1. Officinalis.

F. siliculosiglobosoretusis; pedicellis fructiferis erectis, bractea duplo longioribus; racemis laxiuscululis; caule erecto; foliis supra decompositis, lobis linearibus. De Cand.

Pods globose, retuse; pedicels of the fruit erect, twice as long as the bractea; racemes loose; stem erect; leaves supra decomposed, lobes linear.


Root annual, fusiform. Stem 6—16 inches high, branching, and with the whole plant glabrous and slightly glaucous. Leaves variously dissected, in general compounded 3-parted, segments many cleft. Flowers in racemes. Peduncles opposite the leaves, robust, and in general much longer than the leaves. Calyx 2-leaved, very small. Petals 4, the lower one linear, free, the 3 upper united at base, bearing a spur, all purple, deeply coloured at the summit. Stamens diadelphous, shorter than the corolla. Stigma bilamellate. Capsule globose, smooth, 1-seeded.

An exotic now becoming naturalized in this country. Very common on James' Island and at Mr. Middleton's, Ashley river.

Grows in dry sandy soils.

Flowers in April.

OCTANDRIA.

POLYGALA, Gen. Pl. 1154.

Calyx 5-phyllus, foliolis duobus alae for.

Calyx 5-leaved, 2 of them wing shaped.


**Floribus axillaribus**.

1. **Paucifolia.**

*P. pumila*; caulibus simplicissimis, erectis, inferne nudis; foliis ovatis, acutis, glabris; floribus terminalibus axillaribusque.

*Flowers axillary.*

Plant small; stem simple, erect, naked at base; leaves olate, acute, glabrous; flowers terminal and axillary.


**Floribus racemosis, spicatisve.**

2. **Pubescens.** Muhl. Cat.

*Pubescent; stem erect, branching; leaves oblong lanceolate, acute, nearly sessile; racemes loose, terminal; flowers on pe-
DIADELPHIA OCTANDRIA. 181

culatis, demum pendules, finally pendulous.

Nutt. 2. p. 87.  

Root perennial. Stem herbaceous, 8—12 inches high, with virgate branches. Leaves alternate, on short petioles, strongly veined, soft and pubescent. Peduncles 2—4 lines long. Bracteas minute, deciduous. Upper leaves of the calyx very small with glandular fringe, calycine wings large, veined, persistent, at first tinged with pink, when old entirely green. Corolla rose coloured. Vexillum 0. Carina three lobed, hairy at base, the intermediate lobe compressed, enclosing the germ, yellow and slightly tuberculated at the summit. Stamens 8, monadelphous, very short. Anthers 1-celled. Style long, bearded at the summit. Stigma obtuse. Pericarp oblong, slightly winged, pendulous. Seeds solitary, one in each cell, hispid.

This is probably the P. Viridescens of Walter. The erect capsules ascribed by Walter to that species is the only point in which they appear to differ.

Grows in dry soils, very common.  
Flowers from May to August.

3. POLYGAMA.

P. caule a basi ramoso; foliis angustis, cuneato-lanceolatis; racemis terminalibus corollatis, radicalibus apetalis humistratis.

Stem branching from the base; leaves narrow, cuneate, lanceolate; terminal racemes bearing a corolla, those of the root without petals and prostrate.


Root fibrous, perennial. Stem about a foot high, branching at the very base, glabrous, angled, almost winged by the decurrent leaf. Leaves sessile, glabrous, with the margins rough, the lower ones almost obovate. The Flowers on peduncles 2 lines long. Bractea as long as the peduncle, deciduous. Stipules 2, setaceous, persistent, the calycine wings at first bright purple, after flowering becoming green. Keel of the corolla 3-lobed, intermediate lobe fringed at the summit. Stamens very short, 7—8. Style short. Stigma 2-lobed, with a globular plumose gland, attached to the upper lip. Pericarp pendulous when mature. Seed hairy.
The remarkable racemes of this plant, which run just under the surface of the earth, have neither corolla nor calycine wings, yet appear to ripen their seeds; the florets near the end of these racemes are always abortive.

If this plant is the *P. Rubella* of Willd. with which it appears very accurately to agree, it is very widely extended over the United States, as Mr. Nuttall found that species very abundant in the pine forests around Lake Michigan.

Grows in light oak lands.

Flowers from May to July.

4. **Senega.**

*P. caule erecto, simplici; foliis lanceolatis, acuminatisque; spica terminali, filiformi.*

Stem erect, simple; leaves lanceolate, acute and acuminate; spikes terminal, filiform.


Root fibrous, perennial. Stem 8—14 inches high, slightly pubescent. Leaves nearly sessile, lanceolate and oval, sometimes very wide, when fully grown, generally acuminate. Flowers somewhat clustered in a terminal spike, sessile, white. Seed hispid.

Grows in the mountainous districts of Carolina.

Flowers June—August.

5. **Verticillata.**

*P. caule erecto, ramoso; foliis verticillatis, linearibus; spicis setaceis, pedunculatis; floribus distincte alternis, approximatis.*

Stem erect, branching; leaves verticillate, linear; spikes setaceous, pedunculate; flowers approximate, distinctly alternate.


Stem 8—12 inches high, slightly angled. Leaves opposite, verticillate, sometimes solitary, linear, acute, glabrous, finely serrulate. Bracteas purplish, shorter than the calyx, deciduous. Calycine wings white, tinged with purple. Corolla nearly white, fimbriate, with two segments, pro-
DIADELPHIA OCTANDRIA.


Grows in soils somewhat sandy. Flowers June—July.

6. SETACEA.

*P. caule* setaceo, subaphylllo, simplici, summitate subramoso; foliis parvis, setaceis, sparsis; floribus minutis, dense spicatis. | Stem setaceous, nearly leafless, simple, sparingly branched near the summit; leaves small, setaceous, scattered; flowers minute, in a compact spike.


*Stem* erect, angled, divided at the summit into a few long, simple, setaceous branches, almost aphyllous, bearing a few short scattered bristles. *Flowers* minute, incarnate, not crested. Mich.


7. CRUCIATA.

*P. caule* erecto, ramoso, alato-anguloso; foliis quaternis, linearibus, punctatis; floribus confertis, sessilibus, rachi squarrosa. | Stem erect, branching, angled and winged; leaves by fours, linear, dotted; flowers crowded, sessile, on a squarrose rachis.


Grows in the upper districts of Carolina and Georgia. Flowers June—July.
8. **Sanguinea.**

**P. caule fastigiatim ramoso; foliis lineari-**
**bus; spicis confertis; floribus imberbibus; rachi squarrosa. Nut.**

Stem bearing fastigiate branches; leaves linear; spikes crowded; flowers not imbricated; rachis squarrose.


This plant agrees perfectly with the figure of Plukenet, and is therefore in all probability, as suggested by Mr. Nuttall, the original *P. Sanguinea* of Linnaeus.

Grows in flat pine barrens, abundantly near Purysburgh. Flowers May—July.

9. **Purpurea.** Nutt.

**P. caule subfastigiatim ramoso; foliis alternis, lineari-lanceolatis; floribus subimbricatis; spicis cylindricis, obtusis; rachi squarrosa. Nutt. 2. p. 88.**


Plant much more robust than in the preceding species, and in my specimens more irregularly branched, the *Leaves* much larger, the *Spikes* more compact, the *Calycine wings* broader and more obtuse, green, tinged with purple, longer than the capsules.

Grows throughout the United States. Nutt.

I have never met with this species in the low country of Carolina, my specimens are from Pennsylvania. Flowers June—August.
10. *Incarnata.*

**P. caule simpliusculo, erecto, glauco; foliis sparsis, subulatis; spicis ovali oblongis; corollis tubo gracili, elongato.**

Stem nearly simple, erect, glaucous; leaves scattered, subulate; spikes oval, oblong; tube of the corolla long, slender.


*Stem* erect, simple, 1—2 feet high, slightly angled. *Leaves* alternate, subulate, dotted, very glabrous. *Flowers* in a long and somewhat loose, terminal spike. *Bracteas* subulate, caducous. *Calycine wings* oval, green, with the margins tinged with pink. The keel of the corolla twice as long as the calycine wings, bright purple. The lateral lobes crenate, the intermediate lobe conspicuously fimbriate. *Seeds* hairy.

Grows in dry soils, preferring oak lands. Flowers May—August.

**Floribus capitatis.**

11. *Lutea.*

**P. caule simplici ramosoque; foliis inferioribus spathulatis, superioribus lanceolatis; floribus globoso capitatis, luteis; alis calycinis lanceolatis, acuminatis. E.**

Stem simple or branching; lower leaves spathulate, the upper lanceolate; flowers in globular heads, yellow; calycine wings lanceolate, acuminate.


Grows everywhere in damp soils. Flowers through the whole summer.
12. Viridescens.


Stem simple, 1—4 inches long. Leaves cuneate or spatulate, with the attenuated base sometimes 2 inches long. Flowers in a long cylindrical head. Calycine wings twice as long as the corolla, lanceolate, and with a setaceous point, giving the head a squarrose appearance, green, just tinged with yellow. Keel of the corolla yellowish at the summit, fimbriate. Stamens, as in most of the capitate species, 6. Seeds a little hairy.

Grows in damp pine barrens.
Flowers through the summer.

**** Floribus corymbosis. 

13. Ramosa.

P. caule erecto, fere ab imo ramoso; foliis inferioribus spatulato-ovatis, caulninis linearibus, æqualibus; floribus capitato-corymbosis.

P. Corymbosa. Nutt. 2. p. 89.

Stem 8—12 inches high, angled, branching sometimes almost from the base. Lower leaves obovate, spatulate; stem leaves linear, lanceolate, nearly of the same size to the summit of the stem. Flowers in small loose heads, forming a very irregular corymb. Calycine wings much longer than the capsule, oval, lanceolate, mucronate, but never forming compact, squarrose heads as in the following species. Calycine wings and the
keel of the corolla greenish yellow. Seeds under a microscope slightly hispid.

Grows in ponds in the flat pine barrens intermingled with the P. Corymbosa.

Flowers June—August.

14. BALDUINI. Nutt.

P. caule erecto, superne ramoso; foliis inferioribus spathulatis, obtusis; caulinis lanceolatis; floribus capitato-corymbosis, capitulis squarrosis, alis calycinis setaceo-acuminatis.

Nutt. 2. p. 90.

Stem 2—3 feet high, slightly angled. (Radical leaves spathulate, obtuse; Nuttal:) stem leaves small, diminishing towards the summit, lanceolate. Flowers in small heads, forming an irregular corymb, very squarrose from the setaceous acumination of the calycine wings. Calycine wings and Corolla yellowish white. Carina scarcely if at all fimbriated. Seeds minutely hispid.

This plant was sent to me by the late Dr. Baldwin, as the P. Acuminata, a name which the structure of the calycine wings renders very appropriate.

Grows in the southern districts of Georgia near St. Mary's.

Flowers June—August.

15. CORYMBOSA.

P. caule erecto, tereti, sub nudo; foliis inferioribus longis, lineari-lanceolatis, caulinis subulatis, superne minutis; floribus racemoso-corymbosis;

Stem erect, terete, nearly naked; lower leaves long, linear-lanceolate, stem leaves subulate, minute near the summit; flowers in corymbose ra-
rachi squarrosa. | cemes; rachis squarrose.

P. Cymosa. Walt. p. 179.

Stem erect, terete, tapering, 3—5 feet high. Root leaves 2—5 inches long, very narrow, linear, lanceolate; lower stem leaves nearly similar to the root leaves, scattered, diminishing towards the summit to a mere scale, giving the stem a naked appearance. Flowers in a regular corymb, composed of simple racemes 1—2 inches long; rachis as the flowers decay, rendered squarrose by the persistent bracteas. Calycine wings oval, slightly mucronate, much longer than the capsule, greenish yellow. Seeds smooth.

The flowers of this species when dry, become a dark green, almost black; the two preceding species generally retain a yellowish hue.

Grows in the shallow ponds in the pine barrens, very common.

Flowers June—August.

DECANDRIA.

§ 1. STAMENS ALL CONNECTED, MONADELPHOUS.

AMORPHA. | GEN. PL. 1170.


1. FRUTICOSA.

A. glabra, subarborescens; foliis petiolaribus

Glabrous, somewhat arborescent; leaves
DIADELPHIA DECANDRIA.


A shrub 10—16 feet high, with its young expanding branches very pubescent. Leaves alternate, unequally pinnate, deciduous. Leaflets oval, obtuse, sometimes slightly emarginated with a short point, pubescent. Flowers clustered, in terminal racemes. Racemes 4—6 inches long, generally by threes. Calyx persistent, slightly pubescent, turbinate, border short and 5-cleft, the lower segment acuminate, longer than the rest, the two lateral acute, the upper ones broad and obtuse. Vexillum of the corolla obovate, obtuse, twice as long as the calyx, dark purple. Filaments 10, unequal, longer than the corolla, purple, monadelphous. Anthers yellow.

Grows along the margins of rivers, very common in what are called in this country, tide lands.

Flowers in April.

2. PUBESCENS.

A. humilis, frutescens; foliis brevissime petiolatis, utrinque obtusis, pubescentibus; spicis paniculatis, elongatis, pubescentibus; calycibus subsessilibus, dentibus omnibus acuminatis. Small, shrubby; leaves on very short petioles, obtuse at each end, pubescent; spikes long, panicled, pubescent; calyx nearly sessile, with the teeth all acuminate.

A. Pumila. Mich. 2. p. 64.

A small plant rather shrubby than herbaceous, 2—4 feet high. Stem pubescent and slightly muricate. Leaves equally pinnate, (about 24 pair.) Leaflets obtuse, mucronate, with pellucid dots, very pubescent and somewhat hoary. Calyx purple, the segments nearly equal. Vexillum of the
corolla obtusate, white, longer than the calyx. Filaments 10, white, monadelphous.
Grows in damp soils.
Flowers June—July.

**ERYTHRINA.**

_Calyx_ 2-lobatus.  
_Corolla_ vexillum longissimum, lanceolatum.  
_Legumen_ torulose.

| E. pumila; foliis ternatis, rhombeis, glabris; spicis longissimis; caule herbaceo, aculeato. |
| Small; leaves ternate, rhomboidal, glabrous; spikes very long; stem herbaceous, prickly. |


Root tuberous, very thick, _Stem_ herbaceous, 2—4 feet high, glabrous, streaked with purple, armed with a hooked prickle at the base of each petiole. _Leaves_ alternate, compoundly trifoliate, leaflets dilated towards the base and almost hastate, glabrous, a little glaucous underneath, and hairy on the veins. _Flowers_ in terminal spikes, the buds alternate and 3-flowered. _Calyx_ cylindrical, truncated, slightly emarginate above, underneath furnished with a small tooth. Vexillum of the corolla nearly 2 inches long, emarginate, with the sides compressed bright scarlet, wings and two leafed keel, scarcely as long as the calyx, paler than the vexillum. _Stamens_ diadelphous, unequal, as long as the vexillum. _Seeds_ many in each pod, bright scarlet.

Grows in rich light soils.
Flowers in May.

**LUPINUS.**

_Calyx_ 2-labiatum.  
_Antherae_ 5 oblongae, 5 subrotundae.  
_Legumen_ coriaceum.

| Calyx_ bilabiate.  
| _Anthers_ 5 oblong, 5 nearly round.  
| _Pod_ coriaceous. |
1. **Perennis.**

*L. perennis*, *re-pens*; *caule foliisque glabriusculis*; *folii* *digitatis*; *foliolis (8—9) lanceolatis, obtusi-usculis*; *calycibus alternis, inappendiculatis*? *labio superiore emarginato, inferiore integro.*

Root perennial, stoloniferous. Stem herbaceous, procumbent, slightly pubescent, branching. Leaves 7—9, parted to the base, segments lanceolate or obovate, glabrous above, hairy underneath. Petioles 2—6 inches long. Stipules 2, at the base of each petiole; subulate, persistent. Racemes simple, clustered, (4—6) near the termination of the branches. Bracteas as long as the bud. Calyx 2 lipped, pubescent, the upper lip 2 cleft, with acute segments, the lower longer, keeled, 3 cleft, the lateral segments setaceous, very small. Corolla of a beautiful violet colour. Petals nearly equal, vexillum reflected, spotted in the centre, carina fringed along the margins. Stamens 10, monadelphous. Filaments unequal.

This species appears to me to have two very small setaceous segments at the base of the calyx.

Grows in light poor sandy soils. Flowers April.

2. **Villosus.**

*L. villosus*, sericeus; foliis simplicibus, oblongo-lanceolatis; petiolis stipulisque filiformibus, densissime lanuginosis; calyce appendiculato. Nutt.

Villous, silken; leaves simple, oblong, lanceolate; petioles and stipules filiform, densely lanuginous; calyx with lateral segments.


Grows in the dryest sands.

Flowers in the beginning of April.


L. villosus, sericeus; caulibus plurimis, diffusis, decumbentibus; foliis simplicibus, oblongo-obovatis; peti- olis stipulisque brevibus, nudisque. Nutt. 2. p. 93.

Perennial, spreading diffusely in large patches. The petioles rarely exceeding an inch in length, and destitute of long woolly hairs. Stigmas 2—3 lines long. Leaves obtuse, attenuated towards the base, 2—3 inches long.

I have adopted this species from Mr. Nuttall, without having had it in my power to determine how far it differs essentially from the preceding.

Grows very abundantly on the poor sand hills in the middle country. Flowers April.

Crotalaria. Gen. Pl. 1172.

Corollae vexillum cordatum, magnum; carina acuminata. Filamenta connata cum fissura dorsali. Legumen pedicellatum, turgidum.

Vexillium of the corolla cordate, large; the keel acuminate. Filaments united, with a dorsal fissure. Pod turgid, pedicellate.
1. **Sagittalis**.

*C. hirsuta, erecta, ramosa; foliis simpli-cibus, oblongo-lanceolatis; stipulis sagittatis, acuminatis, decurrentibus; racemis oppositifoliiis, subtrifloris; corollis calyce minoribus.*

Hirsute, erect, branching; leaves simple, oblong lanceolate; stipules sagittate, acuminate, decurrent; racemes opposite the leaves, generally 3-flowered; corolla smaller than the calyx.


*C. Laevigata?* Pursh 2. p. 469.

Annual. *Stem* 8—18 inches high, more or less hairy. *Stipules* sometimes very long, decurrent. *Flowers* nearly opposite the leaves. *Corolla* yellow, nearly as long as the calyx. *Legumens* inflated, nearly black when mature. *Seed* very small, attached by pedicells to the valves of the legume.

Grows in almost all soils which are not inundated and appears to vary much in its pubescence.

Flowers April—July.

2. **Parviflora**.

*C. hirsuta, erecta, ramosa; foliis simpli-cibus, lineari-lanceolatis; stipulis superioribus decurrentibus, brevissimae bidentatis; racemis oppositifoliiis; corollis calyce minoribus.*

Hirsute, erect, branching; leaves simple, linear lanceolate; upper stipules decurrent, with 2 very short teeth; racemes opposite the leaves; corolla smaller than the calyx.


This species is generally found in damp or shady soils, and is distinguished by its narrow leaves and its narrow, short and somewhat irregular.
stipules. It appears to me however, that culture will be necessary to determine whether it is really distinct from the preceding species. Flowers from April to July.

3. **Ovalis.** Pursh.

*C. hirsuta, diffusa, ramosa; foliis simplicibus, petiolatis, ovalibus; stipulis summis vix decurrentibus, brevissimis; racemis oppositifoliis, elongatis; corollis calycem æquantibus.*

C. Rotundifolia. Walt. p. 81.

Root fusiform, perennial. Stems herbaceous, procumbent, branching, scarcely a foot high. Leaves nearly sessile, elliptic, mucronate, pubescent. Racemes nearly opposite the leaves, simple, 3—6 flowered. Stipules short, sagittate, sometimes wanting. Calyx 2-lipped, the upper lip 2-cleft, the lower 3-cleft, the segments all acute. Corolla as long as the calyx, yellow; vexillum round, reflected; carina ciliate on the margin. Filaments 10, connate at base, unequal. Anthers on the long filaments round, sterile; on the short oblong, opening along the sides. Style longer than the stamens. Stigma obtuse, bearded. Legume and Seed like those of the C. Sagittalis.

Grows in dry sandy soils.

Flowers from April to July.

§ 2. **Stamens diadelphous.**

* Legume mostly one seeded.

**DALEA. L.**

*Calyx* semiquinquefidos. *Alæ et carina columnæ staminum* | *Calyx* 5-cleft. Wings and carina attached to the base of

1. **Cliffortiana.**

*D. spicis oblongis, confertis, pedunculatis, terminalibus, sericeis; bracteis calycis longitundine; foliis subsexjugis, lineari-cuneatis, retusis, apice subdentatis.*


Annual. *Stem* 1 1-2—3 feet high, erect, glabrous. *Leaves* 4, 5, or 6 pair, *leaflets* narrow, cuneate, retuse, slightly toothed near the summit. *Spikes* 1—2 inches long, solitary, terminal. *Bracteas* as long as the calyx; *leaflets* (about 6 pair,) narrow, cuneate, retuse, toothed near the summit.

This plant with which I am unacquainted, I have inserted on the doubtful authority of Pursh. Willdenow describes it as a native of Terra Firma; Nuttall quotes it under his *D. Alopecuroides*, a native of Louisiana, on the borders of the Mississip.

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**PSORALEA.**


1. **Canescens.** Mich.

*P. tota canescens;* Hoary; leaves on *foliis breviter petiola.*
DIADELPHIA DECADRIA.

Dias, trifoliatis, lato-lanceolatis; spicis laxifloris; floribus pedicellatis; calycibus pilosis.


Root tuberous, perennial. Stem herbaceous, having somewhat of a shrubby appearance, 2—3 feet high, branching. Leaves on very short petioles, entire, thickly sprinkled with glands. Peduncles axillary, much longer than the leaves, bearing 4—7 flowers near the extremity. Calyx for this genus large, deeply divided, coloured (brownish,) hairy and very distinctly marked with dark coloured glands. Corolla yellowish, longer than the calyx.

Grows in sandy soils in the middle of Carolina and Georgia. Flowers May—July.


P. glaber; foliis digitatis, longe petiolatis; foliolis filiformibus; racemis multi-floris, foliis longioribus; leguminibus rugosis.


Root perennial. Stem about 2 feet high, sparingly branched. Leaves on petioles rather more than an inch long. Leaflets 5—7, not larger than the petiole, exhibiting distinctly the glands which characterize this genus. Peduncles much thicker than the petioles, 3—5 inches long. Calyx small, glandular, with the lower segment a little longer than the rest. Corolla 3 times as long as the calyx, of a pale violet colour.

Grows in the arid barren sandhills at Fort Barrington on the Altamaha, and is found occasionally in similar situations in other parts of Georgia and Carolina.

Flowers May—July.
**Spicis cylindricis, melilotoidea. (Poi-kadenia.)**

3. **Virgata.** Nutt.

*P. caule virgato, subpubescente; foliis simplicibus, distanti-bus, lineari-lanceolatis; spicis axillaribus, foliis brevioribus.*

Nutt. 2. p. 104.

*Stem* about 2 feet high, sparingly branched. Radical *leaves* oblong, ovate; leaves of the stem on petioles nearly an inch long, very narrow, glabrous, 3—5 inches long, scarcely more than two or three lines wide. *Flowers* in compact cylindrical spikes, the naked base of the common peduncle scarcely longer than the petiole. *Bracteas* ovate, acuminate, deciduous, and like the calyx dotted with glands. *Calyx* 5-cleft. *Corolla* violet coloured, a little larger than the calyx. *Legume* 1-seeded.

Discovered by Dr. Baldwin near St. Mary's, Georgia, and sent to me under the name of *P. Angustifolia.*

*Flowers.*

4. **Melilotoides.** Mich.

*P. parce pubescens; foliis ternatis, foliolis oblongo-lanceolatis; spicis oblongis; bracteis lato-cordatis, longissime acuminatis; leguminibus rotundatis, nervoso-rugosisissimis.*


*Root* perennial? *Stem* herbaceous, diffuse, branching, pubescent, nearly 2 feet high. *Leaves* ternate, pubescent, rounded at base and punctured with glandular dots. *Spikes* axillary and terminal, on peduncles

Grows in dry soils moderately rich.

Flowers May—June.

5. **Eglan dulosa.**

*P. pubescens, e-glandulosa; foliis ternatis, oblongo lanceolatis; spicis oblongis; bracteis lato-lanceolatis, longe acuminate calycibusque villosis. E.*

Melilotus psoraleoides. Nutt. 2. p. 104?

This plant is very similar to the preceding species, with which I suspect it has always been confounded. It is however more pubescent, its bracteas not so remarkably acuminate, and its calyx, particularly along the margins, much more villous. It is probably the plant described by Mr. Nuttall, but its affinity to the preceding species, in habit and in every character except the glands, induces me to retain it in this genus. The plants of this section will however, probably constitute a new genus, as they appear to be very closely allied among themselves, and almost equally connected with this genus and the Melilotus.

Grows in dry, moderately fertile soils.

Flowers May—June.

6. **Multijuga.**

*P. caule ramoso; foliis pinnatis, multijugis (9—10); foliolis oblongo lanceolatis, obtusis, pubescentibus; spicis oblongis; bracteis parvulis, membranac.*

Stem branching; leaves pinnate, leaflets numerous, (9—10 pair) oblong-lanceolate, obtuse, pubescent; spikes oblong; bracteas small, mem-
DIADELPHIA DE CandRIA.

naceis, eglandulosis. | branaceous, without glands.

Stem apparently 1—2 feet high, thick, furrowed, and nearly glabrous. Leaves irregularly pinnate, leaflets small, hairy on the under surface, and under the microscope apparently covered with minute black glands. Stipules broad, ovate, membranaceous, without glands, sparingly fringed. Flowers on peduncles much longer than the leaves, and like the preceding species, the spikes when young are closely imbricate. Bracteas small, not above half the length of the calyx. Segments of the calyx very long, acute and villous along the margins. Corolla violet colored, the carina rarely as long as the vexillum. The Legume I have not seen, but from the appearance of the germ it is monospermous.

This plant I have thrown, though with some hesitation, into this section from the strong resemblance which it has in habit and in its mode of flowering, to the three preceding species. It was collected some years ago, in Abbeville District, by Mr. Gourdine, and sent to me by Dr. Macbride. Flowers May—June.

MELILOTUS.


1. Officinalis.

M. caule erecto; foliolis obovatis, serratis; spicis axillariibus, paniculatis; leguminibus dispermis, rugosis, acutis.

Trifolium officinale. | Sp. pl. 3. p. 1355.

Root annual. Stem 2—3 feet high, angular, glabrous. Leaves trifoli- ate; leaflets obovate, serrate, glabrous. Flowers in long compact spikes, bright yellow, keel and wings nearly as long as the vexillum.
This plant, a native of Europe, is now completely naturalized in the neighbourhood of Charleston. It grows very luxuriantly, but no species of domestic stock appears willing to eat it.

Grows in close soils.

Flowers April—May.

I have among my specimens one collected in the state of New-York by Mr. Whitlow, with leaves nearly elliptical, flowers very small, whitish or white, and scattered along a very long raceme or spike, which appears to me evidently a distinct species.

**TRIFOLIUM.**

*Legumen calyce tectum, evale, 2—4 spermum.* *Flores sub-capitati.*

**Gen. Pl. 1211.**

*Pod covered with the calyx, without valves, 2—4 seeded. Flowers generally in heads.*

1. **Carolinianum.**

*T. pusillum, procumbens; foliolis obcordatis, (supremis tantum emarginatis,) pilosis, dentatis; stipulis bifidis, capitulis umbellaribus, pedunculatis, reflexis, paucifloris; corollis vix exsertis; leguminibus 3—4 spermis.*


*Root somewhat fusiform, probably perennial. Stem divaricate, prostrate, assurgent at the summit, hairy, 3—10 inches high. Leaflets ternate, slightly glaucous underneath, 3—5 lines long, 3—4 wide, on petioles 1—2 inches long. Stipules 2 at the base of each petiole, obliquely lanceolate, acuminated, toothed, with the nerve divided at the summit. Flowers numerous, (16—20) on small umbels, erect when expanded, afterwards reflected, the common peduncles terminal and axillary; 2—3 inches*
2. Repens.

T. repens, subgla-brum; foliolis ovato-oblongis, emarginatis, serrulatis, capitulis subglobosis; calycinis dentibus subæqualibus; leguminibus tetraspermis.


Root creeping. Stem prostrate and creeping; sprinkled occasionally with a few hairs. Leaves ternate, sometimes orbicular, generally emarginate, the lower ones occasionally obcordate, acutely serrulate, nearly glabrous, and of a very bright green. Petioles 2—8 inches long. Umbels many flowered, axillary and terminal, on peduncles 4—10 inches long. Flowers when expanded, erect, afterwards reflected. Calyx nearly glabrous, the upper segments a little shorter than the lower. Corolla white, the vexillum nearly twice as long as the calyx, wings and keel short. Legume cylindrical, turgid, 4-seeded.

Grows in close damp soils.
Flowers March—May. White Clover.

This species of clover is now very much diffused in the low country of Carolina, and grows very luxuriantly during the spring in soils adapted to it. In summer it disappears. It is however eaten but sparingly, and apparently with reluctance, by stock of any description. It affects very sensibly the salivary glands, sometimes producing complete salivation.

3. Pratense.

T. adscendens, gla-briusculum; foliolis ovalibus, subintegerrimis; stipulis aristatis;
spicis densis, ovatis; calycis dente infimo, tubo corollae monopetalæ, inaequalis, breviore.  

ovate; lower tooth of the calyx shorter than the tube of the monopetalous, unequal corolla.


Root perennial. Stem ascending or erect, 2—3 feet high. Leaves ovate, finally serrulate, nearly glabrous. Flowers in ovate heads on short peduncles. Calyx and Bracteas very hairy. Corolla bright purple, much longer than the calyx.

This, perhaps the most valuable species of Trifolium, is found occasionally in the low country of Carolina, like the preceding species it grows luxuriantly in the spring but disappears during the steady heat of summer. Grows in close rich soils. Flowers April—May.

Red Clover.

4. Reflexum.

T. decumbens, pubescens; foliolis obovatis; stipulis oblique cordatis; capitulis multifloris; floribus pedunculatis, demum omnibus reflexis; leguminibus sub 4-spermatis.

Decumbent, pubescent; leaflets obovate; stipules obliquely cordate; heads many flowered; flowers on pedicels, all finally reflected; pod generally 4-seeded.


Stem herbaceous, decumbent, 12—18 inches high, very pubescent. Leaves ternate, somewhat rhomboidal, pubescent, the upper ones acute, the lower emarginate. Petals 3—4 inches long. Flowers in compact, oblong heads, after expansion reflected; common peduncle scarcely an inch long. Calyx hairy, with the segments nearly equal. Vexillum of the corolla twice as long as the calyx, rose coloured: Wings and keel short, nearly white. Legume glabrous, compressed, slightly winged, 4-seeded.

This species of Trifolium, which under the name of Buffalo Clover, grows I believe freely in the upper districts of Georgia, is rare in the low country. Its leaves and flowers are larger than those of any other of our species. With our cattle it does not appear to be a favorite food. Grows in close soils. Flowers April—May.
5. Arvense.

T. erectum, villosum; foliolis lineari lanceolatis, apice serrulatis; spicis villosissimis, subcylindraceis; dentibus calycinis setaceis, corolla longioribus.


Stem erect, like the whole plant, hairy. Leaves ternate, very simple, leaflets almost linear. Stipules united at base, summits acute and almost setaceous. Flowers in terminal cylindrical spikes. Calyx with the tube a little inflated, the segments setaceous, long, and with the tube so villous as to make the spike resemble an oblong mass of hair. Corolla shorter than the calyx, flowers white with a red spot on each wing.

Grows, but I believe sparingly, in the upper districts of Carolina.

Flowers.

STYLOSANTHES. Gen. Pl. 1203.

Calyx tubulosus, longissimus, corollifer. Germen sub corolla. Lomentum 1—2 articulatum, hamatum.

1. Elatior.

S. caule uno latere pubescente; foliolis lanceolatis, glabris; bracteis lanceolatis, ciliatis, pauci-floris.


Arachis aprica. Walt. p. 182.
Root perennial. Leaves ternate, leaflets lanceolate and acute, entire, the leaves surrounding the capitulum simple and a little hairy. Flowers in terminal compact heads, closely compressed, with leaves and hispid bracteae; flowers in each head numerous, though it seldom occurs that more than two mature their seed. Calyx superior, somewhat 2-lipped, fringed, the upper lip 2-cleft, the lower 3-parted. Corolla attached to the calyx yellow. Stamens monadelphous, unequal. Anthers 5 round, 5 oblong Tomentum 1-celled, coriaceous, hooked at the summit.

Grows in dry sandy soils.

Flowers May—August.

LESPEDEZA. Mich.


1. **Sessiliflora**.

*L. erecta, subramosa; foliis oblongis; fasciculis florum sessilibus, numerosis; lomentis calyce minuto subnudatis, acutis.*


Stem 2—3 feet high, slender, sparingly branched, slightly pubescent. Leaves ternate, elliptic, mucronate, sprinkled with hairs on the upper surface, very hairy underneath, common petiole about an inch long. Flowers in small sessile clusters, sometimes in small racemes. Calyx hairy. Corolla and Legume both longer than the calyx, corolla of a pale violet colour, legume conspicuously mucronate and hairy.

Grows in sandy lands.

Flowers September.

2. **Stuvei**. Nutt.

*L. simplex, erecta; foliis ovalis;* Lomentis calyce minuto subnudatis, acutis.

Simple, erect, vilvillosa; foliis ovalis; leaves oval;
bus; spicis pedunculatais, paucifloris, folis longioribus; lomentis nudis, pubescentibus. | spikes on peduncles, few flowered, longer than the leaves; pods naked, pubescent.

Nutt. 2. p. 107.

Stem 2—3 feet high, clothed with a soft pubescence. Leaves ternate, hairy on both surfaces, common petiole not half an inch long. Racemes axillary, rarely bearing more than 5—6 flowers, common peduncle rather more than an inch long. Corolla much longer than the calyx, hairy, pointed with a persistent style.

My specimens, though differing in a few minute particulars from the description of Mr. Nuttall, appear to belong to this species.

Grows in dry sandy lands.
Flowers September.

3. Violacea.

L. erecta, ramosa, pubescens; foliis ellipticis; racemis subumbellatis, foliis vix superantibus; lomentis ovatis, pilosis. E. | Erect, branching, pubescent; leaves elliptic; racemes somewhat umbellate, scarcely longer than the leaves; pods ovate, hairy.


Stem 3—4 feet high, much branched, furrowed. Leaves a little hairy on both surfaces, common petiole generally from half an inch to an inch long. Flowers on short racemes, and as is usual in this genus, 2 from each bud, but the buds are so near together that the flowers are very much crowded, and as the racemes are just a little longer than the leaves, the upper extremities of the branches frequently resemble a compact cylinder of flowers. Corolla larger than the calyx, bright purple. Pod hairy.

Grows in dry rich soils.
Flowers September.

The L. Divergens of Dr. Muhlenberg, I have never met with in this state, but the specimens which he sent me appear to differ very much from our common L. Violacea. It is distinguished by much larger leaves on much longer petioles, its stem is much more diffusely branched, the peduncles long with the flowers scattered and distinctly racemose, and the lomentum, or pod, reticulated and nearly glabrous.
4. Frutescens.

Hedysarum frutescens. Sp. pl. 3. p. 1193.

Root perennial. Stem really herbaceous, though like some other species of this genus, suffruti
cose in appearance, 4—6 feet high, pubescent, villous when young. Leaves ternate, covered with a
silky pubescence on both surfaces, somewhat glaucous, common petioles 6—8 lines long. Flowers in
crowded, axillary racemes, shorter than the leaves, common peduncles 6—8 lines long. Calyx 5-parted,
the segments three times as long as the tube and longer than the corolla. Corolla white, the vex
illum spotted with red near the base.

5. Angustifolia.

Hedysarum capitata. var. angustifolia. Pursh 2. p. 480

Stem herbaceous, erect, 4—5 feet high, pubescent. Leaves long and very narrow, sprinkled with a
few hairs on the upper surface, very villous and hoary on the under, common petioles 3—4 lines long. Racemes
sometimes compound, compactly clustered, common peduncles 1—2 inches long. Segments of the calyx rather longer
than the tube, not quite as
long as the corolla. *Corolla* white, vexillum purple at base. *Lomentum* in this and the preceding species, inclosed in the calyx.

I have separated this species from the frutescens, as it appears to differ permanently in the size and form of the leaf, and in the comparative length of the racemes and corolla, it differs also with us in its habitat. This is found very abundantly in the low country, where I have never seen the former unless when cultivated in my garden.

Grows in dry sandy soils.

Flowers September.

6. **Hirta.**

*L. erecta, ramosa, villosissima; foliis sub-sessilibus; foliolis rotundato-ovalibus; specis axillaribus, longe-pedunculatis; corollis calyce subaequalibus; lomento calycem sub-aequante.*

Erect, branching, very villous; leaves nearly sessile; leaflets oval, nearly round; spikes axillary, on long peduncles; corolla the length of the calyx; pod as long as the calyx.


*Root* perennial, *Stem* erect, branching, 3—4 feet high, with the whole plant pubescent, and very hairy when young. *Leaves* ternate, nearly round, and as in all the species of this genus, very entire, slightly mucronate, covered on both sides with a silky pubescence, 3—5 lines long. *Flowers* crowded, in simple racemes, on peduncles longer than the leaves. *Calyx* very hairy, deeply 5-cleft, segments subulate, equal. *Corolla* nearly white. *Petals* all equal, scarcely as long as the calyx, the vexillum spotted in the centre with red. *Lomentum* hairy, 1-seeded.

Grows in dry and moderately fertile soils.

Flowers September.

7. **Procumbens.**

*L. procumbens, gracilis, pubescens; foliis ovalibus; pedunculis longissimis, setaceis, Procumbent, slender, pubescent; leaves oval; peduncles very long, setaceous; flow-
** Legume many seeded, generally articulated.**

** HEDYSARUM. Gen. Pl. 1204. **

Calyx 5-fidus. Corollae carina trans- | Calyx 5 cleft. Keel of the Corolla trans-

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spicifloris; lomentis or-biculatis, pubescentibus | ers in spikes; pods orbicular, pubescent.


** Stem ** prostrate, branching, with the branches assurgent. ** Leaves ** ternate, leaflets oval, nearly round, emarginate, mucronate, very pubescent and slightly glaucous underneath. ** Flowers ** few near the summit of long axillary peduncles. ** Corolla ** purple, longer than the calyx ** Lomentum ** when mature nearly round, and very pubescent particularly along the margin.

Grows in dry soils.

Flowers August to October.

In the L. Polystachia and Frutescens, the calyx is deeply and equally 5-parted, in this and some other species it appears to be 4-parted, with the upper segment 2-cleft.

** 8. Prostrata. **

L. prostrata, sub-glabra; foliis ellipticis obovatisque; pedunculis foliiis superantibus, spicifloris; lomentis orbiculatis, parce pilosis. | Prostrate, nearly glabrous; leaves elliptic and obovate; peduncles longer than the leaves; flowers in spikes; pods orbicular, a little hairy.


Plant in habit and appearance very similar to the preceding species. ** Stem ** very slender, woody and glabrous. ** Leaves ** on very short petioles, a little hairy on the under surface and sometimes distinctly obovate. ** Peduncles ** scarcely more than an inch long, very slender. ** Flowers ** very numerous and rather smaller than those of L. Procumbens. ** Lomentum ** small, slightly sprinkled with hairs.

Grows in dry soils.

Flowers August to October.

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1. **Nudiflorum.**

H. foliis ternatis, lato-ovalibus, acuminatis, subtus glaucentibus; scapo paniculato, glabro, caule foliisero altiore; lomentum articulis subrotundotriangularibus.


Root perennial. Stem generally erect, 6—8 inches high, simple, pubescent, with the leaves crowded near the summit. Leaves ternate, leaflets ovate, slightly acuminate, pubescent, a little scabrous, particularly on the upper surface. Common Petioles 3—5 inches long. Flowers in a panicle 2—3 feet long, the common peduncles shooting from the base of the stem, partial peduncles generally in pairs, about an inch and a half long, pubescent. Calyx 4-cleft, the upper segment sometimes bifid, the lower longer than the rest. Corolla purple. Petals equal. Vexillum marked at base with two dark purple spots. Segments of the staminal tube unequal. Lomentum 3—4 jointed, pubescent. Grows in dry rich shaded soils. Flowers June—August.

2. **Acuminatum.** Mich.

H. erectum, simplex, pubescens; foliis ternatis, rotundato-ovatis, longe acuminatis, parce pilosis; panicula terminali, longissime pedunculata.

Erect, simple, pubescent; leaves ternate, ovate, nearly round, conspicuously acuminate, a little hairy; panicle terminal, on a very long peduncle.

Root perennial. Stem erect or procumbent, scarcely a foot high, and with the whole plant sprinkled with soft hair. Leaves crowded near the summit of the stem, leaflets much dilated in the middle, abruptly acuminate, a little scabrous, common petiole 3—4 inches long. Flowers in a terminal panicle 1—2 feet long, partial peduncle 2—4 lines long. Calyx 4-toothed, nearly equal in length. Corolla pale violet, nearly white. Petals equal in length. Lomentum 3—4 jointed. Joints rounded.

The stamens in this and the preceding species are nearly monadelphous. This species is generally considered as the H. Glutinosum of Dr. Muhlenberg and Willdenow, if, however, Willdenow is correct, in describing the panicle as arising from the base of the stem, which he has twice mentioned, the two species must be distinct. In a specimen of the H. Glutinosum, which was sent me by Dr. Muhlenberg, the leaves and panicle are unfortunately detached from the stem, as far, however, as they can be compared to this species, the resemblance is minutely exact.

Grows in rich shaded soils.
Flowers June—August.


H. erectum; foliis ternatis, lineari-ellipticis, glabris, venosis; racemis axillaris et terminalibus; lomentis plerumque bi-articulatis.


Stem erect, 3—4 feet high, covered, as is common in this genus, with an adhesive pubescence, branching towards the summit. Leaflets long, exactly linear, but elliptic at their terminations, bearing a few hairs sprinkled along the margin, common petiole 4—5 lines long, pubescent. Flowers in long, axillary and terminal panicles, pubescent. Calyx 4-cleft, segments a little unequal. Corolla small, purple, greenish at base. Lomentum generally 2-jointed. Joints nearly oval, hispid.

Grows in dry pine barrens.
Flowers August—September.

4. Paniculatum.

H. erectum; foliis ternatis, lineari-lanceolatis, utrinque obtusis, obtuse at each end, a
DIPHTERIDAE. PANICULATA.

subtus parce pilosis; panicula terminali; lomenti articulis triangularibus, hispidis. little hairy underneath; pods hispid, with the joints triangular.


Root, as in all of this genus, perennial. Stem erect and procumbent, furrowed, a little hairy towards the summit. Leaves very narrow, with the margins revolute, nearly glabrous, paler underneath, and a little hairy; sometimes 3—4 inches long, 3—4 lines wide, common petiole about an inch long. Calyx 4-cleft, the inferior segment nearly twice as long as the others. Corolla purple. Lomentum generally 5-jointed. Joints nearly triangular.

Grows in damp soils.
Flowers August—September.

5. GLABELLUM. Mich.

H. erectum, glabriusculum; foliis ternatis, ovatis, obtusis, subtus subglaucis; panicula terminali; lomenti articulis triangular-rohmoideis.

Erect, nearly glabrous; leaves ternate, ovate, obtuse, slightly glaucous underneath; panicule terminal; joints of the pod triangular approaching to rhomboidal.

Mich. 2. p. 73 Pursh 2. p. 482.

Stem erect and procumbent, about 2 feet high, pubescent near the summit. Leaves ovate, very obtuse, pale green with the veins distinctly reticulate, sprinkled with hair on both surfaces, common petiole about half an inch long. Stipules dilated at base, acuminate and very acute. Flowers in a somewhat leafy panicle. Calyx 4-cleft, the upper segment as usual a little broader than the others, the lower a little prolonged. Corolla purple. Lomentum 3—3 jointed, the joints somewhat rhomboidal; hispid.

Grows in shady places.
Flowers August—September.
6. **OBTUSUM.**

*H. foliis ternatis, ovatis, obtusis, basi subcordatis; stipulis subulatis; panicula terminali; articulis lomenti semiorbiculatis, reticulatis, hispidis.*

Leaves ternate, ovate, obtuse, slightly cordate at base; stipules subulate; panicle terminal; joints of the pod semiorbiccular, reticulate, hispid.


*TENUIMORIUM.*

*Stem erect, branching, a little hairy towards the summit. Leaves small, scarcely an inch long, ovate and obtuse, nearly glabrous but sprinkled with a few hairs, particularly along the veins, the lateral leaves generally subcordate. Panicle terminal, erect. Corolla purple. Lomentum generally 3-jointed. Joints hispid, nearly round.*

*Grows in dry soils.\nFlowers September.*

7. **CILIARE.**

*H. foliis ternatis, ovatis, subtus pubescentibus, margine ciliatis; panicula terminali; lomenti articulis semiorbiculatis, hispidis.*

Leaves ternate, ovate, pubescent underneath, fringed along the margin; panicle terminal; joints of the pod semiorbicular, hispid.


*TENUIMORIUM.*

*Stem erect, about 2 feet high, streaked, pubescent. Leaves ovate, sometimes a little rhomboidal, pubescent underneath, a little scabrous on the upper surface, on a common peduncle rarely half an inch long. Panicle terminal, composed of many simple racemes, nearly covered with small flowers. Corolla purple. Calyx 4-cleft. Lomentum 2—3 jointed. Joints nearly round, reticulate.*

*Var. Oblongifolium.*

*In the dry lands about Beaufort, I have always found this plant accompanied with a variety or perhaps species, resembling it entirely in habit, size, in the clustered panicle of small flowers, but differing in its leaves, which are larger and proportionally more long, more glabrous, slightly glaucescent underneath, and growing on petioles an inch long.*

*Grows in dry sandy lands. Common about Beaufort.\nFlowers September and October.*
8. **Rotundifolium.**

**H. prostratum,** hirsutum; foliis ternatis, orbiculatis; stipulis cordatis, reflexis; racemis axillaribus et paniculato—terminalibus; lomenti articulis subrhomboideis.


Grows in dry fertile soils. *Flowers* August—September.


**H. glabrum;** foliis ternatis, ovatis, acuminatis acutissimisque; stipulis oblique ovatis; panicula terminali; bracteis majusculis, ovatis, longe acuminatis; lomenti articulis subtriangularibus.


Plukenet t. 308. f. 5.

*Stem* 5—5 feet high, erect and decumbent, very glabrous below, a little scabrous near the summit. *Leaves* tapering to a very long and acute point; sometimes ciliate, and sprinkled with hairs along the veins, com-
mon petiole 2—5 inches long. *Racemes* axillary and terminal, forming a large loose panicle. *Bracteas* before the opening of the flowers imbricate and conspicuous, when in flower, from the elongation of the common peduncle, the flowers appear thinly scattered on the stem. *Calyx* 4 cleft; the upper segment bifid, the lower long. *Corolla* purple, rather larger than is common in this genus. *Lomentum* 3—6 jointed, often pendulous, very scabrous. *Joints* long and triangular.

Grows in rich dry soils.

Flowers August—September.

10. **Canadense.**

*H. foliis ternatis, oblongo lanceolatis; stipulis filiformibus; floribus racemosis; bracteis ovato-lanceolatis, acuminatis, ciliatis; articulis lomenti obtuse triangulis, hispidis.*

Leaves ternate, oblong lanceolate; stipules filiform; flowers in racemes; bracteas ovate-lanceolate, acuminate, ciliate; joints of the pod obtusely triangular, hispid.


*Stem* about 2 feet high, erect, very pubescent near the summit, furrowed. *Leaves* long, lanceolate and ovate-lanceolate, pubescent on both surfaces, particularly along the veins. *Flowers* in compact, axillary racemes. *Bracteas* large, closely imbricate and conspicuous before flowering as in *H. Bracteosum.* *Corolla* purple.

This species is said by Pursh to extend to Carolina. It very probably can be found in our mountainous districts. I have however, never seen it in the low country.

Grows in dry soils.

Flowers July—August. Pursh.

11. **Marilandicum.**

*H. foliis ternatis, oblongis, subtus villosiusculis; stipulis subulatis; racemis paniculatis; lomentis triangulis, articulis.*

Leaves ternate, oblong, slightly villous underneath; stipules subulate; racemes paniculate; pods 3-jointed, joints rhomboidal,
11.

**DIADELPHIA DECANDRIA.**

rhombeis reticulatis, reticulate, a little hairy, pitosin-culis.


*Stem* erect, pubescent towards the summit. *Leaves* ovate, hairy on the under surface, particularly along the veins, the lateral leaflets sessile and slightly cordate, common petiole 1—2 inches long. *Panicle* somewhat loose and slender. *Corolla* purple. *Lomentum* 2—3 jointed, somewhat rhomboidal.

Grows in dry soils.

Flowers July—August.

12. **RIGIDUM.** E.

**H. erectum, ramo-sissimum; foliis ob-longo-ovatis, obtusis, reticulatis, pubescen-tibus; panicula ramo-sa; bracteis ovato-lanceolatis, acuminatis.**

*Stem* about 3 feet high, almost tomentose towards the summit. *Leaves* nearly 2 inches long, 5—7 lines wide, thick, strongly reticulate and very pubescent on the under surface, common petiole rarely half an inch long. *Panicle* composed of long erect racemes. *Bracteas* small. Lower segment of the calyx much longer than the upper. *Corolla* small, purple. *Flowers* at first crowded, scattered as the stalks extend.

Grows in dry soils.

Flowers August—September.

13. **LEVIGATUM.** Nutt.

**H. erectum, gla-berrimum; foliis ter-natis, ovatis, acutis, subcoriaceis, subtus subglaucis; panicula composita, terminali; bracteis parvulis; lo-menti articulis trian.
Diadelphia Decandra.

Gularibus, pubescentibus. | The pod triangular, pubescent.

Nutt. 2. p. 109.

Stem 3—4 feet high, sometimes decumbent, a little pubescent towards the summit. Leaves sometimes slightly acuminate, veiny, common petiole 1—3 inches long, partial petioles about 3 lines long. Flowers in a large compound panicle, (florets as is common in this genus,) 2 from each bud, on peduncles 5—8 lines long. Bracteas ovate, acuminate, ciliate, 2—3 lines long. Calyx 4-cleft, the upper segment emarginate, the lower one nearly twice as long as the rest. Corolla purple. Lomentum 3—5 jointed. Joints triangular, pubescent.

This plant has, as remarked by Mr. Nuttall, some resemblance to the H. Bracteosum, it differs however, in its leaves, which are wider, thicker and not so acute, and by its small bracteas. It was sent by me many years ago, as a distinct species, to Dr. Muhlenberg under the name of H. Coriaceum.

Grows in rich dry soils near Beaufort.

Flowers August to October.

14. Rhombifolium. E.

H. pubescens; foliis ternatis, rhomboidis, obtusis, crassiusculis, reticulato-rugosis; panicula composta; bracteis parvulis; lomentis 1—3 articulatis, articulis suborbiculatis, venosis.

Pubescent; leaves ternate, rhomboidal, obtuse, thick, reticulate, rugose; panicle compound; bracteas small; pods 1—3 jointed, joints nearly round, veined.

Stem 2—3 feet high. Leaves somewhat thick and rugose, paler underneath, the lateral leaflets frequently obtuse, the terminal always rhomboidal, common petiole 6—10 lines long, the partial about 1 line. Stipules subulate, 3—4 lines long. Buds 2—3 flowered, proper peduncle 3—5 lines long. Bracteas ovate, lanceolate, acuminate, hairy. Calyx 4-cleft, the upper segment slightly emarginate, the lower one a little longer than the others. Corolla purple. Lomentum 1—3 jointed. Joints nearly round, very pubescent.

Grows in dry soils about Beaufort.

Flowers September—October.
15. *Viridiflorum.*

**H. erectum; foliis ternatis, ovatis, obtusis, supra scabris, subtus mollissime villosis; panicula terminali, longissima, subnuda; lomenti articulis triangularibus.**


Walt. p. 185.

Stem 3—4 feet high, pubescent, very scabrous towards the summit. Leaves ovate, sometimes acute, very scabrous on the upper surface, clothed with a velvet-like tomentum on the under. 2—3 inches long, 1—1 1/2 wide, common petiole 1—2 inches long. Peduncles very scabrous and sometimes viscid. Calyx 4-cleft, the upper segment bifid, the lower one longer than the rest. Petals purple within, greenish without. Lomentum 3—4 jointed, joints oblong, triangular.

This plant as was remarked to me by Dr. Muhlenberg in his letters, is evidently the original *H. Viridiflorum* of Clayton and Gronovius, "foliis magnis superne asperrimis, subtus mollibus althea instar" and therefore of Linnaeus. Walter, Michaux, Willdenow and Pursh have under this name described another species.

Grows in dry soils. Very common. Flowers from June to October.

16. *Scaberrimum.*

**E.**

**H. erectum, scaberrimum; foliis ternatis, ovatis, superne attenuatis, acutis, canescenti-pubescentibus; stipulis ovatis, acuminate, persistentibus; panicula majuscula, terminali; lomenti articulis majusculis, sub-triangulairibus, hispidissimis.**

**E.**

Erect, very scabrous; leaves ternate, ovate, tapering to the summit, acute, hairy, pubescent; stipules ovate, acuminate, persistent; panicule large, terminal; joints of the pod large, somewhat triangular, very hispid.
Stem 3—4 feet high, branching, and with most parts of this plant more scabrous than any other species we have described. Leaves of a pale green, beautifully veined, hairy, and scabrous particularly on the under surface, very obtuse at base, common peduncles 2—3 inches long. Stipules dilated at base, large, obliquely ovate, acuminate, hairy and persistent. Bracteas ovate, lanceolate, hairy. Calyx 4 cleft. Corolla 3 times as large as the calyx, purple. Lomentum larger than in any other of our own species, 3—6 jointed, joints somewhat triangular.

This is one of the species which has been referred to the H. Canescens of Linnaeus—The H. Canescens of Willdenow, is the H. Rotundifolium of Michaux, and our later botanists. I have among my specimens one sent me as the H. Canescens, according to Sir James Edward Smith, in which the leaves resemble this very much in shape, size, and colour, but are thinner in their texture, less hairy, less scabrous, not so distinctly articulate, and the flowers apparently forming much more compact racemes, with bracteas nearly thrice as long as in our plant.

Grows in dry soils. Very common.

Flowers June and August.


H. caule repente, vi-ridi lineato; foliis sub- sessilibus, trisfoliatis, suborbiculatis; racemis elongatis, laxe parvi-floris; lomenti arti-culis lenticularibus.

Stem creeping, streaked with green; leaves nearly sessile, trisfoliate, nearly round; racemes long, with small scattered flowers; joints of the pod lenticular.

Mich. 2. p. 72.

If the Stem of this plant had been rigidly erect, it would resemble very much the H. ciliare of this sketch. If no error has crept into the description of Michaux, his plant has not recently been seen by any of our botanists.

Grows in Carolina. Michaux.

ZORNI A.

Calyx campanula-tus, 2-labiatus. Vex-il-lum cordatum, revo-lutum. Antheræ al-

Calyx campanula-tus, 2-labiatus. Vex-il-lum cordate, revol-lute. Anthers alter-
ternæ oblongæ, alternae globosæ. *Lomentum* articulatum, hispidum.
nately oblong and globular. *Pod* jointed, hispid.

1. **Tetraphylla.**

Z. foliis digitato-quadrifoliatis; foliolis lanceolatis, glabris; spicis axillaris, pedunculatis; floribus alternis, bracteis suborbiculatis.

Leaves digitate, leaflets 4, lanceolate, glabrous; spikes axillary, on peduncles; flowers alternate, protected by two nearly round bracteas.


*Root* somewhat cylindrically tuberous, perennial. *Stem* herbaceous, prostrate, branching in every direction, about 2 feet long, glabrous. *Leaves* digitate, generally by fours, leaflets lanceolate, very acute, the lower one sometimes obovate, all entire, glabrous and dotted; common petiole 1—2 inches long, partial petioles scarcely one line long. *Stipules* lanceolate, very acute, deciduous. *Flowers* in long (4—8 inches) simple, axillary spikes, somewhat distichous on the spike. *Bracteas* 2 at the base of each flower, covering the bud and nearly enclosing the expanded flower, lanceolate, ciliate, acuminate, attached to the stem near its summit. *Calyx* 4 cleft, the upper segment broad, emarginate, all fringed. *Corolla* yellow, the vexillum and keel much longer than the wings. *Stamens* monadelphous, the stameniferous tube divided to the middle, the segments alternately longer. *Anthers* 5 round, 5 oblong. *Lomentum* 2—4 jointed, joints nearly round, rugose and hispid. In its artificial character this plant is very nearly allied to the genus Hedysarum, where it was formerly placed. In habit it is very distinct.

Grows in the driest sandy lands. Flowers June to August.

**ÆSCHYNOMENE. Gen. Pl. 1202.**

*Calyx* bilabiat. *Lomentum* compressum, sutura altera recta, altera lobata, articulis truncatis, 1-sper-

*Calyx* bilabiate. *Pod* (Lomentum) compressed with one suture straight, the other lobed, the joints trunc-
mis. Stamina in phalanges duas æquales divisa.

1. **Viscidula.**

Æ. caule prostrato, gracili, viscido-pubescente; foliolis 7—9, obovatis; pedunculis subbifloris; lomento pubescente, profunda incissura articulato.

Stem prostrate, slender, viscidly pubescent; leaflets 7—9 obovate; peduncles generally 2 flowered; pod pubescent, with the joints deeply notched.


Root perennial. Stem about 3 feet long, branching. Leaves obovate, very obtuse, oblique, finely reticulate. Stipules small, ovate and acuminate. Racemes axillary; 2—3 flowered, longer than the leaves. Calyx almost equally 5 cleft, with 2 persistent bracteas at the base. Corolla yellow. Lomentum composed of two very distinct rounded joints, hispid, conspicuously mucronate.

Grows in sandy soils in the southern parts of Georgia.

Flowers.

2. **Hispidura.**

Æ. caule erecto, petiolis-que tuberculato-hispido; foliis multijugis; foliolis linearibus, obtusis; stipulis membranaceis, semisagittatis; racemis simplicibus, paucifloris; lomentis hispidis.

Stem erect and with the petioles hispid and tubercled; leaves in many pair, leaflets linear, obtuse; stipules membranaceous, semisagittate; racemes simple, few flowered; pods hispid.


Annual. Stem 2—3 feet high, hispid. Leaflets oval, very numerous. Racemes simple, few flowered, generally bearing a leaf. Calyx 2 lipped, deeply divided, the upper lip bifid, the lower trifid, with the intermediate segment very small. Corolla much larger than the Calyx, yellow,
D1ADELPHIA DECANDRIA.

tinged with reddish purple. *Lomentum* composed of many (7—10) very indistinct joints, very hispid.

I have had no opportunity of examining this plant in a living state; it is said by Pursh, on the authority of the herbarium of Gronovius to be the original *Hedysarum Virginicum* of Linnaeus. It scarcely can be arranged with that genus, but I think also with M. Nuttall, that it cannot remain in the same genus with the preceding species.

Grows in damp and marshy soils.

*Flowers* July and August.

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**SESABANIA POIRET**

*Calyx* dentibus sub-æqualibus. *Legumen* elongatum, subcylin-dricum, 2-valve, dis-sepimentis tranversis.

1. **MACROCARPA**. Muhl.

*S. foliis sine impari pinnatis, multijugis, (10—25;*) foliolis ellipticis, glabris, subtus glaucescentibus; racemis axillaribus, pau-ciifloris; leguminibus subteretibus, elongatibus.

Leaves equally pinnate; leaflets 10—25 pair, elliptic, glabrous, slightly glaucous underneath; racemes axillary, few flowered; pods nearly terete, long.

Annual. Stem 4—12 feet high, glabrous, with expanding branches. Leaflets entire, slightly mucronate, 5—12 lines long, 3 wide. Stipules subulate, a little hairy, caducous. Racemes shorter than the leaves. Calyx pubescent along the margin, teeth subulate, the two upper ones reflected. Corolla yellowish, dotted with purple on the outer surface, vexillum larger than the other petals, reflected. Stamens diadelphous. Legume about a foot long, obscurely 4 angled, slender, compactly filled with cylindrical or reniform seeds.


*Flowers* August to October.
2. **Vesicaria.** Jacq.

Leaves evenly pinnated; leaflets 10—20 pair, oblong, obtuse, glabrous; racemes few flowered, shorter than the leaves; pod lanceolate, stipitate, generally 2 seeded.

Robinia vesicaria. Jacq. ic. rar. 1. t. 48.

Plant about 7 feet high, glabrous. *Leaves* equally pinnate, the common petiole ending in a bristle; leaflets sprinkled with a few hairs near the base. *Racemes* 4—8 flowered. *Calyx* 5 toothed. *Petals* equal, yellow. *Lomentum* conspicuously stipitate, rigidly mucronate, with both sutures thickened, the two tunics of the pod separate in an unusual manner when they are mature, so that the seeds appear to be inclosed in an interior integument. From this circumstance Jacquin’s trivial name was derived, which I have retained, not only as prior in time, but perhaps as most appropriate. To the preceding species however, this plant is not allied, and after being so often removed, it has still to find an abiding place.

Grows in damp soils. Not very common, sometimes seen near Charleston.

Flowers August—September.

*** Legume many seeded. Stigma pubescent.***

**LATHYRUS.** Gen. Pl. 1186.

*Calycis laciniae superiores* 2, breviores. *Stylus* planus, supra villosus, superne latior.

Upper segments of the *calyx* 2, short. *Style* flat, villous on the upper side, wider towards the summit.
1. *Pusillus*. E.
L. pedunculis unifloris, elongatis; stipulis falcatis, cirrhis diphyllis, simplicibus; foliis lineari-lanceolatis.

Peduncles one flowered, long; stipules falcate; cirrhi 2 leaved, simple; leaves linear lanceolate.

A small slender vine, glabrous. Stem angled and winged. Stipules nearly half an inch long, very acute. Leaves about an inch and a quarter long, nerved, acute at each end, tendrils divided. Segments of the calyx very acute. Corolla twice as long as the calyx, purple. Legume long, slightly falcate, many seeded (about 14.)

This plant, which appears to have much affinity to the *L. Angustifolia* of Europe, was found by the late Dr. Tresco on Cooper River in St. John's parish, and is described from his specimens. Flowers in May.

**Vicia.** Gen. Pl. 1187.


Upper lip of the calyx emarginate, slightly 2-toothed, the lower with 3 straight long teeth. Vexillum emarginate. Stigma transversely bearded on the lower side.

1. *Sativa.*

V. floribus binis subsessilibus; stipulis dentatis, macula notata; foliolis oblongo ovatis, retusis, mucronatis; leguminibus erectis, subtereti-linearibus, glabris. Sp. pl. 3. p. 1104.

Flowers in pairs, nearly sessile; stipules toothed, spotted; leaflets oblong-ovate, retuse, mucronate; pods erect, slender, nearly terete, glabrous.

Stem 4-angled, pubescent, branching, 2—6 feet long. Leaves pinnate, terminating with a tendril; leaflets generally 6 pair, elliptic, but retuse and pointed at the summit, pubescent. Stipules 2-lobed, the lobes divaricate, notched, pubescent, with a black spot at the base. Flowers axillary, sessile, solitary or in pairs. Calyx 5-cleft, segments nearly equal, cylindrical. Seeds numerous, (about 10,) glabrous. Grows about Charleston very abundantly. Flowers March—June.

2. **Mitchelli.** Rafinesque.

V. pedunculis axillaribus, solitariis, multifloris; stipulis parvulis; foliolis plurimis (10—14,) lineari-lanceolatis, retusis, mucronatis; leguminibus dispermis, pilosis. E. Peduncles axillary, solitary, many flowered; stipules small; leaflets numerous (10—14,) linear lanceolate, retuse, mucronate; pods 2-seeded, hairy.

Annual? humble. Stem very much branched and diffused over the small herbage in its neighbourhood. Leaves alternate, terminating in divided tendrils; leaflets numerous, (8—14,) small, linear lanceolate, sometimes cuneate, obtuse and emarginate at the summit, pointed by the projecting midrib. Flowers 4—6 near the summit of the peduncles, rather more than an inch long, small, greyish white. Legumes small, very hairy, and I believe constantly 2 seeded. This species, which was first noticed at New-York, by Mr. Rafinesque as distinct from the V. Pusilla, grows very abundantly on some farms in the vicinity of Charleston. Flowers March—April.

3. **Caroliniana.** Walt.

V. pedunculis multifloris, folia æquantiumibus, vel superantibus; stipulis lanceolatis, integerrimis; foliolis 8—10, elliptico-lanceolatis, pubescentibus. Peduncles many flowered, as long as or longer than the leaves; stipules lanceolate, entire; leaflets 8—10, oblong lanceolate, pubescent.

Perennial, much branched, running over shrubs 8—10 feet high. Leaves terminating with a 3-cleft tendril; leaflets 8—10, elliptic or ovate, generally obtuse. Flowers very numerous, on long peduncles. Calyx hairy, segments short and obtuse. Corolla white, the vexillum marked with a black spot. The Legume somewhat falcate, mucronate. Seeds numerous, small.

Grows in damp rich soils, frequent along the margins of swamps. Flowers April.

4. Acutifolia. E.

V. pedunculis paucifloris, folia superantibus; stipulis lanceolatis, integris; foliolis paucis (6) linearibus, utrinque acutis; caule glabro.

Perennial? Stem glabrous, somewhat angled, running over small shrubs 2—3 feet high. Leaves terminating in a tendril, generally undivided; leaflets 3 pair, sessile, glabrous, 10—15 lines long, very acute. Flowers few in my specimens, not exceeding 5 on the long peduncles. Upper lip of the Calyx nearly truncate. Corolla white. Legume glabrous, very slightly falcate, mucronate, many seeded. Seeds small.

Grows in Screven county, Georgia. Flowers April—May.

PHACA. Gen. Pl. 1378.

Stylus imberbis. | Stigma capitatum.
Stigma capitatum. Legumen semibiloculare, inflatum.

1. Villosa.

P. subacaulis, pilosissima; foliolis ovalibus; pedunculis folia subaequantibus; legumes many seeded. Seeds small.

Grows in Screven county, Georgia. Flowers April—May.
minibus incano-villo- | very villous, assurgent, 

Nutt. 2. p. 97.  

Annual? Plant small, procumbent, altogether villous. Leaves unequally pinnate; leaflets numerous, (about 10 besides the terminal one,) elliptic and sometimes nearly round. Flowers clustered at the summit of the peduncles, which in my specimens are much longer than the leaves. Teeth of the calyx long and acute. Corolla yellow. Legumen inflated, and with the calyx covered with long hoary pubescence. Seeds few, small.

Grows in dry sandy lands. Occurs occasionally near Savannah. Flowers April—May.

ASTRAGALUS. Gen. Pl. 1208.

Carina obtusa. Legumen biloculare aut subbiloculare, sutura inferiore introflexa. Keel obtuse. Pod somewhat 2-celled by the internal extension of the inferior suture.

1. Carolinianus.

A. caulescens, erectus; foliolis (41) oblongis, subtus pubescentibus; spicus pedunculatis; bracteis lanceolatis, pedunculi longitudine; leguminibus ovatis, tumidis, rostratis. Caulescent, erect; leaflets (41) oblong, pubescent underneath; spikes pedunculate; bracteas lanceolatae, as long as the peduncles; pods ovate, tumid, beaked.


Root perennial. Stem glabrous. Leaves unequally pinnate, leaflets very numerous, when young elliptic, when old ovate lanceolate, obtuse, glabrous on the upper surface, very hairy underneath. Flowers numerous, in compact axillary spikes, on long peduncles. Calyx very hairy, tube truncated, teeth subulate, small. Corolla pale yellow, much longer than calyx.

Grows among the mountains of Carolina. Flowers, June, and July. Pursh.
2. **Canadensis.**

*A. caulescens, diffusus; foliolis (21) utrinque glabris; leguminibus subcylindricis, mucronatis.*

Caulescent, diffuse; leaflets (21) on both surfaces; pods somewhat cylindrical, mucronate.


In my specimens the leaves are hairy underneath, and the plant bears a strong resemblance to the preceding species. It seems to differ by the smaller number of its leaflets and flowers.

Grows in the mountains of Carolina.

Flowers July, August, Pursh.


*A. caulescens, glaber; foliolis plurimis, parvulis, ovalibus, subciliatis; spicis longe pedunculatis, paucifloris; leguminibus distantibus, teretibus, incurvis.*

Caulescent, glabrous; leaflets numerous, small, oval, slightly fringed; spikes few flowered, on long peduncles; pods distant, terete, incurved.


Stem about 2 feet high, glabrous. Leaves very numerous, much smaller than in either of the preceding species, obtuse, sometimes emarginate, hairy along the edges, peduncles as long as the leaves, bearing a few flowers (3—6) near the summit. Calyx a little hairy, the teeth broad and short. Corolla white, much larger than the calyx.

Grows in the high pine barrens in Screven County, Georgia.

Flowers April.

4. **Obcordatus.** E.

*A? glaber; foliolis parvulis, plurimis (15)*

Glabrous; leaflets small, numerous (15
—19) obcordatis; pedunculis elongatis; —19) obcordate; peduncles long; flowers white.

Plant small and apparently decumbent. Leaves unequally pinnate, leaflets 2—3 lines long, completely obcordate, on very short partial petioles. Peduncles robust, bearing at their summit 8—12 flowers. Bracteas subulate, scarcely longer than the partial peduncle. Calyx a little hairy, segments long, subulate. Corolla white.

This remarkable species was sent to me from St. Marys' by the late Dr. Baldwin as the A glaber of Michaux. From the specimen the corolla appears to have been white, the Legume I have not seen.

Grows in the Southern Districts of Georgia near St. Mary’s.

Flowers.

**** Legume many seeded, 1-celled, not included in the preceding sections.

PHASEOLUS. Gen. Pl. 1180.

Carina cum staminibus styloque spiraliter torta. Legumen compresum, falcatum. Semina compressa, reniformia.

1 Perennis. Walt. P. caule volubili; racemis paniculatis, subgeminatis; foliolis ovatis, acuminatis, triplinervibus, pubescenscentibus; leguminibus pendulis.


Root perennial. Stem pubescent, climbing freely over small shrubs. Leaves ternate, the lateral leaves gibbous on one side, common petiol
Dia Delphia Decandria.

2—4 inches long. Stipules lanceolate, acuminate, small. Racemes or rather panicles, 1—3 in each axil but not of the same age, 4—8 inches long. Two small hairy bracteas at the base of each calyx. Calyx 2 lipped: the upper lip nearly truncate and emarginate, the lower 3 cleft, the segments broad, short, acute. Corolla purple, vexillum large, reflected, the keel compressed, spiral. Legumen broad, falcate, mucronate. Seeds numerous, attached alternately to each valve.

Grows in damp rich land. Along the margins of swamps. Flowers July—September.

STROPHOSTYLES. E.

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1 Angulosa.

S. foliis ternatis, foliolis angulatis, bilobis trilobisque; pedunculo foliis longiore; floribus capitatis.


Annual. Stem prostrate, a little scabrous and hairy. Leaflets a little hairy particularly along the veins and margin, sometimes distinctly 3 lobed, sometimes only angled, with one lateral lobe entire and the other wanting. Common Petioles about 2 inches long. Flowers (8—14) clustered at the summit of peduncles 4 to 6 inches long. Stipules small, acute, membranaceous. Calyx 4 cleft, the upper segment oval, slightly 2-cleft. Corolla purple; the vexillum reflected; wings short, erect; keel acuminate, spirally twisted, depressing the vexillum. Stamens diadelphous, long, and with the style included in the carina and bending with it. Legume terete, slender, pubescent. Seeds many, reniform, somewhat cylindrical.

On the sea coast of Carolina the leaves of this plant vary as I have described them. Dr. Baldwin sent me, from the neighbourhood of St. Mary's, specimens much more distinctly 3-lobed and resembling very strong-
230

DIADELPHIA DECANDRIA,

Ily the figure of Plakenet Alm. t. 120. f. 7. referred to by Linnaeus under the Glycine triloba.

Grows on the sand hills along the margin of the ocean.
Flowers August to October.

2. HELVOLA.

S. foliis ternatis, deltoidibus, oblongis; floribus capitatis; vexillis brevibus; alis expansis, maximis.

Leaves ternate, deltoid, oblong; flowers in heads; vexillum short; wings expanded, very large.


This plant is to me still obscure; among all the specimens I have seen belonging to this genus, I have met with none with large expanded wings.
Grows in Carolina. Linnaeus.
Flowers.

3. PEDUNCULARIS. Muhl.

S. foliis ternatis, oblongo ovatis; floribus capitatis; vexillo majuscolo, emarginato; alis parvulis; seminibus lanosis.

Leaves ternate, oblong ovate; flowers in heads; vexillum large, emarginate; wings small; seeds woolly.


Stem prostrate or climbing on small shrubs, and with the whole plant a little hairy. Leaves oblong, ovate, tapering a little irregularly towards the summit. Common petioles 10—15 lines long. Stipules lanceolate, acute. Flowers 5—7 at the summit of a common peduncle, 6—7 inches long. Calyx 4-parted; upper segment broad, obtuse. Corolla purple. Vexillum nearly round. Wings oval, small, angled, as usual in this class, near the base. Carina as long as the vexillum, spiral. Legumen terete, a little hairy.
Grows in dry and fertile soils.
Flowers July to September.

The plants in this genus form a small but very natural group. They have been arranged by different Botanists as species of Phaseolus, Dolichos and Glycine: to the Glycine, as it now remains in this sketch, they have no affinity, but they certainly form an intermediate genus between
the Dolichos and the Phaseolus, resembling the former very much in its habit and in the legumen, the latter in the structure of the corolla, and they might be arranged with either of these genera with great propriety, if only one feature of its inflorescence is considered.

DOLICHOS. Gen. Pl. 1181.

D. volubilis, pubescent; foliolis ovatis, acuminatis; pedunculis foliis longioribus; spicis brevibus, sub capitatis; vexillo lato, reflexo; alis rhomboideis.


Annual. Stem running over small shrubs. Leaflets ovate, tapering to a very acute point, very slightly acuminate, on peduncles 1—2 inches long. Flowers 3—5 at the summit of peduncles 2—4 inches long. Calyx 5-cleft, with the lower segment longer than the rest. Corolla pale yellow. Carina rather longer than the vexillum, compressed, not at all spiral. Legumen somewhat compressed, a little hairy.

Grows in wet land. Very common along the margins of the rice fields around Savannah.

Flowers October—November.

APIOS. Moench.

Calyx subbilabiate; Calyx somewhat 2 lipped, truncated, one

tus, truncatus, uniden.
tatus. Carina falcata, vexillum reflectens. 
Germin basi vaginatum. Legumen coriaceum, polyspermum.
toothed. Keel falcate, reflecting the vexillum. Germ sheathed at base. Pod coriaceous, many seeded.

1. Tuberosa.


Root perennial, bearing small tubers. Stem frutescent, voluble, climbing over large shrubs, a little scabrous and hairy. Leaves unequally pinnate. Leaflets 5—7, ovate-lanceolate, acute, slightly scabrous and sprinkled with hair. Stipules linear, hairy, small. Flowers numerous, on axillary racemes, shorter than the leaves. Calyx with the upper lip truncated, the lower with one, sometimes with three small teeth. Corolla brown. Vexillum reflected. Wings smaller, erect. Keel as long as the vexillum, incurved. Stamens and Style incurved with the keel. Legumen terete, glabrous. Seeds reniform.

This genus, in its artificial character, agrees very nearly with the preceding, it differs however in its calyx, its germ, and very much in its habit, and may with propriety be kept distinct.

This plant was the original Glycine of Linnaeus, and ought to have retained the name. The tubers formed an article of food to the Aborigines of this country.

Grows in damp rich soils, along the margins of swamps. 
Flowers July—August.

AMPHICARPA. E.


1. Monoica.

A. folis ternatis, ovatis, glabris; caule
Leaves ternate, ovate, glabrous; stem
pilosus; racemis caulis pendulis, corollatis sterilibus; pedunculis radicalibus aptalis, fructiferis. Will. | hairy; racemes of the stem pendulous, bearing petals, sterile; peduncles from the root, without petals, bearing fruit.

Anon. Carolin. Walt. p. 188.


Besides the flowers that we have described, this plant appears to produce near the surface of the earth racemes, of which the flowers are only furnished with a calyx, and the rudiments of a style. From these proceed a one seeded, ovate, torulose pod, which sinks into the earth and there ripens. I have known the plant cultivated for these subterraneous pods, which were used as a vegetable for the table.

Grows in rich light lands.

Flowers through the summer.

2. Sarmentosa.

A. foliis ternatis ovatis, glabris; racemis filiformibus, subtrifloris; floribus apetalis; leguminibus oblongis, dispermis. Willd.

Leaves ternate, ovate, glabrous; racemes filiform, generally three flowered; flowers apetalous; pods oblong, two seeded.

Nutt. 2. p. 114.

Stem voluble. Leaves ternate; leaflets ovate, acute, 1½ inches long. Summits of the branches filiform, hanging down, bearing flowers.
GLYCINE Gen. Pl. 1182.

**Calyx** quadrifidus, lacinia superiore bidentata. **Alæ** basi bidentatae. **Germen** basi nudum. **Legumen** compressum, dispersum, sessile.

1. **Simplicifolia.** Walt.

**G. foliis simplicibus, orbiculatis, rugosis; fasciculis terminalibus, axillaribus.**

Leaves simple, orbicular, rugose; clusters terminal and axillary.

Nutt. 2. p. 115.

G. tomentosa var. monophylla Mich. 2. p. 63.

Trifolium simplicifolium Walt. p. 184.

Stem about 2—4 inches high simple, erect and tomentose. **Leaves** round, sometimes with a small point, sometimes slightly cordate. **Petioles** 1—2 inches long. **Stipules** obliquely lanceolate, pubescent. **Clusters** 5—6 flowered, rarely axillary. **Calyx** 4 parted, the segments lanceolate, acute, the upper one 2-cleft; as long as the Corolla. **Corolla** yellow, the wings at base toothed on each side. **Stamens** diadelphous. **Anthers** globose nearly white. **Legume** falcate, pubescent, mucronate. **Seeds** orbicular, speckled.

In this and the two succeeding species, the under surface of the leaves, the calyx and the legume are sprinkled with glandular atoms.

Grows in dry soils.

Flowers May and August.

2. **Tomentosa.**

**G. caule volubili;** Stem voluble; leaves foliis ternatis, rhom-ternate, rhomboidal,
**DIADELPHIA DECANDRIA.**

Beis, rugosis; fasciculus axillaribus, paucifloris, petiolo brevioribus. rugose; clusters axillary, few flowered, shorter than the petiole.


*Stem* climbing over low shrubs, acutely angled, villous. *Leaves* generally rhomboidal, the intermediate one sometimes almost round, triply nerved, common petiole 1—2 inches long. *Stipules* ovate, lanceolate, acute, villous. *Flowers* rarely exceeding 6 in each cluster; common peduncle about half an inch long. *Calyx* 4 parted, the segments very acute, somewhat falcate, as long as the corolla, the upper one 2-cleft. *Corolla*, small, yellow, vexillum reflected, the wing toothed only on the inner side. *Legume* falcate, villous. *Seeds* reniform, speckled, compressed.

Grows in dry soils.

*Flowers* May and July.

3. **Erecta.** Walt.

G. caule erecto; foliis ternatis, ovalibus, subacutis; racemis axillaribus terminalibusque, petiolo longioribus.

Nutt. 2. p. 114.


*Trifolium* erectum. Walt. 184.

*Root* perennial. *Stem* erect, about 2 feet high, angled, tomentose. *Leaves* rugose, tomentose, triply nerved, the middle one sometimes rhomboidal; common petiole, about an inch and a half long. *Stipules* subulate, villous, raceme simple, many flowered; common peduncle, two or three inches long. *Calyx* 4 parted, the upper segment bifid, all acute. *Corolla*, scarcely longer than the calyx, yellow, sometimes tinged with fulvous. *Wings* toothed near the base on each side. *Legume* falcate, mucronate, villous. *Seeds* reniform.

Grows in dry soils.

*Flowers* from June to August.

4. **Mollissima.** E.

G. caule erecto; foliis ternatis, foliolis ternate, leaflets oval,
DIADELPHIA DECANDRIA.

236 ovalibus, mollissime tomentosis: racemis longis, multifloris, terminalibus. E.

tomentose, very soft; racemes long, many flowered, terminal.

Stem erect? angled, tomentose. Leaves ternate; leaflets oval, obtuse, rugose, clothed with a velvet-like tomentum, the glandular dots less distinct on this than on the preceding species. Racemes 5—8 inches long. Calyx deeply cleft, segments subulate, acute, nearly as long as the corolla. Corolla yellow. Wings toothed on each side near the base. The Legume I have not seen.

Grows near St. Mary’s, Georgia. Dr. Baldwin.

Flowers.

5. Reflexa.

Voluble; leaves ternate rhomboidal, nearly round, pubescent; racemes axillary, erect, much longer than the leaves; flower buds and pods reflected.

G? volubilis; foliis ternatis, rotundato rhombis, pubescentibus; racemis axillaribus, erectis, foliis multo longioribus; floribus ante anthesin leguminibusque reflexis.

Nutt. 2. p. 115.

Root perennial. Stem angled, branching, climbing over tall shrubs, pubescent particularly along the angles. Leaflets 3-nerved, covered with a soft pubescence, the lateral leaflets generally round, the middle one frequently rhomboidal. Common Petioles 1—2 inches long. Stipules subulate. Racemes 4—5 inches long, many flowered. Peduncles angled. Calyx 4-cleft, segments acute, the upper one 2-cleft, the lower longer than the rest. Corolla yellow, longer than the calyx the petals all equal, the wings 1-toothed near the base. Legume falcate, pubescent, mucronate. Seeds reniform, glabrous.

The corolla, the seeds and the habit of this plant distinguish it from the other species of this genus, although in character it is very closely allied to them.

Grows on Paris’ Island, running over high shrubs, along the edge of the Island at Mr. Habersham’s plantation. Found also near St. Mary’s, Georgia. by Dr. Baldwin.

Flowers August—October.


I offered some observations on the genus Glycine and some of its
kindred genera. I there proposed to retain the name Glycine to the G. Apios the original type of the genus, and to this group I gave the name of Baldwinia as a tribute of respect to the late Dr. Baldwin, whose name occurs so often in this work. I still think this arrangement the most correct, but another has been extensively adopted, and I wish not unnecessarily to multiply synonyms.

THYRSANTHUS. E.

_Calyx_ bilabiatus, labio superiore truncato, emarginato, inferiore trifido. _Vexillum_ basi callosum. _Alce_ apice coherentes. _Tubulus_ denticulatus, basin stipitis ovarii vaginans. _Legumen_ torulosum, subteres, polylyspermum.

1. **Frutescens.**


A twining shrub, climbing over bushes and small trees to some height, particularly along the margins of rivers; the young branches angular and pubescent. _Leaves_ pinnate, generally 4 pair with an odd one; leaflets ovate lanceolate, slightly acuminate, pubescent. _Flowers_ in clustered panicles (thyrsi,) axillary. _Bracteas_ large, ovate lanceolate, acuminate, coloured, one at the base of each flower-bud. _Flowers_ purple; vexillum broad, reflected at the summit, greenish near the base. _Keel_ incurved at the summit, not deflecting the vexillum. _Pod_ long, leathery, a little rugose, many seeded. _Seeds_ reniform, speckled.

This very ornamental plant grows in damp rich soils. _Flowers_ April—May.
GALACTIA.  

Brown.


G. foliis ternatis, foliolis ellipticis, can-escenti-villosis; racemis axillaris, foliis multo longioribus; floribus pedicellatis.

Leaves ternate, leaflets elliptic, villous, hoary; racemes axillary, much longer than the leaves; flowers pedicellate.


Root perennial.  Stem prostrate or climbing over small plants, terete, villous.  Leaflets conspicuously veined on the under surface; common petiole about 1½ inches long.  Stipules subulate.  Common Peduncles 5—8 inches long, partial rarely exceeding 2 lines.  Flowers commonly 3 from each bud.  Calyx villous, 4-cleft, segments acute, the lower one a little longer than the rest.  Bracteas 2, subulate, at the base of the calyx.  Corolla small, purple; vexillum obovate, glaucous underneath.  Stigma globose.  Legume straight, hispid, hooked at the point.

This appears to be the real G. Mollis of Michaux, but I have some doubts whether it is not the G. Pilosa of Nuttall.

Grows in dry soils.

Flowers through the whole summer.


G. parce pilosa; foliis ternatis, oblongo-ovatis, subacutis, sub tus pallidis; racemis axillaris, folio mul-

A little hairy; leaves ternate, oblong-ovate, somewhat acute, pale underneath; racemes axillary much
DIADELPHIA DECANDRIA. 239

To longioribus; floribus sparsis, breviter pedicellatis. E.

Nutt. 2. p. 116.


This species has great resemblance to the G. Glabella. It differs however in its leaves which are smaller, more ovate, rather acute and mucronate, and in its racemes, which are much longer, with smaller flowers. I feel by no means certain that this is the plant of Mr. Nuttall.

Grows in dry shady soils.
Flowers through the summer.

3. Glabella.

G. foliis ovatis ellipticisque, utrinque emarginatis, supra glabris, subtus parce pilosis; racemis axillaris; folia subaequantibus; calycibus glabris; leguminibus villosis.


Root perennial. Stem climbing over shrubs, terete, a little hairy. Leaves ternate glabrous and nearly smooth on the upper surface, entire, a little hairy underneath; common petiole about an inch long. Racemes about as long as the leaves, sometimes a little longer. Partial pedicules about 2 lines long. Bracteas 2 small scales at the base of the calyx. Corolla larger than in the preceding species, reddish purple, vexillum externally glaucous. Style much longer than the stamens. Legume falcate. Seeds oval.

Grows in dry rich shaded soils.
Flowers through the whole summer.
4. **Elliotti.** Nutt.

G. foliis pinnatis, foliolis ellipticis, emarginatis, supra glabris, subitus pubescentibus; racemis elongatis, paucifloris.

Nutt. 2. p. 117.

*Root* perennial. *Stem* voluble, climbing over small shrubs. *Leaves* unequally pinnate; leaflets about 7, lucid yet sometimes a little scabrous on the upper surface; common petiole 2—3 inches long. *Flowers* nearly sessile, somewhat clustered at the summit of the peduncle. *Peduncles* generally shorter than the leaves, sometimes longer. *Bracteas* subulate. *Calyx* a little hairy, 4-cleft, the lower segment the longest. *Corolla* twice as long as the calyx, white tinged with red when dry. *Legume* compressed, villous, falcate, hooked at the point. *Seeds* 3—5, reniform, smooth, speckled.

This plant was sent many years ago to Dr. Muhlenberg as the G. Pin- nata, and was published under that name in his catalogue. Mr. Nuttall finding the name pre-occupied, has published it under the present.

Grows about three miles from Beaufort along the mail road.

*Flowers May—July.*

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**CLITORIA.**

**Gen. Pl. 1183.**

*Calyx* tubulosus, campanulatus, 5-dentatus. *Corolla* resupinata, vexillo maximo, patente, alas obumbbrante. *Legumen* lineare, acuminatum, polyspernum.

1. **VIRGINIANA.**

C. foliis ternatis, ovatis; calyce bracteis

*Leaves* ternate, o-vate; calyx scarcely
DIADELPHIA DECANDRIA.

vix longiore, 5 parti
to, lacinii subulatis, divergentibus; leguminibus subensiformibus.

longer than the bracteas, 5 parted, with the segments subulate, diverging; pods somewhat ensiform.


Root perennial. Stem voluble, climbing over small shrubs, slightly scabrous. Leaves ternate, oblong, ovate, slightly mucronate, a little scabrous on the upper surface, smooth and reticulated underneath, common petiole about 2 inches long. Racemes axillary, short, generally 3 flowered. Bracteas 2, lanceolate, acute, pubescent, at the base of the calyx. Calyx campanulate, scarcely longer than the bracteas, with the lower segments longer than the rest. Corolla large and pale violet. Stamens diadelphous. Legume long, nearly terete, glabrous.

Grows in moderately dry soils. Flowers June and September.

2. MARIANA.

C. foliis ternatis; calyce bracteis lineari lanceolatis multoties majore, tubuloso, quinquiesida; legumine toruloso.

Leaves ternate; calyx tubular, 5 cleft, much longer than the linear lanceolate bracteas; pods torulose.


Root perennial. Stem sometimes erect, about two feet high, sometimes voluble, smooth. Leaflets ovate, smooth, a little glaucous underneath, common petiole 10—15 lines long. Flowers 1—2 on peduncles about an inch long. Calyx cylindrical, smooth, segments very acute. Corolla pale blue; sometimes white. Legume about 3 seeded (seeds glutinous. Mich.)

Grows in dry soils, moderately fertile. Flowers May and August.

ROBINIA. Gen. Pl. 1195.

Calyx 4-fidus, lacinia superiore biparti- Calyx 4-cleft, the upper segment 2-part-

VOL. II. H.2
ta. Vexillum reflexopatens, subrotundum. Legumen compres-
sum, elongatum, polyspermum.

ed. Vexillum nearly round, expanded, reflexed. Pod comp-
ressed, long, many seeded.

1. Pseudacacia.

R. foliis impari-pinnatis; stipulis spinos-centibus; racemis pen-
dulis; calycis dentibus muticis; leguminibus \textit{laevibus}.

Leaves unequally pinnate; stipules spin-
y; racemes pendulous; teeth of the ca-
lyx unawned; pods smooth.

Mich. arb. for. 3 p. 245.

A tree about 30 feet high, (sometimes 60—80. Mich.) Leaves une-
quality pinnate, with 4—7 pair of leaflets, leaflets frequently alternate,
oral, emarginate, pubescent. Racemes axillary, simple. Calyx pubescent,
spotted, 4 cleft, the upper segment broad, emarginate, the three lower 
acute. Corolla white, vexillum large with the sides reflected. Legume 
smooth.

This tree which is frequently cultivated for ornament on account of the 
beauty and fragrance of its flowers, is also much valued for the quality 
of its wood. It is supposed to make the most durable posts, when ex-
posed to the weather, of any tree in this country, and is also preferred to 
any other wood for the trunnels of vessels.

Grows in the mountains in rich fertile soils. Not found in its native 
state on the sea coast of Carolina.

Flowers March and April.

2. Viscosa.

R. foliis impari-pinnatis; racemis axillari-
ibus, erectis, confertifloris; calycibus acu-
minatis; ramis, petio-

Leaves unequally pinnate; racemes ax-
illary, erect, with the 
flowers crowded; ca-
lyx acuminate; branch 
es, petioles, peduncles
DIADELPHIA DECANDRIA. 243

minibusque glandulo- | and pods viscid, glan-
| so-viscosis.

Mich. arb. for. 3. p. 262.

A tree growing from 20—40 feet high. Leaves unequally pinnate, with 5—7 pair of leaflets. The Petioles, Peduncles, and young wood covered with a viscid pubescence. Corolla white, tinged with pink. Pod obliquely lanceolate, mucronate, when young pubescent, 3—5 seeded.

Grows in the mountains of Carolina and Georgia along the margins of streams.

Flowers April and May.

3. HISPIDA.

R. foliis impari-pinnatis; foliolis rotundato-ovalibus, mucronatis; racemis axillari-bus; calycibus acuminatis; caule subinermi; ramis, pedunculis, calycibus, leguminibus hispidis.

A small shrub, 3—6 feet high extending very much with its creeping roots, and with all its branches, petioles, peduncles, and calyx very hispid. Leaflets oval and ovate, sometimes nearly round, pubescent underneath. Flowers in simple axillary racemes, generally pendulous. Calyx sometimes almost equally 5-cleft, with the segments acuminate. Corolla large of a bright rose colour, very ornamental.

Grows in the mountains of Carolina.

Flowers April.

I have two plants belonging to this genus, which require further examination. I have not the means at present necessary for an accurate description.

1. ROSEA.

A shrub about 8 feet high, not hispid. Stipules spiny. Young branches, petioles and under surface of the leaves pubescent. Leaflets elliptic. Flowers rose coloured.

Grows in the high pine barrens, between Waynesborough and Wrightsborough in Columbia County, Georgia. Scarcely a variety of R. hispida.

2. NANA.

Whole plant scarcely a foot high. Flowers rose coloured.

Grows in the pine barrens near Columbia, South-Carolina.—Mr. Her-bemont.
INDIGOFERA.

Calyx patens. Corolla carina utrinque calcari subulato patulo. Legumen lineare, parvulum, subquad-rangulare.


Calyx expanding. Corolla with the keel bearing a subulate spur on each side. Pod linear, small, somewhat linear, angular.

Leaves pinnate, leaflets oval and obovatisque; spicis folio longioribus; leguminibus dispermis, reticulato venosis.


Root perennial. Stem erect 3—7 feet high, branching, striate, glabrous, the young branches sprinkled with hair. Leaves unequally pinnate. Leaflets about 6 pair, entire, mucronate, a little hairy, slightly glaucous underneath. Stipules 2 at the base of each petiole. Flowers subulate, very short, in simple axillary spikes or racemes twice as long as the leaves; spikes longer than the leaves; pods two seed-ed, reticulate, veiny.

Leaves unequally pinnate, leaflets oval and obovatisque; spicis folio longioribus; leguminibus dispermis, reticulato venosis.

Grows in dry poor soils.

Flowers July and September.

TEPHROSIA.

Calycis dentibus subulatis, subaequalibus. Stamina monadelphous? Legumen compressum, subcoriaceum.

Teeth of the calyx subulate, nearly equal. Stamens monadelphous? Pod compressed, coriaceous.
1. **Virginiana.**

T. erecta, pubescent; foliis plurimis, oblongo-lanceolatis, acutis; racemo terminali, subsessili; leguminibus falcatis.


Grows in dry pine barrens.

Flowers May and July.

2. **Hispidula.**

T. caule erecto, gracili, pubescente, dichotomo; foliis pinnatis, foliolis (11—15) ellipticis, subretusis, mucronatis, subtus pilosis; racemis folia æquantibus, paucifloris; leguminibus mucronatis, hispidulis.


Root perennial. Stem erect, slender, pubescent, dichotomous; leaves pinnate, leaflets (11—15) elliptic, slightly retuse, mucronate, hairy underneath; racemes as long as the leaves; few flowered; pods mucronate, slightly hispid.

Stem erect, slender, pubescent, dichotomous; leaves pinnate, leaflets (11—15) elliptic, slightly retuse, mucronate, hairy underneath; racemes as long as the leaves; few flowered; pods mucronate, slightly hispid.

Stem erect, slender, pubescent, dichotomous; leaves pinnate, leaflets (11—15) elliptic, slightly retuse, mucronate, hairy underneath; racemes as long as the leaves; few flowered; pods mucronate, slightly hispid.
petiole. **Racemes** opposite the leaves, 3—6 flowered. **Calyx** very villous, segments subulate, expanded. **Corolla** pale red; vexillum externally pubescent. **Pod** about an inch and a half long, straight, mucronate, somewhat hispid. **Seeds** compressed, reniform, 4—7, spotted.

This plant as remarked by Mr. Nuttall, differs in some slight degree from the Galega hispidula of Michaux, but too slightly I think to constitute a new species.

Grows in dry soils.

Flowers May and August.

3. **PAUCIFOLIA. Nutt.**

**T. caule decumbente, villosissimo; foliis sparsis, pinnatis; foliolis cuneato ovalibus, subitus villosis; pedunculis foliis multis to longioribus, paucifloris.**

Nutt. 2. p. 119.


——— Spicata. Wats. p. 188.

**Root** perennial. **Stem** sometimes erect, generally decumbent and prostrate, very villous, the pubescence generally rufous. **Leaves** scattered, pinnate, leaflets 11—15, elliptic, obtuse, mucronate, generally cuneate at base, very hairy, almost hispid on the under surface, sometimes pubescent, sometimes nearly glabrous on the upper. **Petiole** like the stem very villous. **Peduncles** opposite the leaves, very long, generally bearing 4 or 5 flowers, sometimes more, less villous than the stem. **Bracteas** lanceolate, villous. **Calyx** hispid, segments subulate. **Corolla** red, vexillum on the outer surface very hairy. **Legume** compressed, falcate, hispid.

I have little doubt that this plant is the real *G. villosa* of Michaux though not of Pursh. *Sparsifolia* would, I think have been a more appropriate name, than the one which has been imposed upon it.

Grows in dry soils. Very common.

Flowers through the summer.

4. **CHRYSOPOHYLLA.** Pursh.

**T. prostrata, pubescens; foliis pinnatis, quinis, subsessili.**

**Prostrate, pubescent; leaves pinnate, by fives, nearly ses-
bus; foliolis cuneato-lobovatis, obtusissimis, supra glabris, subtus sericeis; pedunculis oppositifoliis, elongatis, sub 3 floribus; leguminibus rectiusculis.

Pursh 2. p. 489.  
T. Prostrata. Nutt. 2. p. 120.

Stem prostrate and pubescent. Leaves pinnate, subsessile, leaflets cuneate ovate, coriaceous, smooth above, sericeously villous underneath. Peduncles about 3 flowered, opposite to and longer than the leaves. Legume linear and nearly straight. Nutt.

Common around Savannah in dry and sandy soils. Nutt.  
Flowers through the summer.

MEDICAGO. Gen. Pl. 1214.

Carina corollae a vexillo deflectens.  
Legumen compressum, cochleatum.

1. Lupulina.

M. spicis ovalibus; leguminibus reniformibus, monospermis; stipulis integerrimis; foliolis obovatis; caulis prospicentibus.


Stem diffuse, prostrate and assurgent, rarely exceeding a foot in height, angled, hairy. Leaves ternate, nearly sessile; leaflets ovate, emarginate, denticulate near the summit, hairy. Stipules obliquely lanceolate, acuminate, hairy, extended at base, longer than the petiole. Flowers in oval or globular axillary heads, common peduncles about an inch
and a half long. *Bracteas* small, ovate, acuminate, at the base of each partial peduncle. *Calyx* hairy, border 5-cleft, the lower segments longer than the rest. *Corolla* yellow, the vexillum twice as long as the wings, and keel. *Pod* coriaceous, spirally twisted, 1-seeded. *Seed* reniform glabrous.

Grows in dry sandy soils. An exotic now completely naturalized. Flowers April and June.

2. *Intertexta.*

*M. pedunculis sub-bifloris; leguminibus cochleatis, ovalibus; aculeis pubescentibus, setaceis, distichis, adpressis; stipulis ciliato-dentatis; foliolis obovatis, dentatis.*

Pedunclessomewhat 2 flowered; pods spiral, oval; prickles pubescent, setaceous, distichous, appressed; stipules fringed, toothed; leaflets obovate toothed.


This species with the *M. Sativa*, and *M. Nigra*—spring up occasionally in our enclosures, but neither of them appear to be naturalized in this country.
CLASS XVIII.

SYNGENESIA.

POLYGAMIA EQUALIS.

§ 1. Semiplanosulosi.
457 LEONTODON.
458 BORKHAUSIA.
459 LACTUCA.
460 SONCHUS.
461 PRENANTHES.
462 HIERACIUM.
463 KRIGIA.
464 APOGON.

§ 2. Capitati.
465 STOKESIA.
466 CNICUS.
467 LIATRIS.
468 VERNONIA.
469 BRICKELLIA.

§ 3. Discoidei.
470 KUHNIA.
471 MIKANIA.
472 EUPATORIUM.
473 CHRYSOCOMA.
474 CACALIA.
475 SPARGANOPHORUS.
476 HYPENOPAPPUS.
477 POLYPTERIS.
478 MELANANTHERA.
479 MARSHALLIA.

POLYGAMIA SUPERFLUA.

§ 1. Discoidei.
480 ARTEMISIA.

481 BACCHARIS.
482 CONYZA.
483 PTEROCAULON.
484 GNAPHALIUM.

§ 2. Radiati.
485 SENECIO.
486 ARNICA.
487 CHRYSOPSIS.
488 ASTER.
489 SOLIDAGO.
490 ERIGERON.
491 BOLTONIA.
492 CHRYSANTHEMUM.
493 HELENIUM.
494 ECLIPTA.
495 ANTHEMIS.
496 ACHILLEA.
497 ACMELLA.
498 HELIOPSIS.
499 TETRAGONOTHECA.
500 BUPHTHALMUM.
501 SIEGESBECKIA.
502 VERBESINA.

POLYGAMIA FRASTRANEA.

503 ACTINOMERIS.
504 HELIANTHUS.
505 BIDENS.
506 COREOPSIS.
507 LEPTOPODA.
508 BALDUNIA.
509 GALARDIA.
LEONTODON. Gen. Pl. 1237.

Involucrum imbricate, with the lower scales loose. Pappus feathered, stipitate. Receptacle naked.

1. Taraxacum.

L. involucris squamis exterioribus reflexis; scapo unifloro; foliis runcinatis, glabris, lacinii lanceolatis, dentatis.

Exterior scales of the involucrum reflexed; scape one-flowered; leaves runcinate, glabrous, the segments lanceolate, toothed.


Root perennial. Leaves all from the root, oblong, runcinate, glabrous, when young a little hairy. Scapes several from each root, terete, glabrous, shorter than the leaves, one-flowered. Leaves of the involucrum numerous; the interior series equal, appressed, frequently coloured, when old reflexed, the exterior lanceolate, imbricate, slightly fringed. Corolla ligulate, yellow. Seeds oblong, angled, compressed towards the summit, slightly mu-
SYNGENESIA ΕQUALIS.

ricate, crowned with a stipitate hairy pappus. Receptacle convex, dotted, naked.

The leaves and stalk of this plant, like those of most of the semifloscular plants, discharge when broken a milky acrid juice, which is generally narcotic and sometimes supposed to be poisonous.

Grows in damp soils. An exotic now naturalized.

Flowers from January to April.

BORKHAUSIA. De Candolle.


**Involucrum** surrounded at base with a few loose scales. **Pappus** hairy, stipitate. Receptacle naked.

1. **Caroliniana.**

B. foliis oblongis, lanceolatis, glabris, rarer dentatis, interdum pinnatifidis; caule erecto, paucifloro; pedunculis elongatis.

Leaves oblong, lanceolate, glabrous, rarely toothed, sometimes pinnatifid; stem erect, few flowered; peduncles long.


Root perennial? Stem resembling a scape, about two feet high, slightly furrowed, pubescent towards the summit. Leaves alternate, narrow, when old pinnatifid, pubescent along the margins. Flowers very few, solitary on the summit of the long branches. Involucrum many leaved; the interior series equal, united, linear, with a dorsal tooth near the summit, the exterior slightly imbricate, subulate, short. Florets ligulate, very numerous, bright yellow. Seed oblong, compressed, striate, slightly rugose, crowned with a hairy stipitate pappus. The stipes remarkably long.

Grows in pastures and cultivated land—very common.

Flowers March—July.
LACTUCA. Gen. Pl. 1234.

_Involucrum imbricatum, cylindricum, margine membranaceum._
_Semina laevia. Pappus simplex, stipitatus._
_Receptaculum nudum._

1. **Elongata.** Muhl.

*L. foliis subtus laevibus, inferioribus runcinatis, integerrimis, amplexicaulis, infinis dentatis, summis lanceolatis; floribus corymboso-paniculatis.*


Root perennial? Stem four to seven feet high, glabrous. Leaves very long, glabrous, conspicuously runcinate. Flowers in a large terminal panicle, composed of small corymbiform clusters. _Involucrum_ imbricate, the interior leaves long, appressed until the seed matures, then reflected. _Florets_ numerous. _Corolla_ ligulate, yellow. _Seed_ compressed, crowned with a stipitate, hairy pappus.

Grows in rich and damp soils.

Flowers July—September.

2. **Graminifolia.** Mich.

*L. caule erecto, simplici; foliis inermibus, plerisque indivisis, basi simplici, longissime linearibus; panicula.*

Stem erect, simple; leaves unarmed, generally undivided, simple at base, long, narrow; panicle leafless, loose,
SYNGENESIA \textit{ÆQUALIS.} 253

aphylla, laxa, ramis rarifloris, floribus omnibus pedunculatis. the branches few-flowered; flowers all on peduncles.

Mich.


Stem about three feet high, glabrous. Leaves sessile, long, tapering to an acute point, sometimes amplexicaule; the lower frequently bearing a few segments, always acute, sometimes runcinate, somewhat glaucous underneath and fringed along the midrib. Flowers in a loose terminal panicle. Involucrum imbricate, the leaves subulate. Florets about twenty; corolla ligulate, purple. Seeds compressed, lanceolate, serrulate, crowned with a stipitate hairy pappus.

Grows in dry and moderately fertile soils.

Flowers April—September.

3. \textit{Sagittifolia.} E.

\textit{L. caule erecto, glabro; foliis oblongo-lanceolatis, acutis, integerrimis, glabris, subtus pallidoribus, arcte sessilibus, basi sagittatis; floribus paniculatis.}

\textit{E.}

Stem erect, glabrous; leaves oblong-lanceolate, acute, entire, glabrous, pale underneath, closely sessile, sagittate at base; flowers in panicles.


I collected this plant many years ago, along the margin of a creek, in the neighbourhood of Columbia. The Corolla in my specimens has been destroyed, but if my memory is accurate, it was yellow. I have preserved no root leaves, but I certainly saw none that were either runcinate or sinuate. Flowers July—September.
SONCHUS.  Gen. Pl. 1233.


1. Oleraceus. Lin.

*S. pedunculis subtomentosis umbellatis; involucris glabris; foliis oblongo-lanceolatis, amplexicaulis, denticulatis, subsinuatis.*

Peduncles somewhat tomentose, flowers in umbels; involucrum glabrous; leaves oblong-lanceolate, amplexicaule, slightly toothed and sinuate.


Root annual. Stem two to five feet high, terete, glabrous, fistulous, branching, very tender and succulent. Leaves alternate, amplexicaule, deeply sinuate and pinnatifid, segments acute and acutely toothed, the whole plant slightly glaucous. Flowers in axillary umbels. Peduncles one to two inches long, with tufts of a cotton-like tomentum, irregularly attached to their surface. Scales of the involucrum subulate, appressed. Corolla yellow. Seed oblong, striate, glabrous. Pappus sessile.

Probably an exotic, now universally diffused in cultivated lands.

Flowers March—July.


*S. pedunculis hirsutis, nudis; floribus paniculatis; foliis lyratis, basi cordatis, subtus hirtis.*

Peduncles hirsute, naked; flowers in panicules; leaves lyrate, cordate at base, hirsute underneath.


Root tuberous, perennial. Stem erect, four to seven feet high. Leaves large, lyrate, very hairy and hispid on the under surface. Corolla blue. Willd.

This species I have not seen.
Flowers August—September.

3. Floridanus. Lin.

S. pedunculis sub-squamosis; floribus paniculatis; foliis lyrato-runcinatis, denticulatis, petiolatis.

Peduncles somewhat scaly; flowers in panicles; leaves lyrate, runcinate, denticulate, petiolate.


Stem erect, three to five feet high, glabrous. Leaves narrow, lanceolate, acuminate at each end, acutely denticulate, occasionally with one or two runcinate segments. Flowers in a long slender panicle. Corolla small, blue. Grows in the upper districts of Carolina and Georgia. Flowers July—September.


S. caule erecto, glabro; foliis lanceolatis, acutis, undulatis, spinuloso dentatis, basi auriculatis, semiamplexicaulibusque; floribus sub umbellatis. E.

Stem erect, glabrous; leaves lanceolate, acute, undulate, with very acute teeth, auriculate and semiamplexicaule at base; flowers somewhat umbellate.

Walt. p. 192.

Plant annual. Stem one to three feet high, glabrous, fistulous. Leaves numerous, glabrous, never acuminate, remarkable for their very numerous acute teeth, along the undulate margin. Flowers numerous, in small lateral and terminal umbels. Involucrum imbricate, slightly ventricose. Corolla small, yellow. Seeds compressed, striate. Pappus sessile.

Grows in damp rich soils. In river swamps very abundant. Flowers March and April.

5. Acuminatus. Willd.

S. pedunculis sub-squamosis; floribus paniculatis.

Peduncles somewhat scaly; flowers panicul-
niculatis, foliis radica-libus subruncinatis, caul-inis ovatis, acuminati, petiolatis, medio denticulatis.

late; leaves of the root slightly runcinate, of the stem ovate, acuminate, petiolate, toothed in the middle.


Stem three to four feet high. Lower leaves spathulate, ovate, acuminate, acutely toothed, sometimes angled, glabrous on the upper surface, pale and hairy underneath, attenuated at base, into a winged petiole, two to four inches long. Flowers in a loose terminal panicle, peduncles bearing a few ovate, ciliate, scales. Involucrum imbricate. Florets about fifteen. Corolla purple.

This plant is probably, as suggested by Willdenow the Lactuca Villosa of Jacquin, for the pappus is certainly stipitate and the habit not unlike that of our other species of Lactuca.

Grows in shady rich soils.

Flowers August—September.

Prenanthes


Gen. Pl. 1236.


P. caule ramoso; foliis trilobis, petiolatis, angulatis, denticulatis, margine scabris; racemis axillaribus; floribus nutantibus; involucris sub 5-floris.

Stem branching; leaves 3-lobed, petiolar, angled, denticulate, scabrous along the margin; racemes axillary, flowers nodding; involucrum generally 5-flowered.

SYNGENESIA EQUALIS.

257

Root perennial. Stem 4—6 and 8 feet high, branching, glabrous. Leaves alternate, deeply 3-lobed, almost hastate, the lateral segments angled near the base, the margin slightly and irregularly dentate, the under surface pale, if not slightly glaucous. Petioles 2—7 inches long. Flowers in axillary panicles. Involucrum cylindrical, composed of 5 strap-shaped leaves, protected at base by small imbricate scales. Florets generally 5, ligulate, yellow. Seeds angular, striate. Pappus sessile, scabrous.

Grows in the mountains of Carolina. Dr. Macbride. Flowers September.

2. Cordata.

P. foliis petiolatis, ovato lanceolatis, cordatis, dentatis ciliatisque; panicula laxa, racemiflora; floribus nutantibus; involucris 6—8 floris.


Root perennial. Stem 4—6 feet high, generally glabrous. Leaves ovate-lanceolate, cordate, toothed and fringed; panicule loose, with the flowers somewhat racemose; flowers nodding; involucrum 6—8 flowered.

P. foliis petiolatis, ovato lanceolatis, cordatis, dentatis ciliatisque; panicula laxa, racemiflora; floribus nutantibus; involucris 6—8 floris.

3. Deltoidea. E.

P. caule simplici, glabro; foliis deltoideis, acuminatis, acute denticulatis, subtus subglaucis; racemis axillaris, paucifloris; involucris 5-floris.

Stem simple, glabrous; leaves deltoid, acuminate, acutely denticulate, slightly glaucous underneath; racemes axillary, few flowered; involucrum 5-flowered.
258

SYNGENESIA \textit{ÆQUALIS}.

Stem slender, about 2 feet high. Leaves on long petioles, the lower ones triangular, with an acuminated point, and the angles at base very acute, the upper ones ovate lanceolate, all denticulate, glabrous, and slightly glaucous underneath. Flowers in small axillary racemes, in my specimen not exceeding 3 heads in each raceme, which appear to have been nodding. Involucrum composed of 5 equal linear leaves, glabrous, membranaceous at the margins, and closely protected at base by small ovate imbricate scales. Corolla purple? Seeds glabrous, slightly angled and striate. Pappus hairy.

Collected on the Saluda Mountains by Dr. Macbride. Flowers September.


\textit{P. glabra}; caule simplicissimo; foliis omnibus runcinato-sinuatis; racemulis subcundis; floribus pendulis; involucris 8-fidis, 10-floris.

Glabrous; stem simple; leaves all runcinate and sinuate; racemes generally second; flowers pendulous; involucrum 8-parted, 10-flowered.


Root perennial, somewhat tuberous. Stem herbaceous, erect, simple, 2—4 feet high, very glabrous. Leaves sessile, semiamplexicaule, deeply sinuate, with the segments on the lower leaves frequently runcinate, and sparingly toothed, the upper leaves narrow, lanceolate. Flowers in a long terminal raceme, composed generally of small branches, bearing commonly 3—4 flowers. Interior leaflets of the Involucrum 8, oblong, obtuse and fringed at the summit; florets 10—12 in each involucrum. Corolla ligulate, pale purple. Seeds cylindric, striate, crowned with a scabrous pappus.

Grows in damp pine barrens. Flowers October.

5. \textit{Simplex}. Pursh.

\textit{P. caule simplicissimo}; foliis superioribus linearis-lanceolatis, integerrimis, radicalibus lanceolatis, sinuatis; racemo terminali, sim.
SYNGENESIA \textit{EQUALIS}.

\begin{itemize}
\item \textbf{Plicissimo; floribus nutantibus; involucris sub 8-floris.}
\end{itemize}

\textit{Pursh 2. p. 498.}

\textit{Stem about 2 feet high. Flowers purple. Pursh.}

Is this really a distinct species, or is it a young plant of the \textit{P. virgata}? Collected in Georgia by Mr. Enslen. Flowers July—August?

6. \textit{Crepidinea.}

\begin{itemize}
\item \textbf{P. foliis lato lanceolatis, in petiolum attenuatis, inâequaliter angulato dentatis; panicula fasciculis terminalibus, paucifloris, nutantibus; involucris hirsutis, 10—12 fidis, sub 20-floris.}
\end{itemize}

\textit{Mich. 2. p. 84. Pursh 2. p. 499.}

Among the Plants collected by Dr. Macbride on the Saluda mountains was one, which though destitute of its lower leaves, appeared in other respects to agree very well with the \textit{P. Crepidinea} of Mich.

\textit{Stem 4—6 feet high, branching towards the summit. Upper leaves sessile, lanceolate, denticulate, scabrous and somewhat pubescent. Flowers in terminal clusters, nodding. Involucrum 8—10 leaved, nearly glabrous, surrounded at base, as usual in this genus, with small imbricate scales. Florets numerous, Pappus sessile, scabrous. Grows in the mountains of Carolina. Flowers September.}

7. \textbf{Alba.}

\begin{itemize}
\item \textbf{P. foliis radicalibus angulato-hastatis, dentatis, sublobatis, caulinnis subrotundo-ovatis, dentatis, petiolatis}
\end{itemize}

\begin{itemize}
\item \textbf{nooding; involucrum generally 8-flowered.}
\end{itemize}

Leaves of the root angled, hastate, toothed, and slightly lobed, of the stem ovate nearly round, toothed
SYNGENESIA ÆQUALIS.

Summis lanceolatis; and petiolate, the upper ones lanceolate; panicula laxa; fasciculis terminalibus nutantibus; calycibus 8 fidis 8—10 floris.


Root perennial, somewhat tuberous. Stem herbaceous, 2 feet high, much divided, slightly angled and pubescent. Lower leaves hastate, lobed and irregularly sinuate and dentate. Lobes obtuse or acute; the upper leaves spathulate, obovate, toothed and angled. Flowers in loose panicles composed of small terminal clusters. Involucrum cylindrical, 8-leaved; leaves oblong, pubescent, fringed at the summit. Scales at the base lanceolate, acute. Florets 8—12, ligulate, of a pale yellowish white colour. Seeds cylindrical, striate, crowned with a scabrous pappus.

Grows in dry soils.
Flowers September—October.
The root is excessively bitter, from whence the plant has derived the popular name of the Gall of the earth.

8. RUBICUNDA.

P. foliis ciliatis, radicalibus hastato-angulatis, subintegerrimis, inferioribus obovatis, basi attenuatis, subangulatis, summis lanceolatis, integerrimis; racemo simplici; floribus nutantibus.

Leaves ciliate, those of the root hastate, angled, nearly entire, the lower stem leaves obovate, tapering at base, slightly angled, the upper lanceolate, entire; racemes simple; flowers nodding.


This species with which I am unacquainted, was considered by Linnaeus as a variety of the P. Alba. Mr. Nuttall considers it as the same plant with the P. Virgata, and has excluded it from his list of species.

Grows in shady woods from Pennsylvania to Carolina.

Stem not above 18 inches high. Pursh.

Flowers August—October.
9. **Serpentaria.** Pursh.

*P. foliis dentatis, asperis, radicalibus palmato sinuatis, caulinis longe petiolatis, sinuato pinnatifidis, subtrilobis, lacinia intermedia 3-partita, summis lanceolatis; racemis terminalibus, subpaniculatis, brevisbus, nutantibus; involucris 8-fidis, 12-floris.*

Leaves toothed, rough, those of the root palmate, of the stem on long petioles, sinuate, pinnatifid, somewhat 3-lobed, the middle segment 3 parted, upper leaves lanceolate; racemes terminal, paniculate, short, nodding; involucrum 8-cleft, 12-flowered.

Pursh 2. p. 499.

Plant 2—4 feet high, nearly glabrous. *Leaves* alternate, hastate, sinuate, angled and toothed, with a long attenuated base, resembling a winged petiole, lateral lobes so abruptly angled at their termination, as frequently to appear prenose. *Flowers* in loose terminal panicles; florets purple.

This plant bears so striking a resemblance to the *P. Alba*, as to render it doubtful whether it ought to be separated from it. It appears from the specimens I possess, to be a taller plant, to have its leaves much more distinctly hastate, its angles and lobes more acute.

Grows in the mountains in Pendleton county, S. Carolina. Sent to me also from Salem, N. Carolina, by Dr. Schweinitz. *Flowers* August—October.

10. **Aphylla.** Nutt.

*P. caule subsimpliici; ramulis virgatis; foliis radicalibus linearibus, caulinis minimis, subulatis, sparsis; floribus solitariis; involucris 8-fidis, 10—12 floris.*

Stem nearly simple; branches twiggy; leaves of the root linear, of the stem small, subulate, scattered; flowers solitary; involucrum 8-cleft, 10—12 flowered.

Nutt. 2. p. 123.
SYNGENESIA EQUEALIS.

Root perennial? Stem about 2 feet high, glabrous, striate, sparingly branched towards the summit. Root leaves I have never seen. Stem leaves mere scales scattered along the stem. Flowers terminal, solitary. Involucrum very long, cylindrical. Florets purple.

The specimen of this plant which Dr. Baldwin sent me from St. Mary's under the name of Prenanthes Pumila, is too imperfect to enable me to speak of it with much confidence. It appears to me questionable, however, whether it belongs to this genus.

It grows in the pine barrens round St. Mary's, Georgia.

Flowers.

HIERACIUM. Gen. Pl. 1238.

Receptaculum nudiusculum. Pappus simplex, sessilis. Involucrum imbricatum, ovatum.

1. Venosum.

H. scapo nud, paniculato, glabro; foliis obovato lanceolatis, supra rariter pilosis, subtus nudis, margine ciliatis denticulatisque, venis coloratis; involucris glabris.


Root perennial. Stem herbaceous, 1—2 feet high, glabrous, branching towards the summit. Leaves all radical, lanceolate and obovate, with a long tapering base, beautifully variegated with dark red veins, very hairy along the midrib. Flowers in corymbose panicles. Involucrum ovate, interior leaves 8—10, equal, exterior much shorter, imbricate; florets ligulate, yellow. Seed oblong, striate, crowned with a sessile hairy pappus. Receptacle naked, flat, dotted.

Grows in rich oak lands in the upper districts of Carolina and Georgia.

Flowers April.
2. **Marianum.** Pluk.

**H. caule erecto, villosa; foliis obovatis, strigosis, carina villosis, inferioribus subdenticatis; pedunculis calycibusque tomentosis.**

Stem erect, villous; leaves obovate, stri- gose, with the keel villous, the lower ones slightly toothed; peduncles and calyx to- mentose.


Root perennial. Stem 2—4 feet high, very hairy and scabrous. Leaves sessile, attenuate, oval-lanceolate, the lower ones denticulate, very hispid, particularly towards the base, upper leaves small. Flowers in a compact terminal panicle. Interior leaves of the involucrum somewhat lanceolate, hairy, but less tomentose than the peduncle; florets numerous, yellow, scarcely longer than the involucrum.

Grows in the upper and mountainous districts of Carolina. Flowers August—September. Pursh.

3. **Gronovii.**

**H. caule folioso, paniculato; involucris hispidis; foliolis obovatis lanceolatisque, ciliatis, pubentissimis.**

Stem leafy, panicu- late; involucrum his- pid; leaves obovate and lanceolate, fring- ed, very pubescent.


Root perennial, somewhat præmorse. Stem simple, erect, 2—3 feet high, nearly naked towards the summit, hairy and roughened with a gland ular pubescence. Leaves few near the base of the stem, attenuate, sessile, sprinkled with long hairs, and at the same time covered with a short down, almost tomentose, the margins scarious and sometimes toothed. Flowers in a long, naked, terminal panicle. Involucrum cylindric, and with the peduncles covered with hairy and almost hispid glands, interior leaves about 12, linear, equal, exterior about the same number, imbricate; florets yel- low. Seeds oblong, furrowed, crowned with a hairy pappus.

Grows in dry soils. Very common.

Flowers through the whole summer.
4. **Paniculatum.**

**H.** glabriusculum; Nearly glabrous; 
caule erecto, folioso, 
paniculato, inferne al-
bo-lanato, pedicellis 
capillaris; folii lance-
olatis, nudis, dentati-
tis, membranaceis.

Nearly glabrous; 
stem erect, leafy, pan-
iculate, woolly and 
hoary below, pedicels 
capillary; leaves lan-
ceolate, naked, tooth-
ed, membranaceous.


*Root* perennial. *Stem* 2—4 feet high, branching, nearly glabrous to-
wards the summit. *Leaves* lanceolate, thin, glabrous, sessile, sparingly 
but very regularly denticulate. *Panicle* large, compound. *Flowers* on 
long slender peduncles. Interior leaves of the involucrum very narrow, 

Grows in the mountains of Carolina.

*Flowers* July—September.

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**Krigia.**

*Involucrum* poly-
phyllum, simplex. *Re-
ceptaculum* nudum. 
*Pappus* duplex, exter-
rior membranaceous, 
interior capillaceus.

**Gen. Pl.** 1244.

*Involucrum* many 
leaved, simple. *Re-
ceptacle* naked. *Pap-
pus* double, the exter-
ior membranaceous, 
the interior hairy.

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**1. Virginia.**

*K. pusilla, glauca;* 
folii primariis, subro-
tundis, integris, cæteris 
lyratis, subglabris; 
scapis unifloris, gla-
bris, demum folii lon-
gioribus; involucro 
126.

Small, glaucous; the 
first leaves nearly 
round, entire, the rest 
lyrate, nearly gla-
brous; scapes one flow-
ered, glabrous, finally 
longer than the leaves; 
involucrum glabrous.

Grows in dry sandy soils.
*Flowers* in the spring.

2. **Caroliniana.**

*K. foliis runcinatis,* subglabris; *scapis praerlongis,* involucrique basi glandulosopilosis. Nutt.

*Hyoseris Caroliniana.* Walt. p. 194.

*Root* perennial, fibrous. Radical *Leaves* at first lanceolate, then pinnatifid and sometimes runcinate, the lateral lobes acute, the terminal one large, generally obtuse, all sometimes toothed, and sprinkled particularly on the upper surface, with jointed hair. *Scapes* numerous from each root, 6—12 inches high, a little hairy, particularly towards the base, one flowered. *Involucrum* 10—20 parted, segments equal, linear lanceolate, glabrous. *Corolla* ligulate, longer than the involucrum, bright orange coloured, a little hairy at base. *Seeds* inversely conic, striate, muricate, crowned with a double pappus, the exterior composed of 5 short, nearly round, membranaceous leaves, the interior of 5 scabrous bristles, as long as the involucrum, and alternating with the leaves of the exterior pappus. *Receptacle* naked, convex, dotted.

Around the plants of this genus there is still some obscurity. The plant which I have minutely described above, is the common species of our country and is generally considered as the *K. Virginica.* The references to Wildl. and Mich. would perhaps be more correct here than under the preceding species. If, as suggested by Mr. Nuttall, this is the *H. Caroliniana* of Walter, I have no doubt that his *H. Virginica* is the *K. Dandelion* of Nuttall. At the same time, I am persuaded that the plant I have described is not the Southern species known to Mr. Le Conte and Dr. Baldwin, which I have seen, but of which I have no description.

*Grows in sandy soils.* Very common.

*Flowers* February—April.

3. **Dandelion.**

*K. glabra,* subglauca; foliis lineari lanceolatis, integris, öevi

Glabrous, slightly glaucous; leaves linear lanceolate, entire,
bus; scapis unifloris. | smooth; scape 1-flow-ered.

Hyoseris major. Walt. p. 194.

Root perennial, somewhat tuberous. Primary Leaves oblong, narrow, slightly obovate, the other leaves linear-lanceolate, 8—14 inches long, acute, generally entire, sometimes very slightly denticulate, somewhat glaucous. Scape a little longer than the leaves, bearing a few glandular hairs near the base of the involucrem. Involucrum 10—12 parted; florets yellow, nearly three times as long as the involucrem. Scales of the exterior pappus not distinguishable in my specimens, bristles of the interior numerous.

Grows in the lime-stone soils in St. John’s, Berkeley. Dr. Macbride.
Flowers.

This appears from the description to have been the original Tragopogon Dandelion of Linnaeus. Specimens sent to me from Salem, North-Carolina, as the K. Dandelion of Nuttall belong, I think, to a very different species.

4. Amplexicaulis.

K. glauca; foliis ra-
dicalibus spathulato-
lanceolatis ovalibus-
que, dentatis; scapis
parce foliosis ramosis-
que.

Nutt. 2. p. 127.
Hyoseris biflora. Walt. p. 194.
Troximon virginicum. Pursh, 2. p. 505.

Root perennial. Stem 12—14 inches high, resembling a scape bearing a few sessile, semiamplexicaule, lanceolate or ovate leaves, and sparingly divided into long slender branches. Radical leaves all spathulate, generally lanceolate and irregularly toothed. Flowers solitary, on the extremities of the long branches. Involucrem about 12-parted, a little hairy at base. Florets yellow, twice as long as the involucrem. Exterior pappus 8-parted.

Grows in the middle and upper districts of Carolina.
Flowers.
APOGON. E.

Receptaculum nudum. Pappus 0. Involucrum octophyllum serie duplici.

Pappus 0. Involucrum 8-leaved in a double series.

1. HUMILIS. E.

Root annual. Stem 6—12 inches high, branching, glabrous. Root leaves oblong, narrow, slightly obovate, sessile. The stem leaves strap-shaped, acute, entire, sessile and slightly glaucous. Flowers terminal and somewhat umbellate, with two or more leaves sheathing the base of each umbel; perhaps 1 small leaf for each peduncle. Peduncles 3—5, 1—2 inches long, sometimes though rarely compound. Involucrum generally 8-leaved; leaves ovate, acuminate, glaucous, a little hairy and closely united at base but seeming to form two rows. Florets ligulate, few, (3—10) small, yellow, a little longer than the involucrum. Receptacle naked, flat. Seeds somewhat lanceolate, furrowed, transversely striate and without even the vestige of a pappus, as far at least, as the limited opportunities which I have had for examining it, have enabled me to ascertain.

Grows, though very rare, in the low and middle country of Carolina.

Found many years ago along the road between Jacksonborough and Ashepoo-Ferry. Sent to me recently from Augusta, Georgia, by Dr. Leavenworth.

Flowers April.

STOKESIA. L'HERITIER.

Receptaculum nudum. Pappus 4-setosus. Involucrum foliaceum, subimbricatum. Corolla radiata; corollulis radii infundibuliformibus, irregularibus.


1. CYANEA.


With this plant I am entirely unacquainted.

Grows in Carolina.

Flowers.

**Involucrum imbri-catum, ventricosum, squamis spinosis. Pappus plumosus. Receptaculum villosum.**

1. Altissimus.

**C. foliis sessilibus, oblongo lanceolatis, scabris, subtus tomentosis, dentatis, ciliatis, radicalibus pinnatifidis; involucris bracteatis, ovatis; squamis ovato-lanceolatis, spinosis, appressis.**

Leaves sessile, oblong lanceolate, scabrous, tomentose underneath, toothed, fringed, those of the root pinnatifid; involucrum ovate, bracteate; scales ovate lanceolate, spinous, appressed.


Root perennial. Stem erect, branching, sometimes on the borders of the Missouri, according to Mr. Nuttall, attaining the height of 15 or 18 feet. Leaves tomentose and hoary underneath, the upper one sessile, lanceolate, irregularly spiny. Flowers terminal. Involucrum somewhat cylindrical, the scales ovate, acuminate, appressed, pale, with the terminating spine discoloured and appearing as if riveted to the scale. Corolla generally purple. Receptacle villous.

Grows in the upper districts of Carolina. Pursh. Willd. I have not myself seen this species in Carolina, my specimens are from Pennsylvania.

Flowers July—September.


**C. foliis omnibus pinnatifidis, subtus lanuginosus, laciniae spinulosae, sublanceolae.**

Leaves all pinnatifid, lanuginous underneath, the segments spinulose, somewhat

...
latis, acutis; ramulis nudiusculis unifloris; involucris globosis; squamis muticis. lanceolate, acute, branches naked, one flowered; involucrums globose; scales unarmed.


Stem tall, slender, branching. Leaves deeply sinuate, the segments sometimes 3-lobed; lobes acute and spiny, pale, hairy, and when young lanuginous underneath. Flowers in globose heads. Scales or leaves of the involucrem lanuginous, the lower ones armed with spines, the upper simple, acute. Corolla purple. Grows in the mountains of Carolina and Georgia. Flowers July—September.


C. foliis amplexicaulis, angusto-oblongis, lasvissime obtuseque sinuatis, spinulis crebris, lanuginosis; ramis unifloris, foliosis; involucris squamis lanceolatis, erectis, spinula aristatis. Leaves amplexicaule, narrow, oblong, slightly and obtusely sinuate, with numerous small spines, lanuginous; branches one flowered, leafy; scales of the involucrem lanceolate, erect, armed with a spine.


Stem erect, about 2 feet high, sometimes divided, but generally simple, and bearing one terminal flower, very lanuginous. Leaves oblong, narrow, slightly sinuate, repand, very closely fringed with spines, slightly discoloured and lanuginous underneath, 2—3 inches long and about half an inch wide, perhaps larger near the root. Involucrem somewhat cylindric, scales ovate-lanceolate, very acute, terminating in a short spine, slightly lanuginous. Corolla tubular, much longer than the involucrem, deeply 5-cleft, bright purple. Receptacle bristly. Seed crowned with a beautifully feathered pappus.

Grows in dry pine barrens in the middle districts of Carolina and Georgia. Flowers June—July.
4. **Virginianus.**

C. simpliciusculus; foliis sessilibus, lanceolatis, subtus cano-tomentosis, remote dentatis, dentibusspinosis; floribus solitariis; involucro globoso; squamis mucronatis.

Simple; leaves sessile, lanceolate, hoary and tomentose underneath, remotely toothed; teeth spinous; flowers solitary; involucrum globose; scales mucronate.

Pursh, 2. p. 506.

Root perennial. Stem erect, 2—3 feet high, somewhat angled, covered with a white tomentum, particularly towards the summit, sometimes sparingly branched. Leaves narrow, lanceolate, acute, bearing spiny teeth, sometimes slightly sinuate and angled, green and a little hairy on the upper surface, hoary and tomentose underneath. Flowers solitary, terminal. Involucrum ventricose; scales oblong, ovate, acuminate, a little villous, terminated with a small reflected spine, glutinous along the midrib. Corolla nearly twice as long as the involucrum, deeply 5-cleft, purple. Filaments villous at base. Seeds oblong, slightly angled, crowned with a feathered pappus. Receptacle flat, bristly.

Grows in wet pine barrens in the middle districts of Carolina and Georgia. Flowers June—September.

5. **Glaber?** Nutt.

C. foliis pinnatifidis, glabriusculis, segmentis 3—5 lobis, acutissime spinosis; involucro ventricoso, squamis pilosis, spinula sub reflexa mucronatis; caule ramosissimo. E.

Leaves pinnatifid, nearly glabrous, segments 3—5 lobed, acutely spinous; involucro ventricose, scales hairy, mucronate with the point reflected; stem much divided.

Nutt. 2. p. 129.
SYNGENESIA ÆQUALIS.

Root perennial. Stem erect, 4—6 feet high, furrowed, unarmed, somewhat glabrous but sprinkled with a few lanuginous hairs; branching more than in any other species with which I am acquainted. Leaves sessile, 1—2 feet long, deeply pinnatifid, a little hairy along the veins and midrib, armed with very acute spines along the margins and angles. Flowers somewhat paniculate. Peduncles on small branches, nearly naked, slender and a little hairy. Involucrum campanulate, ventricose; scales lanceolate, closely appressed, a little hairy, viscid and armed with a short somewhat recurved spine. Corolla much longer than the involucrum, of a pale purple colour. Seeds oblong, glabrous, crowned with a beautifully feathered caducous pappus. Receptacle flat, bristly.

This species of Cnicus, by far the most common in the low country of Carolina and Georgia, appears to have been overlooked by both Walter and Michaux, at least the C. Glaber of Mr. Nuttall is the only species whose description accords with the character of our plant. I once considered it as the C. Repandum, of Michaux, but the plant I have described under that name agrees more accurately with his observations.

Grows in cultivated lands, very common about buildings. Flowers May—August.

6. DISCOLOR. Muhl.

C. foliis sessilibus, pinnatifidis, supra parce pilosis, subtus canescenti-tomentosis, laciniiis bilobis spinosis; involucris globosis, squamis ovatis, spinosis; caule ramoso. Leave sessile, pinnatifid, a little hairy on the upper surface, hoary and tomentose underneath; segments two lobed, spinous; involucrum globose, scales ovate, spinous; stem branching.


Stem erect, 3—6 feet high, in my specimens very hairy, and covered with cobweb-like tomentum. Leaves long, deeply pinnatifid, the segments very generally 2-lobed, the lobes ovate and spiny, woolly underneath, the margin very irregularly armed with spines. Flowers solitary, terminating the branches, which are generally leafy, up to the base of the involucrum; scales of the involucrum ovate, acute, crowned with a long spine. Corolla bright purple. Seeds smooth, crowned, with a feathered pappus.

Grows in the upper districts of Carolina. Flowers June—July.
7. **Horridulus.**

*C. foliis sessilibus, pinnatifidis, acute incisis, spinosissimis subtus lanuginosis; floribus conflatis, bracteatis; bracteis geminatim spinosissimis; involucris inermibus.*

Leaves sessile, pinnatifid, acutely notched, very spinous, lanuginous underneath; flowers crowded, bracteate; bracteas very spinous, the spines generally in pairs; involucrum unarmed.


Carduus spinosissimus. Walt. p. 194.

Root perennial, fusiform. Stem erect, simple, 2—3 feet high, lanuginous. Leaves sessile, crowded near the base of the stem, pinnatifid, segments lobed, and toothed, and acutely spinous, hairy on the upper surface, lanuginous underneath. Flowers sometimes terminal, solitary, generally axillary, on very short peduncles, crowded near the summit of the stem. Bracteas 20—30 around the base of each flower, scarcely longer than the involucrum; the interior appear pectinately spinous, on the exterior the spines are distinctly arranged in pairs. Involucrum ventricose, scales numerous, lanceolate, very acute, but scarcely spiny, a little hairy. Corolla pale purple. Seeds oblong, shining, crowned with a feathered pappus.

Grows in dry poor soils. Very generally diffused over our country. Flowers March—April.

**LIATRIS.** Gen. Pl. 1263.


SYNGENESIA *EQUALIS.* 273

* Floribus spicatis* vel racemosis, radicibus tuberosis.

1. **Spicata.** Willd.

L. foliis linearibus integerrimis, glabris, basi ciliatis, nervosis et punctatis; capitulis spicatis; squamis involucri linearibus, obtusis.

Leaves linear, entire, glabrous, ciliate at base, nerved and dotted; flowers in spikes; scales of the involucre linear, obtuse.


Root tuberous, perennial. Stem two to four feet high, simple, glabrous. Leaves linear lanceolate, very narrow, acute, dotted, somewhat rigid, sparingly fringed at base. Flowers in a terminal spike, somewhat scattered, much longer than the bracteal leaves. Involucrum cylindrical, about 8-flowered, scales oblong, somewhat obtuse. Corolla bright purple, longer than the involucre, and with the long style sprinkled with glandular dots. Seeds furrowed, very hairy, crowned with the feathered pappus.


Stem 3 to 5 feet high. Leaves longer and narrower in proportion to their length than in the preceding variety, and more conspicuously fringed, flowers in a long terminal spike, on pedicels 1 to 2 lines long. To this species, the figure of Dillenius Hort. Elth. t. 72. f. 83. appears to belong.

Grows in flat pine barrens. Flowers, August—October.

2. **Pycnostachya.**

L. caule simplici, hirsuto: foliis strictis, angusto-linearibus, pubescentibus; spica longa, floribus confluentibus; involucris accumbentibus, sessiliis; involucrilibus appressed, squar-
SYNGENESIA AQUALIS.

appressis, superne rose at the summit.
squarrosis.

Pluck. alm. t. 423. f. 6.

*Plant two to four feet high. Flowers small. This plant, which I have not seen in the low country, is said by Pursh to grow in our mountain meadows.

Flowers in September.

3. GRAMINIFOLIA. Walt.

*L. caule simplici, glabro; foliis lineari-
bus, longissimis, gla-
bris, nervosis, margine
scabriusculis, costa
media interne subpilo-
sis; capitulis spicatis,
remotiusculis, subsessi-
libus; involuci squa-
mis oblongis, obtusis,
mucronatis, ciliatis, ap-
pressis, interioribus co-
loratis.

Pluk. alm. t. 424. f. 6.

Stem simple, glabrous; leaves linear,
very long, glabrous, nerved, with the mar-
gins somewhat sca-
brous, the midrib hai-
ry on the upper sur-
face; flowers in spikes,
rather distant, nearly
sessile; scales of the
involucrum oblong, ob-
tuse, mucronate, cili-
ate, appressed, the in-
terior coloured.

Stem two to four feet high, simple, a little hairy. Leaves very narrow, sometimes linear, sprinkled with hair all over their inner surface. Flowers in a terminal spike, not crowded. Bracteal leaves as long as the involu-

crum, sometimes longer. Involucrum cylindrical, containing about six
flowers, scales oblong, obtuse, mucronate, pubescent along the margin.
Corolla purple, sprinkled, together with the style, with glandular dots.
Seeds furrowed, very hairy. Pappus feathered, not coloured.

Grows in wet pine barrens.
Flowers in September.

L. caule gracili, glabro; foliis inferioribus confertis, linearibus, basi parce pilosis, superioribus setaceis; racemo longissimo; pedicellis squamosis; involucri squamosis oblongis, mucronatis.

Nutt. 2. p. 131.
L. Graminifolia. Willd. 3. p. 1636. ?

Root tuberous. Stem two to four feet high, simple, glabrous; lower leaves very narrow or linear; glabrous, though a little hairy near the base, crowded, and frequently, as has been remarked by Mr. Nuttall, resembling tufts of the leaves of the Pinus palustris, upper leaves very small, setaceous, scattered. Flowers crowded in a terminal raceme. Peduncle four to six lines long, furnished with two or three small scales. Involucrum oblong, containing about five flowers. Scales oval, membranaceous along the margin. Corolla bright purple, sprinkled with glandular dots. Seeds furrowed, very hairy. Pappus feathered, not coloured.

I have specimens from the western districts of Georgia, in which the lower scales of the involucrum are lanceolate, acute; the interior all emarginate and sometimes lacerate; in all other respects agreeing exactly with this species. I have always been accustomed to consider this plant as the L. Graminifolia, of Willdenow and Muhlenburg, though not of Walter and Pursh.

Grows in dry pine barrens.
Flowers, August—October.


L. gracilis, tota hirsutula; foliis lineari-bus; spica rari florae; involucris subsessili-bus, cylindraceis, paucifloris; squamis apice rotundatis, abrupte mucronatis.

Slender, somewhat hairy; leaves linear; spike few flowered; involucrum nearly sessile, cylindrical, few flowered; the scales round at the summit, abruptly mucronate.

On the somewhat questionable authority of Pursh, (I mean questionable as regards the habitat of his species,) I have introduced this plant, which he mentions as having been collected in Carolina by Mr. Fraser. Michaux discovered it in the prairies of the Illinois. The plant which under this name I shall describe, I received from my friend Dr. Torrey, of New-York. It was collected near the shores of Lake Michigan, and although by a many flowered involucrium, and the want of pubescence, it varies from the description of Michaux, it yet resembles his plant in too many respects to be hastily separated from it.

Root tuberous. Stem one to two feet high, slender, glabrous. Leaves linear and linear lanceolate, long, narrow, glabrous; the upper leaves pubescent along the margin, the lower ones attenuated very much at base. Flowers few, (five to eight) in a terminal spike. Involucrium long, cylindrical, containing fourteen to twenty florets. Scales oblong, rounded at the summit, and abruptly acuminate, pubescent along the margin. Corolla bright purple, sprinkled with glandular dots. Pappus conspicuously feathered.

Grows in woods and meadows—Pursh.
Flowers, August—September.

6. Aspera.

_L. caule subramoso, scabro-pubescente; foliis lineari-lanceolatis, asperrimis; capitulis brevibus, spicatis, distincte alternis, solitariis, sessilibus; involucris squamos rotundato-obtusis, conniventibus._


This species, which was discovered by Michaux in the prairies of Illinois, is mentioned by Pursh as growing also in Carolina. I have not seen it in this country, and the Anon. Ramos. of Walter, which Pursh has quoted as a synonyme, and which perhaps formed his authority for placing it among our plants, belongs, I think, to a very different species.

Flowers, August—October. Pursh.
7. **Heterophylla.**

*L. caule simplici, glabro; foliis lanceolatis, glabris, lâvibus; superioribus linear-lanceolatis, multoties minoribus; involucris spicatis, brevissime pedunculatis, subsquarrosis; squamis lanceolatis, acutis, nudis.*

Stem simple, glabrous; leaves lanceolate, glabrous, smooth, the upper linear lanceolate, much smaller; heads spiked, on short peduncles, somewhat squarrose; scales of the involucrum lanceolate, acute, naked.

Willd. enum. 503.

*Flowers* the size of the *L. Gramminifolia.*

Grows in South-Carolina and Georgia.

*Flowers,* August—October.

8. **Pilosa.**

*L. caule simplici pubescente; foliis linearibus, pilosis, ciliatis; capitulis racemosis, laxiusculis; squamis oblongis, obtusis; pedicellis bracteolis.*

Stem simple, pubescent; leaves linear, hairy, fringed; heads racemose, loose; scales of the involucrum oblong, obtuse; pedicels bracteate.


A low species, flowers the size of *L. Pycnostachya.* Pursh.

Var. dubia. Barton?

*Stem* two to three feet high, streaked, not slender, a little hairy. *Leaves* long, linear, the lower linear lanceolate, dotted, acute, hairy and fringed near the base, nearly glabrous towards the summit. *Racemes* long, leafy; peduncles one-half to one inch long, the lower ones long, compound, furnished with small scales. *Involucrum* oblong, containing ten to fourteen flowers; scales rather obtuse, fringed, appressed. *Corolla* bright purple, scarcely longer than the involucrum. *Seeds* hairy. *Pappus* feathered, not coloured.

This variety is certainly not sufficiently hairy to have merited the trivial name which belongs to this species; perhaps it is really distinct.

Grows in pine barrens—Georgia to New-Jersey.

*Flowers,* August—October.
9. \textit{Gracilis}?

\textit{L. caule gracili, piloso; foliis linearibus, glabris, basi ciliatis; capitulis racemosis, sub 7-floris; involucris squamis obovatis, ciliatis, appressis.} E.

Stem slender, hairy; leaves linear, glabrous, fringed at base; heads in racemes, about 7-flowered; scales of the involucrum obovate, fringed, appressed.

Pursh, 2. p. 508.

I know not whether the plant I am describing is the real \textit{L. Gracilis} of Pursh. It agrees with his description in many respects, and it certainly is very different from the preceding species.

\textit{Root} tuberous, perennial. \textit{Stem} two to three feet high, very slender, streaked, pubescent. \textit{Leaves} linear, narrower than those of any other species excepting \textit{L. Tenuifolia}, glabrous, slightly fringed at base, expanding, the lower about six inches long, the upper scarcely an inch. \textit{Raceme} terminal. \textit{Peduncles} nearly an inch long, hairy, furnished with a few small scales. \textit{Involucrum} containing about seven flowers; scales obovate, obtuse, dotted, coloured at the summit, scarious and fringed along the margin. \textit{Corolla} bright purple, much longer than the involucrum. \textit{Seeds} furrowed, hairy, crowned with a coloured, feathered pappus.

Grows in dry pine barrens.

Flowers September.

10. \textit{Secunda}. E.

\textit{L. caule reclinato, pubescente; foliis linearibus, glabris, basi parce ciliatis; racemis secundis; involucris squamis lanceolatis, acutis, appressis.}

Stem reclining, pubescent; leaves linear, glabrous, sparingly fringed at base; racemes secund; scales of the involucrum lanceolate, acute, appressed.

\textit{Root} tuberous, perennial. \textit{Stems} two to three feet high, pubescent, declining, generally curved. \textit{Leaves} linear; the lower ones linear lanceolate, with a long attenuated base, dotted as in all of the species of this division. \textit{Flowers} in a long terminal raceme, which, from the peculiar habit of the stems, is always turned to one side. \textit{Peduncles} from half an inch to an inch long, furnished with one or two subulate leaves. \textit{Involucrum} about

In the scales of the involucrum this plant bears a striking resemblance to the L. Heterophylla; in other respects it appears sufficiently to differ.

Grows on the summits of the dry sand hills in the middle country; common near Columbia.

*Flowers*, August—September.


*L. glabra*; *foliis* linearibus, confertis; *capitulis* spicatis, oblongis, 4—5 floris; *involucri* squamis obtusis, appressis, resinosis, demum canescentibus.

Glabrous; *leaves* linear, crowded; *heads* spiked, oblong, 4—5 flowered; *scales* of the involucrum obtuse, appressed, resinous, finally hoary.

Nutt. 2. p. 131.


Grows in the pine forests of North and South-Carolina.

*Flowers*.

### 12. Elegans.

*L. caule* simplici, villosi; *foliis* lineari lanceolatis, subtus scabriusculis; *racemo* cylindricio, confertiflore; *involucri* squamis intimis ligulatis, coloratis.

Stem simple, villous; *leaves* linear-lanceolate, slightly scabrous underneath; *raceme* cylindrical, *flowers* crowded; *interior* scales of the involucrum ligulate, coloured.


Root tuberous, perennial. Stem erect, three to five feet high, pubescent, almost tomentose. Leaves linear lanceolate, sometimes falcate, cartilaginous along the margins, dotted, the lower obscurely five-nerved. Flowers axillary, crowded, forming a long compact cylindrical raceme. Peduncle from two lines to an inch long, clothed with small leaves. Involucrum about 12-leaved, bearing five flowers, leaves imbricate, lanceolate, ovate, dotted, villous; the five interior very long, coloured. Corolla shorter than the involucrum. Style deeply two-cleft. Seeds oblong, furrowed, very villous, crowned with a coloured, feathered pappus. Receptacle flat, dotted, sometimes a little hairy.

Grows in dry soils. Flowers, August—September.


L. caule erecto, piloso; foliis lanceolatis, pubescentibus, margine scabris; capitulis racemosis, 14-floris; involucris squamosis obovatis, subglabris, margine scariosis, inferiores patentibus. E.


Root tuberous, perennial. Leaves somewhat crowded, lanceolate, pubescent, particularly on the under surface, scarios along the margin, the lower nearly a foot long, including the long attenuated base, two inches wide, the upper two to three inches long. Flowers in a terminal raceme. Peduncles one to four lines long, pubescent. Involucrum somewhat squarrose at base, scales dilated and slightly coloured at the summit. Corolla glabrous, bright purple. Style nearly twice as long as the corolla. Seeds furrowed, hairy. Pappus feathered, pale purple. Receptacle naked, slightly convex, handsomely dotted.

This species is very much disposed to throw out branches whenever the slightest injury is sustained by the stem. When the stem is broken, it will frequently shoot out four or five long branches, and then from the size and brilliant colour of the flowers, it becomes the most ornamental species of the genus. In this state it is probably the Anon. Ramos. of Walter.

Of this plant there are many varieties or kindred species not yet discriminated. In my Herbarium are the following:
SYNGENESIA ÆQUALIS.

281


b. Intermedia. Stem leaves longer than in the preceding var. pubescent. Involucrum containing twenty-four to thirty flowers. Scales obovate, conspicuously fringed. Grows on Long Island. Dr. Torrey. An intermediate species between this and L. Spheroidea—perhaps belonging to the latter.

c. Diversifolia. Lower leaves large, glabrous. Stem leaves much smaller than in the two preceding varieties, slightly pubescent. Stem almost tomentose. Involucrum containing about twenty flowers. Scales obovate, pubescent along the margins.

d. Foliosa. Leaves of the stem long, linear lanceolate, nearly glabrous. Raceme long; through the greater part of its length the leaves at the base of each peduncle are longer than the peduncles and flowers. Involucrum about fourteen flowered. Scales obovate, glabrous.

e. Confertiflora. Leaves lanceolate, the lower glabrous, very acute, the upper small, a little hairy; all somewhat crowded. Flowers in a compact spike. Involucrum containing fourteen to twenty flowers. Scales obovate, nearly glabrous. Grows along the western frontier of Georgia.

Grows in dry soils.

Flowers, August—October.


L. foliis ëavibus; inferioribus lato lanceolatis; superioribus lanceolato linearibus; racemo floribus majusculis, solitariis, alternis; involucris subglobosis; squamis ovalibus, erectis.

Leaves smooth, the lower broad, lanceolate, the upper narrow; flower of the raceme large, solitary, alternate; involucrum nearly globular, the scales oval, erect.


Root tuberous, perennial. Stem two to four feet high, a little pubescent. Leaves lanceolate, acute, dotted, glabrous, somewhat coriaceous. The lower ones large, attenuated into a petiole at base, four to five inches long. Flowers large, in a simple terminal raceme. Involucrum spheroidal, containing many florets; scales oval or obovate, very obtuse, coloured, slightly fringed, sometimes fimbriate, and sprinkled with glandular dots. Florets bright purple, longer than the involucrum. Seeds very hairy, crowned with a pappus not conspicuously feathered.

Grows in the upper districts of Carolina. Edgefield, Mr. Oemler.

Flowers, August—October.

VOL. II. N 2
15. Squarrosoa.

L. caule simplici pubescente; foliis longissimis linearibus, nervosis, margine scabriusculis; racemis paucifloris, foliosis; involucris squamis superne foliaceis, lanceolatis, rigidis, patentibus.

Root tuberous, perennial. Stem two to three feet high, pubescent, a little scabrous, leafy. Leaves linear, long; the lower ones sometimes exceeding a foot in length, glabrous, scabrous along the margin; the upper ones sometimes ciliate. The nerves somewhat pellucid. Flowers generally four to five, in a terminal raceme. Involucrum cylindrical; scales ovate, lanceolate, ciliate, acuminate, with the points all expanding. Florets bright purple, deeply cleft, the segments hairy on the inner surface. Seeds oblong, striate, hairy, crowned with a coloured pappus, conspicuously feathered.

Grows in dry pine barrens.
Flowers, September—October.

**Floribus corymbosis, radicibus fibrosis.**


L. caule simplici glabro; foliis linearibus, panicula virgata, foliosa, ramis brevibus paucifloris; involucris subsessilibus secundis 3—5 floribus; squamis erectis, lanceolatis, acutis, glabris.

Stem simple, glabrous; leaves linear, panicle virgate, leafy, with the branches short, few flowered, involucrum sessile, second, 3—5 flowered; the scales erect, lanceolate, acute, glabrous.

17. Paniculata. Walt.

*L. caule simplici, piloso-viscoso; foliis lanceolatis, nervosis, glabriusculis; panicula coarctata; involucris 5-floris, squamis lanceolatis.*

Stem simple, hairy, viscid; leaves lanceolate, nerved, nearly glabrous; panicle contracted; involucrum generally 5-flowered, scales lanceolate.


Root perennial, somewhat tuberous. Stem erect, one to two feet high, coloured and branching towards the summit, with the branches and involucrum viscid and very hairy. Leaves of the root spathulate, lanceolate, very finely denticulate, glabrous; leaves of the stem small, sessile, sometimes ovate-lanceolate, hairy. Flowers in a long terminal panicle, in clusters from four to six, on the small branches. Inv olucrum six to eight leaved, four to five flowered; scales appressed, imbricate. Corolla much longer than the involucrum, viscid, purple. Seeds furrowed, hairy, crowned with a pale purple feathered pappus. Receptacle, naked, flat, dotted. The involucrum is sometimes found with eight to ten leaves, containing eight to ten flowers, as if formed by the union, or soldering of two distinct heads of flowers. (Cephalanthia—Rich.)

Grows in flat pine barrens, very common.

Flowers, September—October.

18. Odoratissima. Walt.

*L. glaberrima; caule simplici; foliis ovatis lanceolatis, nervosis, denticulatis, sub glaucis; panicula corymbosa; involucris 7.*

Very glabrous; stem simple; leaves ovate and lanceolate, nerved, toothed, slightly glaucous; panicle corymbose; involu-
—8 floris, squamis ob-

— crum 7—8 flowered,

— ovatis, obtusis. 

— the scales obovate, 
obtuse.


Root perennial, thick or tuberous. Stem erect, three to four feet high, striate, purple. Leaves of the root spathulate, lanceolate or ovate, obtuse-
ly toothed, nervèd; of the stem amplexicaule, generally five nervèd, all a little glaucous, and when bruised, highly aromatic. Flowers in a large expanding corymbose panicle. Involucrum ten to twelve leaved, generally seven flowered, appressed, glabrous, coloured. Corolla a little longer than the involucrum, bright purple. Seeds furrowed, a little hairy, crowned with the coloured slightly feathered pappus.

Grows in flat pine barrens, in some situations very abundant; when trampled under the hoofs of horses, it perfumes the air with its peculiar fragrance.

Flowers, September—October.

L. caule simplici, foliisque cuneato-lanceolatis hirsutis; corymbo paucifloro, depresso, divericato, ramis multifloris (4—8); involucris glabris, squamis ovalibus, obtusis. 

-stem simple, and with the cuneate lance-

-olate leaves hairy; corymb few flowered, depressed, divericate, the branches many flowered (4—8); involucrum glabrous, the scales oval, obtuse.


Root perennial. Stem about two feet high, branching near the summit, with the branches and base of the leaves hirsute, and somewhat tomentose. Root leaves cuneate, lanceolate; stem leaves oblong, sessile; the lower ones narrowed at base. Flowers in terminal corymbs. Branches many flowered. Involucrum containing about twenty florets; scales oval, membranaceous along the margin, a little hairy at base. Corolla pale purple. Seeds inversely conic, crowned with the feathered slightly coloured pappus.

This plant differs in some respects, particularly in its many flowered branches, and in the smooth and obtuse scales of its involucrum, from the
L. Tomentosa of Michaux. It agrees, however, in so many other respects, that I think it may be adopted as that species, at least, until a better claimant for the name shall be discovered.

Grows in damp soils along the margins of swamps in Georgia.

Flowers, September—October.

20. WALTERI. E.

| L. caule simplici, superne piloso; foliis lanceolatis, acutis, glabris, punctatis, basiattenuatis; floribus corymbosis, involucris multifloris, squamis acutis, tomentosis. E. | Stem simple, hairy near the summit; leaves lanceolate, acute, glabrous, dotted, attenuate at base; flowers in corymbs, involucrum many flowered, the scales acute, tomentose. |


Root perennial. Stem about two feet high, nearly glabrous at base, very hairy towards the summit. Root leaves narrow, lanceolate, glabrous, with the attenuated base three to five inches long; stem leaves diminishing in size, the upper ones very small, ovate, sessile and hairy. Corymb few flowered. Branches, one to five flowered. Scales of the involucrum ovate, acute, coloured, tomentose. Corolla deep purple. Seeds furrowed, a little hairy, crowned with the coloured slightly feathered pappus.

This plant appears to form an intermediate species between L. Bellidifolia and Tomentosa.

Grows in St. John's, Berkeley.

Flowers, September—October.

VERNONIA. GÉN. PL. 1262.


Receptacle naked. Pappus double, the exterior chaffy, short, the interior capillary. Involucrum ovate, imbricate.
1. **Oligophylla.** Mich.

V. caule simplici, superne ramoso; foliis radicalisbus ovalibus, cauliniis lanceolatis, omnibus dentatis; corymbo paniculato; involuci squamis lanceolatis, acuminatis.

Stem simple, branching towards the summit; root leaves oval, stem leaves lanceolate, all toothed; corymb paniculate; scales of the involucrum lanceolate, acuminated.


*Chrysocoma Acaulis.* Walt. p. 196.

*Root* perennial, stoloniferous. *Stem* about two feet high, furrowed, a little pubescent and scabrous. *Root leaves* large, oval, acute, coarsely but acutely toothed; stem leaves a little crowded at the base of the stem, scattered towards the summit, finely toothed, sometimes serrate; all scabrous on the upper surface, pubescent underneath, particularly along the veins. *Petioles* of the radical leaves about two inches long; of the stem leaves only an attenuated base. *Flowers* scattered in an irregular paniced corymb. *Involucrum* imbricate; scales ovate-lanceolate, pubescent, fringed, acuminately, the lower ones filiform at their summits. *Corolla* purple, deeply five-cleft, much longer than the involucrum. *Seeds* oblong, striate, hairy, crowned with a double pappus; the exterior composed of many short scales; the interior hairy, somewhat scabrous.

Grows in damp pine barrens, and along the margins of swamps. *Flowers* June—July.

2. **Scaberrima?** Nutt.

V. caule simplici; foliis lineari lanceolatis, denticulatis, scabris, pilosis; corymbo subumbellato; involucri squamis longe mucronatis.

Stem simple; leaves linear lanceolate, denticulate, scabrous, hairy; corymb somewhat umbelliform; scales of the involucrum conspicuously mucronate.

Nutt. 2. p. 134.

*Root* perennial. *Stem* about two feet high, slender, very hairy near the base, smooth and nearly naked towards the summit. *Leaves* somewhat crowded on the lower part of the stem, sessile, two to three inches long, hairy and scabrous on both surfaces, with the margins revolute and sparing-
ly denticulate. *Flowers* in a small, terminal, umbellate corymb, with a few scattered branches below the umbel. *Scales* of the involucre ovate, lanceolate, fringed, terminating in a long, subulate, somewhat rigid point. *Corolla* bright purple. *Seeds* furrowed, hairy, crowned with a double pappus; the exterior composed of short, subulate scales; the interior long, hairy, slightly scabrous. *Receptacle* naked, dotted.

Grows in dry pine barrens. *Flowers* June—August.

### 3. **Angustifolia.**

**V. caule simplici; foliis crebris, longe angusteque linearibus, subintegris; corymbo subumbellato; involucri squamis rigide mucronatis.**


*Root* perennial. *Stem* about three feet high, simple and somewhat scabrous. *Leaves* linear and linear lanceolate, sparingly denticulate, with the margins revolute, somewhat lucid, paler and a little hairy underneath, very scabrous, numerous but not crowded, expanding. *Flowers* in a large terminal corymb. *Scales* of the involucre ovate-lanceolate, tapering to a long, subulate, expanding, somewhat rigid point. *Florets* numerous. *Corolla* bright purple. *Seed* furrowed, hairy; interior pappus hairy, scabrous.


### 4. **Noveboracensis.**

**V. altissima; foliis crebris, lanceolatis, serrulatis, scabris; corymbo fastigiato; involucri squamis apice filiformibus.**

Very tall; leaves numerous, lanceolate, serrulate, scabrous; corymb fastigiate; *scales* of the involucre filiform at the summit.
288

SYNGENESIA EQUALIS.


Root perennial. Stem five to six feet high, pubescent and branching towards the summit. Leaves numerous, long, narrow, lanceolate, a little scabrous, nearly glabrous on the upper surface, finely pubescent, particularly along the veins, on the under. Flowers in a very large terminal corymb. Involucrum loosely hemispherical; scales ovate-lanceolate, terminating in a long, subulate point. Florets numerous. Corolla purple. Seed furrowed, a little hairy. Scales of the exterior pappus subulate, interior pappus long, hairy.

Grows in ditches and wet lands. Flowers July—September.

5. Tomentosa. E.

V. caule gracili, superne tomentoso; foliis longe angusteque lanceolatis, acutissime serratis, supra scabriusculis, subtus tomentosis, canescentibus; corymbo fastigiato; involucri squamis apice filiformibus.

Chrysocoma Tomentosa ? Walt. p. 196.

Stem three to five feet high, rather slender for its height, finely tomentose, the summit and branches of the corymb hoary. Leaves five to seven inches long, scarcely one wide; densely tomentose underneath. Flowers in a terminal corymb. Scales of the involucrum ovate lanceolate, hairy, terminating in a very long filiform point. Corolla purple.

This plant, of which however, my specimens are imperfect, containing only immature flowers, appears to differ from any of our described species, unless it be the C. Tomentosa of Walt. The filiform points of the involucrum are twice as long as those of any other species that I have seen.

Grows in wet soils, ditches. St. Thomas and St. Dennis, near Charleston, Mr. Caradeux.

Flowers July—August.
6. **Prealta.**

**V. caule altissimo, anguloso, dense-pubescente; foliis crebris, lanceolatis, acute serratis, subtus pubescentibus; corymbo fastigiató; involucri squamis ovatis, acutis, muticis.**

Stem very tall, angled, densely pubescent; leaves numerous, lanceolate, acutely serrate, pubescent underneath; corymb fastigate; scales of the involucre ovate, acute, unarmed.


With this species I am unacquainted.


Flowers August—October.

7. **Altissima.** Nutt.

**V. caule glabro; foliis lanceolatis, serratis, scabriusculis; involucro parvo, hemispherico, squamis ovatis, acutis, ciliatis, muticis, arce appressis.**

Stem glabrous; leaves lanceolate, serrate, slightly scabrous; involucre small, hemispherical, scales ovate, acute, fringed, unawned, closely appressed.

Nutt. 2. p. 134.


Stem six to ten feet high, nearly glabrous. **Leaves** very long, narrow, nearly smooth on both sides, slightly scabrous, serrulate. **Flowers** small, in an irregular terminal corymb. **Involucrum** hemispherical; scales ovate, acuminate, slightly mucronate, ciliate, closely appressed. **Corolla** purple. **Seeds** furrowed, ribs very slightly hairy. **Pappus** very short, the interior hairy.

This species, although the leaves are not rugose, is probably the C. Gigantea of Walter. It is readily distinguished by its small compact hemispherical involucre, from any other species which I have seen.

Grows in ditches and damp soils.

Flowers August—October.
BRICKELLIA. E.

Involucrum polyphyllum, imbricatum. Semina sub glabra, 10 striata. Pappus pilosus sive scaber. Receptaculum nudum, punctatum.

1. Cordifolia. E.

Stem about three feet high, finely pubescent, almost tomentose near the summit. Lower leaves opposite, cordate, acuminate, dentate, triplinerved, finely pubescent, particularly on the under surface, on petioles about an inch long; upper leaves frequently alternate, obtuse at base. Flowers not numerous, moderately large, in a terminal paniculate corymb. Involucrum many leaved, many flowered, (forty to fifty); the interior leaves linear-lanceolate; the exterior linear, almost setaceous, loosely attached to the summit of the peduncle. Corolla tubular, five-cleft at the summit, pale purple. Stamens shorter than the corolla, attached to the tube. Style much longer than the corolla, two-cleft. Stigmas linear, obtuse. Seed long, angular, striate, a little hairy towards the summit. Receptacle slightly convex, naked, conspicuously dotted. Pappus hairy, pale purple, a little scabrous, as long as the corolla.

This plant which in its artificial characters is closely allied to the Eupatorium, differing principally in size and number, in its general aspect, bears more resemblance to the Vernonia. I have named it in commemoration of Dr. John Brickell, of Savannah, who at one period of his life paid much attention to the botany of this country, and made known to Dr. Muhlenberg, Fraser and others, many of its undescribed plants.

Grows on the sides of hills in the western districts of Georgia. Flowers August—September.

KUHNIA. Gen. Pl. 322.

1. **Critonia.**

K. foliis linearibus, subintegerrimis, subtus punctatis; panicula longa, patente.  

Leaves linear, nearly entire, dotted underneath; panicle long, expanding.


Root thick, somewhat tuberous, perennial. *Stem* slender, about three feet high, striate, pubescent. *Leaves* alternate, sessile, linear, entire, with the margin revolute when young, pubescent. *Flowers* in a very long expanding panicle composed of small, somewhat corymbose clusters. *Involucrum* cylindrical, imbricate, sixteen to twenty leaved, containing eight to ten flowers; the exterior *leaves* small, acute, reflected at the summit; the interior twice as long, linear, erect, pubescent. *Corolla* tubular, white, the border five-cleft, segments acute, with a glandular fringe. Filaments very short, anthers slightly united. *Style* deeply two-cleft. *Seed* cylindrical, firmly striate, nearly glabrous, crowned with a white beautifully feathered pappus. *Receptacle* flat, naked, deeply dotted. 

Grows in dry soils.  
Flowers September—October.

2. **Eupatorioioides?**

K. caule ramoso, pubescente; foliis lanceolatis, serratis, sub-tus pubescentibus, glandulososo punctatis; floribus paniculatis.  

Stem branching, pubescent; leaves lanceolate, serrate, pubescent underneath, sprinkled with glandular dots; flowers in panicles.


*Stem* two to three feet high, branching, the young branches very pubescent. *Leaves* three inches long, lanceolate, irregularly serrate, slightly scabrous on the upper surface, pubescent underneath, thickly spotted with glandular granules. *Involucrum* cylindrical, containing about ten flowers; leaves linear, acute, pubescent, the exterior very small. *Corolla* white. *Seeds* finely striate, more pubescent than those of the preceding species. *Pappus* beautifully feathered.
Grows in the western districts of Georgia; very common in the prairies of the Alabama. Flowers September—October.*

**MIKANIA. Willd.**


1. **Scandens.**

*M. caule scandente, | Stem scandent, gla-glabro; foliis cordatis, | brous; leaves heart-

*This genus, closely allied in habit and appearance to the Eupatorium, possesses nearly all the artificial characters of the Liatris. One other species I wish to add to this genus, though perhaps not strictly within the limits of this publication.

3. **Glutinosa. E.**

*K. glutinoso-pubescens; foliis lanceolatis, suprane attenuatis, inciso-dentatis, confertis; floribus corymboso-paniculatis.*

Pubescent, glutinous; leaves lanceolate, tapering towards the summit, notched and toothed, crowded; flowers in paniculate corymbs.

Stem about two feet high, branching, with the leaves and calyx very pubescent, sprinkled with glandular dots, and covered with a viscid or glutinous exudation. Leaves sessile, lanceolate, the lower sometimes ovate-lanceolate, the upper linear, the large leaves irregularly notched and toothed, sometimes laciniate. Flowers in long terminal panicles, composed of small corymbs. Involucrum cylindrical, containing eight to ten flowers; scales linear, the exterior very small. Corolla white. Style as in all of this genus, scarcely longer than the corolla. Seeds finely striate, pubescent. Pappus as in the two preceding species, beautifully feathered.

Grows in the prairies of the Alabama. Flowers September—October.
repando-dentatis, acuminatis, lobis divaricatis, inæqualibus; floribus corymbosis.

shaped, repand, toothed, acuminate, with the lobes divaricate, unequal; flowers in corymb.


A twining plant, running over small shrubs. Flowers white, tinged with blue.
Grows along the margins of water courses from Canada to Carolina. Pursh. Not found in the low country.
Flowers July—September.


M. pubescens; caule volubili; foliis cordatis, repando-dentatis, basi-angulatis, acuminatis; involucro quadrifloro.

Pubescent; stem climbing; leaves cordate, repand, toothed, angled at base, acuminate; involucrum four-flowered.


Root perennial. Stem voluble, striate, pubescent, climbing fifteen to twenty feet high. Leaves opposite, cordate, conspicuously acuminate, angled and somewhat hastate at base, pubescent, on petioles about an inch long. Flowers in paniculate corymbs, axillary and terminal. Involucrum composed of four equal leaves, and a fifth exterior and smaller, all linear-lanceolate, acuminate, hairy. Corolla tubular, a little longer than the calyx, pale purple, slightly fragrant. Stamens very short. Style almost twice as long as the corolla, two-cleft. Seed oblong, striate, slightly angled when young, glandular. Pappus hairy. Receptacle naked, dotted.

The Synonyme of Walter, quoted under the preceding species, probably belongs to this. The genus itself is scarcely distinct from Eupatorium.
Grows very abundantly in damp soils.
Flowers July—October.

EUPATORIUM. Gen. Pl. 1272.

Involucrum imbricatum, oblongum. Styli ciliate, oblong. Style
longus, semibifidus.  
* Semina glabra, (5) striata vel angulata.  
* Pappus pilosus, ple-rumque scaber.  
* Receptaculum nudum.  
* Involucris 3—5 floris.

1. *Foeniculaceum.*

E. caule paniculato; foliis glabris, inferioribus pinnatis, superioribus fasciculatis, omnibus filiformibus.

Stem paniculate; leaves glabrous, the lower pinnate, the upper clustered, all filiform.

E. Foeniculoides. Walt. p. 199. 

Root perennial. Stem herbaceous, three to ten feet high, striate, clothed with a soft pubescence. Lower leaves compundly pinate or pinnatifid, the segments generally about an inch long, filiform, glabrous and furrowed along the upper surface; the upper setaceous in fasciculate clusters. Flowers very small and numerous, in compound nearly erect panicles. Involu- crum ten-leaved, three to five flowered, the five interior leaves equal, the exterior small, all linear-lanceolate, pubescent. Corolla tubular, five-cleft, of a yellowish white colour, sometimes sprinkled with purple. Stamens very short. Germ oblong, glabrous. Style much longer than the corolla, deeply two-cleft, stigmas glandular, obtuse. Seeds cylindrical. Pappus slightly scabrous. Receptacle naked, dotted.

Grows in pastures very abundantly, preferring damp rich soils. Dog-Fennel. 
Flowers September—October.

2. *Coronopifolium.*

E. caule paniculato; foliis inferioribus pinnatifidis, laciniiis lance-olato-linearibus, denti-

Stem paniculate; lower leaves pinnatifid, the segments lanceolate linear, denticulate,
culatis, superioribus indivisis, linearibus, fasciculatis, omnibus punctatis, pubescentibus. E.


Root perennial, creeping? Stem herbaceous, erect, three to four feet high, pubescent. Lower leaves pinnatifid, segments five to seven, linear, but acute at each end, slightly and sparingly denticulate. Panicle compound, with the branches expanding. Involucrum eight to ten-leaved, five-flowered, the five interior leaves equal, imbricated at base, with three to five smaller ones, all pubescent, linear-lanceolate, very acute. Corolla white, scarcely longer than the involucrum, slightly five-cleft. Stamens as long as the corolla. Germ oblong, angled. Style much longer than the stamens, two-cleft. Stigmas single. Seed glabrous, crowned with a scabrous pappus as long as the corolla.

This species is closely allied to the preceding, although agreeing in character, they differ in habit and appearance from all the other species of this genus—under this name two species are now probably included.

Grows in dry poor soils.

Flowers September—October.

3. Pinnatifidum. E.

E. foliis pinnatifidis, inferioribus verticillatis, superioribus alternatis, laciniis linearibus, pubescentibus; floribus corymbosis. E.

Leaves pinnatifid, the lower verticillate, the upper alternate, the segments linear, pubescent; flowers in corymb.

Root perennial. Stem erect, three to four feet high, striate, branching towards the summit, pubescent on the branches. Lower leaves verticillate by fours, two to three inches long, pinnatifid, the segments linear, one to one and a half inches long, the upper generally alternate. Flowers in a large fastigiate corymb. Involucrum eight to ten-leaved, five-flowered; leaves oblong, lanceolate, pubescent, sprinkled on the back with glandular dots. Corolla white, five-cleft. Style much longer than the corolla, deeply two-cleft. Stigmas glandular. Seed oblong, deeply striate or furrowed, crowned with a scabrous pappus rather longer than the corolla.

This plant appears to connect the two preceding species with the rest of
the genus. It has the pinnatifid leaves of the former, with the corymbose flowers that distinguish all of the subsequent species.

Grows in damp soils, in the middle districts of Carolina.

Flowers September—October.

4. **LINEARIFOLIUM.** Walt.

**E. caule subprocumbente, superne villosa; foliis cauliniis oppositis, lanceolato-linearibus, rarissime dentatis, interdum fasciculatis; stylo corollam subaequante.**


Grows commonly in dry soils.

Flowers August—October.

5. **HYSSOPIFOLIUM.** Linn.

**E. caule erecto; foliis infimis oppositis, lanceolato-linearibus, subdentatis; corymbo subfascigado; stylo corolla multo longiore.**

Sp. pl. 3. p. 1749.? Pursh, 2. p. 512.?

*Stem* straight, erect, about two feet high, pubescent, branches generally alternate. *Leaves* sessile, the lowest opposite, the upper alternate, linear-lanceolate, slightly toothed, dotted, pubescent, bearing sometimes at base clusters of small leaves. *Flowers* in a terminal, somewhat fastigiate corymb.
Involucrum ten-leaved, five-flowered; leaves linear-lanceolate, pubescent, sprinkled with glandular dots, purplish at the summit. Corolla white, sprinkled with glandular dots. Stamens very short. Style much longer than the corolla, two-cleft. Stigmas obtuse. Seed furrowed, sprinkled with glandular dots; crowned with a scabrous almost feathered pappus.

This species has evidently been confounded with the preceding by Walter and Michaux, and I feel uncertain whether my references to Willdenow and Pursh are correct. This species, however, appears to me sufficiently distinct.

Grows very common, preferring damp soils. Flowers September—October.

6. Glaucescens. E.

E. foliis subsessilibus lanceolatis, obtuse serratis, basi integerrimis, triplinervibus, sub glaucis, pubescentibus; floribus corymbosis. E.

Leaves nearly sessile, lanceolate, obtusely serrate, entire at base, triplinerved, somewhat glaucous, pubescent; flowers in corymbs.

Stem about two feet high, pubescent. Leaves of the stem generally opposite, scarcely more than an inch long, but wide in proportion to their length, with three to four obtuse serratures from the middle to the summit, pubescent on both surfaces, acute at base, but scarcely petiolate, and generally bearing a pair of small lanceolate leaves in each axil; the leaves of the branches small and generally alternate, all of an olive green and somewhat glaucous hue. Flowers in corymbs. Involucrum eight to ten-leaved, five-flowered; the leaves lanceolate, acute, sprinkled externally with glandular dots. Corolla white. Style much longer than the corolla, two-cleft. Pappus slightly scabrous.

Grows in rich shaded soils. Flowers September.

7. Sessilifolium.

E. foliis sessilibus, amplexicaulis, distinctis, ovato-lanceolatis, basi rotundatis, serratis, glaberrimis; caule glabriusculo. Leaves sessile, amplexicaule, distinct, ovate-lanceolate, round at base, serrate, very glabrous; stem nearly glabrous.
8. **Truncatum.** Muhl.

**E. foliiis sessilibus,** amplexicaulibus, distinctis, lanceolatis, basi truncatis, serratis, glabriusculis; caule pubescente.

Leaves sessile, amplexicaule, distinct, lanceolate, truncate at base, serrate, nearly glabrous; stem pubescent.


**Stem** covered, particularly towards the summit, with slender, jointed, white hair. **Leaves** opposite, sessile, amplexicaule, distinct, rather broad, very glabrous on the upper surface, pubescent underneath along the veins, and sprinkled with resinous dots, obtusely serrate and truncate at base. **Peduncles** and **Involucrum** pubescent. Very similar to E. Sessilifolium, yet sufficiently distinct by a stem pubescent, leaves truncate at base, the serratures larger and more obtuse, and the involucrum more pubescent. Willd.

I have taken the description of this and the preceding species from Willdenow. Specimens which have been sent me under these names from Pennsylvania, North-Carolina, and the mountains of South-Carolina, are not to me sufficiently distinct; perhaps I have seen only one species.

Grows on the Saluda and Alleghany mountains.
Flowers August—September.

9. **Album.** Linn.

**E. foliiis subsessilibus,** oblongo lanceolatis, scabriusculis, serratis; involucri squamis interioribus elongatis, lanceolatis, scariosis, albis.

Leaves nearly sessile, oblong-lanceolate, somewhat scabrous, serrate; the interior scales of the involucrum long, lanceolate, scariosous, white.
SYNGENESIA $\equiv$ QUALIS.


Stem erect, about two feet high, striate, villous. Lower leaves opposite, the upper alternate, all sessile, lanceolate, coarsely toothed, dotted, pubescent and scabrous. Flowers in fastigiate corymbs. Involucrum ten-leaved, five-flowered; leaves linear-lanceolate, very acute, thickly sprinkled with glandular dots. Corolla white. Stamens short. Anthers purple. Style scarcely longer than the corolla, two-cleft. Seeds furrowed, crowned with a scabrous pappus.

Grows in dry poor soils.
Flowers August—September.

10. Parviflorum. E.

E. foliis sessilibus, angusto-lanceolatis, acutissime serratis, triplinervibus, utrinque pubescentibus; floribus corymbosis, parvulis, seminibus angulatis.

Leaves sessile, narrow lanceolate, very acutely serrate, pubescent on both surfaces; flowers in corymbs, small; seeds angled.

E.

Stem about two feet high, pubescent. Leaves opposite and alternate, about two inches long, with numerous and acute serratures, entire at base, and tapering almost to a petiole. Flowers in terminal corymbs. Involucrum eight to ten-leaved; the interior leaves strap shaped, the exterior small, all very pubescent and sprinkled with glandular dots. Corolla white, with the pappus scarcely longer than the involucrum. Style much longer than the corolla. Seeds angled not furrowed. Pappus very slightly scabrous.

The flowers of this plant are much smaller than those of any other of the corymbose species which I have seen.

Collected in St. Thomas' by Mr. Caradeux.

Flowers in September.

11. Scabridum. E.

E. foliis sessilibus, ovato-lanceolatis, acut serratis, basi integris, pubescentibus, subscabris, subtus sub-

Leaves sessile, ovate-lanceolate, acutely serrate, entire at base, pubescent, slightly scabrous, somewhat glau-
300 SYNGENESIA AUQUALIS.

Glauces; floribus corymbosis; involucris squamos acutissimis. E. Qualis. Floribus corymbosis; involucris squamos acutissimis. E.

Stem two to three feet high, pubescent, the lower branches brachiate, the upper alternate. Leaves scarcely more than an inch long, opposite, ovate, acute at each end, with numerous serratures. Involucrum ten-leaved, five-flowered. Leaves lanceolate, somewhat mucronate, hairy, sprinkled with glandular dots. Corolla white, longer than the involucrum. Stamens very short. Style longer than the corolla, two-cleft. Seed angled. Pappus scabrous.

Grows in dry soils.
Flowers from August to October.

12. Rotundifolium.

Leaves sessile, distinct, deltoid, nearly round, obtusely serrate, veined, somewhat glaucous; scales of the involucrum acute.

E. Marrubium? Walt. p. 199.

Stem two to three feet high, very pubescent. Leaves opposite, decussate, triplinerved, dotted, slightly scabrous, with a somewhat glaucous or perhaps more correctly hoary hue. Flowers in a fastigiate corymb. Involucrum ten-leaved, five-flowered; leaves lanceolate, acute, very pubescent. Corolla white. Stamens very short. Style much longer than the corolla. Seeds angled. Pappus scabrous, longer than the corolla.

Decoctions of this as well as of the preceding species are used with much success as a tonic febrifuge.

I have always suspected this plant to be the E. Marrubium of Walter. It is commonly known through our low country as the wild horehound, and its leaves bear more affinity to the garden horehound, (marrubium vulgare) than those of any other of our species.

Grows in dry pine barrens.
Flowers from July to September.

E. foliis sessilibus, ovato-lanceolatis, oblongis, inciso-dentatis, rugosis, scabris; floribus parvulis. E.

Leaves sessile, ovate-lanceolate, oblong, notched and toothed, rugose, scabrous; flowers small.

Michaux, 2. p. 98.

Stem herbaceous, erect, two to three feet high, pubescent. Leaves of the stem opposite, decussate, somewhat deltoid, tapering to an obtuse point, coarsely toothed, particularly towards the base, dotted, very hairy on the under surface. Flowers in a somewhat fastigiate corymb. Involucrum ten-leaved, five-flowered; leaves lanceolate, not very acute, very hairy. Corolla small, white. Style much longer than the corolla. Stigmas reflexed. Seed very scabrous.

The E. Lanceolatum of Muhlenberg, which I have not seen in the Southern States, appears to be an intermediate species between this and the E. Album, nearly allied to each, yet sufficiently distinct.

If the synonyme from Willdenow which I have quoted, belongs really to this species, I know not why Michaux's name should have been changed; it has the claim of priority, and it is equally perhaps more appropriate.

Grows in damp soils.
Flowers August—September.


E. foliis sessilibus, distinctis, ovatis, scabriusculis, venosis; inferioribus duplicato serratis, superioribus subserratis; caule paniculato, pubescente, ramis fastigiatis.

Leaves sessile, distinct, ovate, somewhat scabrous, veined, the lower doubly serrate, the upper slightly serrate; stem paniculate, pubescent, branches fastigiate.


Stem erect, pubescent; like the leaves the lower branches are opposite, the upper alternate. Leaves ovate, the lower sometimes oval, two to three inches long, obtuse at base, tapering to an acute summit, rather thin and slightly scabrous, corymb fastigate. Involucrum ten-leaved, five-flowered; leaves linear-lanceolate, acute, hairy. Corolla white, and with the pappus
nearly twice as long as the involucrum. Style longer than the corolla. Seed angled. Pappus scabrous.

Grows from New-Jersey to Carolina. Pursh. My specimens are from Pennsylvania.

Flowers August—October.


E. foliis petiolatis, obovato-lanceolatis, apice subserratis, triplinervibus, utrinque pubescentibus. Leaves on petioles, obovate-lanceolate, slightly serrate at the summit, triplinerved, pubescent on each surface.


Stem terete, pubescent. Leaves opposite, pubescent on both surfaces; the lower obovate, lanceolate, obtusely serrate, slightly petiolate; the upper petiolate, with a few serratures near the summit. Flowers white.

With this species I am unacquainted, it is however singular that both Willd. and Pursh should quote as a synonyme the E. Marrubium of Walt. which is described as having sessile, deltoid leaves.


Flowers.

** Involucris multi-floris (5—50.) ** Involucrum many flowered.


E. foliis connato-perfoliatis, rugosis, subtus tomentosis; caulil villoso.

Leaves connate-perfoliate, rugose, tomentose underneath; stem villous.


Stem three to six feet high, striate, villous almost tomentose, and with the leaves and involucrum hoary and sprinkled with glandular dots. Lower leaves connate, the upper distinct, abruptly truncate at base, all tapering gradually to the summit, serrate, rugose, slightly pubescent on the upper surface, tomentose underneath. Involucrum many leaved, (fourteen to six-
teen,) eight to ten flowered, leaves linear-lanceolate, acute, pubescent, imbricate. Corolla small, white, glabrous. Style nearly twice as long as the corolla, two-cleft, stigmas simple. Seed angular, pappus scabrous.

A decoction of this plant is much used and recommended in fevers; it acts as an emetic or sudorific, according to the constitution of the patient.

Grows in wet soils.
Flowers September—October.

17. *Ceanothifolium.* Muhl.

Foliis petiolatis, ovatis, acuminitis, dentatis, triplinervibus, sub glabris; involucris 5—10 floribus, squamis subæqualibus.


Stem two to three feet high, sometimes slightly pubescent. Leaves opposite, on petioles about an inch long, ovate-lanceolate, slightly acuminate, dentate, triplinerved, strongly veined, slightly scabrous, and pubescent along the veins, very obtuse at base. Flowers in terminal corymbs. Involucrum ten-leaved, five to ten flowered; leaves nearly equal, one or two sometimes smaller than the rest, all linear-lanceolate, pubescent. Corolla white. Style longer than the corolla, two-cleft. Seeds angled. Pappus hairy, less scabrous than usual in the preceding species.

From my much valued friend Dr. Schweinitz, I received under the name of E. Melissoides, a plant nearly allied to this. It differs however by its leaves, more pubescent, more acuminate, less scabrous, and less obtuse at base, and its florets generally more numerous, eight to twelve in each capitulum. It may prove a distinct species, but it is scarcely the E. Melissoides described by Willdenow. It was collected around Salem, N. Carolina.

Flowers September.

18. *Ageratoides.*

E. foliis petiolatis, ovato-lanceolatis, acuminatis, triplinervibus, grosse serratis, glabris; corymbo multifloro; Leavess on petioles, ovate-lanceolate, acuminate, triplinerved, coarsely serrate, glabrous; corymb many...
involutri squamis sub æqualibus. E.  flowered; scales of the involucrum nearly e-
qual.


Stem 2 to 3 feet high, smooth, glabrous; leaves generally opposite, two to four inches long, glabrous, coarsely toothed, on petioles two inches long. Involucrum ten to twelve-leaved, twelve to sixteen-flowered; leaves linear-lanceolate, finely pubescent, nearly equal in length. Corolla white. Style longer than the corolla. Seeds angled, glabrous. Pappus slightly scabrous.

I feel doubtful whether the plant I have described is the E. Ageratoides of Muhl.; it certainly is the E. Urticaefolium of Mich. and its leaves bear a striking resemblance to those of the Urtica, (now Boehmeria) cylindrica.

Grows in damp rich soils. Paris Island.

Flowers September.

19. Aromaticum?

E. foliis petiolatis, cordato-ovatis, acutis, triplinervibus, obtuse serratis, sub scabris; floribus corymbosis; involucri squamis subæqualibus. E. Leaves on petioles, cordate-ovate, acute, triplinerved, obtusely serrate, somewhat scabrous; flowers in co-
yrmbss; scales of the involucrum nearly e-
qual.

E. Cordatum. Walt. p. 199.

Stem about two feet high, terete, very finely pubescent. Leaves opposite, on short peduncles, the lower very distinctly cordate, all acute not acuminate, tripli-nerved, coarsely and unequally toothed, somewhat scabrous on the upper surface, finely pubescent underneath. Flowers in a terminal co-
yrbm, the lower branches opposite, brachiate. Involucrum about ten-leaved, thirteen to twenty flowered; leaves lanceolate, pubescent, nearly equal. Corolla very white, nearly twice as long as the involucrum, fragrant. An-
thers white. Style longer than the corolla. Seeds angled. Pappus slightly scabrous.

This plant is certainly the E. Aromaticum of Michaux, and E. Cordatum of Walter. Whether it is the E. Aromaticum of Linnaeus and Gronovius is, I think, questionable; it does not resemble the figure referred to in Plukenet t. 88. f. 3.

Grows in rich dry soils.

Flowers August—October.

**E. foliis petiolatis, ovato-lanceolatis, superne attenuatis, acutis, grosse et acute serratis, triplinervibus, pubescentibus; involucris squamis imbricatis.**

Leaves petiolate, ovate-lanceolate, tapering towards the summit, acute, coarsely and acutely serrate, triplinerved, pubescent; scales of the involucrum imbricate.


*Stem* five to six feet high, pubescent, almost tomentose. *Leaves* large, five to six inches long, ovate, tapering gradually to the summit, which is sometimes acuminate; lower leaves opposite, the lowest slightly cordate. *Petioles* two to three inches long. *Flowers* in a fastigate corymb, very numerous, rather small. *Involucrum* ten-leaved, twelve to fourteen flowered; leaves linear, very villous. *Corolla* white. *Seeds* angled. *Pappus* scabrous.

The expression of Michaux, "rariter serratis" is incorrect, and has, I suspect, given rise to some doubts about the species.

Grows in the vallies of the Sea-Islands.

Flowers September—October.


**E. foliis longe petiolatis, cordato-deltoidibus, acutis, obtuse dentatis, triplinervibus, subglabris; involucris squamis subæqualibus.**

Leaves on long petioles, deltoid, cordate, acute, obtusely toothed, triplinerved, thin, nearly glabrous; scales of the involucrum nearly equal.

Walt. p. 200.

*Stem* about two feet high, covered with a fine scarcely visible pubescence, sparingly branched. *Leaves* opposite, on slender petioles one to two inches long, deltoid, very acute, very thin, cordate and thinly sprinkled with short hair. *Flowers* in terminal corymbs, more loosely aggregated than in the following species. *Involucrum* fifteen to twenty-leaved, bearing about twenty flowers; leaves linear-lanceolate, very acute, a little pubescent, nearly as long as the corolla, a few of the exterior ones a little shorter than the
Corolla purple. Style a little longer than the corolla, two-cleft, seed angled. Pappus hairy.

This plant appears to me to differ very much from the E. Coelestinum with which it has usually been confounded; it is a more slender plant, its leaves are thinner and more glabrous, the corymbs less compact, the scales of the involucrum less numerous but larger, the style comparatively shorter. It is probably the plant of Petiver alluded to by Dillenius, Hort. Elth. p. 140.

Grows in loose rich soils.
Flowers October to November.

22. COLESTINUM.

E. folii petiolatis, cordato-ovatis, obtuse-dentatis, triplinervibus, subscabris; involucris polyphyllis, multifloris; receptaculis conicis.

Leaves petiolate, cordate-ovate, obtuse-toothed, triplinerved, slightly scabrous; involucrum many leaved, many flowered; receptacle conic.


Grows in rich shaded soils.
Flowers September—October.

***Involucris squamis scariosis; foliis sub verticillatis.***

***Involucrum with the scales scariosus; leaves verticillate.***

23. TERNIFOLIUM.

E. folii petiolatis, ternis, quaternisve, ovatis ovalibusque, acu-

Leaves on petioles, ternate, or quaternate, ovate and oval, acumi-
minatis, dentatis, sub-tus pubescentibus, glanduloso punctatis. E. 

| nate, toothed, pubescent underneath, dotted with glands. |


Stem three to four feet high, striate, pubescent, solid. Leaves generally ternate, on petioles about an inch long, ovate or oval, but always acuminate, obtuse at base, thinly sprinkled with hairs on the upper surface, pubescent and almost covered with glandular dots on the under. Flowers in large terminal corymbs. Involucrum about fifteen-leaved, imbricate, the interior leaves linear-lanceolate, long, nerv ed, slightly pubescent, the exterior short, nearly ovate, more pubescent, all membraneous or scarios, and adhering very slightly to the receptacle. Corolla tinged with purple. Style much longer than the corolla, deeply two-cleft, stigmas linear. Seed angled. Pappus filiform.

The species I have described above is certainly distinct, and is probably the real plant of Gronovius, "foliis ternis," Flor. Virg. p. but I have among my specimens one with ternate leaves, which most probably belongs to E. Verticillatum, and from such a specimen the phrase "utrinque attenuatis," which Willdenow and Pursh apply to this species, has possibly been derived.

Grows in damp soils; rare in the low country of Carolina. Flowers September—October.

24. Purpureum.

| E. foliis petiolatis, quaternis quinisve, ovali lanceolatis, serratis, rugoso-venosis, scabriusculis; caule fistuloso. |

Leaves on petioles, by fours or fives, oval lanceolate, serrate, rugose, veined, slightly scabrous; stem hollow.


Stem four to seven feet high, nearly glabrous, tinged with purple, hollow. Leaves four to six, in a whorl, oval-lanceolate, serrate, nearly glabrous on the upper surface, underneath reticulately veined, somewhat pubescent and sprinkled with glandular dots, tapering at base to a petiole about an inch long, sometimes tinged with purple. Involucrum generally five-flowered, very similar to that of the preceding species, but less pubescent. Corolla pale purple. Style, Stigma and Seed similar to those of the preceding species.

Grows in wet soils. Flowers September.
25. Maculatum.

E. foliis petiolatis, quaternis quinisve, ovato lanceolatis, inaequaliter serratis, subtus pubescentibus; caule solido, sulcato.

Leaves on petioles, by fours or fives, ovate lanceolate, unequally serrate, pubescent underneath; stem solid, furrowed.


Stem four to five feet high, furrowed, not hollow, dotted with purple. Leaves verticillate, lanceolate and ovate, acute at each end, pubescent and slightly scabrous underneath. Involucrum five to eight flowered. Corolla tinged with purple. Style, Stigma, and Seed, very similar to those of the preceding species.

Grows in wet soils.
Flowers August—September.


E. foliis petiolatis, ternis quaternisve, ovato lanceolatis, utrinque acuminatis, inaequaliter serratis, glabriusculis; caule solido, laevi.

Leaves on petioles, by threes or fours, ovate lanceolate, acuminate at each end, unequally serrate, nearly glabrous; stem solid, smooth.


Stem four to six feet high, smooth, pubescent near the summit, tinged with purple. Leaves verticillate, large, ovate-lanceolate, acuminate at each end, with very large serratures, glabrous, sprinkled with glandular dots on the under surface. Flowers in a terminal corymb, rather smaller than those of the preceding species. Involucrum ten to twelve leaved, five flowered, leaves oblong and ovate, obtuse, scarious, glabrous. Corolla purple. Seeds angled, pappus slightly scabrous.

Grows in damp soils, in the upper districts of South-Carolina and Georgia.
Flowers September.
CHRYSOCOMA. Gen. Pl. 1019.


1. Nudata.

C. foliis radicalibus spatulato-lanceolatis, caulinis linearibus, rariter sparsis; corymbo composito, fastigiato; calycibus oblongis, 3—4 floribus.

Leaves of the root spathulate, lanceolate, of the stem linear, scattered; corymb compound, fastigiate; calyx oblong, 3—4 flowered.


Root perennial. Stem erect, about two feet high, glabrous, branching near the summit. Root leaves obovate, lanceolate, narrow, acute, glabrous, entire, three-nerved, with a long attenuated base. Stem leaves scattered, the lower ones similar to the root leaves, but small, the upper ones linear, minute. Flowers in a terminal corymb. Involucrum oblong, eight to ten-leaved, containing three to four flowers, leaflets linear, rugose, appressed, glabrous, yellowish. Corolla tubular, glabrous, yellow, segments acute, reflected. Style scarcely as long as the stamens, two-cleft. Stigmas somewhat lanceolate, glandular, erect. Seed obovate, striate, hairy. Pappus hairy, scabrous, unequal. Receptacle flat, with a small membrane between the germs.


CACALIA. Gen. Pl. 1275.

Involucrum cylindricum, basi squamosum. Receptaculum nudum. Papppus pilosus.

1. **Atriplicifolia.**

*C. caule herbaceo;* foliis petiolatis, glabris, subtus glaucis, radicibus cordatis, dentatis, caulinis rhombois utrinque subdentatis; floribus corymbosis, erectis; involucris 5-floris.

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<td>Root perennial. Stem erect, three to eight feet high, branching, glabrous, somewhat glaucous. Leaves cordate, almost reniform, the upper ovate, rhomboiial, and lanceolate, all sinuate, with the summits of the lobes acute, sometimes dentated and glaucous underneath. Flowers in small terminal corymb. Peduncles almost white, clothed with small subulate pale or colourless scales. Involucrum composed of five equal, linear, three-nerved, glabrous, colourless leaves, containing five flowers. Corolla tubular, white, tinged a little with purple. Styles bifid. Stigmas glandular. Seed oblong, glabrous, obovate. Pappus hairy, scabrous, very white. Receptacle naked, with an irregular angular somewhat glandular mass in the centre. This mass, composed perhaps of soldered scales, is generally three-cleft at the summit, curved at base, as if embracing the stems of the florets, but of three more distinctly than the other two.</td>
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Variety Angulata.

I have specimens collected in St. Thomas' and in the middle districts of Carolina, in which the leaves are nearly round, deeply and acutely divided into seven or more lobes, the lobes sometimes dentate, in other respects agreeing with this species. Grows generally in rich soils. Flowers July—September.

2. **Ovata.** Walt.

*C. caule herbaceo;* foliis ovatis, obtusis, obtuse-dentatis, nervosis, subtus subglaucis.

Stem herbaceous; leaves ovate, obtuse, obtusely toothed, nervose, subtus subglaucis.
inferioribus petiolatis, involucris 5-phyllis, 5-floris.

Walt. p. 196.

**3. **

*C. caule herbaceo; foliis angusto-lanceolatis, utrinque acutis, remotae dentatis, nervosis, subtus subglaucis; involucris 5-phyllis, 5-floris.*

Nutt. 2. p. 138.

**3. **

*C. caule herbaceo; foliis angusto-lanceolatis, utrinque acutis, remotae dentatis, nervosis, subtus subglaucis; involucris 5-phyllis, 5-floris.*
SYNGENESIA ÆQUALIS.

SPARGANOPHORUS. Gœrt.

*Involucrum* subglobo- | *Involucrum* somewhat globose, imbricate; scales recurved
bosum imbricatum; | at the summit. *Seeds*
squamis apice recurva- | crowned with a cartilaginous shining cup.
tis. *Semina* coronata | *Receptaculum* nudum.
cupula subcartilaginea | *Receptacle* naked.
nitida. *Receptaculum* | |

1. **Verticillatus.**

*S. foliis linearibus, | Leaves linear, verticillate; heads few, terminal; cup campanulate, 5-toothed.
verticillatis; capitulis | |
paucis, terminalibus; | |
cupula campanulata, 5- | |
dentata.


An aquatic plant, growing in shallow water.

*Roots* fibrous, creeping. *Stem* scarcely exceeding a foot in height, pubescent towards the summit, simple. *Leaves* linear, about an inch long, glabrous, verticillate, generally six in each whorl. Heads terminal, sometimes solitary, frequently accompanied with other heads near the summit. *Involucrum* imbricate, containing many flowers, leaves lanceolate, acuminate, pubescent, the summits recurved, coloured. *Corolla* tubular, not much longer than the involucrum, pale purple. *Seed* glabrous, five angled, crowned with a membranaceous pappus, deeply five-cleft.

The pappus in this species appears to me to be composed of five distinct, ovate, membranaceous, denticulate scales, forming a proper calyx.

Grows in the flat pine barrens in the middle districts of Carolina.

Flowers—

HYMENOPAPPUS. L’Heritier.

*Involucrum* polyphyllum, | *Involucrum* many
foliolis obovatis leaved, leaves obovate |
coloratis, patentibus, coloured, expanding,

1. *Scabiosaeus.*

H. candidanti-lanuginosus; foliis profunde pinnatifidis, laciniiis linearis-oblongis, subdentatis; floribus corymbos.

Lanuginous, hairy; leaves deeply pinnatifid; segments linear, oblong, slightly toothed; flowers in corymbs.


Root perennial. Stem two to three feet high, furrowed, angular, tomentose. Leaves alternate, long, slender, irregularly pinnatifid, the segments remote, scarcely confluent, linear, sinuate-dentate, the upper ones more distinctly pinnatifid, with the segments entire, all tomentose and hairy underneath. Flowers in small terminal corymbs. Involucrum many leaved, containing many flowers, leaflets obovate, nearly round, tomentose on the back, membranaceous, white, the interior large and expanding, giving the flowers a radiated appearance. Florets tubular, whitish, externally pubescent, border five-cleft, with the segments revolute. Stamens extended, with their projecting summits very conspicuous. Style longer than the stamens. Stigmas two, revolute. Seed conical, a little hairy. Pappus composed of many short, obtuse, denticulate, membranaceous leaves.

Grows around ponds in the high pine barrens in the middle districts of Carolina and Georgia. I believe very rare. Scriven and Burke counties, Georgia.

Flowers in April.

**POLYPTERIS.** Nutt.

*Involucrum* polyphyllum, foliolis ovalibus. *Pappus* paleaceus, polyphyllus, foliolis lato-subulatis, cuspidatis.

*Involucrum* many leaved, leaves oval. *Pappus* chaffy, many leaved, the chaff broad-subulate, cuspidate.
SYNGENESIA \textit{æqualis}.

pidatis, rigidis, semina \textit{æquantibus}.

Wind. 2. p. 139.

\textbf{1. Integrifolia.}

Nutt. 2. p. 139.

\textit{Root} perennial. \textit{Stem} erect, three to four feet high, a little scabrous, branching near the summit. \textit{Leaves} alternate, linear lanceolate, entire, scabrous. \textit{Involucrum} composed of eight to twelve leaves; leaves oblong, membranaceous. \textit{Florets} numerous, with a border deeply five-cleft; segments reflected. \textit{Stamens} extended. \textit{Style} longer than the stamens, two-cleft. \textit{Stigmas} linear, pubescent. \textit{Seed} quadrangular, slightly scabrous, black, tapering at base, to a very acute point. \textit{Pappus} nine-leaved, leaves subulate, with a midrib-prominent and rigid, pubescent on the back; the margin membranaceous, lacerate.

Discovered by Dr. Baldwin, near St. Mary’s, Georgia.

Flowers.

\textbf{MELANANTHERA.} Mich.


\textit{Involucrum} many leaved, leaves nearly equal in a double series. \textit{Receptacle} chaffy, convex, with the chaff leaflike. \textit{Seeds} turbinate, angled, depressed at the summit. \textit{Pappus} composed of distinct, deciduous, scabrous bristles.

\textbf{1. Hastata.}

M. foliis hastato-trilobis; paleis receptaculi lanceolatis, acumina-\textit{tis}.

Leaves hastate three lobed; chaff of the receptacle lanceolate, acuminate.


Root perennial. Stem erect, four to six feet high, quadrangular, deeply furrowed, scabrous, spotted, branching. Leaves opposite, decussate on the angles of the stem, hastate, lanceolate, acute, toothed, scabrous, somewhat hispid, triplinerved, on petioles one to two inches long. Peduncles somewhat terminal, frequently by pairs, bearing each one head of flowers. Involucrum sixteen to twenty leaved, in two rows, leaflets equal, oblong-lanceolate, hispid, a little shorter than the corolla. Corolla tubular, pubescent, very white, border five-cleft. Stamens as long as the corolla, black, with their terminating summits white. Style as long as the stamens. Stigma reflected, acute, glandular. Seed turbinate, quadrangular, compressed, the two angles slightly winged. Pappus composed of two or three bristles, shorter than the corolla, scabrous, with small erect prickles. Receptacle convex, paleaceous; scales lanceolate, acuminated, scabrous, as long as the corolla.

Grows in dry rich soils.
Flowers August—September.

MARSHALLIA. Gen. Pl. 1762.

Involucrum imbricatum. Pappus paleis 5, membranaceis, enervibus. Receptaculum paleaceum.


1. LANCEOLATA. Mich.

M. caule simplici, inferne folioso, superne nudato; foliis radicalibus obovatis, caulinis longo-lanceolatis; involucri foliolis ovalibus; paleis spathulatis.

Stem simple, leafy below, naked near the summit; leaves of the root obovate, of the stem long, lanceolate; scales of the involucrum oval; chaff spathulate.

Athanasia Obovata. Walt. p. 201.

Root perennial. Stem eighteen to twenty-four inches high, striate, simple, a little pubescent near the summit. Lower leaves obovate, those of the stem lanceolate, all nerved, glabrous, entire, thin, with the base long, taper-
ing, finally dilated and semiamplexicaule. Flowers in a terminal head. *In-
volutcrum* many leaved, containing many flowers; leaflets oblong, oval, generally obtuse, with the margins membranaceous, erect. Corolla tubular, pale purple, covered externally as in all of this genus that I have seen, with a glandular pubescence. Stamens nearly as long as the corolla. Style ex-
serted. Stigmas filiform, glandular, revolute. Seeds angular, inversely conic, striate. *Pappus* composed of five membranaceous, ovate, acumin-
ate, lacerate, short scales. Receptacle flat, paleaceous, the paleæ leaf-like, shorter than the corolla, linear, a little dilated at the summit.
Grows in the upper districts of Carolina and Georgia.
Flowers April—May.


M. caule simplici; foliis lanceolato-ovali-
bus, acuminatis, trinervibus, infinis vaginan-
tibus; involucri foliolis acutis; paleis angusto-
linearibus.

Athanasia Trinervia. Walt. p. 201.

This species I have not seen.
Flowers.

3. Angustifolia.

M. caule ramoso; foliis inferioribus angus-
to-lanceolatis, superi-
oribus linearibus; invo-
lucri foliolis rigidis, subulatis; paleis line-
aribus.


Root perennial. Stem about two feet high, angular, glabrous, branching and a little pubescent at the summit of the branches. Leaves long and very narrow, obscurely three-nerved, glabrous. Flowers in solitary terminal heads. Involucrum many leaved, containing many flowers; leaves subulate, pubescent, acute. Corolla longer than the involucrum, pale purple, externally villous. Seeds angular, villous along the angles. Pappus composed of five ovate, mucronate, lacerate scales, in which the midrib though transparent, is distinctly visible. Receptacle paleaceous, paleæ linear.


Grows in the pine barrens in the middle country of Carolina and Georgia. The variety a. perhaps a distinct species, was collected by Dr. Baldwin, near St. Mary's, Georgia.

Flowers.

SYNGENESIA SUPERFLUA.

* Floribus discoideis, radiis nullis. * Florets discoid, those of the ray obsolete.

ARTEMISIA. Gen. Pl.

Involucrum imbricatum, squamis rotundatis, conniventibus. Corollulae radii nullæ. Pappus nullus. Receptaculum subvillosum vel nudiusculum. Involucrum imbricate, scales round, connivent. Florets of the ray 0. Pappus 0. Receptacle naked, or slightly villous.
1. **Caudata.**

*A. erecta, glabra;* Erect, glabrous; leaves nearly setaceous, pinnatifid, the segments convex, branches crowded; panicle terminal, very long, straight; heads pedicellate, ovate, nearly globose.

Foliis subsetaceo-pinnatifidis, laciniis convexus; Ramulis confertis; Paniculis terminalibus, longissimis, strictis; Capitulis pedicellatis, globoso-ovatis.


**Stem** simple and herbaceous, two to six feet high. Radical and lower cauline leaves pseudobipinnate, pubescent; upper pseudopinnate, segments subsetaceous, alternate, divaricate, somewhat convex. *Flowers* pedicellate, erect, globose, ovate, densely and pyramidally paniculate. Nutt.

Grows in Greenville district. Flowers.

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**Baccharis.**


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**Gen. Pl. 1285.**


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1. **Angustifolia.** Mich.

*B. glaberrima;* foliis linearibus, integerrimis; Panicula composita, multiflora.

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Very glabrous; leaves linear, very entire; panicle compound, many flowered.
A shrub eight to ten feet high, erect, branching, with the young branches angled, dotted. **Leaves** alternate, sessile, linear, very acute, obscurely three-nerved, sometimes sparingly toothed. **Flowers** in a terminal compound panicle; heads generally axillary, solitary, sometimes clustered near the summit of the stem. **Involucrum** many leaved, imbricate, slightly ventricose; leaflets ovate, lanceolate, acute, appressed, glabrous. Sterile florets tubular, white, five-cleft; **anthers** erect, with summits connivent; **style** short, undivided; the seed abortive, crowned with a very short scabrous pappus. Fertile florets tubular, five-toothed; **stamens** none; **style** longer than the corolla, two-cleft; **stigma** simple; **seeds** cylindric, glabrous, striate, crowned with a hairy pappus longer than the corolla; **receptacle** flat, naked, dotted.

Grows in saline soils, generally along the inner margins of the Sea-Islands. Flowers September—October.

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**2. Halimifolia.**

B. foliis obovatis ov-alibusque, superne in-ciso dentatis; **panicula** composita, foliosa; **ca-pitulis pedunculatis.**

Leaves obovate and oval, notched and toothed near the summit; panicle compound, leafy; heads on peduncles.

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A shrub six to twelve feet high, with the branches nearly erect, glabrous and angled towards the summit. **Leaves** alternate, sessile, generally obovate, cuneate and entire near the base, coarsely toothed towards the summit, the upper oval or lanceolate, frequently entire, the whole covered with whitish scales or dust. **Panicle** large, loose, terminal, the heads axillary and terminal, sometimes clustered near the summit of the stem. Partial **peduncle** one to four lines long. **Florets** very similar to those of the preceding species. **Style** of the sterile floret as long as the stamens. **Stigma** capitate, undivided. **Pappus** scabrous, shorter than the corolla. **Style** of the fertile floret scarcely as long as the stamens, two-cleft. **Stigmas** somewhat acute. **Seeds** oblong, striate. **Pappus** hairy, white, twice as long as the corolla.

Very generally diffused over the lower country of Carolina and Georgia, preferring damp stiff clay land, but growing indiscriminately in fresh or brackish soils.

Flowers September—October.

**B. foliis lāvibus, cuneato-ovovatis, superne dentatis, capitulis axillaribus, sessilibus, subremotis; involucris squamis superne rufis.**

Leaves smooth, cuneate obovate, toothed near the summit; heads axillary, sessile, scattered; scales of the involucrum rufous at the summit.


A shrub three to five feet high, with the branches erect, virgate, angled, and very glabrous. Leaves alternate, subsessile, acutely toothed towards the summit, glabrous, pale green. Heads of flowers sessile, axillary, much more scattered than in the preceding species. Scales of the involucrum somewhat obtuse. Pappus of the sterile florets short, of the fertile very long.

Grows in damp pine barrens, along the sea coast of Carolina, but never I believe in brackish soils.

Flowers, September—November.

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### CONYZA. Gen. Pl. 1280.

**Involucrum imbricatum, squamis appressis. Corollulœ fœmineæ plurimæ in ambitu, hermaphroditæ steriles in centro. Semina pilosa. Pappus pilosus. Receptaculum nudum.**

**Involucrum imbricate, the scales appressed. Female florets numerous in the circumference; herm. in the centre, sterile. Seed hairy. Pappus hairy. Receptacle naked.**

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### 1. Marylandica.

**C. herbacea, pubescent; foliis sessilibus, lato lanceolatis, acutis, serratis; corymbis terminalibus, fastigiatis, coarctatis, subaphyllis;**

Herbaceous, pubescent; leaves sessile, broad, lanceolate, acute, serrate; corymb terminal, fastigiate, clustered, nearly leaf-
involucri squamis subulato mucronatis, flosculis brevioribus. | less; scales of the involucrum subulate, mucronate, shorter than the florets.


Root annual? Stem erect, three to five feet high, branching towards the summit, branches angled, somewhat viscid. Leaves alternate, sessile, large lanceolate, acute at each end, serrate, pubescent. Flowers in axillary and terminal corymbs, female florets in the circumference of each capitulum, very numerous, hermaphrodite in the centre few, rarely exceeding five, all purple. Involucrum many leaved, (sixteen to twenty,) imbricate; leaflets ovate, acute, pubescent, with the margins membranaceous. Female florets with the corolla slender, tubular, minutely five-toothed. Stamens none. Style longer than the corolla, two-cleft; germ oblong; seed oblong, cylindrical, pubescent. Pappus hairy. Hermaphrodite florets funnel shaped, with the border five-cleft, somewhat expanding. Stamens longer than the corolla, purple. Germ very short, thick. Style as long as the stamens, two-cleft. Seed probably abortive. Receptacle naked, slightly convex, dotted.

This species, and those that are strictly allied to it, are remarkable for the strong and to most persons disagreeable aroma, which is emitted from every part of the plant when bruised.

Grows very abundantly in ditches and damp places, both in brackish and in fresh soils.

Flowers August—September.

2. Camphorata.

C. herbacea, subpubescens; foliis petiolaris, ovato-lanceolatis, acutissimis, subrependo denticulatis; corymbis terminalibus et axillaribus, folio brevioribus; involucri squamis acutis, flosculos subaequantibus. | Herbaceous, slightly pubescent; leaves on petioles, ovate-lanceolate, very acute, denticulate; corymb terminal and axillary, shorter than the leaves; scales of the involucrem acute, as long as the florets.


VOL. II. s 2.
Stem about three feet high, pubescent. Leaves nearly sessile, generally ovate-lanceolate, acutely denticulate, finely pubescent. Flowers in small axillary and terminal leafy corymbs. Involucrum many leaved, imbricate, leaves very pubescent, almost tomentose, rather longer than the florets. Florets in this species very similar in arrangement and structure to the preceding; female florets very slender, the hermaphrodite comparatively large, with a short pappus.

Grows along the margins of rivers and swamps in South-Carolina and Georgia. Pursh. I have not observed this species in the low country of Carolina, it grows probably in the middle or upper country. My specimens are from Pennsylvania.

Flowers August—September.


C. herbacea, sub-glutinosa; foliis oval-lanceolatis, serratis, cordatis, amplexicaulis; corymbis confertifloris.  
Herbaceous, somewhat glutinous; leaves oval-lanceolate, serrate, cordate, amplexicaule; corymbs densely flowered.


Root perennial. Stem erect, two to three feet high, branching towards the summit, very pubescent, slightly viscid. Leaves alternate, oblong, acute, amplexicaule, like the stem very pubescent, viscid, and sprinkled with glandular dots, sometimes ferruginous underneath. Flowers in compact, fastigiate corymbs. Female florets in the circumference of each capitulum, hermaphrodite florets few in the centre, all purple. Involucrum imbricate, leaflets subulate, somewhat villous externally, sprinkled with glands. Florets exactly similar to those of the preceding species.

This plant exhibits frequently a remarkable phenomenon. In every clear frosty morning, during the winter, crystalline fibres nearly an inch in length, shoot out in every direction from the base of the stem. It would appear as if the remnant of the sap or water, absorbed by the decayed stem, had congealed, and had burst in this manner through the pores of the bark. Does this proceed from any essential quality of the plant, or from its structure?

Grows in wet soils, ditches and around ponds.

Flowers July—September.*

*The three preceding species are strictly congeners. They differ in several respects from the type of the genus Conyza, and with such species as shall be found truly allied to them, should form a sub-genus at least in this family; to which may be given with some slight variation the character I have inserted at the head of this genus.


This however will be found to approach very near to the reformed character which R. Brown proposes for the Gnaphalium.
4. Sinuata. E.

C. pilosa, scabriuscula; foliis inferioribus sinuatis, lobis ovalibus, acutis, superioribus lineariis, integerrimis; floribus paniculatis. E.  

Hairy, somewhat scabrous; lower leaves sinuate, the lobes oval, acute, the upper linear, entire; flowers in panicles.

Root annual? Stem about two feet high, branching. Lower leaves two to four inches long, oblong, lanceolate, deeply sinuate. Flowers in an oblong terminal panicle, female florets in the circumference, hermaphrodite in the centre, all white. Involucrum many leaved, imbricate; leaflets linear, lanceolate or subulate, appressed; female florets a little longer than the involucrum, very slender, with the border slightly three-cleft. Stamens none. Style setaceous. Stigma simple. Hermaphrodite florets with the corolla shorter than the female, border five-cleft. Anthers as long as the corolla. Style as long as the stamens, two-cleft. Stigmas glandular, obtuse, erect. Seeds all fertile, oblong, angled, hairy. Receptacle naked, convex, dotted.

This plant, which scarcely appears to be a native, has all the artificial and essential characters of the Conyza, with the habit and appearance of an Erigeron.

Grows around Charleston—very common. 
Flowers April—July.

PTEROCAULON. E.


Involucrum imbricate, the scales tomentose, slightly scarious, appressed. Foem. and herm. florets intermingled; the female slender, with the border 3 toothed; herm. with the border 5 cleft. Seeds angled, hairy. Pappus hairy, scabrous. Receptacle naked.

P. caule alato; foliis lanceolatis, sub undulatis, denticulatis, subto albo-tomentosis; spica cylindrica, densiflora.

Stem winged; leaves lanceolate, slightly undulate, toothed, tomentose and white underneath; spike cylindrical, flowers clustered.


Root tuberous, somewhat fusiform; perennial. Stem about two feet high, erect, simple, and with the under side of the leaves, and calyx densely tomentose and white. Leaves sessile, lanceolate, widely decurrent, so as to render the stem conspicuously winged. Flowers in a compact sometimes compound spike; female and hermaphrodite flowers promiscuously mingled in each capitulum, all white. Involucrum imbricate, leaflets somewhat obovate, acute, appearing to be scarious on the inner surface, densely tomentose without; female florets slender, three-cleft; stamens none; style longer than the corolla, two-cleft, stigmas acute; hermaphrodite florets with the corolla deeply five-cleft; anthers very short; style shorter than the corolla, two-cleft; stigmas glandular, white. Seed angled, pubescent. Receptacle naked, flat.

This plant, as remarked by Michaux, should form an intermediate genus between Conyza and Gnaphalium, but it is in habit and appearance, much more nearly allied to the latter than the former; many species in the last section of Conyza in Wildenow, perhaps belong to this genus. The seeds of the hermaphrodite florets are probably sterile. They are certainly much shorter than the others. The root under the popular denomination of Black Root is much used in some parts of the country as an alterative and as a cleanser of old ulcers.

Grows in dry sandy soils.

Flowers May—August.

GNAPHALIUM. Gen. Pl. 1282.


1. Polycephalum.

G. herbaceum, erectum; foliis lineari-lanceolatis acutis, supra glabris, subtus pubescentibus; caule paniculato, tomentoso; corymbis terminalibus, coarctatis.

Herbaceous, erect; leaves linear-lanceolate, acute, glabrous on the upper surface, pubescent underneath; stem paniculate, tomentose; corymbbs terminal, clustered.


Root annual? Stem one to two feet high, branching near the summit, covered with a white tomentum. Leaves alternate, sessile, linear-lanceolate, nearly acute, entire, slightly undulate, nearly glabrous on the upper surface, tomentose, white underneath. Flowers in large terminal corymb, composed of heads aggregated in small clusters. Involucrum imbricate, conical, leaflets oblong, white, tomentose at base; female florets slender, yellowish in the border, five toothed, stamens none, style longer than the corolla; hermaphrodite florets with the corolla funnel shaped, yellowish, the border five-cleft, stamens as long as the corolla. Seeds cylindrical, glabrous. Pappus hairy, as long as the corolla. Receptacle naked, flat, dotted.

Grows in dry pastures—very common.
Flowers September—October.

2. Perpureum.

G. herbaceum; foliis lineari-spathulatis, subtus tomentosis; caule erecto, simplicissimo; floribus sessilibus, glomeratis, terminalibus axillaribusque.

Herbaceous; leaves linear spatulate, tomentose underneath; stem erect, simple; flowers sessile, clustered, axillary and terminal.


Root perennial, stoloniferous. Stem erect and assurgent, simple, tomentose and white, twelve to eighteen inches high. Leaves sessile, oblong, obovate, slightly mucronate, entire, undulate, obscurely triplinerved, tomentose, particularly on the lower surface, which, like the stem, is white. Flowers
in compact, axillary, sessile clusters. Involucrum imbricate, leaflets oblong, ovate, scarious, glabrous, appressed, the inner ones tinged with purple. Female florets numerous; corolla, if any, closely adhering to the style; stamens none; style two-cleft; stigma short, obtuse; hermaphrodite florets small, with the border five-cleft, purple. Style as long as the corolla. Stigma scarcely divided. Seed oblong, scabrous. Pappus hairy.

Grows in dry pastures—very common. Flowers March—May.

* Floribus dioicis. * | * Flowers dioecious. *

3. MARGARITACEUM.

G. herbaceum; foliis linear-lanceolatis, sensim angustatis, acutis; caule superne ramoso, corymbo fastigiato; floribus pedicellatis. | Herbaceous; leaves linear-lanceolate, tapering, acute; stem branching near the summit; corymb fastigiate, flowers on pedicels.


Root perennial. Stem one to two feet high, branching towards the summit, clothed with a thick tomentum. Leaves linear-lanceolate, entire, tomentose, hoary underneath. Flowers in large terminal corymbs. Involucrum many leaved, imbricate, scales ovate, obtuse, slightly plaited, of a snowy whiteness; male florets with the corolla five-cleft, yellowish, stamens nearly as long as the corolla, (Anthers with two bristles at base, Brown,) seed abortive, pappus scabrous, a little thickened at the summit; female florets with the corolla very slender, stamens none, style two-cleft, stigma simple. Seed oblong, a little scabrous, pappus pilose.

I give the habitat with some hesitation. But among my specimens I found one put away for examination in the manner I have usually put specimens received from some of my domestic correspondents; in this instance, however, without a note or label. On examination it proved to be a male plant of this species, justifying Mr. Brown’s observations on its dioecious character. (Trans. Lin. Soc. vol. 12. p. 123.) The specimens in my herbarium from the Northern States are female.

Grows in the mountains of Carolina and Georgia. Flowers August—September.
4. **Plantagineum.**

G. sarmentis procumbentibus; caule simplici; foliis radicalibus ovatis, nervosis; corymbo coarctato; floribus dioicis; involucris squamis interioribus elongatis, obtusis, coloratis.

Suckers procumbent; stem simple; leaves of the root ovate, nervous; corymb clustered, flowers dioecious; interior scales of the involucri long, obtuse, coloured.


Root perennial, stoloniferous. Stem scarcely a foot in height, simple, tomentose, white. Leaves of the root wide, spathulate, oval or acute, entire, three-nerved, tomentose, white on the under surface; of the stem spathulate, lanceolate, sometimes oval or obovate, frequently hoary on both surfaces. Flowers in small terminal corymbs. Involucri imbricate, the interior scales long, very white, sometimes nearly acute. Female florets very slender; style two-cleft; pappus hairy, longer than the corolla.


**Radiati.**

**Florets of the ray generally present.**

**Senecio.**

Gen. Pl. 1290.

Involucri cum cylindricum, basi calyculatum; squamis apice sphacelatis. Pappus simplex. Receptaculum nudum.

Floribus flosculosis; radiis nullis.

Florets tubular; those of the ray wanting.
1. Hieracifolius.

**S. caule virgatim-paniculato; foliis oblongis amplexicaulibus, inaequaliter profunde dentatis incisisque; involucris lœvibus.**

Stem virgate, paniculate; leaves oblong, amplexicaule, unequally and deeply toothed and notched; involucre smooth.

Cineraria Canadensis. Walt. p. 207?
Annual. Stem four to eight feet high, a little hairy and scabrous, succulent, branching towards the summit. Leaves alternate, sessile, oblong, deeply notched, almost pinnatifid, the lobes all acute, pubescent, a little scabrous, hairy along the midrib; panicule compound, terminal, the branches strait, numerous. Involucrum ventricose; leaves equal, glabrous, acute; leaflets at base setaceous, irregularly disposed. Florets of the ray none; of the disk, tubular, numerous, white. Anthers a little longer than the corolla, purplish. Style longer than the stamens, two-cleft; stigmas reflected. Seeds cylindric, a little hairy. Pappus setaceous. Receptacle naked, dotted.
The involucrum in this species appears to be monophyllous, deeply divided. Grows in rich damp soils. Flowers June—September.

2. Suaveolens.

**S. caule herbaceo; foliis petiolatis, hastato-sagittatis, serratis, glabris, concoloribus; floribus corymbosis, erectis; involucris multifloris.**

Stem herbaceous; leaves on petioles, hastate, sagittate, serrate, glabrous, uniformly coloured; flowers in corymbs, erect; involucre many flowered.

Root perennial. Stem three to five feet high, like the whole plant glabrous. Leaves hastate, ovate, acutely and irregularly serrate, mucronate, supported on winged petioles one to two inches long. Involucrum many leaved; leaves linear-lanceolate, acute, a little pubescent at the summit, surrounded at base, by small subulate or setaceous leaves, irregularly disposed. Florets of the disk very numerous, tubular, yellowish white, somewhat globular at base. Anthers longer than the corolla, with the terminal appendices deeply separated, acute. Style two-cleft. Seed oblong, striate. Pappus simple, hairy under a lens, a little scabrous. Receptacle naked.
Grows in damp rich soils in the middle and upper districts of Carolina and Georgia. Flowers August—October.


*S. incano-lanosus;* Hoary and woolly; stem simple; leaves on petioles, oval lanceolate, serrulate; corymb somewhat umbelliform.

Mich. 2. p. 119.

Root perennial. Stem about two feet high, covered like the whole plant with a white cottony tomentum, which seems rather adhering to the surface of the plant, than growing out of it. Leaves of the root oblong, oval, generally obtuse, finely serrulate or crenulate, supported by petioles three to six inches long; leaves of the stem smaller, oblong, more or less dissected. Flowers in a small terminal umbel. **Involucrum** many leaved, the leaves equal, linear-lanceolate, very woolly at base. **Florets** of the ray, twelve to fifteen, the ligules lanceolate, nerved, slightly three-toothed; of the disk numerous. **Stamens** as long as the tubular florets. **Seed** pubescent? **Pappus** simple, setaceous, similar on all the florets.

This plant has great resemblance, in size, and outlines, to the *S. Balsamita;* besides, however, its woolly surface, its leaves are much more slightly serrate, and the florets of the ray not distinctly three-notched as in that species.

Grows near the Flat Rock not far from Camden. Mich. Found by Mr. Whitlow in the middle country of Carolina. Flowers April—May.

4. **Obovatus.**

*S. foliis radicalibus obovatis, crenato serratis, petiolatis, cauliniis pinnatifidis; floribus subumbellatis, longe pedunculatis; caule glabriusculo.* Leaves of the root obovate, crenate or serrate, on petioles, of the stem pinnatifid; flowers somewhat umbellate, on long peduncles; stem nearly smooth.

SYNGENESIA SUPERFLUA.

**Root** perennial. **Stem** twelve to eighteen inches high, simple, glabrous. **Leaves** of the root obovate, sometimes nearly round, crenate, glabrous, with an attenuated base about an inch long; leaves of the stem sessile, small, pinnatifid, a little woolly at the base. **Flowers** in small terminal panicles. **Involucrum** simple, many leaved; leaves linear-lanceolate, glabrous, with one or two small subulate leaves at base; florets of the ray ten to twelve, yellow; florets of the disk numerous. **Stamens** as long as the corolla. **Seed** oblong, striate. **Pappus** simple, hairy, white.

In the specimens which I have from this State, the leaves are more orbicular, thicker, and the flowers larger than those from Pennsylvania; perhaps they form distinct species.

Grows near Vance’s ferry, on the Santee river.

**5. BALSAMITÆ.**

*S. foliis radicalibus oblongis, serratis, petiolatis, caulinis inferioribus lyrato-pinnatifidis, serratis, summis pinnatifidis, dentatis; floribus subumbellatis; caule pedunculisque basi villosis.*

**Sp. pl. 3. p. 1999. Pursh, 2. p. 530.**

**Root** perennial. **Stem** one to two feet high, glabrous except at the origin of the leaves, simple, slender. **Leaves** of the root oblong, oval or ovate, serrate and crenate, glabrous, supported on petioles four to six inches long, a little woolly at the base; leaves of the stem incised, pinnatifid, toothed. **Flowers** in small terminal umbels. **Involucrum** simple, many leaved; leaflets linear-lanceolate, membranaceous along the margin, with one or two small setaceous leaves at base; florets of the ray ten to twelve, linear-lanceolate, deeply three-cleft, differing in this respect from all the other species of this genus in my collection; florets of the disk numerous. **Stamens** about as long as the corolla. **Seeds** naked, striate. **Pappus** setaceous, white, similar on all the florets.

Grows in damp pine barrens. **Dr. M'Brine.**

**Flowers April—May.**
6. Aureus.

S. foliis radicalibus ovatis, cordatis, serratis, petiolatis, caulinaris pinnatifidis dentatis, lacinia terminali lanceolata; pedunculissubumbellatis, incrassatis.

Leaves of the root ovate, cordate, serrate, on petioles, of the stem pinnatifid, toothed, the terminal segment lanceolate; peduncles thickened; flowers somewhat umbellate.


Root perennial. Stem about two feet high, slender, glabrous, excepting near the root. Leaves of the root cordate, oval, sometimes nearly round, crenate, glabrous, supported on petioles about six inches long; lower leaves of the stem small, nearly round, on petioles scarcely an inch long, the upper sessile, amplificaule, pinnatifid. Flowers in a simple, terminal umbel. Involucrum with only one or two small leaves at base. Florets of the ray yellow. Seed glabrous, striate. Pappus setaceous, similar in all the florets.

I have a specimen sent me from Pennsylvania by Dr. Muhlenburg, under the name of S. Aureus, which appears to agree exactly with the S. Cymbalaria, of Pursh, excepting that its flowers are in a small umbel.


Flowers June—July. Pursh.


S. foliis radicalibus oblongis, cordato ovatis, crenato dentatis, glabris, caulinaris, pinnatifidis, pinnis dentatis, incisisque; floribus subumbellatis, pedunculis involucro que glabris.

E.

Leaves of the root oblong, cordate ovate, crenately toothed, glabrous, of the stem pinnatifid, the segments toothed and notched; flowers somewhat umbellate, the peduncles and involucrum glabrous.

Plant two to three feet high, and glabrous excepting sometimes the base of the stem, very similar in many respects to the preceding species, but generally larger. Root leaves oblong, ovate, and almost acute, deeply cor-
date, and supported by petioles six inches long; stem leaves two to four inches long, deeply pinnatifid, with the terminal segment ovate, and irregularly notched. *Involucrum* as in most of our species appearing to be one-leaved, deeply divided with one or two small scales at base, the segments or leaflets subulate, florets of the ray yellow, larger than those of *S. Aureus*. *Seed* oblong, striate. *Pappus* setaceous, very white, and very abundant, so that the heads when the seeds are mature, resemble small balls of cotton.

Sent me under this name from Salem, North-Carolina. I have specimens from the middle country of South-Carolina, which, though wanting root leaves, appear to belong to this species.

**Flowers.**


*S. glaber*; foliis pinnatifido-lyratis; lobis rotundatis subrepandis; corymbo composito, pedunculis summis subumbellatis. Glabrous; leaves pinnatifid, lyrate, lobes round and slightly repand; corymb compound, the highest peduncles somewhat umbellate.


*S. Lyratus*. Mich. 2. p. 120.

Annual. *Stem* erect, one to three feet high, angled, glabrous, fistulous, succulent, with the epidermis adhering only at the angles. *Leaves* sessile, pinnatifid, with the lobes spathulate and round, coarsely toothed, glabrous. *Flowers* in a large panicle, composed of many small umbels. *Involucrum* with one or two small scales at base, the leaflets linear, acute, succulent; florets of the ray about twelve, yellow, the ligules lanceolate, sometimes obovate, three toothed at the summit; the florets of the disk membranaceous. *Stamens* as long as the florets of the disk. *Style* a little longer than the stamens, two-cleft at the summit. *Stigmas* nearly globular. *Seed* oblong, striate. *Pappus* setaceous, very white. *Receptacle* naked.

Grows in damp soils, not absolutely inundated; rice fields when in good order are literally covered with this weed in the spring of the year, which to the planters is generally known by the name of butter weed.

*Flowers* January to May and sometimes in October.

**ARNICA. Gen. Pl. 1296.**

*Involucrum* foliolis. *Involucrum* with the Æqualibus. *Corollulae* leaflets equal. *Florets* radii saepius filamenteis. *Florets* of the ray often with
5. absque antheris. Pappus simplex. Receptaculum nudum.


A. hirsuta; foliis radicibus decussatis lato lanceolatis, nervosis, denticulatis; caule sub aphyllus, summitate in pedunculos 1-floros diviso.

— acaule. Walt. p. 204?

Root perennial. Stem two to three feet high, simple, hirsute, somewhat viscid. Leaves of the root large, sessile, expanding, somewhat viscid; strongly nerved; of the stem one or two pair small, opposite, ovate, sessile, the smaller ones alternate, one at the base of each peduncle. Involucrum with the leaves arranged in a single series, hirsute, lanceolate. Florets of the ray twelve to fifteen; of the disk numerous, all yellow. Anthers as long as the florets of the disk. Style a little longer, two-cleft. Seed slightly obovate, naked, finely striate. Pappus simple, hairy, similar on all of the seeds.

In this species I have not seen any trace of filaments in the florets of the ray.

Grows in damp pine barrens.
Flowers April—May.


Involucrum imbricate. Anthers naked at base.
Pappus double, the exterior chaffy, small, interior hairy, scabrous. Seed obovate, villosa. Receptacle naked.
334 SYNGENESIA SUPERFLUA.

*Floribus sub corymbosis.*  *Flowers generally corymbose.*

1. **Argentea.** Persoon.

C. sericea; foliis lanceolato-linearibus, erectis, acutis, integerrimis; corymbo subpaniculato; involucris pubescentibus; caule superne subnudo.

Silky; leaves lanceolate, linear, erect, acute, entire; corymb somewhat paniculate; involucre pubescent; stem nearly naked towards the summit.


*Root* perennial. *Stem* about two feet high, branching towards the summit. *Leaves* long, (those of the root ten to twelve inches,) nearly linear, somewhat rigid, entirely covered as well as the stem with long silken hairs, longitudinally appressed to their surface. *Flowers* in an irregular terminal corymb. *Involucrum* imbricate; leaves subulate, acute, pubescent, and in the specimen now before *me, more covered with glands than those of the succeeding species. *Florets* of the ray ten to twelve; of the disk numerous, all yellow. *Seeds* oblong, villous or hispid. *Pappus* of both florets similar, the exterior subulate, resembling the interior in colour; interior very scabrous, light brown.

Grows in dry soils.

*Flowers* July—October.

2. **Graminifolia.** Mich.

C. sericea, foliis lanceolato-linearibus, acutis, integerrimis, nervosis; corymbis compositis; caule superne foliaceo.

Silky; leaves lanceolate linear, acute, entire, nerved; corymbs compound; stem leafy towards the summit.


*Root* perennial. *Stem* about two feet high. *Leaves* long, linear, entire, distinctly nerved, covered as well as the stem with a pubescence exactly similar to that of the preceding species; corymb compound, sometimes containing many heads. *Florets* of the ray, ten to twelve; of the disk numerous, all yellow. *Stamens* naked at base, as long as the corolla (of the disk,) at first
These two species are probably distinct, yet they are so nearly allied that it is not easy to point out their specific distinction. I have never seen an individual of either species without glands on the leaves of the involucrum. The one which I have seen most nearly naked, belonged to this species. Judging from the specimens now before me, I should say that the leaves of the C. Argentea are narrower, thicker, and the nerves so close as not to be very distinct, that the flowers, and consequently the seed are much larger, and the stem nearly naked towards the summit. In the C. Graminifolia the leaves are conspicuously nerved, the corymbs generally more compact, and the heads more numerous.

Grows in dry sandy soils.
Flowers July—October.

3. Pinifolia.  

C. glaberrima; caule rigido; foliis linearibus, confertis, rigidis; corymbo majuscolo; involucri squamis apice lanosis.  

Very glabrous; stem rigid; leaves linear, crowded, rigid; corymb large; scales of the involucrum woolly at the summit.

Root perennial. Stem eighteen to twenty-four inches high. Leaves very numerous, crowded on the stem, four to six inches long, on the branches small, linear, with the midrib somewhat conspicuous, under a lens finely serrulate. Corymbs terminal. Flowers nearly as large as in any species of this genus. Involucrum imbricate, scales linear-lanceolate, a little woolly near the point. Florets of the ray about fifteen, of the disk very numerous, all bright yellow. Stamens of the disk longer than the corolla. Anthers white, with their projecting summits very conspicuous, lanceolate. Style longer than the stamens, two-cleft. Stigma glandular. Seeds all similar, long, hairy, hispid. The exterior pappus subulate, lacerate, whitish, the interior very scabrous, reddish brown. Receptacle naked.

Grows on the summits of the sand hills, between the Flint and Chatahoochee rivers.
Flowers September—October.


C. pilosa; foliis oblongo-lanceolatis, serratis, superioribus sessile
sillibus, acutis, inferiouribus spathulatis ple-
rumque obtusis; corymbo simplici; involu-
cro viscido pubescente. | acute, the lower spa-
thulate, generally ob-
tuse; corymb simple;
involucrum viscidly pu-
bescent.

Nutt. 2. p. 151.


Root perennial. Stem one to two feet high, simple, sparingly clothed
with long lanuginous hair. Leaves clothed in a similar manner, particular-
ly on the under surface. Corymb composed of a few heads. Peduncles
and back of the leaves of the involucrum covered with viscid glands. Invo-
lucrum many leaved, imbricate, leaves linear-lanceolate. Florets of the ray
sixteen to twenty; of the disk very numerous, all yellow. Anthers slightly
two-cleft at base, with the terminal appendage lanceolate, white. Stigmas
glandular. Seeds oblong, villous. Pappus on all of the florets double, the
exterior simple, short, the interior scabrous, not so much coloured as usual
in this genus.

Grows in dry sandy soils.

Flowers August—October.

The species which has been sent me from New-Jersey by my much es-
teemed friend Dr. Torrey, of New-York, as the Inula Falcata of Pursh, is
certainly a very distinct species from this. It may be distinguished as C.
falcata foliis lineari-lanceolatis, acutis, rigidis, sub falcatis; involucri squam-
is sub tomentosis. The flowers in my specimens too are smaller than
those of the C. Mariana.


C. pilosa; foliis ob-
longis, obtusis, inter-
gerrimis; corymbo sim-
plici; involucri squamis
angustissimis, glandu-
losis. | Hairy; leaves oblong,
obtuse, very entire; co-
rymb simple; scales of
the involucrum very
narrow, glandular.

Nutt. 2. p. 150.

Root perennial. Stem twelve to eighteen inches high, sparingly lanuginous.
Leaves somewhat lanuginous, sessile, generally entire, the lower one attenua-
ted at base. Corymb simple, few flowered. Involucrum many leaved, im-
bricate; leaves very narrow, a little glandular, and sometimes hairy. Flo-
rets of the ray fourteen to sixteen, narrow, and perhaps longer than any other
of our species; of the disk numerous, all yellow. Seeds oblong, villous,
almost hispid. Pappus of both florets double, the exterior simple, the inte-
rior scabrous, brownish.
Grows in dry soils.
Flowers August—September.

6. **GOSSYPINA.**

C. lanuginoso-candicans; foliis sessilibus, oblongo – spathulatis, obtusis, integerrimis; corymbo subfastigiato.

Woolly, hoary; leaves sessile, oblong, spathulate, obtuse, very entire; corymb fastigiate.


Root perennial. Stem one to two feet high, covered, like the whole plant, except the corolla, with a white lanuginous tomentum. Leaves oblong, obtuse, the lower ones obovate, all entire. Corymbs simple, few flowered. Involucrum many leaved, imbricate; leaves subulate, very woolly. Florets of the ray numerous, yellow. Anthers scarcely longer than the florets of the disk, white at the summit. Seed oblong, viscid, hispid. Pappus of all the florets double, the exterior white, finely lacerate, the interior scabrous, brownish.

Grows in high pine lands; common in the middle districts of Georgia. Flowers August—October.

7. **DENTATA.**

C. lanuginosa; foliis cuneato obovatis, obtusi, sinuato dentatis, superioribus oblongo-ovalibus, integris; corymbo simplici.

Lanuginous; leaves cuneate, obovate, obtuse, deeply toothed, the upper oblong, oval, entire; corymb simple.

Root perennial. Stem about two feet high, covered like the whole plant except the corolla, with a white lanuginous tomentum. Lower leaves three to five inches long, with a long tapering entire base, towards the summit coarsely and obtusely toothed; upper leaves numerous, oblong, all sessile and semiamplexicaule. Flowers in a simple corymb, leaves subulate, very woolly; florets of the ray numerous, (twenty to twenty-five,) strongly nerved; florets of the disk also very numerous, all yellow. Stamens much longer than the florets of the disk, white, with the terminal appendices lanceolate. Style longer than the stamens, two-cleft. Seed small, oblong, hispid. Pappus double in all the florets, the exterior small, lacerate, white, the interior scabrous, reddish brown.
This species has a very close affinity to the preceding, which it resembles entirely in habit and appearance, it differs only in its leaves, which are large and coarsely toothed, and in its seeds, which appear, at least, by my specimens, to be much smaller.

Sent me from Louisville, Georgia, by Mr. Jackson to whom I have been indebted for so many rare species, from the same district of country.

Flowers August—October.

**Floribus paniculatis.**

8. **Divaricata.** Nutt.

C. foliis lineari lanceolatis, acutis, serratis, ciliatis, cauleque hispidis; panicula divaricata; pedunculis involucrisque viscidu pubescentibus.

Leaves linear-lanceolate, acute, acutely serrate, ciliate, and with the stem hispid; panicle divaricate; peduncles and involucri viscidly pubescent.

Nutt. 2. p. 152.

Root perennial. Nutt. Stem about two feet high, slender, hispid and scabrous, irregularly branching towards the summit. Leaves very narrow, the lower ones with long tapering bases, very acutely serrate, hispid and scabrous. Flowers in a long scattered panicle. Involucrum many leaved, imbricate; scales linear-lanceolate, slightly acuminate, pubescent on the back. Florets of the ray not numerous, bright yellow, as in all the species of this genus; of the disk tubular, yellow. Style two-cleft. Seed oblong, hispid, the interior pappus reddish brown, scabrous, the exterior wanting.

In this species which has long been known to me and which I sent Dr. Muhlenberg many years ago, as the Inula hispida, I have been able to discover no trace of an exterior pappus unless the upper hairs of the seed can be so called.

Grows near Savannah, whence it was first sent me by R. W. Habersham, Esq. I have found it also near the national establishment on the Chatahouchie River.

Flowers August—October.

C. foliis inferioribus ovalibus, dentatis, petiolatis, caulinis cordato-ovatis, sessilibus, omnibus scabris punctatisque; caule divaricato; capitulis paniculatis. E.

Lower leaves oval, toothed, on petioles, stem leaves cordate, ovate, sessile, all scabrous and dotted; stem divaricate; flowers in panicles.


Inula Punctata. Muhl. Cat. p. 76.

Root perennial? Stem two to three feet high, branching from the base, glandularly hairy, and very scabrous. Leaves of the root distinctly petiolate, with the petioles dilated at base, coarsely toothed; of the stem somewhat amplexicaule, acute, the veins all pellucid. Flowers in a compound, terminal panicle. Involucrum many leaved, (nearly one hundred) imbricate, cylindrical; leaves linear, acute, viscid, pubescent, with the margins membranaceous. Florets of the ray about twenty, lanceolate, nerved; style scarcely longer than the tube; seeds oblong, and excepting at the base glabrous; exterior pappus a marginal cup, entire; the interior pappus wanting. Florets of the disk tubular, five-cleft, strongly nervet. along the margins; stamens scarcely longer than the corolla. Seed hispid, exterior pappus composed of many membranaceous scales, the interior scabrous, reddish brown. Receptacle deeply celled.

Grows on the sand ridges near the ocean, and in dry pastures. Flowers October.

The two preceding species differ in habit from this genus and the C. Scabra very much, in the structure of the seed and pappus. If the double or exterior pappus should be found to form permanent generic distinctions, and to unite those species which in habit, symmetry and character agree, this plant must be separated from this genus. It may be distinguished by the following character:


The first seven species of this genus, together with the C. falcata, form a very natural group, though the two first are marked with strong peculiarities. The two last differ in habit, and have also characteristic distinctions, which, with the increasing accuracy of the science, may cause them to be removed from this genus.
ASTER. Gen. Pl. 1291.

Involucrum imbricatum, squamis inferioribus patulis. Corollulae radii plures 10 (rarissime pauciores.) Pappus simplex, pilosus. Receptaculum nudum.

Involucrum imbricate, with the lower scales expanding. Florets of the ray generally more than 10. Pappus simple, hairy. Receptacle naked.

* Involucris albis apice viridibus; corollulis radii 5, albis.

*Scales of the involucrum white, with the summits green; florets of the ray 5, white.

1. SOLIDAGINOIDES. Mich.

A? foliis lineari-lanceolatis, integerrimis, margine scabris; floribus sessilibus, aggregatis; involucris imbricatis, squamis obtusis, appressis.

Leaves linear-lanceolate, entire, scabrous along the margin; flowers sessile, aggregate; involucrum imbricate, with the scales obtuse, appressed.


Conyza Linifolia. Walt. p. 204.

Root perennial. Stem about two feet high, slightly angled, glabrous. Leaves, as in all of this genus alternate, sessile, two to three inches long, almost linear, obscurely three-nerved. Flowers in small clusters at the summits of the branches, forming a fastigiate corymb. Involucrum cylindrical, scales obtuse, with the green summits slightly reflected. Florets of the ray generally five, narrow, twice as long as the involucrum, of the disk twelve to fifteen, white, longer than the involucrum. Stamens about as long as the corolla. Style scarcely longer than the stamens, two-cleft. Seeds oblong, slightly angled, covered with a silken pubescence. Receptacle naked.

Grows in damp rich soils.

Flowers July—September.
2. **Conyzoides.**

A. *foliis ovali-lanceolatis, acutis, superne serratis, triplinervibus, inferioribus basi attenuatis, superioribus integerrimis; involucris squamis ovalibus, obtusis, appressis, apice subreflexis.*

Leaves oval-lanceolate, acute, serrate towards the summit, triplinerved, the lower attenuate at base, the upper entire; scales of the involucrum oval, obtuse, appressed, slightly reflected at the summit.

Conyza Asteroides. Walt. p. 204.

*Stem* about two feet high, striate, slightly pubescent. *Leaves* sessile, the lower cuneate lanceolate, acutely and conspicuously serrate, slightly fringed and scabrous along the margins, the upper lanceolate, entire. *Flowers* sessile, clustered, forming fastigiate corymbs. *Involucrum* nearly cylindrical, scales oblong, finely fringed, appressed, with green summits slightly reflexed. *Florets* of the ray five, sometimes six, oval, two to three-cleft at the summit, small; of the disk about fifteen, scarcely longer than the involucrum, tinged with purple. *Seeds* villous. *Pappus* scabrous.

Grows in the middle and upper districts of Carolina and Georgia. Flowers June to August.


A. *foliis cuneato ob-ovatis, acutis, integerrimis, pubescentibus, tortuoso-patulis; floribus subsessilibus, aggregatis; involucris squamis linear-lanceolatis, appressis.*

Leaves cuneate, obovate, acute, entire, pubescent, tortuous, expanding; flowers nearly sessile, aggregate; scales of the involucrum linear-lanceolate, appressed.

Conyza Bifoliata. Walt. p. 204.
SYNGENESIA SUPERFUTA.

Stem about two feet high, pubescent, branching near the summit. Leaves sessile, obovate, sometimes obtuse, slightly twisted so as to have their edges generally vertical. Flowers in a fastigiate corymb. Involucrum cylindrical, scales linear-lanceolate, appressed. Florets of the ray five, linear-lanceolate, two-cleft at the summit; of the disk numerous. Seed oblong, covered with a silken pubescence.

Grows in dry soils; very common in the low country of Carolina and Georgia.

Flowers August to September.

** Ligulis pluribus, foliis integerrimis. **

4. HYSSOPIFOLIUS. Linn.

A. foliis lineari-lanceolatis, trinervibus, punctatis, acutis, margin scabris; ramulis corymboso-fastigiatis, coarctatis; radio subquinquefloro; involucris imbricatis, disco duplo brevioribus.

Leaves linear-lanceolate, three-nerved, dotted, acute, with the margins scabrous; branches fastigiate, clustered; florets of the ray about 5; involucrum imbricate, half as long as the disk.


Stem one to two feet high, erect, striate, nearly glabrous. Leaves of the stem two to three inches long, narrow lanceolate, entire, distinctly three-nerved, sessile; of the branches very small. Flowers in small terminal fastigiate corymbs. Scales of the involucrum ovate; the interior obtuse, the exterior acute. Florets of the ray three to seven, sometimes more, white, tinged with purple; of the disk yellow. Seeds, as in all of this division, covered with a silken pubescence.

Grows in sandy fields and woods: New-Jersey to Carolina. Pursh. I have not seen this species in the low country of Carolina.

Flowers August to October.
5. **Flexuosus.** Nutt.

A. glaberrimus; foliis sessilibus, subulato-linearibus, subcarnosis, trinervibus; ramulis patulis, unifloris; involucris squamis acutissimis, laxe appressis, caule flexuoso. E.

Very glabrous; leaves sessile, subulate linear, somewhat carnose, three nerved; small branches expanding, one-flowered; scales of the involucrum very acute, loosely appressed; stem flexuous.

Nutt. 2. p. 154.
A. Tripolium. Walt. 2. 154.

Stem flexuous, procumbent and erect, two to three feet high, slightly streaked with the decurrent midrib of the leaves, very glabrous. Leaves of the stem linear subulate, entire, somewhat succulent, with pellucid nerves, three to six inches long, two to three lines wide; of the branches very small, acute. Flowers terminal, on the scattered branches. Involucrum cylindrical, imbricate; leaves numerous, linear-lanceolate, very acute, glabrous, loosely appressed, tinged with purple. Florets of the ray about twenty, linear-lanceolate, three-toothed at the summit, pale purple; of the disk, scarcely longer than the involucrum, yellow. Style a little longer than the disk, stigma somewhat fimbriate. Seed oblong, angled, hairy. Pappus scabrous.

Grows in soils affected by salt water. Flowers in September and October.

6. **Paludosus.**

A. foliis sessilibus, subulatis, glabris, margine scabris; pedunculis paucis, unifloris; involucris squarrosis, squamis inferioribus, foliaceis.

Leaves sessile, subulate, glabrous, with the margin scabrous; peduncles few, one-flowered; involucrum squarrose, the lower scales leaflike.


Pursh. 2. p. 547.


Stem twelve to eighteen inches high, pubescent near the summit. Leaves linear subulate; acute, very glabrous underneath, slightly scabrous on the upper surface, three to four inches long, two to three lines wide, when young, sometimes fringed. Flowers large, rarely exceeding four to five, on branches or peduncles nearly naked. Involucre imbricate, leaves linear lanceolate, pubescent, reflexed, equal in length, the lowest sometimes longer and leaf-like. Florets of the ray about twenty-four, nearly an inch long, purple; of the disk numerous, yellow. Seed glabrous, angled. Pappus scabrous.

Grows in wet pine barrens.
Flowers October—November.

7. GRANDIFLORUS.

A. foliis subamplexicaulis, linearis subulatis, rigidis, reflexis, margine ciliato-hispidis; caule hirto, ramis unifloris; involucris squamis lineari-lanceolatis.

Leaves somewhat amplexicaule, linear, subulate, rigid, reflexed, with the margin ciliate and hispid; stem hairy, the branches 1-flowered; involucrum squarrose, the scales linear-lanceolate.


Stem two to three feet high, very hairy, particularly towards the summit. Leaves two to four inches long, scabrous, sometimes almost hispid, linear, acute, the upper subulate. Flowers solitary on branches much more numerous than in the preceding species. Involucre conspicuously squarrose, scales linear lanceolate, reflected. Florets of the ray numerous, large for this genus, linear-lanceolate, purple; of the disk numerous, yellow. Seeds nearly glabrous. Dill. Hort. Elth.

Grows in dry sandy woods, Carolina, Pursh. In the mountains of North-Carolina and Virginia. Mich. I have not seen this species in the low country.

Flowers October—November.

8. EXILIS. E.

A. glaberrimus; caule gracili, elato, parce ramoso; foliis praelongis, lineari subulatis; Very glabrous, stem slender, tall, sparingly branched; leaves very long, linear, subulate;
capitulis racemosis; involucri squamis lineari lanceolatis, radio dimidio brevioribus. E. heads in racemes; scales of the involucre linear-lanceolate, half as long as the ray.

stem four to five feet high, erect, very slender, with a few scattering branches, which near the summit become corymbose. Lower leaves four to six inches long, scarcely exceeding a line in width, very slightly scabrous along the margin, the upper diminishing in size; those of the branches linear-lanceolate. flowers on the lower branches few, on the upper in racemes on peduncles two to four lines long. scales of the involucre linear-lanceolate, glabrous, loosely appressed. florets of the ray about twenty, narrow, twice as long as the involucre, pale purple; of the disk yellowish. seed somewhat pubescent. Grows in damp soils in the western districts of Georgia. Flowers September—October.


A. glaberrimus; foliis lineari subulatis, acutis, erectis; ramis multifloris; involucris cylindraceis, squamis subulatis; ligulis radii minutis.

Very glabrous; leaves linear-subulate, acute, erect; branches many flowered; involucre cylindrical, the scales subulate; florets of the ray minute.


stem erect, two to three feet high, glabrous, with numerous expanding branches. leaves one to four inches long, two to three lines wide, smooth, entire, somewhat appressed to the stem. flowers very small, in a loose terminal panicle. involucre many leaved, imbricate, scales slightly reflected at the summit. florets of the ray about thirty, scarcely longer than the involucre, unequally three-cleft, pale purple; of the disk, six to ten, yellow. seeds hairy. Grows with A. Flexuosus in soils affected by salt water. Flowers September—October.

10. Foliolosus. Ait.

A. caule ramosissimi. Stem bearing many branches, erect; leaves

x 2
lanceolatis, integerrimis, margine scabris, rameis minutis creberrimis; ramis paucifloris; involucris squamis acutis, appressis.  
 linear-lanceolate, entire with the margins scabrous, those of the branches minute and numerous; branches few flowered; scales of the involucrum acute, appressed.


Root perennial.  Stem two to three feet high, glabrous, with the branches expanding.  Leaves sessile, those of the stem about an inch and half long, acute at each end, those of the branches very small, appressed; all glabrous but scabrous along the margins.  Panicle compound, the branches generally few flowered.  Involucrum imbricate, scales acute, appressed, hairy or fringed at the summit.  Florets of the ray twenty to twenty-four, linear-lanceolate, pale purple; of the disk about thirty, yellow.  Style scarcely as long as the stamens.  Seed glabrous.  Pappus somewhat scabrous.

The plant I have described is certainly the A. Coridifolius of Michaux.  It appears to differ in some respects from the A. Foliolosus of Ait.

Grows in dry soils.

Flowers September—October.


A. glabellus; foliis linearibus, integris, reflexis; caule tenui, ramosissimo; ramis ramulisque patulis, setaceis, unifloris; involucris squamis appressis.

Nearly glabrous; leaves linear, entire, reflexed; stem slender, much branched; the branches expanding, setaceous, one-flowered; scales of the involucrum appressed.


This species I have not noticed and perhaps as suggested by Mr. Nuttall, it is only a variety of the A. Foliolosus.  The A. Flexuosus of Nuttall, A. Geniculatus, Hamilton, was considered by Dr. Muhlenberg, as well as Pursh, to be the A. Sparsiflorus of Michaux.

Flowers.
12. **Tenuifolius.** Lin.

A. foliiis linearis-lanceolatis utrinque attenuatis, integerrimis, margine scabriusculis; caule glabro, ramoso, erecto, ramulis unifloris; involucri squamis acutis, laxis.

Leaves linear-lanceolate, tapering at each end, very entire, slightly scabrous along the margin; stem glabrous, branching, erect, the branches one-flowered; scales of the involucrem acute, loose.


**Stem** two to three feet high, glabrous near the base, finely pubescent towards the summit. **Leaves** very numerous, linear, acute at each end, glabrous, slightly scabrous along the margins, those near the flowers, becoming suddenly very minute. **Flowers** numerous, in racemes along the main branches, on small branches or peduncles about an inch long. **Scales** of the involucrum linear, acute, imbricate, loosely appressed, much shorter than the disk. **Florets** of the ray numerous, very narrow, pale purple; of the disk numerous, yellowish. **Seeds** oblong, finely pubescent. **Pappus** hairy; grows in loose soils, particularly in the upper districts of Carolina. **Flowers** October—November.

13. **Dumosus?** Lin.

A. foliiis linearis-lanceolatis, integerrimis, glabris; caule paniculato; floribus terminalibus; involuci squamis linearis-lanceolatis, imbricatis, appressis. E.

Leaves linear-lanceolate, entire, glabrous; stem panicked; flowers terminal; scales of the involucrum linear-lanceolate, imbricate, appressed.


**Stem** about two feet high, glabrous, somewhat sparingly branched. **Leaves** linear-lanceolate, acute, entire and slightly scabrous along the margin. **Flowers** at the summits of the branches, solitary, terminal. **Scales** of the involucrum linear-lanceolate, acute, loosely appressed, glabrous. **Florets** of the ray narrow, pale purple. **Seeds** nearly glabrous.

This species is by Mr. Nuttall considered as a variety of A. Tenuifolius, to which in its foliage it is closely allied. As I have specimens however
strongly resembling the original figure of Pluk. (t. 78. f. 6.) and bearing upon branches several inches long but one solitary terminal flower, I have concluded to retain it for the present and point it out as one of the many doubtful species in this prolific genus.

Grows in damp rich soils.

Flowers October.

14. ERICOIDES.

A. foliis linearibus, integerrimis, glaberri-mis, ramulorum subu-latis, approximatis, cau-linis elongatis; involu-cris squamis lanceolatris, acutis; caule glabro. | Leaves linear, en-tire, very glabrous, those of the branches subulate, approximate, of the stem long; scales of the involucrum lanceolate, acute; stem glabrous.


Stem two to three feet high, very glabrous, branches very numerous, slender, expanding. Leaves of the stem linear, acute at each end, glabrous; of the branches, subulate, gradually diminishing in size, very slender, so that although numerous they scarcely clothe the branches. Flowers as in the preceding species, on short peduncles of half an inch to an inch long, forming racemes along the large branches. Scales of the involucrum comparatively large, distinctly lanceolate, nearly as long as the disk. Florets of the ray, numerous, linear, pale purple. Seed a little pubescent. Pappus slightly scabrous.

This species appears to differ from the preceding by the very narrow subulate leaves on the branches, gradually diminishing in size and by the scales of the involucrum which are much larger, lanceolate, and approaching more nearly to the length of the disk. The A. Ericoides of Mich. probably belongs to A. Multiflorus or A. Ciliatus.


Flowers October—November.

15. RACEMOSUS. E.

A. foliis lineari-lan-ceolatis, subtus subpu-bescentibus, margine | Leaves linear-lan-ceolate, somewhat pub- escent underneath, sca-
scabris; ramis gracili-
brous along the mar-
bus, elongatis; capitulis
gin; branches slender,
subsessilibus, conflertis,
long; heads nearly ses-
juxta summatarem ra-
sile, crowded toward
morum. E.

Root perennial. Stem about two feet high, very diffuse, with slender
branches eight to twelve inches long, slightly pubescent. Leaves linear-
branches. 
lanceolate, pubescent underneath, along the margin and midrib; those of
the stem one to two inches long, one to two lines wide, those of the bran-
the summit of the bran-
ches very small, two to three lines long. Flowers very small, in simple
ches.

cosomes, occupying two to three inches at the summit of the branches, on
peduncles one to two lines long. Scales of the involucrum imbricate, linear-
lanceolate, loosely appressed, nearly glabrous, as long as the disk. Florets
of the ray numerous, linear, pale purple; of the disk yellow. Seeds slightly
pubescent.

Grows in damp rich soils—Paris Island.
Flowers September—October.


A. foliis linearibus,
integerrimis, glabrius-
culis, margine subcilia-
tis; caule ramosissimo,
diffuso, pubescente; in-
volucris pedunculisque
squarrosis, squamis
oblongis, ciliatis. E.

Leaves linear, entire,
nearly glabrous, slight-
ly fringed; stem dif-

dusely branched, pubes-
cent; involucrum and
peduncles squarrose,
the scales oblong, fring-
ed.


Stem two to three feet high, branching, very pubescent, almost hispid.
Leaves linear, acute, small, pubescent and fringed along the margin. Flow-
ers in crowded terminal racemes, on the horizontal branches somewhat se-
cund. Peduncles two to three lines long. Scales of the involucrum ob-
long and obovate, fringed, squarrose, and the small leaves on the short pe-
duncles are commonly as squarrose as the involucrum, of which they then
appear to be a continuation. Florets of the ray oblong, entire? nearly white;
of the disk yellowish. Seed pubescent.

Grows in dry fields—Canada to Carolina. Pursh.
17. **Squarrosus**. Walt.

*A. foliis creberrimis, arcte sessilibus, ovatis, acutis, reflexis, rigidis, margine hispidis; caule ramoso hirto; ramulis unifloris; involucris squamis lanceolatis, hirtis, laxe appressis.*

Leaves very numerous, closely sessile, ovate, acute, reflexed, rigid, hispid along the margin; stem branching, hairy; branches one-flowered; scales of the involucre lanceolate, hairy, loosely appressed.


*Stem* about two feet high, procumbent, branching, hispid, very rough. *Leaves* small, crowded, sessile, the young sometimes obovate, the old deltoid, acute, very scabrous, sprinkled with rigid hair. *Flowers* terminal, forming a loose panicle. *Scales* of the involucre imbricate, (twenty-four to thirty,) mucronate, after flowering reflexed. *Florets* of the ray sixteen to twenty, linear-lanceolate, three-toothed at the summit, bright blue, handsome; of the disk yellow. *Seed* hairy. *Pappus* scabrous.

Grows in dry soils—common. *Flowers* September—November.

18. **Concolor**. Lin.

*A. foliis oblongo-lanceolatis, integerrimis, utrinque cano-pubescentibus; caule simplicissimo, erecto, pubescente; racemo terminali; involucris squamis lanceolatis, sericeis, appressis.*

Leaves oblong, lanceolate, entire, hoary and pubescent on both surfaces, stem simple, erect, pubescent; raceme terminal; scales of the involucre lanceolate, silken, appressed.


*Root* perennial, sometimes tuberous, like the *Liatris* when in sandy soils. *Stem* erect, two to three feet high, virgate, pubescent, sparingly branched.
Leaves sessile, entire, slightly three-nerved, almost tomentose. Flowers in a long terminal raceme, on peduncles three to six lines long. Scales of the involucreum slightly appressed, villous. Florets of the ray, twelve to fifteen, linear-lanceolate, bright blue; of the disk blue also. Anthers and Stigmas purple. Seed villous. Pappus slightly scabrous.

Grows in dry soils—common.
Flowers September—October.


A. foliis sessilibus, oblongo lanceolatis, utrinque acutis, cano tomentosis, triplinervibus, subtus reticulato venosis; floribus racemosis; involucri squamis acutissimis.

Pursh, 2. p. 548.

Stem about three feet high, tomentose, branching toward the summit. Leaves with the margins revolute, racemes somewhat fastigiate. Peduncles almost naked. Scales of the involucreum loosely imbricate. Flowers middle sized. Florets of the ray and disk white. Pursh.

With this species I am unacquainted.
Grows in dry swamps—Carolina and Georgia. Pursh.
Flowers August—October.


A. foliis angusto-lanceolatis, pilosis, amplexicaulis, basi auriculatis; caule piloso; floribus terminalibus, interdum confertis; involucri squamis lanceolatis, laxe appressis, disco longioribus.

Leaves narrow, lanceolate, hairy, amplexicaule, auriculate at base; stem hairy; flowers terminal, sometimes crowded; scales of the involucreum lanceolate, loosely appressed, longer than the disk.

Stem three to four or six feet high, with diffuse spreading branches, hairy, almost hispid. Leaves long, narrow, lanceolate, very entire, hairy and scabrous along the margin, slightly auriculate at base. Flowers in a loose, terminal panicle on small branches half an inch to three inches long. Scales of the involucrum lanceolate, acute, somewhat hispid, scarcely longer than the disk, frequently coloured. Florets of the ray numerous, narrow, bright purple. Seeds hairy, almost villous.

The plant I have described and which I collected in the western districts of Georgia, belongs to the var. Spurius. A. Spurius. Willd.—but its branches are more diffuse, and its flowers more scattered than I believe are common in that variety.

Grows in rich soils, sometimes to the height of ten feet. Pursh.
Flowers September—October.


A. foliis lineari-lanceolatis, amplexicaulis, lâvigatis; caule ramoso, glaberrimo, ramis patentibus; floribus racemoso - paniculatis, involucri squamis laxis, lanceolatis, discum æquantibus.

Leaves linear-lanceolate, amplexicaule, smooth; stem branching, very glabrous, the branches expanding; flowers in paniculate racemes; scales of the involucrum loose, lanceolate, as long as the disk.


Stem two to three inches high, glabrous or slightly pubescent on the young branches. Leaves linear-lanceolate, those of the stem rather linear-subulate, somewhat scabrous, very acute, slightly amplexicaule. Flowers scattered along rigidly expanding paniculate branches, on small branches or peduncles half an inch to three inches long, not large. Scales of the involucrum linear-lanceolate, nearly glabrous, loosely appressed, nearly as long as the disk. Florets of the ray numerous (twenty to twenty-four) narrow, purple? of the disk purple. Seed pubescent.

I have inserted this species with much hesitation. I have no opportunity of referring to the figure of Hoffman as the type of this species, and the plant I have described which was sent me under this name by Dr. Schweinitz is certainly not the plant of Pursh. It however differs from any species I have hitherto described, and until a good monograph of this genus with plates, shall be published, many of its species must continue obscure and doubtful.
22. Virgatus. E.

A. foliis linear-lanceolatis, amplexicaulis, glaberrimis; caule sub ramoso, ramis virgatis, erectis; capitulis racemosis; involucris squamis acutissimis, sub squarrosis. E.

Leaves linear-lanceolate, amplexicaule, very glabrous; stem sparingly branched, branches virgate, erect; heads racemose; scales of the involucrum very acute, slightly squarrose.

- Stem erect, three to four feet high, glabrous, branches few, erect, strictly virgate, slightly pubescent at the summit. Leaves of the stem three to four inches long, three to four lines wide, sessile, amplexicaule, glabrous, with the margins a little scabrous; those of the branches similar but smaller. Flowers in simple terminal racemes, on peduncles half an inch to two inches long. Scales of the involucrum linear-lanceolate, very acute, almost mucronate, slightly squarrose. Florets of the ray, twenty to twenty-four, small, bluish purple. Seeds nearly glabrous.

From the A. Cyaneus this species differs by its larger leaves and long, erect, virgate branches; from A. Phlogifolius which it most resembles in the size of its leaves, it differs by its want of pubescence, smaller flowers and simple racemes.

Grows in the western district of Georgia. Flowers September—October.


A. caule fruticoso, flexuoso, ramosissimo, pubescente; foliis sessilibus, oblongo-lanceolatis, utrinque attenuatis; involucris squamis lineari-lanceolatis, pubentissimis, sub-squarrosis.

Stem shrubby, flexuous, much branched, pubescent; leaves sessile, oblong lanceolate, tapering at each end; scales of the involucrum linear-lanceolate, very pubescent, somewhat squarrose.


Stem pubescent, flexuous and decumbent, leaning upon surrounding plants.
and growing to the height of ten or twelve feet, very pubescent when young. *Leaves* oblong-lanceolate, pubescent, very acute, attenuated near the base, then dilated and amplexicaule. *Flowers* very numerous, though generally solitary on short branches, large and handsome. *Scales* of the involucrem very pubescent, almost villous. *Florets* of the ray numerous, bright purple; of the disk purplish. *Seeds* pubescent.

Grows in swamps. 
Flowers October.

**Foliis lanceolatis ovatisque, inferioribus serratis.**

↑ *Floribus corymbosis.*


*A. caule simplici, superne pubescente; foliis obovato-lanceolatis, acutis, parce serratis, supra scabris, superioribus minoribus; floribus paucis, majusculis; involucri squamis oblongo-ovatis, reflexis, pubentissimis. E.*

↑ *Flowers in corymbss.*

Stem simple, pubescent towards the summit; leaves obovate-lanceolate, acute, sparingly serrate, scabrous on the upper surface, the upper ones small; flowers few, large; scales of the involucrem oblong, ovate, reflexed, very pubescent.

A. Liatroides. Muhl. Cat.

**Root** creeping. Stem erect twelve to eighteen inches high, very pubescent towards the summit. *Leaves* sessile, somewhat three-nerved, slightly scabrous underneath, pubescent and very scabrous on the upper surface, ciliate when young; the lower leaves attenuate at base, three to four inches long, six to eight lines wide, the upper smaller. *Flowers* large, not numerous, (thirty-five) in a small terminal corymb, sometimes solitary. *Involucrum* imbricate, cylindrical; the lower leaves ovate, nearly acute; the interior oblong, obtuse, reflected, all very pubescent. *Florets* of the ray about twenty, bright purple; of the disk, yellow. *Seeds* slightly angled, and a little hairy. *Pappus* scabrous.

Grows in Carolina, in the flat pine barrens near Purysburg. 
Flowers October—November.

* A. foliis amplexicaulis, lanceolatis, serratis, scabriusculis; ramos paniculatis, involucris laxis discum superantibus, squamis lineari-lanceolatis, subæqualibus; caule hispido. Leaves amplexicaule, lanceolate, serrate, slightly scabrous; branches paniculate; involucrum loose, longer than the disk; scales linear-lanceolate, nearly equal; stem hispid.

Sp. pl. 3. p. 2040. Mich. 2. p. 115. Pursh, 2. p. 554. Nutt. 2. p. 158. The plant which in the low country of Carolina and Georgia has been considered as the *A. Puniceus*, differs so much from the Northern specimens which I possess, that it ought probably to constitute a new species. The specific character above quoted is taken from Willdenow. I shall now describe the plant as it appears to us. *Stem* two to three feet high, robust, lucid, glabrous, the branches furrowed, pubescent. *Leaves* sessile, spatulate-lanceolate, dilated and semiamplexicaule, acutely serrate, smooth on the under surface, scabrous on the upper, six inches long and nearly two wide, when young pubescent. *Flowers* large, numerous, with a corymbose panicle. *Scales* of the involucrum numerous, imbricate, linear, acute, fringed, reflected. *Florets* of the ray twenty to thirty, linear-lanceolate, bright purple; of the disk numerous, yellow. *Anthers* exserted. *Seed* angled, a little hairy. Grows along the margins of our rivers. Very common on the tide lands of the Ogechee. Flowers October—November.

26. *Acuminatus.*

* A. foliis lato-lanceolatis, inferne attenuatis, integris, superne inaequaliter serratis, longissime acuminatis; caules simplici, flexuoso, anguloso, panicula corymbosa, divaricato-dichotoma; involucris Leaves broad, lanceolate, tapering towards the base, entire, unequally serrate near the summit, conspicuously acuminate; stem simple, flexuous, angled; panicle corymbose, divaricate, dicho-
foliolis laxis, linearibus, disco brevioribus. | tomous, leaves of the involucrum loose, linear, shorter than the disk.


This species I have not seen in Carolina. Pursh says that a humble variety with a naked few-flowered corymb, scarcely longer than the leaves, grows on the summits of our highest mountains. Flowers August—October.

27. Dracunculoides. Willdenow.

A. foliis linearibus, acuminatis, integerrimis, inferioribus lineari-lanceolatis, subserratis; ramis corymbosis; involucris imbricatis; caule glabriusculo.

Leaves linear, acuminate, entire, the lower linear-lanceolate, slightly serrate; branches corymbose; involucrum imbricate; stem nearly glabrous.


Stem four feet high, erect, the branches corymbose, and marked with a decurrent hairy line; the lower leaves one to two inches long, linear-lanceolate, acuminate at each end, serrate in the middle, the upper linear, entire. Flowers small. Florets of the ray nearly white. Scales of the involucrum lanceolate, acute, somewhat expanding. Willd.


†† Floribus paniculatis. †† Flowers in panicles.


A. foliis lanceolato, linearibus, sessilibus glabris, infimis sub serratis, ramulorum lanceolatis; caule paniculatus.

Leaves lanceolate, linear, sessile, glabrous, the lower slightly serrate, those of the branches lanceolate; stem
culato, glabro, ramis virgatis; involucris imbricatis.

| paniculate, glabrous, branches virgate; involucrum imbricate. |


Stem two to four feet high, with long slender branches, slightly pubescent. Leaves sessile, narrow, lanceolate, serrate, glabrous; those of the branches entire. Flowers small, in racemes at the end of the virgate branches, on peduncles two to four lines long. Scales of the involucrum linear-lanceolate, acute, nearly glabrous. Florets of the ray (sixteen to twenty), narrow, pale purple. Seeds somewhat pubescent.

I know not whether my reference of this plant is correct. I have of it apparently two varieties, one with leaves longer and more acutely serrate than the other and with flowers somewhat longer; but in habit similar.

Grows in damp soils, along ditches, swamps, &c.

Flowers September—October.

29. Divergens. Ait.

A. foliis elliptico-lanceolatis, serratis, glabris, caulinit linear-
lanceolatis; ramis patentibus; involucris imbricatis; caule pubes-
cente.

Leaves elliptic lanceolate, serrate, glabrous, those of the stem linear-lanceolate; branches expanding; involucrum imbricate; stem pubescent.


Stem two to four feet high, with the summit and numerous branches pubescent. Leaves lanceolate, very acute, finely serrate, glabrous; the small ones on the branches as usual entire. Flowers in somewhat crowded racemes on the expanding branches on peduncles one to three lines long. Scales of the involucrum linear-lanceolate, imbricate, nearly glabrous. Florets of the ray white, tinged with purple. Seeds somewhat pubescent.

Mr. Nuttall considers the A. Diffiusus of Aiton, and the A. Pendulus, Ait. with long divaricate pendulous branches as only varieties of the present species. The last would appear from description to approach very nearly the A. Junceus of this sketch. If they should prove the same plant, they must I think be separated from A. Divergens.

Grows in woods in moderately fertile soils.

Flowers September—October.
30. **Tradescanti.** Lin.

A. foliis lanceolatis, serratis, sessilibus, glabra; ramis virgatis; involucris imbricatis; caule tereti, glabro.  

Leaves lanceolate, serrate, sessile, glabrous; branches virgate; involucrum imbricate; stem terete, glabrous.


Stem three to four feet high, glabrous, with numerous erect virgate branches. Leaves lanceolate, acute at each end, when large finely serrate, when small entire, a little scabrous on the upper surface. Flowers small, in simple or compound racemes, very numerous. Scales of the involucrum linear-lanceolate, acute, nearly glabrous. Florets of the ray, (about twenty) narrow, pale purple, of the disk, yellow. Seeds a little hairy.

The plant I have described agrees very exactly with the *A. Vimineus*, Willd: considered by Pursh, and I believe Mr. Nuttall, as a variety of *A. Tradescanti*. I must however remark that I have a specimen sent from Penn. by Dr. Muhlenberg, as the *A. Tradescanti* of Lin. which differs very widely from this, but differs, I think also, from the description of Ait. and Willdenow.

Grows in the mountains of Carolina, Mich. Probably in all of the upper districts, as it is found in the same range of country in N. Carolina.

Flowers September—October.

31. **Discoideus.** E.

A. caule erecto sub villoso; foliis spathulato ovatis, acutis, serratis, pilosis, subtus pallidioribus; involucris squamis, subulatis, villosis, laxe appressis, sub squarrosis; radii corollulæ 0.

Stem erect, somewhat villous; leaves spathulate, ovate, acute, serrate, hairy, pale on the under surface; scales of the involucrum subulate, villous, loosely appressed, somewhat squarrose; florets of the ray none.

Stem two to three feet high, erect, generally hairy, sometimes very villous, branches not numerous, virgate, erect. Leaves all spathulate, distantly and coarsely serrate, very hairy on the under surface, three to four inches long, including the attenuated base, nearly two inches wide. Flowers
of a middling size, in a long virgate panicle. The lateral racemes axillary, few-flowered. Scales of the involucre subulate, acute, villous, somewhat squarrose, scarcely longer than the mature seed. Florets of the ray wanting; of the disk twelve to fifteen, deeply five-cleft, pale purple. Seed oblong, very glabrous. Receptacle small, naked.

This plant, when I first discovered it, appeared to me likely to constitute a genus in Syngenesia Equalis, somewhere between Vernonia and Eupatorium; but its involucre and its habit so much resemble those of an Aster, that I have been induced for the present to arrange it here—varies with the lower stem leaves, nearly glabrous, and the leaves spathulate lanceolate.

Grows very abundantly in the rich high lands between the Alabama and Chatahouchie rivers.

Flowers September—October.

32. Versicolor. Willd.

A. foliis subamplexicaulis, lato-lanceolatis, serratis; caule ramosissimo, glabro; involucris squamis lanceolatis, laxis, disco brevioribus.

Leaves somewhat amplexicaule, broad, lanceolate, serrate, stem branching, glabrous; scales of the involucre lanceolate, loose, shorter than the disk.


Upper leaves entire, the lower somewhat serrate, those of the root oblong, attenuate at each end, serrate in the middle, all glabrous. Flowers handsome, clustered towards the summits of the branches. Florets of the ray, first white, afterwards purple. Willd.

The specimens of plants that pass under this name with us, agree very accurately with the description of Willdenow, excepting that the flowers are small, and the plant of course not as ornamental as he represents.

Grows in rich damp soils.

Flowers September—October.

32. Lævigatus.

A. foliis subamplexicaulis, lato-lanceolatis, subserriatis, lævibus; caule ramosissimo, glabro, ramulis mul-

Leaves somewhat amplexicaule, broad, lanceolate, slightly serrate, smooth; stem much divided, gla-
tifloris; involucri; squamis, lanceolatis, laxis, discum subæquantibus. brous, branches many flowered; scales of the involucrum lanceolate, loose, as long as the disk.


Stem two to five feet high, glabrous, branching profusely. Lower leaves two to three inches long, semiamplexicaule, glabrous, the upper narrow nearly entire. Flowers numerous, in racemose panicles. Scales of the involucrum linear-lanceolate, loosely imbricate. Florets of the ray about thirty, nearly linear, pale purple; of the disk yellow. Seeds pubescent.

Grows in damp rich soils.

Flowers October—September.

33. Amplexicaulis.

A. foliis ovato-oblongis, acutis, amplexicaulis, cordatis, serratis; caule paniculato, glabro; involucri squamis lanceolatis, arcte imbricatis. Leaves ovate, oblong, acute, amplexicaule, cordate, serrate; stem paniculate, glabrous; scales of the involucrum lanceolate, closely imbricate.


Stem erect, two to three feet high, glabrous, sparingly branched towards the summit. Leaves oblong lanceolate, the lower attenuate, semiamplexicaule, the upper more cordate, all glabrous and slightly serrate. Flowers middle sized, in a terminal panicle. Scales of the involucrum linear-lanceolate, thick, very acute, glabrous. Florets of the ray (sixteen to twenty) narrow, purple; of the disk yellow. Seed nearly glabrous.

Grows in dry soils moderately fertile.

Flowers September—October.
35. **Undulatus.** Lin.

*A. foliis caulinis oblongis, cordatis, amplexicaulis, undulatis, scabris, summitate dentatis; paniculæ ramosis patentibus, paucifloris; involucris sub-squarrosis.*

36. **Diversifolius.** Mich.

*A. foliis sub-integris, undulatis, sub-pubescentibus, scabris, inferioribus alato-petiolatis, cordato-ovatis, superioribus oblongo-lanceolatis; panicula laxa, ramulis gracilibus racemifloris.*
Mich. 2. p. 113.

Stem about three feet high, pubescent, scabrous, diffusely branched near the summit. Leaves generally entire, sometimes slightly toothed: the petiole of the lower ones winged, dilated at base, amplexicaule—those of the branches very small, all very pubescent underneath, slightly scabrous on the upper surface. Flowers of a middling size, in a long terminal panicle. Leaves of the involucrum numerous, lanceolate, pubescent, fringed. Florets of the ray from twelve to fifteen, pale purple; of the disk twenty-four, yellow, changing as they decay to purple. Seeds slightly angled, a little hairy.

Grows in dry soils, very common.
Flowers September—November.

37. Sagittæfolius. Wedemeyer.

A. foliis oblongo-lanceolatis, sessilibus, medio serratis, sub glabris, radicalibus oblongis, cordato-sagittatis, serratis, petiolatis; caule ramoso, glabro; involucris laxis, imbricatis.

Leaves oblong-lanceolate, sessile, serrate in the middle, rather glabrous, those of the root oblong, cordate, sagittate, serrate, petiolate; stem branching, glabrous; involucrum loose, imbricate.


Stem two to three feet high, erect, glabrous, bearing many branches. Leaves of the root oblong, unequally serrate, cordate and sagittate at base, glabrous, two inches long and upwards, on naked petioles; lower stem leaves oblong, ovate, acuminate, coarsely serrate, on winged petioles, the upper oblong-lanceolate, acuminate, sessile, serrate in the middle, the highest entire. Flowers of a middling size, peduncles leafy. Scales of the involucrum lanceolate, loosely imbricate. Willd.

The plants which I have examined as belonging to this species have their leaves slightly scabrous and pubescent along the veins, and nearly entire, thinner however and more glabrous than those of A. Diversifolius to which they are nearly allied.

Grows in the upper districts of North and South-Carolina.
Flowers September—October.
38. Scaber. E.

A. foliis inferioribus petiolatis, oblongo-cordatis, acutis, integerrimis, caulinis sessilibus, amplexicaulis, ovato lanceolatis, superne attenuatis, acutissimis. omnibus scabris, undulatis; panicula laxa elongata, ramulis racemifloris. E.

Lower leaves petiolate, oblong, cordate, acute, entire, those of the stem sessile, amplexicaule, ovato lanceolate, tapering to a very acute point, all scabrous, undulate; panicle loose, long, the branches racemose.

Stem about three feet high, striate, a little hairy, very scabrous. Lower leaves on petioles, two to three inches long, cordate, with the sinus deep, and the lobes round; stem leaves rather narrow, lanceolate, and ovato-lanceolate, rigid, very acute, all scabrous. Flowers rather small, in a long terminal panicle. Scales of the involucrum linear-lanceolate, acute, pubescent, appressed. Florets of the ray twelve to sixteen, oval, purple; of the disk yellow. Seed angled, hairy. Pappus scabrous.

This species differs from A. Diversifolius in its leaves which are narrower, much more acute, more rigid, more scabrous and less pubescent, and perhaps also by a larger panicle.

Grows in soils rather dry. Flowers September—October.

39. Paniculatus?

A. foliis ovato-lanceolatis, subserratis, petiolatis, glabris, radicalibus ovato-cordatis serratis, scabris, petiolis nudis; caule ramosissimo, glabro, ramulis pilosis; involucris laxis, subimbricatis.

Leaves ovate-lanceolate, slightly serrate, petiolate, glabrous, those of the root ovate-cordate, serrate, scabrous, with the petioles naked; stem much divided, glabrous, branches hairy; involucrum loose, somewhat imbricate.
SYNGENESIA SUPERFLUA.

I insert this species with much hesitation; my specimens which were referred to it by Dr. Muhlenberg, differ in some respects from the description of Willdenow, and may really belong to another section of this genus.

*Stem* three to four feet high, striate, glabrous, branching very much towards the summit, the young branches a little hairy. *Root* leaves wanting; stem leaves spathulate-lanceolate, acute, or slightly acuminate, a little hairy, particularly along the margins and veins. *Flowers* small in compact clustered racemes, forming a large terminal panicle. *Scales* of the involucrum not very numerous, subulate, nearly glabrous. *Florets* of the ray about twelve, narrow, pale purple; of the disk yellow, changing as they decay to purple. *Seeds* very glabrous.

This plant, which is probably the *A. Paniculatus* of Muhlenberg and Pursh, differs very essentially from the *A. Diversifolius*. The *A. Paniculatus* of Nuttall, must certainly be a different plant.

Grows in damp rich soils in the low country of Carolina.

Flowers September—October.


*A. foliis cordatis, acutis, subtus pilosis, argute serratis, petiolatis, petiolis alatis; caule paniculato, piloso; involucris laxis, subimbricatis.*

Leaves cordate, acute, hairy underneath, acutely serrate, petiolate, with the petioles winged; stem paniculate, hairy; involucrum loose, slightly imbricate.


*Stem* two to three feet high, branching, the branches pubescent. *Leaves* of the root and lower part of the stem cordate, tapering to an acute point, acutely serrate, slightly pubescent underneath, on petioles one to two inches long, very slightly winged. *Flowers* numerous, rather small, in panicles composed of crowded racemes. *Scales* of the involucrum linear-lanceolate, nearly glabrous, loosely appressed. *Florets* of the ray about twelve, narrow, white, tinged with purple. *Seeds* glabrous. Varies, with the lower leaves ovate-cordate, the upper spathulate-ovate, the serratures nearly obtuse, and the petioles more conspicuously winged.

Grows in the upper and mountainous districts of Carolina and Georgia.

Flowers September—November.
41. Corymbosus. Ait.

A. foliis ovatis, argute serratis, acuminate, inferioribus cordatis, petioli nudis; ramis pubescentibus, sub fastigiatis; involucris squamis ovato-lanceolatis, arcte appressed.

Leaves ovate, acutely serrate, acuminate, the lower cordate, petioles naked; branches pubescent, somewhat fastigiate; scales of the involucrum ovate-lanceolate, closely appressed.


*Stem* one to two feet high, glabrous, sparingly branched near the summit, the branches a little pubescent. *Leaves* somewhat large, the lower ovate, cordate, the upper spathulate-lanceolate, all glabrous, acuminate and very acutely serrate. *Flowers* not numerous, much larger than those of the preceding species, in a terminal somewhat fastigiate corymb. *Scales* of the involucrum ovate-lanceolate, pubescent, closely imbricate. *Florets* of the ray about twelve, narrow, white, tinged with purple. *Seeds* glabrous.

Grows in shady woods in the upper districts of Carolina and Georgia. *Flowers* September—October.


42. Linariifolius. Lin.

A. foliis crebris, linearibus, mucronatis, enerviis, rigidis, patentibus, scabris; caule superne ramoso, ramis unifloris fastigiatis; involucris imbricatis, longitudine disci.

Leaves numerous, linear, mucronate, without nerves, rigid, expanding, scabrous; stem branching near the summit, branches fastigiate, one-flowered; involucrum imbricate, as long as the disk.
366 SYNGENESIA SUPERFLUA.


Stem about two feet high, generally erect, when young pubescent. Leaves alternate, but crowded, expanding or reflected, with the midrib very prominent, very scabrous along the margins, about an inch and half long. Flowers in an umbellate corymb, the branches generally one-flowered and clustered at the summit of the stem. Scales of the involucrum very numerous, imbricate, linear-lanceolate, fringed. Florets of the ray ten to twelve, linear-lanceolate, three-cleft at the summit, pale purple; of the disk numerous, yellow. Seeds oblong, villous. Pappus double or composed of short hairs intermingled with the long.

Between the A. Rigidus of Pursh, and this species, I can perceive no distinction.

Grows in dry soils, very common. Flowers September—November?

43. Dichotomus. E.

A. foliis arcte sessilibus, ovalibus, obtusis, pubescentibus; corymbo subdichotomo, ramulis nudis, elongatiss. E.

Stem about two feet high, very pubescent, dichotomously divided towards the summit. Leaves oblong, oval, closely sessile and sometimes slightly cordate. Corymb few flowered, peduncles long, naked. Scales of the involucrum linear-lanceolate, very pubescent, scarcely longer than the mature seeds. Florets of the ray, ten to sixteen, white, tinged with purple; of the disk numerous, yellowish. Seeds very hairy. Pappus double.

Grows in damp rich soils—Paris Island. Flowers October.

44. Humilis.

A. foliis subrhomboideis, ovato-lanceolatis, utrinque acuminatis, subpetiolatis, glabris, margine hispidis; corymbo divergenti-dichotomo, nudiusculo, Leavessomewhat rhomboidal, oval-lanceolate, acuminate at each end, slightly petiolate, glabrous, hispid along the margin; corymb diverging, di-
paucifloro; involucris laxis imbricatis; radiis 8-floris. chotomous, rather naked, few-flowered; involucrum loose, imbricate, florets of the ray 8.


Stem one to two feet high, pubescent. Leaves lanceolate, acuminate at each end, reticulately veined, very conspicuously hairy along the margins and veins. Flowers in small terminal corymbs. Scales of the involucrum lanceolate, a little hairy. Florets of the ray about eight, lanceolate, white. Seed glabrous.

This species appears to me to differ from the A. Amygdalinus in its leaves, which are larger, thinner, more reticulate, and more hairy, by its larger radial florets, and by its large glabrous seed.

Flowers September—October.

45. AMYGDALINUS. Lam.

A. foliis lanceolatis, acuminatis, basi attenuatis, glabris, margine scabris; caule simplici, apice corymboso; involucris laxis imbricatis, squamis lanceolatis, sub acutis. Leaves lanceolate, acuminate, tapering at base, glabrous, scabrous along the margin; stem simple, corymbose at the summit; involucrum loosely imbricate, the scales lanceolate, generally acute.

A. Umbellatus. Ait. 3. p. 199.

Stem about two feet high, striate, a little angled, finely pubescent near the summit. Leaves lanceolate, acuminate at each end, a little pubescent, the margin reticulately veined, but the veins not as prominent as in the preceding species, slightly scabrous on the upper surface. Flowers in a numerous and terminal corymb. Scales of the involucrum pubescent, scarcely longer than the mature seed, lanceolate, rather acute than obtuse, pubes-
SYNGENESIA SUPERFLUA.

Cent, particularly along the margins. Florets of the ray about twelve, oblong, narrow, white. Seeds pubescent along the angles. Pappus double.

If this plant should be made the type of a new genus, the species will probably multiply. I have by me varieties, with the leaves simply acute, not acuminate, the lowest rather obtuse, the corymbs small; and with leaves acuminate; with leaves green on both sides and slightly glaucous underneath.

Grows on the edges of swamps, in the middle and upper districts of Carolina.

Flowers August—September.

46. OBOVATUS. Nutt.

Leaves sessile, oval, obtuse, sometimes obovate, somewhat rugose, very pubescent; corymb paniculate; scales of the involucrum imbricate, appressed. E.


Stem about three feet high, branching towards the summit, very pubescent, when young somewhat viscid. Leaves alternate, oval, obtuse, sometimes toothed, mucronate, almost tomentose underneath, three to four inches long, one and an half inches wide. Flowers in a loose paniculate corymb, sometimes pyramidal. Involucrum many leaved, imbricate, leaves scarcely longer than the mature seed. Florets of the ray ten to thirteen, three toothed at the summit, white, twice as long as the involucrum; of the disk numerous, (thirty) yellow. Style scarcely longer than the stamens, two-cleft, stigmas thick. Seed angular, hispid. Pappus double.

Grows in damp soils.

Flowers May—June.

SOLIDAGO. Gen. Pl. 1292.


Involucrum imbricate, with the scales appressed. Florets of the ray about 5. Pappus simple, hairy. Receptacle naked.
SYNGENESIA SUPERFLUA.

*Racemis secundis, recurvis.*

1. CANADENSIS.

S. caule viloso; foliis lanceolatis, serratis, triplinervibus, scabris; racemis paniculatis, secundis, recurvis; ligulis abbreviatis.


*Stem* two to five feet high, erect, very villous. *Leaves* lanceolate, the upper generally entire, always scabrous on the upper surface, sometimes pubescent underneath, numerous. *Flowers* in secund racemes, on long branches recurved at the summit. *Scales* of the involucrum twelve to sixteen, oblong, rather obtuse, imbricate, small, appressed. *Florets* of the ray yellow as in all of this genus, so short as to seem wanting. *Seeds* pubescent?

Grows in the mountains of Carolina.

Flowers September—October.

2. PROCERA? Ait.

S. caule viloso, erecto, foliis lanceolatis, serratis, triplinervibus, scabris, subtus villosi; racemis spiciformibus, erectis, innuptis nutantibus; ligulis abbreviatis.


In the western districts of Georgia, I met with a species agreeing very nearly with the T. Procera of Aiton. *Stem* three to five feet high, very pubescent. *Leaves* lanceolate, very acute at each end but not acuminate, finely serrate; scabrous on the upper surface, covered with a fine pubescence on the under, conspicuously triplinerved. *Flowers* in a pyramidal panicle, the lower branches, perhaps all, recurved before flowering. *Scales* of the
involutrum not numerous, linear, nearly glabrous. Florets of the ray rather small. Seed finely pubescent.
Flowers September—October.


S. caule erecto, villoso; foliis lanceolatis, subserratis, triplinervibus, scabris, reflexis; ramis paniculatis, subsecundis.

Stem erect, villous; leaves lanceolate, slightly serrate, triplinerved, scabrous, reflexed; branches paniculate, secund.


Leaves narrow lanceolate, acuminate, with about three serrations in the middle, scabrous, reflected. Racemes of the panicle secund, reflected, short. Willd.
Flowers September.


S. caule erecto, pilosiusculo; foliis lanceolatis, subtriplinervibus, glabris, margine scabris, inferioribus subserratis; racemis paniculatis, subrecurvis, secundis.

Stem erect, a little hairy; leaves lanceolate, somewhat triplinerved, glabrous, scabrous along the margins, the lower slightly serrate; racemes paniculate, secund, recurved.


Plant about half the size of S. Canadensis. Leaves only occasionally marked with one or two teeth. Besides the terminal panicle the lower part of the stem has flowering branches. Lin. The flowers are larger, and the leaves broader than those of the preceding species. Willd.
Grows in dry soils, in woods and old fields. Pursh.
Flowers September—October.
5. Aspera. Ait.

S. caule erecto, tereti, piloso; foliis ovatis, subellipticis, scaberrimis, rugosis, serratis, enervibus; racemis paniculatis, secundis.

Stem erect, terete, hairy; leaves ovate, somewhat elliptic, very scabrous, rugose, serrate, without nerves; racemes paniculate, secund.


Stem erect, three to five feet high, very hairy and somewhat scabrous. Leaves sessile, oval-lanceolate, very scabrous on the upper surface, somewhat scabrous and hairy on the under, acutely serrate. Flowers in a long terminal panicle. Racemes secund, recurved. Scales of the involucrum not numerous, linear-lanceolate, nearly glabrous. Florets of the ray small, yellow, seeds pubescent.

Grows in Carolina. Pursh.

I have not seen this species in the low country; it probably extends along the range of our mountains.

Flowers in September.


S. caule erecto, hirto; foliis lanceolatis, inferioribus profunde serratis, scaberrimis, rugosis; paniculis secundis.

Stem erect, hispid; leaves lanceolate, the lower deeply serrate, very scabrous, rugose; panicles secund.


S. caule erecto, hirto; foliis lanceolatis, inferioribus adpresso-serratis, scaberrimis, rugosae;
sis; racemis paniculæ | racemes of the panicle
secundis patentissimis. | secund, expanding.


These two species are considered by our Botanists now as mere varieties. I have, therefore, placed them together.

Stem very variable in size, three to seven feet high, robust, very hairy, branching very profusely towards the summit. Lower leaves sessile, lanceolate, acute, very rugose, very scabrous on the upper surface, scabrous and hairy underneath, more or less coarsely serrate; upper leaves generally ovate, with a few serratures. Flowers in large almost corymbose panicles, composed of small recurved branches. Scales of the involucrum linear-lanceolate, nearly glabrous. Florets of the ray rather small. Seed pubescent.

There are certainly some remarkable varieties included under this species; a few I shall enumerate.

a. Rugosa. Muhl. Stem about three feet high, villous. Leaves finely serrate, less rugose than those of the other varieties. Flowers in a pyramidal panicle.

b. Stem hairy, rough. Leaves very rugose. Lateral branches of the panicle long, slender, slightly recurved.

c. Stem and leaves similar to the last. Branches more robust, producing numerous recurved racemes; each branch forming a long cylindrical mass of flowers.


Grows in damp rich soils.

Flowers September—October.


S. caule erecto, villoso; folii sessilibus, oblongo - lanceolatis, subpilosis, enervibus, inferioribus serrulatis; racemis paniculatis, secundis.

Stem erect, villous; leaves sessile, oblong-lanceolate, somewhat hairy, nerveless, the lower serrulate; racemes paniculate, secund.


Stem three to five feet high, robust, villous, with many recurved expanding branches near the summit. Lower leaves oblong-lanceolate, serrulate, with a few long scattered hairs along the veins, slightly scabrous, particularly along the margins and midrib; the upper oval or ovate-lanceolate, very entire, with the axils generally crowded with small leaves. Flowers nume-

This species, which appears to agree with the *Villosa* of Pursh, excepting that the leaves do not merit the epithet of soft, grows very abundantly in damp rich soils, and is very nearly allied to the *S. Altissima*.

*Flowers* September—October.

9. **Nemoralis.** Ait.

*S. caule* erecto, tomentoso; *foliis cauliniis lanceolatis, hispidis, integerrimis, radicalibus subcuneiformibus serratis; racemis paniculatis, secundis.*

*Stem* erect, tomentose; leaves of the stem lanceolate, hispid, very entire, of the root somewhat cuneate, serrate; racemes paniculate, secund.


*Stem* two to three feet high, sparingly branched, covered with a fine tomentum. *Leaves* lanceolate, tapering to the base, the larger serrate, not strongly veined, slightly hispid, sessile, with small axillary clusters at their base. *Flowers* in a terminal somewhat corymbose panicle. *Scales* of the involucrum linear-lanceolate, only pubescent along the margins. *Seed* pubescent.

The whole plant, as remarked by Pursh, has a cinereous hue.

Grows in dry soils, not uncommon in old fields.

*Flowers* September—October.

10. **Ulmifolia.** Muhl.

*S. caule* erecto, villoso, striato; *foliis oblongo-lanceolatis, serratis, acutis, subtus pilosis; supra subscabris; racemis paniculatis, secundis; pedunculosis villosis; ligulis abbreviatis. E.*

*Stem* erect, villous, striate; leaves oblong-lanceolate, serrate, acute, hairy underneath; slightly scabrous above; racemes paniculate, secund; peduncles villous; florets of the ray short.
SYNGENESIA SUPERFLUA.


Stem three to four feet high, villous, when young almost pubescent, bearing towards the summit many recurved branches. Leaves (of the root oblong-lanceolate, acute, rarely acuminate, acutely serrate, veiny, slightly scabrous on the upper surface, hairy underneath, particularly along the veins. Flowers in an oblong terminal panicle, the racemes secund and recurved. Scales of the involucrum oblong, narrow, rather obtuse. Florets of the ray about seven, scarcely longer than the involucrum. Seeds pubescent, almost villous.

In changing in some respects the character of this species given by Willdenow, I have been guided by specimens sent me by Dr. Muhlenberg himself, with which plants collected in the western districts of Georgia exactly agree.

Grows in rich shaded soils.
Flowers September—October.

11. ARGUTA. Ait.

S. caule erecto, glabro; foliis glabris, argute inaequaliter serratis, caulinis ellipticis, radicalibus spathulato-ovatis; racemis paniculatis secundis; ligulis elongatis.


Stem erect, glabrous; leaves glabrous, acutely and unequally serrate, those of the stem elliptic, of the root spatulate-ovate; racemes paniculate, secund; florets of the ray long.

Stem two to three feet high, very pubescent, though sometimes a little pubescent on the young branches, striate, frequently coloured, the branches long, virgate. Leaves of the root spathulate ovate, very acutely serrate, the attenuated base two to four inches long; of the stem oblong-lanceolate, serrate, of the branches lanceolate, entire, all glabrous, and somewhat triplinerved. Flowers on recurved racemes forming long terminal panicles. Scales of the involucrum, as in most of the species, linear-lanceolate, nearly glabrous. Florets of the ray of a middling size. Seeds minutely pubescent.

Grows in moderately rich, shaded soils.
Flowers in September.

S. caule erecto, gracili, pubescente; foliis elongatis, lineari-lanceolatis, basi attenuatis, serratis, utrinque subscabris, pubescentibus; racemis recurvis; pedunculis ligulisque elongatis. E.

Stem about three feet high, pubescent, slightly scabrous, slender, bearing towards the summit branches which are slender, rather scattered, almost horizontally expanding and recurved. Lower leaves three to five inches long, six to eight lines wide, with a long tapering base, somewhat scabrous on both surfaces, slightly serrate, the upper distant and small. Flowers of a middling size in a loose terminal panicle. Racemes secund, the peduncles frequently three-flowered, and longer than the involucrum. Scales of the involucrum linear, glabrous. Florets of the ray about five. Seeds pubescent.

The plant I have described agrees in most respects with specimens sent me under this name from Salem, North-Carolina, by Dr. Schweinitz.

Grows in the western districts of Georgia.

Flowers September—October.

13. Juncea?

S. caule erecto, glabro, foliis lanceolatis, glabris, margine scabris, inferioribus serratis; racemis paniculatis, secundis.


Stem erect, glabrous, leaves lanceolate, glabrous, with the margins scabrous; the lower serrate; racemes paniculate secund.

Stem about three feet high, slender, virgate, glabrous, with the branches near the summit, rather scattered, when young pubescent. Leaves long lanceolate, slightly acuminate, finely and acutely serrulate, and scabrous along the margins, glabrous, obscurely triplinerved. Racemes secund, recurved, forming a sparse terminal panicle. Scales of the involucrum oval
or ovate, the exterior generally obtuse, and slightly pubescent. **Florets** of the ray few, small. **Seed** thinly sprinkled with hairs.


Flowers September—October.

14. **Elliptica?** *Ait.*

*S. caule erecto, glabro; foliis ellipticis, laevibus, serratis; racemis paniculatis, secundis; ligulis mediocribus.*

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Stem erect, glabrous; leaves elliptic, smooth, serrate; racemes paniculate, secund; florets of the ray middle sized.


I feel doubtful whether the plant I am about to describe really belongs to the *S. Elliptica* of *Aiton.* It agrees with it in many respects, but I have seen no leaves that would merit Miller's epithet of *Latissimifolia.*

*Stem* three to four feet high, glabrous, branches towards the summit numerous, obliquely expanding, recurved. *Leaves* oval-lanceolate, slightly acuminate, serrate, glabrous, scabrous along the margins, with the veins moderately conspicuous, stem leaves three to four inches long, one and a half wide. *Flowers* numerous in a crowded terminal panicle, racemes secund, expanding and more leafy than usual in this genus. *Scales* of the involucre linear, acute, glabrous. **Florets** of the ray about seven, slender. **Seed** pubescent.

Grows in damp rich soils. *Paris Island.*

Flowers September—October.

15. **Odora.** *Ait.*

*S. caule erecto, pubescente; foliis linear-lanceolatis, integerrimis, glabris, margine scabris; racemis paniculatis.*

---

Stem erect, pubescent; leaves linear-lanceolate, entire, glabrous, scabrous along the margins.


*Stem* about three feet high, branching and pubescent near the summit. *Leaves* sessile, linear-lanceolate, entire, thin, glabrous, but slightly scabrous along the margins. *Racemes* recurved, forming a pyramidal panicle.
Scales of the involucrum linear-lanceolate, nearly glabrous. Seed a little hairy.

Grows in rich dry soils, principally along the mountains, Canada to Carolina. Pursh.

Flowers September—October.


S. caule erecto, tereti, glabro; foliis arcte sessilibus, linearibus, superne attenuatis, glabris, pellucido punctatis, reflexis, margine asperis; paniculæ racemis recurvatis. E.

Stem erect, terete, glabrous; leaves closely sessile, linear, tapering to the summit, glabrous, pellucidly dotted, reflexed, rough along the margin; branches of the panicle recurved.


Stem three to four feet high, pubescent towards the summit. Leaves sessile, somewhat amplexicaule, narrow, about two inches long, tapering almost from the base to the summit, slightly mucronate. Panicle composed of recurved racemes. Scales of the involucrum linear-lanceolate, slightly fringed, the interior much longer than the exterior. Florets of the ray three in each head, longer than the involucrum; of the disk three to four, yellow. Seeds a little hairy.

Grows in dry soils very common.

Flowers August—October.

17. Tortifolia. E.

S. caule erecto, pubescente; foliis lineari-lanceolatis, subserratis, patulis, tortuosis, supra nervoque scabris, subtus subglabris; panicula pyramidata, racemis recurvis. E.

Stem erect, pubescent; leaves linear-lanceolate, slightly serrate, expanding, twisted, the upper surface and midrib scabrous, the under nearly glabrous; panicle pyramidal, racemes recurved.

Stem about three feet high, very pubescent towards the summit. Leaves numerous, linear-lanceolate, with a few distinct serratures, sometimes pubescent underneath, obscurely triplinerved, generally twisted. Flowers in a very compact panicle, the racemes handsomely recurved, bearing near the base, a number of small buds that never mature. Scales of the involucre linear-lanceolate, rather obtuse, nearly glabrous. Florets of the ray three to five; of the disk about the same number. Seeds pubescent.

Grows in dry pastures with the preceding, from which, however, it is very distinct.

Flowers August—October.


S. caule erecto, tereti, hirto; foliis oblongis, acutis, subamplexicaulis, sessilibus, glabris, margine scabris, rariter obsolete dentatis; panicula nuda, pyramidata, ramis reflexis, pedunculis glabris. Stem erect, terete, hispid; leaves oblong, acute, somewhat amplexicaule, sessile, glabrous, scabrous along the margins, rarely and obsoletely toothed; panicle naked, secund, pyramidal, branches reflected; peduncles glabrous.


Grows in the pine barrens of Georgia.

Flowers August—September. Pursh.

19. Corymbosa. E.

S. caule erecto, glabro, ramulis hispidis; folis inferioribus ob- Stem erect, glabrous, the branches hispid; lower leaves oblong-
longo-lanceolatis, superioribus ovatis, omnibus carnosis, rigidis, glabris, margine asperrimis ciliatisque; racemis corymbosis, inferioribus recurvis; ligulis elongatis. E.

lanceolate, the upper ovate, all carnose, rigid, glabrous, very rough and fringed along the margin; racemes corymbose, the lower recurved; florets of the ray long.

*Stem* four to six feet high, robust and virgately erect, branching near the summit, the young branches hirsute. *Leaves* closely sessile; the lower four to six inches long with fine indentations along the margins; the upper ovate and generally entire, all very rigid. *Flowers* large for this genus, in a terminal corymb; the lower branches recurved and secund. *Scales* of the involucrum oval, fringed or pubescent along the margins. *Florets* of the ray about ten; of the disk rather more numerous, all yellow. *Seed* glabrous.

This species is probably allied to *S. Lævigata* and *Mexicana*, but appears to be sufficiently distinct.

Grows in the middle districts of Georgia. Louisville, Mr. Jackson. 
*Flowers* September—October.

### 20. Sempervirens.

*S. caule erecto, glabro; foliis linear-lanceolatis, subcarnosis, lævibus, integerrimis, margine scabris; racemis paniculatis, secundis, pedunculis pilosis.*

*Stem* erect, glabrous; *leaves* linear-lanceolate, somewhat carnose, smooth, entire, scabrous along the margin; *racemes* paniculatifloris, secundis, pedunculis pilosis.


*Stem* three to six feet high, erect, smooth, with axillary, recurved, somewhat expanding branches towards the summit. *Leaves* long, linear-lanceolate, acute, somewhat carnose, very smooth but scabrous along the margin. *Racemes* axillary, very slender, pubescent, with a small leaf at the base of each peduncle; partial peduncle longer than the involucrum. *Flowers* small. *Scales* of the involucrum linear-lanceolate. *Florets* of the ray about five. *Seeds* slightly pubescent.

Grows in damp rich soils. 
*Flowers* September—October.
**Racemis erectis** | **Racemes erect.**

**21. Limonifolia.** Persoon.

S. caule obliquo, glabro; foliis lanceolatis, subcarinosis, integerrimis, undique lærivibus; racemis paniculatis, erectis; pedunculis squamosis, glabris; ligulis elongatis.


Racemes paniculate, not virgate, secund, nearly naked. Peduncles mostly one-flowered, generally pubescent. Flowers large, rays about ten. Receptacle punctate, margins of the alveoli pubescent. Nutt. This, I think, belongs decidedly to the last division of this genus, (racemis erectis,) Schweinitz.

Stem three to five feet high, glabrous, generally purple. Leaves sessile, somewhat amplexicaule, linear-lanceolate, acute, very glabrous, succulent, nerved, scabrous along the margins; the lower ones a foot in length. Racemes paniculate, generally erect, sometimes, though rarely, recurved. Flowers large. Scales of the involucrum linear, acute. Florets of the ray seven to ten. Seed pubescent.

I am uncertain whether the plant I have described really belongs to this species, about which I think there exists some uncertainty. The S. Sempervirens of Michaux evidently belongs to this species or to the S. Lævigate. In the S. Sempervirens I have followed the authority of Mr. Nuttall.

As the name of Mexicana was inaccurately applied to this species, I have concurred with Mr. Nuttall in restoring to it, at the suggestion of Persoon, the original name of Plukenet t. 235. f. 2.

Grows in the neighbourhood of salt water very abundantly.
Flowers August—October.

**22. Speciosa.** Nutt.

S. caule elato, lævi; ramis virgatis; foliis lanceolatis, subcoriaceis, margine scabris, what coriaceous, sca-
inferioribus parce serratis; racemis erectis, compositis; pedunculis pubescentibus; ligulis 5, elongatis; seminibus glabris.

Nutt. 2. p. 160.

*S. caule erecto, ra-moso, pubescente; foliis longo-lanceolatis, basi attenuatis, pubescentibus, inferioribus serratis; racemis erectis, paniculatis; ligulis mediocribus. E.*

Stem erect, three to four feet high, pubescent, slightly scabrous, generally coloured, with numerous rigidly erect branches towards the summit. *Leaves* long-lanceolate; the upper softly pubescent and generally entire, the lower almost spatulate, slightly scabrous and serrated towards the summit. *Flowers* numerous in a compound terminal panicle. *Scales* of the involucrum subulate, pubescent. *Florets* of the ray seven to ten, slender. *Seeds* minutely pubescent.

This species in habit bears much resemblance to the *S. Speciosa*; it differs by its pubescence, by its leaves, which are thinner, narrower, more tapering at base, by smaller flowers; it appears also to be allied to the *S.*
Viminea, with which I am unacquainted, but differs by its uniform pubescence.

Grows in damp soils near Louisville, Georgia. 
Flowers October.

24. **Pauciflosculosa.**

* S. glabra, suffruticosa; foliis lanceolatis, obtusis, enervibus; panicula composita, multiflora, fasciculis erectis; involucris oblongis, 5-floris, radio unico.

Glabrous, somewhat shrubby; leaves lanceolate, obtuse, nerveless; panicle compound, many flowered, the clusters erect; involucrem oblong, 5-flowered; floret of the ray, one.

This species I have never noticed.
Flowers August—October.

25. **Bicolor.** Lin.

* S. caule foliisque ellipticis, pilosis, inferiornervibus serratis; ramis foliolosis, racemis erectis; involucri squamis obtusis.

Stem and leaves hairy; leaves elliptic, the lower serrate; branches leafy; racemes erect; scales of the involucrem obtuse.


Stem erect, two to four feet high, very pubescent. Leaves oblong-lanceolate, acute, the lower large, attenuate at base, acutely serrate, all covered with a soft and whitish pubescence. Flowers numerous, rather large, in short clusters, forming a compact raceme along the upper part of the stem. Scales of the involucrem linear-lanceolate, slightly pubescent, rather obtuse. Florets of the ray five to eight, nearly white. Seed pubescent.

Grows in dry soils along the mountains from Carolina to Canada. 
Flowers September—October.

S. caule erecto, villoso; foliis ellipticis scabriusculis, petiolatis; racemis erectis; ligulis elongatis. Stem erect, villous; leaves elliptic, somewhat scabrous, petiolate; racemes erect; florets of the ray long.


Stem two to three feet high, erect, striate, almost furrowed near the summit, very villous. Leaves large, oval-lanceolate, nearly acute, hairy and slightly scabrous on the upper surface, almost villous underneath; the upper ones nearly sessile, the lower attenuated into a sheath-like petiole, four to six inches long, serrate. Flowers in a long, terminal, somewhat crowded raceme, composed of small erect branches. Scales of the involucre oblong, slightly pubescent. Florets of the ray six to eight, yellow. Seed glabrous.

Specimens of this plant collected by Dr. McBride are marked as I have described them. In specimens sent from Pennsylvania by Dr. Muhlenberg, the leaves are nearly glabrous, only scabrous along the margins, and more entire.

Grows in the mountains of Carolina.
Flowers August—September.

27. Stricta. Ait.

S. caule erecto, glabro; foliis caulinis lanceolatis, integerrimis, glabris, margine scabris, radicalibus serratis; racemis paniculatis, erectis; pedunculis glabris. Stem erect, glabrous; leaves of the stem lanceolate, entire, glabrous, scabrous along the margins, of the root serrate; racemes paniculate, erect; peduncles glabrous.


About two feet high, very smooth. Pursh.
This species I have never seen. Dr. Schweinitz remarks that with him it never branches.


*S. caule simplici, laxe; foliis glabris, oblongo-lanceolatis, subobtusis, erectis, punctatis, margine scabris, inferioribus parce serratis; racemis erectis, virgatis.*


*Root* perennial. *Stem* very erect, two to four feet high, attenuated towards the summit, striate, nearly glabrous. Lower leaves nearly a foot long, spatulate-lanceolate, the upper diminishing, sessile, appressed, oblong-lanceolate, all nerved, somewhat carnose, scabrous and serrulate along the margins, sometimes acute, dotted, veins pellucid. *Flowers* rather large, in erect, appressed racemes. *Scales* of the involucrum linear-lanceolate, acute, pubescence appressed. *Florets* of the ray five to seven, with a scale sometimes attached to the tube of the corolla, of the disk about eight. *Seed* striate, hairy. *Pappus* hairy, somewhat scabrous.

Grows in damp soils, along the margins of swamps. *Flowers* June—October.

29. **Pulverulenta.** Nutt.

*S. caule simplici, foliiisque pulverulento-pubescente; foliis sessilibus, inferioribus ellipticis, serratis, superioribus obovatis, integerrimis, margine scabris; racemis erectis, spiciformibus; ligulis (10) elongatis.*

Nutt. 2. p. 161.

*Stem* simple and with the leaves covered with a pulverulent pubescence; leaves sessile, the lower elliptic, serrate, the upper obovate, entire, scabrous along the margin; racemes erect, spiciform; florets of the ray long.

*A species which might be confounded with the preceding, though quite distinct.* Nutt.
**Syngenesia Superflua.**

*Stem* three to four feet high, attenuated, sometimes reddish. The lower *leaves* acute, and somewhat resembling those of the *Spiraea Salicifolia*.

Grows in Georgia and Florida, where it was first detected by Dr. Baldwin.

**Flowers—**


*Stem* simple and with the peduncles pubescent; *leaves* lanceolate, acute at each end, glabrous, veiny, scabrous along the margins; racemes short, erect, axillary and terminal.


*Stem* about two feet high, erect, simple in my specimens, glabrous, excepting towards the summits. *Leaves* lanceolate, somewhat coriaceous, veined, glabrous, excepting the margins, which under a lens are fringed with short rigid hairs, acute at base, the lower appearing slightly petiolate, more uniform in their size than usual in this genus. *Racemes* axillary, one to three inches long, erect, rigid, flowers rather large. *Scales* of the involucrem linear, rather obtuse. *Florets* of the ray seven to ten, pale. *Seed* glabrous.

There is great uncertainty still about this species. The plants described by Pursh, Nuttall, and myself, differ at least in pubescence. The racemes are collected more towards the summit than in *S. Flexicaulis*, from which it is in other respects sufficiently distinct.

Grows in damp soils.

Flowers September—October.

### 31. Coesia. Aiton?

*Stem* erect, smooth; *leaves* lanceolate, acuminate, glabrous, serrate; racemes erect; florets of the ray middle sized.

*Stem* erect, simple pe-
dunculisque pubescent;
foliis lanceolatis, utri-
neque acutis, glabris,
venosis, margine
scabris; racemis brevi-
bus, erectis, axillari-
bus terminalibusque.


*Stem* about two feet high, erect, simple in my specimens, glabrous, excepting towards the summits. *Leaves* lanceolate, somewhat coriaceous, veined, glabrous, excepting the margins, which under a lens are fringed with short rigid hairs, acute at base, the lower appearing slightly petiolate, more uniform in their size than usual in this genus. *Racemes* axillary, one to three inches long, erect, rigid, flowers rather large. *Scales* of the involucrem linear, rather obtuse. *Florets* of the ray seven to ten, pale. *Seed* glabrous.

There is great uncertainty still about this species. The plants described by Pursh, Nuttall, and myself, differ at least in pubescence. The racemes are collected more towards the summit than in *S. Flexicaulis*, from which it is in other respects sufficiently distinct.

Grows in damp soils.

Flowers September—October.

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*Stem* about two feet high, erect, simple in my specimens, glabrous, excepting towards the summits. *Leaves* lanceolate, somewhat coriaceous, veined, glabrous, excepting the margins, which under a lens are fringed with short rigid hairs, acute at base, the lower appearing slightly petiolate, more uniform in their size than usual in this genus. *Racemes* axillary, one to three inches long, erect, rigid, flowers rather large. *Scales* of the involucrem linear, rather obtuse. *Florets* of the ray seven to ten, pale. *Seed* glabrous.

There is great uncertainty still about this species. The plants described by Pursh, Nuttall, and myself, differ at least in pubescence. The racemes are collected more towards the summit than in *S. Flexicaulis*, from which it is in other respects sufficiently distinct.

Grows in damp soils.

Flowers September—October.

**Syngenesia Superflua.**

*Stem* two to three feet high, smooth, tinged with purple and having a glaucous hue, bearing many slender, obliquely expanding branches. *Leaves* sessile, lanceolate, acuminate, finely and acutely serrate, pale underneath, slightly scabrous along the margins. *Racemes* generally erect, sometimes slightly recurved, not very compact. *Scales* of the involucrum linear, rather obtuse, slightly pubescent along the margins. *Florets* of the ray about five, rather small. *Seed* nearly glabrous.

Grows in the upper districts of Carolina and Georgia. Flowers September.

### 32. Lithospermifolia. Willd.

*S. caule ramoso, pubescente; foliis lanceolatis, utrinque scabris, attenuatis, 3-nervibus, integerrimis; racemis erectis, ligulis elongatis.*


This species I have never seen. Dr. Schweinitz, in some valuable MS. notes on this genus which I have received from him, remarks that its leaves and their habit determine this species well; rare about Salem, North-Carolina.


Flowers August—October.

### 33. Flexicaulis. L.

*S. caule flexuosum, glabro, angulato; foliis ovatis, acuminatis, serratis, glabris; racemis erectis, axillaris; ligulis mediocribus.*


*Stem* flexuous, glabrous, angled; leaves ovate, acuminate, serrate, glabrous; *racemes* erect, axillary; *florets* of the ray middle sized.
**Stem** two to three feet high, slender, slightly flexuous, glabrous. **Leaves** ovate-lanceolate, acuminate, acutely serrate, glabrous, reticulately veined, acute at base. **Racemes** scattered along the stem, small, axillary, erect. **Scales** of the involucrum linear, rather obtuse. **Florets** of the ray about five; of the disk seven to eight. **Seeds** hairy.

Under this name I received a specimen from Dr. Muhlenberg which evidently belongs to the *S. Axillaris* of Pursh. It is distinguished by leaves narrow-lanceolate, remotely serrulate, acute or very slightly acuminate, and by compact, somewhat globular racemes clustered along the stem. It appears to me a very distinct species and was so considered by Dr. Muhlenberg, who arranged our common *S. Flexicaulis* as the *S. Latifolia*. I have been induced to add this note because the *S. Axillaris* has been omitted by Mr. Nuttall in his enumeration of our species; and Dr. Schweinitz remarks, "what I call by this name is very doubtful; it may belong to *S. Flexicaulis*, but differs in habit."

Grows in the upper districts of Carolina and Georgia—not common in the low country.

Flowers September—October.

### 34. **Glomerata.**

* S. caule humili, simplicissimo; foliiis glabrae, oblongo-lanceolatis, serratis; racemo simplici, glomerulis axillaribus; superioribus capitato-congestis; involucris turgidis, multifloris.


Lower leaves broad, oval, acuminate, serrate, nearly allied to Aster. Nuttall. Distinguished among the rest by its deep and close serratures, and the capitate form of the axillary racemes. Schweinitz.

This species I have not seen.


Flowers—
35. **Squarrosa.** Muhl.

*S. caule erecto, ramoso, pubescente; foliis lanceolatis, acutis, serratis, subitus molliter pubescentibis, inferioribus basi attenuatis; racemis compositis, erectis, floribus majusculis; involucris squarrosis.*

Nutt. 2. p. 161.

Stem erect, branching, pubescent; leaves lanceolate, acute, serrate, underneath softly pubescent, the lower tapering at base; racemes compound, erect; flowers large; involucrum squarrose.

36. **Angustifolia.** E.

*S. caule erecto, glabro; foliis subulato-lin earibus, integerrimis, glabris; racemis erectis, paniculatis; ligulis mediocribus. E.*

Stem erect, glabrous; leaves subulate, nearly linear, entire, glabrous, racemes erect, paniculate; florets of the ray middle sized.

Stem two to three feet high, very glabrous, generally coloured, with many slender, erect branches near the summit. Leaves sessile, subulate, sometimes lanceolate-linear, acute, those of the stem very entire, very glabrous, though slightly scabrous along the margins, the upper axils frequently bear-


37. **Salicina. E.**

*S. caule elato, gracili, superne pubescentae scabriusculo; rami virgatis, elongatis, erectis; foliiis lanceolatissimis, supra scaberrimis, subtus glabris, inferi-oribus serratis; racemis subsecundibus, ra-mulis brevisibus, rariter recurvis. E.*

| Stem tall, slender, | pubescent towards the summit, somewhat scabrous; branches virgate, long, erect; leaves lanceolate, above very scabrous, glabrous underneath, the lower serrate; racemes somewhat secund, branches short, sometimes recurved. |

*S. caule tereti, piloso, superne tomentoso; foliiis ovali-lanceolatis, summi-tis superne tomentosis.*

Stem four to five feet high, when old nearly glabrous, when young pubescent and slightly scabrous, generally coloured and bearing towards the summit a few slender erect branches one to two feet long. *Leaves* sessile, the lower three to four inches long, scarcely one wide, regularly lanceolate, very scabrous on the upper surface, very glabrous and paler on the under surface; the upper ones diminishing in size. *Flowers* in long slender racemes, in which the small branches are sometimes recurved. *Scales* of the involucrum oblong, rather acute. *Florets* of the ray about five, very slender. *Seed* nearly glabrous.

This plant, which I can refer to none of our described species, and of which the location appears somewhat questionable, is very common in the oak land in the western districts of Georgia.

*Flowers* September—October.

38. **Elata?** Pursh.

*S. caule tereti, piloso, superne tomentoso; foliiis ovali-lanceolatis,*

| Stem terete, hairy, tomentose towards the summit; leaves oval- |
SYNGENESIA SUPERFLUA.

acutis, subintegerrimis, venosis, subtus tomentoso-pubescentibus; racemis erectis, paniculatis; ligulis elongatis. E.


I know not whether the species which in unison with Dr. Schweinitz I am describing as the S. Elata, be the real plant of Pursh, whose description is very brief. It accords, however, with it in its leading characters.

Stem two to three feet high, terete, pubescent, when young tomentose, branches erect, not numerous. Leaves sessile, rather small, nearly entire, with elevated veins, pubescent, underneath almost tomentose. Scales of the involucrum linear-lanceolate, acute, pubescent. Florets of the ray seven to ten, nearly twice as long as the involucrum; of the disk ten to twelve. Seed glabrous.

Grows in pine barrens near Louisville, Georgia. Mr. Jackson. Salem, North-Carolina. Dr. Schweinitz.

Flowers September.

39. Rigida. L.

S. caule foliisque pilosis, scabris; foliis ovato-oblongis, caulis integerrimis, infinis serratis; ramis floriferis paniculatis; racemis compactis, subfastigiatis, ligulis elongatis.


Stem three to four feet high, slightly angled, very pubescent, when young tomentose, branches very numerous, forming a somewhat fastigate corymb. Leaves sessile, approximate, very pubescent and scabrous, the upper very entire. Flowers large for this genus, somewhat clustered near the summits


Flowers September—October.

**40. Graminifolia.**

*S. caule angulato, ramosissimo; foliis lanceolato-linearibus, integerrimis, erectiusculus, 3—5 nervibus, scabriusculis, nervis sub-tus pilosis, axillis nudis; corymbis terminalibus, fastigiatis, ramulis capitatis, ligulis altitudine disci.*

Stem angled, branching; leaves lanceolate-linear, entire, nearly erect, 3—5 nerved, a little scabrous, the nerves hairy underneath, axils naked; corymb terminal, fastigiate, with the heads clustered; florets of the ray as long as the disk.

Chrysocoma Graminifolia. Sp. pl. 1178.


*Stem* two to three feet high, slightly furrowed, the angles pubescent, branches very numerous, obliquely expanding. *Leaves* numerous, lanceolate-linear, never wide enough to deserve the appellation of lanceolate, obscurely three to five nerved, the nerves underneath pubescent. *Flowers* numerous, clustered, in a terminal corymb. *Scales* of the involucrum numerous, linear-lanceolate, slightly viscid. *Florets* of the ray about ten, short; of the disk not numerous, rarely exceeding six. *Seeds* villous. *Receptacle* setose. Nuttall.

Specimens of this plant from Connecticut agree exactly with ours, excepting that in our southern species the heads are, I think, smaller, and the florets of the ray more distinctly exserted.

Grows in damp rich soils; not so common as the succeeding species. Flowers September—October.
41. **Tenuifolia.**

S. caule scabro, angularis, corymboso-ramosus; foliis angustissime linearibus, patulis, obsolete 3-nervibus, scabris, axillis foliosis; corymbis terminalibus fastigiatis, ramulis capillatis, ligulis disco vix altioribus.

Pursh, 2. p. 540.


Very similar to the preceding species, but every way smaller.

*Stem* about two feet high. *Leaves* linear, scabrous along the margins, obscurely three-nerved, covered with glandular dots. *Scales* of the involucrum viscid. *Florets* of the ray about ten, not much longer than the involucrum. *Seeds* villous.

Grows very common in dry pastures.

Flowers September—October.

**ERIGERON.**

Gen. Pl. 1287.


1. **Nudicaule.**

E. glabrum; foliis radicalibus spathulato-lanceolatis, acutis, sub-

Glabrous; leaves of the root spathulate-lanceolate, acute, slightly
denticis, caulc simplisissimo, subaphylylo, elongato; corymbis terminalibus paucifloris; radiis longitudine involucr. 


Root perennial, sparingly stoloniferous. Stem erect, about two feet high, a little pubescent and scabrous near the summit. Leaves of the root spathulate-lanceolate, irregularly toothed, glabrous, somewhat succulent; of the stem similar, but small and scattered, and sometimes slightly fringed near the base. Flowers few, sometimes only three or four, in a small terminal corymb. Involucrum imbricate, the leaves subulate, acute, a little hairy at base. Flores of the ray numerous, (about thirty) linear, obscurely three-toothed, white, twice as long as the involucrum; of the disk very numerous, tubular, five-toothed at the summit, greenish yellow. Stamens of the ray none; of the disk, short. Style short, two-cleft. Stigmas obtuse, appressed. Seeds hispid. Pappus hairy. Receptacle flat, naked, dotted.

Grows in flat and damp pine barrens. Flowers May—June; sometimes again in the autumn.

2. BELLIDIFOLIUM.

E. hirsutum, inca-num; foliis radicalibus obovatis, subserratis, caulinis sessilibus, sparsis, oblongo-lanceolatis; caule 3—5 floro; radiis involucro sub-duplo longioribus.


Root perennial, stoloniferous. Stem twelve to eighteen inches high, and with the Leaves and Involucrum very hairy. Leaves of the root spathulate, obovate, dentate, the lower stem leaves similar, the upper small, lanceolate. Flowers few, terminal, large for this genus, the one on the central stem, generally larger than those on the lateral branches. Involucrum somewhat imbricate, but nearly equal in a double series; leaves linear-lanceolate,
very acute. *Florets* of the ray linear, ligulate, two-toothed? at the sum-
mit, pale blue, nearly twice as long as the disk; stamens none; style much
longer than the tube, two-cleft; stigma simple, expanding. *Florets* of the
disk small, tubular, yellowish, five-toothed at the summit. *Stamens* as long
as the corolla. *Style* longer than the stamens. *Stigma* thickened, erect.
*Seed* oblong, compressed, slightly winged, nearly glabrous. *Pappus* scab-

Grows in dry shaded soils, near Beaufort, near Ashley Ferry, Colum-
bia, Mr. Herbemont.

Flowers March—April.

3. **Strigosum**?

**E. pubescens**, scabriusculum; foliis line-
arrisibus, elongatis, infe-
rioribus lineari-lanceo-
latis, denticulatis; caule
laxe paniculato; flor-
ibus terminalibus.

Pubescent, slightly
scabrous; leaves linear,
long, the lower linear-
lanceolate, denticulate;
stem loosely paniculate;
flowers terminal.

Sp. pl. 3. p. 1953.

Doronicum Ramosum.  Walt. p. 205?

Root perennial. *Stem* about two feet high, slightly furrowed, a little
scabrous, with the leaves and involucrum clothed with white, appressed
hair, giving the plant a somewhat hoary aspect. *Leaves* of the root
long, narrow, lanceolate, denticulate; of the stem long, linear, entire. *Flow-
ers* in a loose terminal panicle. *Involucrum* imbricate, with the leaves sub-
ulate, appressed.  *Florets* of the ray linear, twice as long as the involucrum,
two to three cleft at the summit, white. *Style* twice as long as the tube,
slightly two-cleft; stigmas obtuse; seeds oblong, hispid; pappus, the ex-
terior composed of minute scales, the interior wanting.  *Florets* of the disk
very numerous, tubular, yellow, with the border five-cleft.  *Stamens* very
double, the exterior composed of minute scales, the interior of a few hairy
rays as long as the corolla.  *Receptacle* slightly convex.

Under the name of *E. Strigosum*, I received from Dr. Muhlenberg, and
under that of *E. Nervosum*, I received from Dr. Schweinitz, (Salem, North-
Carolina,) specimens apparently of the same plant. They both differ from
the one I have described in being less hairy, and having the florets of the
ray much wider, in both the interior pappus of the ray was wanting. Per-
haps these are distinct, and may be the *E. Nervosum* of Pursh, but not of
Willdenow.

Grows in dry sandy pastures.

Flowers May—August.
4. Longifolium. La Marck.

E. glaberrimum; caule virgatim paniculato, ramis strictis; foliis longissime-linearibus, strictis; involucris ovatis; radiis flavis, vix involucro longioribus.

Pursh, 2. p. 534.

Grows in Carolina. La Marck.

Flowers August—September.

Does it belong to this genus?


E. pubescens, scabriusculum; foliis linearibus, inferioribus sub serrulatis; floribus parvulis, subbinis, axillaribus terminalibusque; involucro hemisphaerico.

Nutt. 2. p. 147.

Pubescent, somewhat scabrous; leaves linear, the lower slightly serrulate; flowers small, generally in pairs, axillary and terminal; involucrum hemispherical.

Stem simple, terete, leafy, eighteen inches high. Leaves two to four inches long, two to four lines wide, attenuated at base. Flowers about eight to ten, small and pale yellow. Pappus double? Nutt.

This species I have not noticed. The E. Carolinianum of Linnaeus to which I was accustomed to refer the E. Strigosum of this sketch, and to which Mr. Nuttall alludes under this species, if established on the figure of Dillenius, (Hort. Elth. t. 306. f. 394.) belongs, I think, unquestionably to another genus.

Grows in Georgia.

Flowers.
6. **Philadelphicum?**

*E. pubescens; foliis inferioribus cuneato-obovatis, sinuato-dentatis, caulinis oblongo-lanceolatis, amplexicaulis; floribus sub-corymbosis; radiis capillaceis, involucro duplex-longioribus.*

Pubescent; lower leaves cuneate, obo-vate, sinuate, toothed, stem leaves oblong-lanceolate, amplexicaule; flowers somewhat corymbose; florets of the ray capillary, twice as long as the involucrum.


**Root** perennial. **Stem** one to two feet high, slightly furrowed, pubescent, with the hairs expanding. **Leaves** of the root sometimes deeply sinuate, the upper leaves becoming gradually entire, all amplexicaule. **Flowers** in a loose corymb. **Involucrum** many leaved; leaves subulate, nearly equal, arranged nearly in two series. **Florets** of the ray very numerous, (one to two hundred) pale purple, slightly two-cleft at the summit; stamens none; style longer than the tube, two-cleft: of the disk very numerous, yellow, five-cleft at the summit; stamens and style about as long as the corolla. **Seed** oblong, hispid; pappus pilose, under a lens scabrous.

The exterior pappus is very inconspicuous if not entirely wanting in this species; the florets of the ray have the interior pappus. This is scarcely the *E. Philadelphicum* of Linnaeus.

Grows very common in pastures and fields.
**Flowers** February—June.

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7. **Quercifolium.** La Marck.

*E. tenue pubescens; foliis lanceolatis, acutis, inferioribus sublyratis, grosse-dentatis, suprema integerrimis; caule subsimpari, summitate*  

Finely pubescent; leaves lanceolate, acute, the lower somewhat lyrate, and coarsely toothed, the upper entire; stem nearly sim-
3-floro; radiis involu-
cro duplo longioribus. | ple, few-flowered (3) at
the summit; florets of
the ray twice as long
as the involucrum.

La Marck encyc. 3. p. 491. Pursh, 2. p. 533.

Not above a span high; flowers pale blue or white. Pursh.

I have not been able to refer to the figure of Lam. (illust. t. 681. f. 4.) for this plant, but it appears to me probable that it is only the preceding species which he has described under this name, perceiving that it did not correspond with the original description of the E. Philadelphicum.

Grows in Carolina.

Flowers July and August. Pursh.

**Pappo simplici**  
Cænotus. Nuttall.

**Pappus simple.**

8. CANADENSE.

E. caule hispido, pa-
niculatim ramosissimo;
foliis lineari-lanceola-
tis, ciliatis; involucris
cylindricis; radiis con-
fertis, involucro vix
longioribus.


Senecio Ciliatus. Walt. p. 208?

Root annual. Stem two to eight feet high, hairy, diffusely branched. Leaves long, very narrow, slightly scabrous on the upper surface, the lower ones sparingly toothed. Flowers racemose on the branches, forming an oblong panicle. Involucrum imbricate, leaves very narrow, acute, membranaceous at the margins. Florets of the ray capillary, very numerous, scarcely longer than the involucrum; of the disk four-cleft, yellowish. Seeds oblong, sprinkled with short hairs. Pappus simple, hairy. Receptacle naked.

Grows in pastures and fields, very common, preferring dry soils.

Flowers June—September.

E. gracile; caule glabro; foliis lineari-lanceolatis, integris, marginibus scabris; panicula subsimplici, ramulis divaricatis.

Slender; stem glabrous; leaves linear-lanceolate, entire, scabrous along the margins; panicle nearly simple, the branches divaricate.

Nutt. 2. p. 148.

Plant small. Stem four to six inches high; panicle simple, somewhat fastigate, branches naked, or merely furnished with small scales, each projecting two or three flowers. Nutt.

This small and perhaps doubtful species is also found in Carolina, and if this section should be established as a genus, new species may be detected. We have a very large variety six to eight or ten feet high, which I think will also be found sufficiently distinct from the common E. Canadense.

Grows with the preceding.

Flowers through the summer.

BOLTONIA. Gen. Pl.


1. Asteroides.

B. foliis integerrimis; floribus longe pedunculatis; seminibus ovalibus, glabris, submuticis. Leaves entire; flowers on long peduncles; seed oval, glabrous, scarcely awned.
SYNGENESIA SUPERFLUA.


Chrysanthemum Carolianum. Walt. p. 204.

Root perennial. Stem erect, about two feet high, smooth, somewhat striate. Leaves alternate, sessile, lanceolate, smooth, with the margins scabrous. Panicle composed of a few rigid, one-flowered branches. Involucrem imbricate, with the scales subulate, nearly equal. Florets of the ray linear, entire, white, tinged with pink; of the disk yellow. Seeds compressed, crowned with a five-toothed margin. Receptacle naked, hemispherical. Sp. pl. l. c.

Grows along the banks of swamps and ponds in Carolina, Pursh. Walter appears to have seen this plant. I have not met with it in the low country of Carolina.

Flowers August—September.

2. GLASTIFOLIA?

B. foliis inferioribus serratis; floribus breviter pedunculatis; semi-nibus obcordatis, conspicue alatis, pubescentibus; aristis pappi 2—4, elongatis, scabris.


Root perennial. Stem erect, branching, three to four feet high, slightly angled, very smooth. Leaves long-lanceolate, acute, somewhat glaucous with the margins cartilaginous, the lower ones remotely toothed, the upper ones obscurely five-nerved. Flowers solitary, on long scattered branches. Involucrum imbricate, leaves subulate, glabrous, with the margins slightly serrulate. Florets of the ray about thirty-six, white, with their summits slightly three-toothed; of the disk numerous, yellow. Stamens a little longer than the florets. Style as long as the stamens, two-cleft. Seeds pubescent, compressed, obovate, of the ray three-winged; of the disk two-winged; the wings fringed. Pappus of ten or more scabrous bristles, of which two, three, or four are sometimes long, the rest very short.

Grows in the river swamps, common on the Ogeechee.

Flowers August—November.
3. Diffusa. E.

Leaves linear-lanceolate, scabrous along the margin; panicle diffuse, many flowered; seed obovate, emarginate, slightly winged; awns of the pappus 2 long.

Root perennial? Stem two to three feet long, striate, glabrous, branching diffusely almost from the root, branches slender, expanding. Leaves two to three inches long, glabrous, entire? scabrous along the margins. Flowers small, numerous, in a loose spreading panicle. Peduncles one to two inches long, one-flowered. Scales of the involucrum linear, imbricate, glabrous. Florets of the ray numerous, linear, nearly white; of the disk numerous, yellow. Seed obovate, compressed, emarginate, scarcely winged the crown fimbriate, or fringed with small bristles, of which two are much longer than the rest and are about one third of the length of the seed.

Grows in damp rich soils between the Chatahouchie and Alabama. Flowers September—October.

CHRYSANTHEMUM. Gen. Pl. 1307.

Receptaculum nudum. Pappus nullus. Calyx hemisphaericus, imbricatus, squamis marginalibus membranaceis.

1. Leucanthemum.

C. foliis amplexicaulis, lanceolatis, serratis, basi inciso dentatis; caule erecto, ramoso.

Leaves amplexicaule, lanceolate, near the base deeply notched and toothed; stem erect, branching.
SYNGENESIA SUPERFLUA.


Root perennial. Stem one to two feet high, sparingly branched, nearly glabrous. Leaves alternate, sessile, amplexicaule, glabrous, oblong, toothed or notched, towards the base nearly pinnatifid. Flowers solitary on the branches. Involucrum imbricate, leaves subulate, glabrous, with the margins membranaceous. Florets of the ray about thirty, white, obscurely three-toothed at the summit; of the disk very numerous, yellow. Stamens short. Style longer than the stamens, two-cleft. Seeds furrowed. Receptacle naked.

Grows in clay soils. An exotic now naturalized, particularly in the upper country.

Flowers May—July.

HELENIUM. Gen. Pl. 1299.


1. AUTUMNALE.

H. foliis lanceolatis, serratis, decurrentibus; floribus corymbosis; corollulis disci 5-fidis; radii planis, reflexis.

Leaves lanceolate, serrate, decurrent; flowers in corymbs; florets of the disk 5-cleft; of the ray flat, reflexed.


Root perennial. Stem two to three feet high, branching towards the summit, glabrous and winged by the decurrent leaves. Leaves alternate, sessile, doubly serrate, glabrous. Flowers in small corymbs, the peduncles pubescent near the summit. Involucrum eight-parted, the segments subulate, entire, twice as long as the disk. Florets of the ray about ten, obovate.
three-toothed at the summit, strongly nerved, yellow; of the disk numerous, yellow, tubular, five-cleft at the summit. Anthers a little longer than the florets. Seeds somewhat angular, increasing towards the summit. Pappus composed of five to six membranaceous scales, ovate, acuminate, mucronate, lacerate, shorter than the florets of the disk. Receptacle nearly globular, naked, excepting that between the florets of the ray are interposed subulate, entire scales as long as the florets of the disk.

Grows in wet soils, along the margins of fresh water rivers—very common.

Flowers October—November.

2. QUADRIDENTATUM. Mich.

H. foliis angusto-lanceolatis, integris, latius decurrentibus; flosculis disci quadridentatis.

Leaves narrow lanceolate, entire, widely decurrent; florets of the disk 4-toothed.


Michaux describes this plant as growing in Carolina. Nuttall mentions it as seen by him in Louisiana. Pursh speaks of it also as a Mississippi plant, and says that its flowers are smaller than those of the preceding species. I have a specimen which I was once disposed to consider as belonging to this species, it differs, however, in several respects, but as it is imperfect I shall briefly notice it in this place.

Stem about three feet high, winged, the wings less conspicuous than those of the H. Autumnale, pubescent. Upper leaves remote, linear-lanceolate, pubescent, entire; the lower ones in my specimen wanting. Flowers solitary, terminating the small branches. Involucrum about twelve-parted? Florets of the ray obovate, with the summit three or four toothed, yellow, larger than those of the H. Autumnale; of the disk very numerous, four or five parted. Seeds hispid, covered with scales rather than with hair. Pappus composed of six ovate acuminated, mucronate scales. Receptacle oblong, resembling that of the Rudbeckia.

Grows in the swamps of Carolina.

Flowers September—October.

ECLIPTA. Gen. Pl. 1316.

Involucrum poly- phyllum, foliis subæqualibus. Corollæ disci nearly equal. Florets
SYNGENESIA SUPERFLUA.

quadrifidae. *Pappus 0.* | of the disk 4-cleft.
*Receptaculum setosum.* | *Pappus 0.* Receptacle bristly.

1. Erecta.

E. erecta, dichoto-
ma, strigosa; foliis
lanceolatis, basi atten-
uatis, rariter serratis;
pedunculis geminis, e-
longatis; involuci foli
olis ovatis, acuminatis.

Pursh.

E. erecta, dichoto-
ma, strigosa; leaves lance-
olate, attenuate at
base, rarely serrate;
peduncles by pairs,
long; leaves of the in-
volutcrum ovate, acu-
minate.


Plant annual. Leaves opposite, sessile, lanceolate, serrate, triplinerved,
remote. Peduncles by pairs, long. Flowers small, white. Lin.

Grows in dry gravelly soils, Virginia to Florida. Pursh.

Flowers June—July.


E. procumbens as-
surgensve; foliis longo-
lanceolatis, inferne an-
gustatis, rariter serrati-
us; involuci folioli
acute lanceolatis; flo-

Procumbent or as-
surgent; leaves long
lanceolate, narrowed
near the base, sparing-
ly serrate; leaves of
the involucrum acutely
lanceolate; florets qua-
drifid.


Root annual? Stem procumbent, one to two and a half feet long, terete,
sometimes turgid below the joints, branches numerous, opposite, radicant,
and with the whole plant sprinkled with rigid appressed hairs. Leaves
sessile, triplinerved, opposite. Peduncles about an inch long, generally in
pairs, but never, I believe, opposite. Involucrum eight to ten leaved;
leaves lanceolate, serrate, fringed, arranged in one series but unequal in size.
longer than the florets of the ray. *Florets of the ray numerous, (twenty-four to thirty,) short, linear, white, two-toothed; of the disk tubular, white, four-cleft. Stamens four, as long as the florets of the disk; style as long as the stamens. Seed four-angled, roughened with tubercles, with a thick margin around the summit, crowned with a *pappus* composed of short, white, setaceous, deciduous bristles irregularly arranged. *Receptacle* bristly, the bristles almost setaceous, fringed, as long as the seed.

Grows in damp soils—very common.

Flowers June—October.


*E. divaricato pros-trata; foliis lanceolatis, rarissime serratis; pe-dunculis solitariis ge-minisque, brevibus; involucri foliolis ovali lanceolatis; flosculis quinquefidos. Mich.*

| Divaricate, pro-strate; leaves lanceo-late, very sparingly serrulate; peduncles solitary and in pairs, short; leaves of the involucrum oval-lanceo-late; florets 5-cleft. |


Amellus Carolinianus. Walt. p. 213.

This species, probably by its close resemblance to the preceding, has eluded my notice. Of many plants of this genus which I have examined, I have never found one with the florets of the disk five-cleft; yet Walter and Michaux both mention this character.

Grows in low sandy fields, Pursh; in Carolina, Mich.

Flowers July—September.

**ANTHEMIS.**

*Involucrum hemisphericum, subæquale. Flores radii plures quam 5. Pappus nullus s. margo membranaceus. Receptaculum paleaceum; paleis planis, apice acuminatis, rigidis.*

| Involucrum hemispherial; nearly equal. Flores of the ray more than 5. *Pappus* 0, or a membranaceous margin. *Receptacle* chaffy, chaff flat, acuminate at the summit, rigid. |
1. **Cotula.**

A. receptaculis conicis, paleis setaceis; seminibus nudis, foliis bipinnatis, foliolis subulatis tripartitis.  

Receptacle conic; chaff setaceous; seed naked; leaves bipinnate, leaflets subulate, three-parted.


Root annual. Stem one to two feet high, erect, slightly angled, pubescent, with the segments linear, acute. Flowers in terminal corymbs. Involucrum many leaved. Leaves narrow lanceolate, pubescent, arranged nearly in two series. Florets of the ray about twelve, white, twice or thrice as long as the disk; of the disk very numerous, yellow, tubular, with the border five-cleft. Seed a little angular, a little roughened, naked, slightly mucronate. Receptacle conic, chaffy towards the centre of the disk; the scales subulate, very narrow, shorter than the florets.


**ACHILLEA.**  


Gen. Pl. 1313.

Involucrum ovate, imbricate. Florets of the ray about 5. Pappus 0. Receptacle chaffy.

1. **Millefolium.**

A. foliis bipinnatifidis, pilosis, laciniiis linearibus, dentatis, mucronatis; caulibus sulcatis.  

Leaves bipinnatifid, hairy, the segments linear, toothed, mucronate; stem furrowed.


Root perennial. Stem about two feet high, pubescent. Leaves doubly pinnate, the segments linear, acute, dissected and toothed, all glabrous. Flowers with terminal corymbs. Involucrum many leaved, imbricate,
ACMELLA. Rich.

Involucrum paucifolium, foliis duplici serie. Semina tetragona, apice truncata, nuda. Receptaculum oblongum, paleaceum.

1. Repens.

A. caule repente; foliis ovato lanceolatis, denticulatis, triplinervibus, parce pubescentibus; pedunculis axillaribus, terminalibusque, longissimis, unifloris. E.

Stem creeping; leaves ovate-lanceolate, toothed, triplinerved, a little pubescent; peduncles axillary and terminal, very long, one-flowered.


Root perennial. Stem one to two feet long, recumbent, pubescent, taking root at the lower joints. Leaves opposite, ovate-lanceolate, acute, at base attenuated into a semiamplexicaule petiole about an inch long. Flowers solitary, near the summit of the stem, peduncles three to four inches long. Involucrum composed of about twelve leaves arranged in a double series, leaves ovate-lanceolate, very acute, equal, pubescent. Florets of the ray about twelve, yellow, unequally three-toothed, twice as long as the involucrum; of the disk numerous, tubular, with the border five-cleft. Anthers short, yellow. Style longer than the florets of the disk, two-cleft. Seeds oblong, obovate, compressed, naked. Receptacle chaffy. Scales obovate, acuminate, yellow.

Grows in wet soils.
Flowers September—October.
HELIOPSIS. Persoon.


1. *Levis.*


*Root* perennial. *Stem* two to four feet high, glabrous, dichotomously branching. *Leaves* opposite, ovate-lanceolate, triplinerved, coarsely serrate, nearly smooth, and glabrous. *Flowers* solitary, terminal, and in the divisions of the stem, on long peduncles. *Involucrum* many leaved, imbricate, leaves oblong, rather obtuse. *Florets* of the ray oblong, yellow, about ten of the disk numerous. *Seeds* four-angled, naked. *Receptacle* convex, scaly, the scales longer than the seeds.

Grows in dry sandy soils—not common in the low country of Carolina. *Flowers* May—June.

TETRAGONOTHICA. L’Heritier.

*Involucrum* monophyllum, 4-gonum, 4-partitum, latissimum. *Pappus* nullus. *Receptaculum* paleaceum.

1. HELIANTHOIDES.


*Root* perennial. *Stem* herbaceous, erect, two to three feet high, branching, somewhat hispid, and with the whole plant scabrous. *Leaves* opposite,
sessile, spathulate-lanceolate, dentate, hairy, sprinkled with glandular atoms. *Flowers* solitary, axillary and terminal. *Involucrum* one-leaved, deeply four-parted, the segments ovate-lanceolate, acute, hairy on the outer surface, glabrous within, the margins reflected and united render the involucrum four-angled, and in some measure four-winged. *Florets* of the ray six to eight, large lanceolate, unequally three-toothed, yellow; of the disk numerous, (about fifty,) tubular, yellowish, with the margin five-cleft. *Anthers* longer than the florets of the disk. *Styles* longer than the stamens, two-cleft. *Stigmas* reflexed. *Seeds* obovate, slightly angled, pubescent at the summit. *Pappus* 0. *Receptacle* conic, chaffy, the scales lanceolate, acuminate, nerved, sprinkled with glandular dots.

Grows in dry sandy soils.

Flowers May—June, and frequently again in the autumn.

**BUPHTHALMUM.**  **Gen. Pl.** 1231.


**1. Frutescens.**

*B. foliis oppositis,* leaves opposite, cuneato - lanceolatis, carnosis, incanis; petiolis bidentatis; caule fruticoso.

Leaves opposite, cuneate lanceolate, carnose, hoary; the petioles 2-toothed; stem shrubby.


A small shrubby plant with stoloniferous roots. Stem one to two feet high, glabrous, pubescent at the summits, branching. Leaves opposite, sessile, semiamplexicaule, entire, obscurely three-nerved, glaucous, the attenuated base two to five-toothed, sometimes on the branches one or none. *Flowers* solitary, terminal. *Involucrum* many leaved, imbricate; leaves lanceolate, acuminate, mucronate, expanding. *Florets* of the ray ten to twelve, yellow, lanceolate, nearly acute at the summit; of the disk numerous,
longer than the involucrum, yellowish, five-cleft. *Styles* and *stamens* about as long as the florets of the disk. *Seeds* of the ray three; of the disk four angled, crowned with a four-toothed membrane, the angles very acute. *Receptacle* flat, impressed, chaffy; chaff obovate, acuminate, with a rigid point, pubescent.

Grows along the margin of salt water.

Flowers June—October.

2. **Angustifolium.** Pursh.

*B. foliis alternis, linearibus, superne latioribus, integerrimis, glabris; involucri foliolis acute lanceolatibus.*

Leaves alternate, linear, broader near the summit, entire, glabrous; leaves of the involucrum acutely lanceolate.


With this species, which was described by Pursh from specimens in the Herbarium of Sir Joseph Banks, I am unacquainted. It was found probably in Florida by Bartram.

Grows in Georgia and Florida. Pursh.

Flowers—

**Siegesebeckia.** Gen. Pl. 1320.


*Exterior involucrum 5-leaved, expanding. Florets of the ray small. Seed somewhat 4-angled. Pappus 0. Receptacle chaffy.*

1. **Laciniata.**

*S. foliis laciniato-pinnatifidis, superioribus lanceolatis, integris, tuberculatis; in-

Leaves laciniate pinnatifid, the upper lanceolate, entire, roughened with tubercles;
SYNGENESIA SUPERFLUA.

volucro exteriore bre-viore; flosculis radii maximis. exterior involucrum short; florets of the ray very large.


This plant, which was inserted in the Encyclopedia Methodique by La Marck? has not recently been seen in this country. I have inserted it, as it is said to belong to Carolina, and at the same time to note that the expanding involucrum and large ray by no means apply to the Verbesina Sinuata. Whether really a native of the United States remains perhaps yet to be ascertained.

Grows in Carolina. La Marck. Persoon.

VERBESINA. Gen. Pl. 1317.


1. VIRGINICA.

V. caule angusto Stem narrow wing- alato; foliis alternis ed; leaves alternate, lato-lanceolatis sub- broad, lanceolate, some- serratis; corymbo what serrate; corymb compound, involucrum composito, involucris oblongis pubescentibus oblong pubescent.


Root perennial. Stem herbaceous, erect, three to six feet high, furrowed pubescent, towards the base irregularly winged by the decurrent leaves. Leaves alternate, spathulate, ovate-lanceolate, acute, toothed, hairy, and scabrous on the upper surface, almost tomentose underneath. Flowers numerous in a terminal corymb. Involucrum many leaved, imbricate; leaves oblong, pubescent, shorter than the disk. Florets of the ray about three, white, oval, two to three toothed; of the disk about fifteen, tubular, nearly white, with the border five-cleft. Seeds four-angled, compressed, hairy,
SYNGENESIA SUPERFLUA.

411

crowned with two scabrous bristles. *Receptacle* flat, chaffy. *Scales* oblong, obovate, somewhat acute, hairy, a little shorter than the florets.

Grows in the middle country of Carolina and Georgia.

Flowers August and September.

2. **Sinuata.**

| V. foliis alternis, sessilibus, sinuatis, basi-attenuatis; floribus corymbosis, albis; involucris imbricatis. | Leaves alternate, sessile, sinuate, attenuate at base; flowers in corymbs, white; involucrum imbricate. |


*Root* perennial. *Stem* herbaceous, erect, four to six feet high, pubescent, striate, and towards the base irregularly winged. The upper and lowest *leaves* frequently spathulate, ovate, acute and acuminate, the intermediate deeply sinuate, with the sinuses obtuse and the lobes generally acute, all scabrous on the upper surface, pubescent underneath. *Involucrum* about ten-leaved, leaves pubescent, slightly obovate, scarcely half as long as the disk. *Florets* of the ray three to five, white, oval, twice as long as the disk; of the disk twelve to twenty, tubular, with the border five-cleft. *Anthers* as long as the corolla, like those of the preceding species nearly black. *Seeds* cuneate, obovate, compressed, winged, crowned with two awns, the awns and wings hairy. *Receptacle* small, chaffy. *Scales* lanceolate, concave, compressed, acute, pubescent, a little longer than the seeds.

I sent specimens of this plant to Dr. Muhlenberg many years ago, under the name of V. Sinuata; as it still appears to me the most appropriate name I have retained it.

Grows on the sea islands in sandy soils, Eddings' Island, Hilton Head. Flowers October and November.

3. **Siegesbeckia.** Mich.

| V. caule alato; foliis oppositis, ovato-lanceolatis, utrinque acuminatis, acute serratis; corymbo brachiato; ramulis summitate irregulariter multifloris. | Stem winged; leaves opposite, ovate-lanceolate, acuminate at each end, acutely serrate; corymb brachiate; branches irregularly many flowered at the summit. |

|
SYNGENESIA SUPERFLUA.

V. Occidentalis. Walt. p. 213.

Root creeping, perennial. Stem herbaceous, erect, four to six feet high, pubescent, four-winged, branches opposite, brachiate. Leaves large ovate, acuminate, acutely and irregularly toothed, triplinerved, pubescent, somewhat scabrous, abruptly attenuated at base into a petiole one to two inches long. Flowers in large somewhat fastigiate corymbs, the small branches or peduncles alternate. Involucrum eight to ten leaved, loosely imbricate, the leaves oblong, obtuse, pubescent, the interior resembling scales. Florets of the ray one to three, yellow, lanceolate, three-toothed at the summit, nearly an inch long; of the disk twenty to twenty-four, tubular, yellow, five-cleft at the summit. Seeds obovate, compressed, hispid, crowned with two hairy awns. Receptacle flat, chaffy; scales lanceolate, acuminate, pubescent, as long as the florets of the disk.

Grows in dry sandy soils.
Flowers June—August.

SYNGENESIA FRUSTRANEAE.

ACTINOMERIS. Nuttall.

Involucrum polyphyllum, squamis subaequalibus (biseriatis?)
Radii corollae 4—8 (12.) Receptaculum paleaceum squamis semina amplexicaulis. Semina compressa, marginata, aristis duas bus persistentibus.

1. HELIANTHOIDES? Nutt.

A. foliis lanceolatis, acutis, serratis, subtus villosis, scabris; caule alato; panicula pauciflora, radiis elongatis.

Leaves lanceolate, acute, serrate, villous underneath, scabrous; stem winged; panicle few flowered; florets of the ray long.
Nutt. 2. p. 181.

*Syngenesia Frustranea.*

**Stem** three to four feet high, nearly terete but conspicuously winged, slightly scabrous. *Leaves* lanceolate, acute, serrate, slightly scabrous, villous underneath, very slightly canescent, three to five inches long, two to three wide. *Flowers* in a small terminal corymb. *Scales* of the involucre ovate and oval lanceolate, nearly equal, hispid, arranged in two series. *Florets* of the ray ten to twelve, narrow lanceolate, one and a half to two inches long, bright yellow; of the disk numerous, yellowish. *Seeds* compressed, very slightly winged, hairy, crowned with two persistent awns about one third of their own length. *Receptacle* rather convex, chaffy, the chaff lanceolate, concave, rather longer than the body of the seeds.

Grows near Louisville, Georgia. Mr. Jackson.

*Flowers—*


**A? caule erecto, alato, superne pubescente; folii lanceolati, serrati, scabris; panicula laxa, foliosa; involucro patente; receptaculo subgloboso.**

Nutt. 2. p. 181.

Coreopsis Alternifolia, Sp. pl. 3. p. 2257.


*a Flava.*

*Plant* three to seven feet high, erect, winged, glabrous when old. *Leaves* broad lanceolate, acute, serrate, scabrous, tapering at base to a short petiole. *Flowers* in a terminal panicle. *Scales* of the involucre linear-lanceolate, expanding, finally reflexed, arranged in one series. *Florets* of the ray about four, nearly an inch long, linear-lanceolate, expanding or reflexed, yellow; of the disk numerous. *Seed* compressed, slightly winged, a little hairy, crowned with two persistent awns. *Chaff* of the receptacle ovate-lanceolate, rather longer than the seeds.

*b Alba.*

*Stem*, leaves and panicle very similar to those of the preceding variety. *Leaves* narrow lanceolate, very scabrous and dotted on the upper surface. *Scales* of the involucre about eight, linear-lanceolate, shorter than the disk, expanding or reflexed, arranged in a single series. *Florets* of the ray none; of the disk numerous, white, glabrous. *Seeds* obovate, compressed,

Grows, variety *a* in the upper country of Carolina and Georgia; *b* in the low country of Carolina.

*Flowers* August—October.

**HELIANTHUS. Gen. Pl. 1322.**


*Floribus* disci atro purpureis.

1. *Atrorubens.*

*H. hispidus; caule superne nudiuscule laxe paniculato; foliis spatulatis, oblongo-ovatis, crenatis, triplinervibus, supra scabris; involuci squamis ovato-lanceolatis, longitudine disci.*

Hispid; stem naked towards the summit, loosely paniculate; leaves spathulate, oblong ovate, crenate, triplinerved, scabrous on the upper surface; scales of the involucrum ovate-lanceolate, as long as the disk.


*Root* perennial. *Stem* herbaceous, three to four feet high, muricate, with a few long branches. *Leaves* opposite, spathulate, but tapering at base, ovate, acute, toothed, scabrous on the upper surface, hairy and rather soft underneath, triplinerved, paler underneath; those near the base crowded and nearly a foot long, the upper ones small, sessile, and almost connate. *Flowers* in a loose terminal panicle. *Involucrum* many leaved, (twenty to twenty-four,) imbricate, leaves slightly obovate, ciliate, erect. *Florets of*
the ray (fourteen) lanceolate, nerved, yellow, about an inch long; of the disk numerous, tubular, dark purple. *Seeds* oblong, four-angled, compressed, a little hairy on the summit, crowned with two long, fringed, deciduous awns. *Receptacle* convex, chaffy; the chaff nearly as long as the corolla, concave, keeled, three-cleft at the summit, the middle segment long and with the keel fringed.

Grows generally in dry soils.

Flowers September—October.

2. **Sparsifolius.** E.

**H. caule scabro, ramulis subglabris; foliis ovatis, acutis, grosse dentatis, hispidis, utrinque scaberrimis, abrupte in petiolum angustatis; involucris squamis ovali-lanceolatis, ciliatis; disco atro rubente.**

To the H. Atrorubens this plant bears a strong affinity. It is larger, however, and its leaves instead of tapering to the base with a slight acumination, abruptly terminate on hispid petioles two to three inches long; they are broader also, much more rough, particularly on the under surface, and are coarsely and irregularly toothed.

Stem four to five feet high, with long slender generally smooth branches. *Leaves* opposite, distant, the upper nearly sessile. *Flowers* in a loose scattered panicle. *Florets* of the ray about fourteen, bright yellow; of the disk numerous, dark purple. *Leaves* of the involucrum about as long as the disk, finely fringed. *Pappus* subulate. *Chaff* of the receptacle lanceolate, nearly entire.

Grows in the western districts of Georgia.

Flowers August—October.

3. **Angustifolius.**

**H. caule gracili, scabriusculo; foliis angustio-lanceolatis, margine

Stem slender, slightly scabrous; leaves narrow lanceolate, with
revolutis, scabris, integris, subtus subglaucis, superioribus alternis; involucri squamis lineari-lanceolatis, ciliatis, patentibus; paleis tridentatis. E.

the margin revolute, scabrous, entire, glaucous underneath, the upper ones alternate; scales of the involucre linear-lanceolate, ciliate, expanding; chaff 3-toothed.


** Floribus disci flavescentibus. **

Flore of the disk yellowish.

† Foliis omnibus oppositis.

† Leaves all opposite.


H. caule gracili, glabro; foliis oppositis ovatis, superne attenuatis, serratis, pilosis, scabris, arcte sessilibus; involuci squamis ovato-lanceolatis, ciliatis; paleis lanceolatis, ciliatis pubescentibusque. E.

Stem slender, glabrous; leaves opposite, ovate, tapering towards the summit, serrate, hairy, scabrous, closely sessile; scales of the involucre ovate-lanceolate, ciliate; chaff lanceolate, ciliate, pubescent.
Root perennial. Stem about two feet high, slender, simple, sometimes divided at the base, glabrous. Leaves all opposite, abruptly rounded at base, triplinerved, paler underneath. Flowers few, small, terminal. Peduncles or small branches generally opposite. Leaves of the involucrum about as long as the disk, somewhat hispid on the inner surface. Florets of the ray ten to twelve, narrow, scarcely an inch long; of the disk not numerous, yellowish. Pappus subulate. Chaff of the receptacle undivided, pubescent, and fringed along the summit.

Sent to me under this name by Dr. Schweinitz from Salem, North-Carolina. Found abundantly in the western districts of Georgia. The latter rather more hispid and rough than my specimens from North-Carolina; in all other respects exactly similar.

Flowers August—October.

5. Longifolius. Pursh.

H. glaberrimus; caule paniculato, ramis summitate paucifloris; foliis subsessilibus longissime-lanceolatis, triplinervibus, integerrimis, inferioribus serratis; involucri squamis ovatis, acutis, exterioribus linearibus, divaricatis.

Very glabrous; stem panicked, the branches bearing a few flowers at the summit; leaves nearly sessile, very long, lanceolate, triplinerved, entire, the lower serrate; scales of the involucrum ovate, acute, the exterior linear, divaricate.

Pursh, 2. p. 571.

Perennial. Stem three to four feet high, (four to seven, Pursh,) very glabrous, tinged with purple. Leaves six to eight inches long, four to six lines wide, glabrous, obscurely triplinerved, generally entire, tapering towards the base, yet finally connate, forming a short sheath; near the root numerous, along the stem very distant. Flowers in a small terminal corymb, the branches alternate. Scales of the involucrum ovate-lanceolate, nearly glabrous. Florets of the ray about ten, small for this genus. Pappus subulate, caducous. Scales of the receptacle lanceolate, concave, conspicuously three-toothed.

This species, which agrees in habitat and character with the H. Longifolius of Pursh, is certainly remarkable. It has all the artificial, and I believe, essential characters of Helianthus, with the aspect of an aquatic Coreopsis.

Grows in damp rich soils in the western districts of Georgia.

Flowers September—October.
6. **Pubescens.**

*H. cano-pubescens;* stem villous; leaves sessile, cordate-ovate, amplexicaule, tripli-nerved, crenulate, very soft; scales of the involucrum lanceolate, villous.

Pubescent, hoary; caule villoso, foliis sessilibus, cordato-ovatis, amplexicaulis, tripli-nervibus, crenulatis, mollissimis; involucri squamis lanceolatis, villosis.

H. Cano-pubescens; Pubescens. PuBESCENS. H. cauno-pubescens; caule villoso, foliis sessilibus, cordato-ovatis, amplexicaulis, tripli-nervibus, crenulatis, mollissimis; involucri squamis lanceolatis, villosis.


Root perennial. Stem two to three feet high, erect, nearly simple, villous, hoary. Leaves all opposite, cordate, ovate, acute, sessile, pubescent, soft excepting the margins which are very scabrous, the nerves and veins prominent, and apparently bordering the young leaves. Flowers few, rarely exceeding two to three, terminating the small branches. Involucrum imbricate, scales somewhat subulate, acute, very villous. Florets of the ray (fourteen to sixteen) lanceolate, nearly entire, yellow or rather tawny; of the disk numerous, tubular, yellowish, five-cleft, pubescent at the summits. Stamens and styles as long as the florets. Seeds compressed, a little hairy. Pappus composed of two membranaceous, concave, subulate scales, fringed, and about half the length of the seed. Receptacle convex, chaffy; the chaff lanceolate, concave, acute, entire, hairy towards the summit.

Grows around ponds near the Flint River, Georgia. Along the “Federal Road” from Milledgeville to the Alabama.

Flowers August—September.

7. **Mollis.** Willd.

*H. caule inferne lævi, superne scabriusculo; foliis ovato-lanceolatis, acutis, serratis, supra scabris, subtus pubescentibus, albo tomentosis; floribus paucis, terminalibus.*

Stem smooth below, scabrous near the summit; leaves ovate-lanceolate, acute, serrate, scabrous on the upper surface, pubescent and hoary underneath; flowers few, terminal.

Root perennial, creeping. Stem herbaceous, three to six feet high, purple, smooth, slightly scabrous near the summit. Lower leaves opposite, the upper alternate, all ovate-lanceolate, very acute, with glandular serratures, pubescent and somewhat glaucous underneath. Petioles short, fringed. Flowers few, in a terminal panicle. Involucrum imbricate, leaves (twenty-three to twenty-seven) oblong, lanceolate, hairy, fringed. Florets of the ray about ten, lanceolate, hairy, yellow, about an inch long; of the disk numerous, yellowish. Stamens and styles scarcely as long as the florets of the disk. Seeds compressed. Pappus acuminate, hairy. Chaff of the receptacle concave, three-cleft at the summit, hairy near the summit and along the keel.

This plant agrees in many respects with the H. Mollis as described by Pursh, but it certainly is not the H. Tomentosus of Michaux. A variety in the low country with the leaves pubescent and only slightly glaucous, I have always considered as the H. Lævis of Walter, but Walter's name could scarcely be retained to a plant which in reality has nothing smooth about it but the lower part of the stem.

Grows in dry, moderately fertile soils. Flowers July—August.

8. Hispidulus. E.

H. caule scabro; foliis oppositis, sessilibus, ovato-lanceolatis, superne attenuatis, serrulatis, supra scabris, subtus pallidioribus, hispidulis; involucri squamis ovato-lanceolatis, ciliatis; paleis tridentatis. E.

Stem scabrous; leaves opposite, sessile, ovate-lanceolate, tapering towards the summit, serrulate, scabrous on the upper surface, paler underneath and slightly hispid; scales of the involucrum ovate-lanceolate, ciliate; chaff 3-toothed.

Root perennial. Stem erect, scabrous, three to four feet high. Leaves long, narrow, tapering to their summits, triplinerved, very obscurely serrulately. Flowers few, terminal. Peduncles opposite, the upper pair generally longer than the stem. Leaves of the involucrum ovate-lanceolate, as long as the disk, scabrous, ciliate. Florets of the ray eight to ten, about an inch long, yellow; of the disk numerous. Pappus subulate, pubescent. Chaff of the receptacle nearly as long as the florets of the disk, three-toothed, hairy along the back and summits.

Grows in the pine barrens near Louisville, Georgia. Mr. Jackson. Flowers September—October.

*H. foliis ovatis, acuminatis, serratis, triplicinervibus, subitus scabris; involucris squamis lineari-lanceolatis, basi ciliatis.* Willd.

Leaves ovate, acuminates, serrate, tripli-nerved, scabrous underneath; scales of the involucrum linear-lanceolate, ciliate at base.


My friend Dr. Schweinitz sent me under this name a plant of which the following is a brief description. The short and defective account of this species in Willdenow and Pursh, does not enable me to ascertain whether we have all described the same plant.

Root perennial. Stem tall, slender, sparingly branched, glabrous. Leaves lanceolate, sometimes ovate-lanceolate, acuminates, conspicuously serrate, thin, slightly scabrous on both surfaces, paler and sprinkled with hairs underneath, on short petioles, the lower opposite, the upper alternate. Flowers small, few, terminal. Leaves of the involucrum linear-lanceolate, about as long as the disk, ciliate, with the hairs nearly obliterated towards the summit. Florets of the ray eight to ten, yellow, about an inch long; of the disk not numerous. Pappus nearly setaceous. Chaff of the involucrum nearly as long as the florets, pubescent near the summit, with two lateral teeth not opposite.

Collected near Salem, North-Carolina, and to be found most probably along the base of the Alleghany mountains in Carolina and Georgia.

Var. a. *Pallidus.*

From Louisville, Georgia, I have received a specimen which at present I can only arrange as a variety of the preceding. Stem very slender. Leaves all opposite, narrow, lanceolate, long, tapering to the summit but scarcely acuminates, very thin, nerves prominent, slightly scabrous, light green, but paler and pubescent underneath. Flowers few, small, terminal. Leaves of the involucrum fewer than in the preceding variety, shorter than the disk, fringed. Florets of the ray eight? small; of the disk not numerous. Stamina longer than the florets of the disk. Pappus setaceous. Chaff of the receptacle pubescent, entire or three-toothed at the summit. The chaff, the involucrum, and the opposite narrow leaves seem to mark this as a distinct species. Sent by Mr. Jackson.

10. *Tenuifolius.* E.

*H. caule lăvigato;* Stem smooth; leaves foliis oppositis, ovato-lanceolatis, acuminatis, opposite, ovate-lanceolate, acuminate, coarse-
grosse serratis, utrinque scabriusculus, longe petiolatis, membranacea; involucri squamis lanceolatis, ciliatis; floribus parvis. E.

| Root perennial. |

**Spathulatus. E.**

H. caule superne scabro; foliis oppositis, spathulato-ovatis, pau-lo acuminatis, serratis; supra scabris subtus pubescentibus; ramulis oppositis; involucri squamis lanceolatis, hispidis; paleis acuminatis, integris. E.

| Stem scabrous near the summit; leaves opposite, spathulate-ovate, slightly acuminated, serrate, scabrous on the upper surface, pubescent underneath; branches opposite; scales of the involucrum lanceolate, hispid; chaff acuminated, entire.

Root perennial. Stem four to six feet high, terete, striate, scabrous towards the summit, branches few, and in my specimens with the leaves always opposite. Leaves ovate, with long, tapering, slightly acuminated summits, as in almost every species triplinerved, abruptly attenuated at base into a petiole about half an inch long, pubescent and soft underneath. Flowers August—October.
terminating the branches. Leaves of the involucre lanceolate, with tapering subulate summits, about as long as the disk. **Florets** of the ray ten to twelve? yellow, about an inch long, pubescent, slightly emarginate; of the disk numerous. **Seed** four-angled, rather long. **Pappus** subulate, pubescent. Chaff of the receptacle not as long as the florets of the disk, acuminate, very hispid just below the summit.

I have a variety of this plant differing with narrower, oval-lanceolate leaves, and very prominent serratures.

To the **H. Macrophyllus** of Willd. this plant appears to bear a strong resemblance. But Pursh places that species, with which I am unacquainted, among those with alternate leaves, while in this plant they are uniformly opposite. The size of the leaves would hardly justify Willdenow's specific name.

Grows in the western districts of Georgia.

**Flowers** August to October.

12. **Tricuspis. E.**

**H. foliis oppositis, oblongis, ovato-lanceolatis, utrinque scabris; involucri squamis lato-subulatis, ciliatis; receptaculi paleis tricuspidatis.**

**Leaves** opposite, oblong, ovate-lanceolate, scabrous on both surfaces; scales of the involucrum broad subulate, ciliate; chaff of the receptacle 3-cuspidate.

**Root** perennial. **Stem** three to four feet high, and with the whole plant very scabrous, branches and leaves very regularly opposite. **Leaves** much whitened on the upper surface by the blistered epidermis; of a dull uniform brown colour, though very scabrous underneath, triplinerved, with the margins revolute, nearly entire. **Flowers** few, terminating the branches. **Involucrum** many leaved, leaves subulate, wide at base, the interior rather longer. **Florets** of the ray fourteen to sixteen, about one and a half inches long, yellow. **Stamens** longer than the florets of the disk. **Seed** compressed. **Pappus** nearly as long as the seed, subulate, lacerate. Chaff of the receptacle tricuspidate, the middle segment the largest and somewhat acuminate.

This plant in its artificial character resembles much the **H. Decapetalus**, but it is a much harsher and coarser plant, and its opposite leaves and branches also distinguish it. The chaff of the receptacle is more deeply three-cleft than in any other species which I have examined. To the **H. Scaberrimus** it is much more nearly allied.

Grows in the western districts of Georgia.

**Flowers** September—October.
13. Diversifolius. E.

H. caule scabro; foliis oppositis, inferioribus ovato-lanceolatis, acuminatis, superioribus cordato-ovatis, mucronatis, omnibus supra scaberrimis, subtus pubescentibus; involucris squamis lanceolatis, ciliatis; paleis sub tridentatis. E.

Stem scabrous; leaves opposite, the lower ovate-lanceolate, acuminate, the upper cordate ovate, mucronate; all scabrous on the upper surface, pubescent underneath; scales of the involucrum lanceolate, ciliate; the chaff slightly 3-toothed.

Root perennial. Stem three to five feet high, very scabrous, with branches and leaves opposite. Lower leaves ovate-lanceolate, serrulate, with a tapering base; the upper abruptly contracted, nearly entire, all on hispid petioles two to three lines long. Leaves of the involucrum imbricate, scarcely as long as the disk. Florets of the ray ten to twelve, yellow, scarcely an inch long; of the disk numerous. Pappus subulate, concave, pubescent, longer than the seed. Chaff of the receptacle hairy at the summit, with two small but very distinct lateral teeth.

Grows in the western districts of Georgia. Somewhat resembling the H. Tricuspis but very distinct.

Flowers August—October.

14. Scaberrimus. E.

H. foliis oppositis, lanceolatis, utrinque scaberrimis, subintegerrimis; involucris squamis ovatis; receptaculi paleis integris, dorso ciliatis.

Leaves opposite, lanceolate, very scabrous on both surfaces, nearly entire; scales of the involucrum ovate; chaff of the receptacle entire, fringed on the back.

Root perennial. Stem four to six feet high, very scabrous and very sparingly divided. Leaves lanceolate, with a long tapering base, whitened and blistered on both surfaces, opposite. Flowers very few. Involucrum many leaved, leaves ovate, finely fringed, appressed, imbricate, the interior the
longest. *Florets of the ray sixteen to twenty, about an inch long; of the disk numerous. *Pappus nearly as long as the seed, subulate, pubescent.* Chaff of the receptacle concave, entire at the summit.

Grows in the western districts of Georgia.

*Flowers, September—October.*

†† *Foliis superioribus alternis.*

*Upper leaves alternate.*

15. **Trachelifolius.**

*H. foliis ovato-lanceolatis, acuminatis, serratis, triplinervibus, utrinque scaberrimis; involucri squamis lineari-lanceolatis, ciliatis, exterioribus longioribus.*

Leaves ovate-lanceolate, acuminated, serrate, triplinerved, very scabrous on both surfaces; scales of the involucrum linear-lanceolate, ciliate, the exterior the longest.


H. Gigas, Mich. 2. p. 141.

*Root perennial.* *Stem erect,* three to four feet high, branching towards the summit, very scabrous. *Leaves* narrow, ovate-lanceolate, slightly acuminate, with glandular serratures, attenuated at base into a short petiole, tomentose and rough underneath, the upper surface whitened by the blistered and scabrous epidermis. *Flowers* in a loose terminal panicle. *Involucrum* many leaved, leaves subulate, fringed. *Florets* of the ray ten to twelve, yellow, of the disk very numerous. *Seed* obovate, compressed, glabrous. *Pappus* subulate, very acute, a little pubescent. *Scales* of the receptacle concave, three-toothed and hairy at the summit.

Grows near the mountains of Carolina. Dr. Macbride.

*Flowers in September.*

16. **Tomentosus.**

*H. caule aspero; foliis ovato-lanceolatis, superne attenuatis, acutis, serrulatis, supra scabris, subtus tomento-

Stem rough; leaves ovate-lanceolate, tapering to the summit, acute, serrulate; scabrous on the upper
tosis, plerumque alternis; involucris squamis foliaceis, squarrosis, lanceolatis; paleis trifidis. E.

Stem four to six feet high, pubescent and scabrous, sparingly branched. Upper leaves alternate, very long, ovate and oval-lanceolate, sometimes slightly acuminate, with fine and distant serratures. Flowers terminal, rather large, on short and robust peduncles. Leaves of the involucrum longer than the disk, ciliate with long tapering hispid summits. Florets of the ray twelve to fourteen, yellow; of the disk numerous, five-cleft, with the summits hairy. Seeds four-angled, slightly compressed. Pappus subulate. Chaff of the receptacle three-cleft, hairy towards the summit, the middle segment much larger than the lateral.

This plant appears to me to approach very near to the H. Tomentosus of Michaux; it is not the H. Mollis of Willd.; perhaps these plants, hitherto united, are really distinct.

Grows in the western districts of Georgia, and between the Chatahouchie and Alabama rivers.

Flowers August—October.

17. Decapetalus.

H. foliiis ovatis, acuminatis, remote serratis, triplinervibus, concoloribus, supra scabris, subtus pubescen- tibus, scabriusculis; involucris squamis ovato-lanceolatis, subaequalibus, ciliatis. Leaves ovate, acuminate, remotely serrate, triplinerved, uniformly coloured, scabrous on the upper surface, pubescent underneath, slightly scabrous; scales of the involucrum ovate-lanceolate, nearly equal, fringed.


Root perennial. Stem three to four feet high, pubescent, scabrous, branching. Leaves towards the summit alternate, somewhat spathulate, the petioles fringed at base. Flowers in terminal panicles, large. Leaves of the
involucrum long, equal, almost subulate but wide at base, beautifully fringed. Florets of the ray ten to twelve, lanceolate, yellow, nearly two inches long of the disk numerous. Anthers longer than the florets of the disk. Seed long, compressed. Pappus subulate, much shorter than the seed, a little hairy. Chaff of the receptacle shorter than the florets of the disk, fringed near the summit.

Grows in dry soils, Pursh. Louisville, Georgia, Mr. Jackson. Flowers August—October.

18. Multiflorus.

**H. foliis triplinervibus, scabris, inferioribus cordatis, superioribus ovatis; radio multifloro; involucris squamis lanceolatis.**  
Leaves triplinerved, scabrous, the lower cordate, the upper oirate; florets of the ray numerous; scales of the involucrum lanceolate.


Root perennial. The lower leaves cordate, triplinerved. Stem and peduncle scabrous. Leaves of the involucrum forty to fifty, loosely imbricate, not squarrose. Florets of the ray very numerous.

Grows in dry mountain woods from Pennsylvania to Carolina. Pursh. Flowers July—September.


**H. foliis alternis, lanceolatis, serratis, scabris, obsolete triplinervibus, utrinque attenuatis, subsessilibus, basi ciliatis; involucri squamis lanceolatis ciliatis.**  
Leaves alternate, lanceolate, serrate, scabrous, obscurely triplinerved, tapering at each end, nearly sessile, ciliate at base; scales of the involucrum lanceolate, fringed.


Root perennial. Stem very tall, branching, a little rough, particularly near the summit. Leaves generally attenuate, oblong, scabrous on the upper surface, paler and nearly smooth underneath. Flowers in a loose terminal
panicle. *Involucrum* many leaved; leaves linear-lanceolate, hairy, fringed, rather longer than the disk. *Florets* of the ray twelve to fourteen, (twenty, Willd.) lanceolate, yellow, not large; of the disk very numerous. *Anthers* longer than the florets of the disk. *Seed* compressed, glabrous. *Pappus* subulate, longer than the seed. Chaff of the receptacle hairy at the summit, with two slight lateral teeth.

Grows in the mountains of Carolina. 
*Flowers* August—October.

**20. Altissimus.**

H. foliis alternis, ovato-lanceolatis, serratis, scabris, triplinervibus, apice attenuatis, petiolatis; petiolis ciliatis; involucris squamis lanceolatis, ciliatis.

| Leaves alternate, ovate-lanceolate, serrate, scabrous, triplinerved, tapering towards the summit, on petioles; petioles fringed; scales of the involucrum lanceolate, fringed. |


Resembles the preceding; but the stem is smooth and purple. *Leaves* petiolate, broader and almost ovate-lanceolate. *Leaves* of the involucrum shorter. *Florets* of the ray about sixteen. Willd.

With this species I am unacquainted. 
Grows in mountain meadows from Pennsylvania to Carolina. Pursh. 
*Flowers* July to September.

**21. Divaricatus.**

H. caule glabro, ramossissimo; foliis ovato-lanceolatis, triplinervibus, supra scabris, subtus glabriusculis; panicula multiflora, floribus minimis.

| Stem glabrous, branching; leaves ovate-lanceolate, triplinerved, scabrous on the upper surface, glabrous underneath; panicle many flowered, flowers very small. |


428
SYNGENESIA FRUSTRANEA.

Nutt. 2. p. 177.

Root perennial. Stem five to six feet high, glabrous, di and tri-choto-
mously divided, the branches much more numerous than usual in this genus. Leaves ovate-lanceolate, serrulate, with a long, tapering, somewhat acuminate point, scabrous on the upper surface, pubescent and sprinkled with glandular dots underneath, the lower ones opposite, the upper generally alternate, on petioles three to six inches long. Flowers very small, nume-
rous, in terminal panicles. Involucrum imbricate, the leaves ovate-lanceo-
late, very acute, fringed. Florets of the ray five to ten? yellow, slightly three-toothed; of the disk tubular, yellowish, not very numerous. Anthers longer than the florets. Seed compressed. Pappus two very slender awns, hairy. Chaff of the receptacle concave, as long as the florets of the disk, hairy and slightly angled near the summit.

Grows in the mountains of Carolina and Georgia.

Var. a. Ferrugineus.
I place under this name a plant I received from Louisville, Georgia, which agrees with the preceding in size, habit, and conformation of the leaves and panicle; it differs in having its flower larger, its chaff more con-
spicuously three-cleft, the leaves more strongly serrate, all with the under surface ferruginous, almost tomentose, and covered with glandular dots.

22. ARISTATUS. E.

H? caule-erecto, scabro; foliis inferioribus oppositis, arcte sessili-
bus, ovali-lanceolatis, acutis, dentatis, scabris, subtus pilosis; corymbo paucifloro; seminibus compressis, aristis (2) persistenti-
bus. E.

Stem erect, scabrous; lower leaves op-
posite, closely sessile, oval-lanceolate, acute,
toothed, scabrous, hai-
ry underneath; flowers few, corymbose; seeds
compressed, awns 2, persistent.

Stem two to three feet high, scabrous, branches rather slender, not nume-
rous, the lower opposite, the upper sometimes alternate. Leaves pale green, veiny, not nerved, oval-lanceolate, irregularly toothed, sessile, the upper sometimes alternate, not decurrent. Flowers in a small terminal corymb. Peduncles slender, rather long. Scales of the involucrum ovate-lanceolate, imbricate, pubescent. Florets of the ray narrow, about one and a half inches long, yellow. Scales of the receptacle ovate, oblong, rather longer
than the seed, which they almost envelope. Seed compressed, obovate, with two persistent rather unequal awns.

I insert this species with some hesitation. Its seed and receptacle are those of an Actinomeris, while its involucrum and habit approach nearly to the Helianthus. It belongs perhaps to an intermediate genus.

Grows in dry sessile soils in the western districts of Georgia.

Flowers September—October.

With the arrangement of the species in this genus I am not satisfied, but it may serve to facilitate examination. The division into opposite and alternate leaved species is, I suspect, not to be strictly relied upon. I have still some specimens which I have not described. The western districts of Georgia, and more particularly the state of Alabama, abound with plants of this genus, and many remain yet to be distinguished. But the want of Botanic Gardens in our country retards the progress, and impedes even the accuracy of investigation, for specimens frequently present not only inadequate but even erroneous impressions of the real structure and habit of a plant.

**BIDENS.** Gen. Pl. 1267.


1. **Chrysanthemoides.** Mich.

B. floribus radiatis, cernuis; radiis involucro subæquali triplo longioribus; foliis oblongis, utrinque attenuatis, dentatis, basi connatis. Pursh.

Flowers radiate, nodding; florets of the ray thrice as long as the nearly equal involucreum; leaves oblong, tapering at each end, toothed, connate at base.

I have transcribed the specific character with only a verbal alteration from Pursh, because the plant I shall describe differs from it in several particulars and leads to a suspicion I have long entertained, that several species are now covered under this name.

Root annual? Stem erect and declining, about two feet high, smooth below, a little hairy towards the summit, with opposite branches and peduncles. Leaves opposite, sessile, somewhat connate, oblong lanceolate, serrate, glabrous. Peduncles sometimes opposite, sometimes from the division of the stem, three to six inches long, generally erect, one-flowered. Involucrum double, the exterior about eight-leaved, the leaves unequal, foliaceous, lanceolate, the largest as long as the florets of the ray; the interior eight-leaved, the leaves equal, lanceolate, membranaceous, about as long as the florets of the disk. Florets of the ray eight, lanceolate, bright yellow, bearing only the rudiments of a germ; of the disk numerous, small, tubular, yellowish. Seeds compressed, oblong, the pappus composed of two awns which together with the edges of the seed are retrorsely aculeate, and sometimes may be discovered one or two smaller awns on the flattened angles. Receptacle convex, chaffy; chaff concave, membranaceous, as long as the florets of the disk.

Grows in shallow pools, very abundant, enlivening and almost covering ponds and old rice fields at the close of autumn with its brilliant flowers.
Flowers October—November.

2. Connata.

B. floribus discoideis; involucro exteriore flore triplo longiore; foliis caulinis ternatis, foliolis lateralibus connatis, floralibus oblongo-lanceolatis. Flowers discoid, exterior involucrum thrice as long as the flower; stem leaves ternate, lateral leaves connate, floral leaves oblong-lanceolate.


Root perennial. Stem about two feet high, glabrous, branches opposite, Leaves opposite, lanceolate, dentate, glabrous, very much attenuated at base, paler or slightly glaucous (I describe from specimens) underneath, the lower ternate, the upper simple, all somewhat connate at base. Peduncles opposite, one-flowered. Involucrum double, the exterior foliaceous, much longer than the disk, the interior membranaceous, resembling the chaff of the receptacle. Florets of the ray 0; of the disk numerous, yellowish. Seed compressed; awns of the pappus subulate, retrorsely aculeate. Chaff of the receptacle nearly as long as the florets of the disk.
Grows in fields and woods, Canada to Carolina, Pursh. I have not seen it in the low country of Carolina.
Flowers July—October.

3. Pilosa.

B. floribus discoideis; involucro exteriore longitudine interioris; foliis inferioribus pin-natis, superioribus ternatis, foliolis oblongis, terminali lanceolato, reliquis duplo longiore.

Flowers discoid; exterior involucrum as long as the interior; lower leaves pinnate, the upper ternate, leaflets oblong, the terminal one lanceolate, twice as long as the rest.


Root annual. Stem two to three feet high, branching, hairy. Leaves ovate-lanceolate, oblong, dentate, somewhat hairy, the lower sometimes doubly pinnate. Flowers opposite and terminal on long peduncles. Exterior involucrum leafy, the interior resembling scales. Florets of the ray 0; of the disk rather numerous, yellowish. Seeds oblong, narrow, terminating in two or three awns retrorsely aculeate.

The specimens I have seen under this name do not accord exactly with the figure of Dillenius. Hort. Elth. t. 53. f. 51.
Grows a common weed in old fields. Pursh.
Flowers July—October.

4. Frondosa.

B. floribus discoideis; involucro exteriore flore multo longiore, foliolis basi ciliatis; foliis inferioribus pin-natis, superioribus ternatis, lanceolatis, serratis.

Flowers discoid; exterior involucrum much longer than the flower, leaflets fringed at base; lower leaves pinnate, the upper ternate, lanceolate, serrate.

**SYNGENESIA FRUSTRANEAE.**

*Root* annual. *Stem* erect, three to four feet high, branching, sprinkled with a few hairs. *Leaves* lanceolate, very acute, serrate, somewhat ribbed, sprinkled like the stem with a few short hairs, the lower pinnate, the upper ternate and simple. *Peduncles* one-flowered, long, opposite and terminal. Exterior *involucrum* eight-leaved, the leaves linear-lanceolate, ciliate, unequal, much longer than the disk; the interior eight-leaved, leaves membranaceous, scarcely as long as the disk. *Florets* of the ray 0; of the disk tubular, yellowish. *Seeds* compressed, rugose; awns two, retrorsely aculeate. *Receptacle* flat, chaffy; chaff linear-lanceolate, falling with the seeds.

Grows in damp soils.

Flowers June—September.

**5. Bipinnata.**

*B. floribus subradiatis; involucro exterio disco longiore; foliis bipinnatis, foliolis lanceolatis, pinnatifidis.*


*Root* annual. *Stem* two to four feet high, glabrous, obtusely four-angled, branching, the branches opposite. *Leaves* decussate, glabrous, often doubly pinnatifid, the segments somewhat lanceolate, a little hairy along the margins. *Peduncles* long, generally terminal. Exterior *involucrum* eight-leaved, leaves linear-lanceolate, acute, nearly glabrous, unequal, longer than the disk, at first erect, afterwards expanding; interior eight-leaved, scarcely as long as the disk, fringed near the summit. *Florets* of the ray generally three, obovate, yellow, scarcely as long as the disk; of the disk about twenty, yellow, tubular. *Seed* oblong, slightly angled, nearly twice as long as the interior involucrum, crowned by three, sometimes four unequal, short awns. There is a striking difference in habit between this species and the B. Chrysanthemoides; there is also much difference in the seed, but as far as the seed is concerned, B. Frondosa and B. Pilosa, appear to connect intimately the two extremes.

Grows in dry soils—common.

Flowers July—October.
SYNGENESIA FRUSTRANEA.

COREOPSIS. Gen. Pl.

* Foliis oppositis, indivisis.

1. Lanceolata. Lin.

C. foliis sessilibus, lanceolato-linearibus, integerrimis, ciliatis; pedunculis elongatis, nudis; seminibus orbiculatis, scabris, alatis, apice bidentatis, emarginatis.


Root perennial, (bi-triennial, Dill.) Stem very short, divided at the base, procumbent, sprinkled with a few long hairs, the summits naked. Leaves opposite, sessile, linear-lanceolate, acute, entire, sometimes slightly undulate, fringed toward the base. Flowers solitary, on naked branches about a foot long. Involucrum, each about eight-leaved, all nearly of the same length; lanceolate, glabrous, membranaceous and coloured, (particularly the interior) along the margin. Florets of the ray about eight, bright yellow, dilated and toothed at the summit; of the disk somewhat numerous, yellowish. Seeds compressed, nearly black, winged and crowned with two small, subulate, hairy, deciduous awns. Chaff of the receptacle very narrow.
This species appears to differ much in size, and somewhat in habit, and may require further comparison. The plant which I have described above I collected around ponds a few miles from Darien, along the road to Fort Barrington. The pappus, as in the Helianthus, appears to be an appendage slightly attached to the seed, and differing from the pericarp in substance and colour.

In the C. Lanceolata as figured by Dillenius, (Hort. Elth. t. 48. f. 56.) the plant is altogether larger, and the lowest leaves have long attenuated bases.

Grows in damp soils.

Flowers April—May; perhaps through the summer. (August—October, Pursh.)

2. **Crassifolia.** Aiton.

*C. foliis obovato-oblongis, integerrimis, basi attenuatis, hirsutis; pedunculis elongatis, basi hirsutis.*

Leaves obovate-oblong, entire, tapering at base, hirsute; peduncles long, hirsute at base.


Root perennial. Stem about two feet high, sparingly divided at base, striate, hairy below the upper pair of leaves. Leaves few, opposite, oblong, narrow, the lower attenuated at base, forming a petiole one to two inches long, very hairy. Flowers solitary, terminal. Involucrum nearly equal, glabrous. Florets of the ray about eight, bright yellow, dilated and toothed at the summit.

The leaves of this species though thicker than those of C. Lanceolata, scarcely merit the character of crassifolia; hirsuta would have been a more appropriate appellation.

Grows in pine barrens, in soils rather dry.

Flowers June—

3. **Arguta.** Pursh.

*C. glabra; foliis petiolatis, lanceolato-ovatis, sensim acuminatis, argute serratis; pedunculis axillaribus termi-

Glabrous; leaves petiolate, lanceolate-ovate, gradually acuminate, acutely serrate; peduncles axillary and
minalibusque, dichoto-
me corymbosis.

terminal, dichotomously
corymbose.

Pursh, 2. p. 567.

Flowers of a middle size. Described by Pursh from specimens in the
Herbarium of Sir Joseph Banks; supposed by Nuttall to be a variety of C.
Latifolia.

Grows in Carolina, Pursh.

Flowers—


C. foliis ovatis, acu-
minatis, crenato dentat-
tis, dentibus mucrona-
tis; petiolis brevibus,
radiis integris; semini-
bus cuneato oblongis,
apteris, apice nudis.

Leaves ovate, acu-
minate, crenately too-
thed with the teeth
mucronate; petioles
short; florets of the ray
entire; seed cuneate
oblong, without wings,
naked at the summit.


A tall plant with the habit of Silphium, flowers rather small. Mich.
Pursh.

Grows on the highest mountains of Carolina, Mich.

Flowers July to September. Pursh.

5. Oemleri. E.

C. foliis lato lanceo-
latis, sessilibus, utrin-
que acutis, integerri-
mis; pedunculis axilla-
ribus terminalibusque,
sub dichotome corym-
bosis. E.

Leaves broad lance-
olate, sessile, acute at
each end, entire; pe-
duncles axillary and
terminal, dichotomous-
ly corymbose.

Connected with the two preceding species, which I have not had an op-
portunity of comparing, is the one I shall now describe; further examination
must determine whether they are really distinct.
Stem two to three feet high, angular, glabrous. Leaves broad, entire, sessile, and connate by a small membrane, very glabrous, acute at each end but not acuminate. Flowers small, the lower opposite, axillary, the upper forming a dichotomous corymb. Exterior involucrum smaller than the interior, leaves lanceolate, glabrous. Florets of the ray about eight, entire, yellow; of the disk not very numerous. Seed compressed, cuneate, slightly bidentate and margined.

Collected near the junction of the Broad and Saluda rivers by Mr. Oemler.

Flowers July—August.


C. parva, glaberri-ma; caule simplici; foliis linearibus, integer-rimis; capitulis axillaribis terminalibusque, longe pedunculatis; seminibus integris, nudis.

Nutt. 2. p. 179.

Root perennial. Stem about twelve inches high, smooth, sometimes branching. Leaves about two inches long, opposite, connate, and sparingly ciliate at base, the axils producing small leaves or abortive branchlets. Flowers few, small, on peduncles about three inches long. Exterior involucrum very small, interior eight-leaved. Florets of the ray about eight, pale red, obsoletely three-toothed; of the disk not numerous, somewhat saffron coloured. Seeds entire, not emarginated, naked. Nutt.

Grows in damp pine barrens and grassy swamps, New-Jersey to Georgia. Nutt.

Flowers in August.

** Foliis oppositis ** | ** Leaves opposite, divided.**

7. Auriculata.

C. pubescens; foliis subsessilibus, ovali-lanceolatis, integerrimis, nearl sessile, oval-lanceolate, entire, the
inferioribus ternatis; involucro exterio profunde partito; radiis 4-dentatis; seminibus subrotundo - obovatis, apice bidentatis.

lower ternate; exterior involucrum deeply divided; florets of the ray 4-toothed; seeds obovate, nearly round, 2-toothed at the summit.


Root perennial. Stem three to four feet high, pubescent, sometimes nearly glabrous. Leaves oblong-lanceolate, entire, finely pubescent, the upper sessile, the lower divided, having two lateral small leaflets near the base, which are also lanceolate, and a common petiole near an inch long. Flowers axillary and terminal. Exterior involucrum divided to the stem, as long as the interior. Florets of the ray about eight, dilated and toothed at the summit, bright yellow.

Grows on the high mountains of Carolina and Virginia. Flowers August—October. Pursh.

Var. Diversifolia.

C. foliis infimis trifoliatis, foliolis rotundatis, caulinis foliolis obovatis, supremis simplicibus, spathulato-lanceolatis, omnibus integerrimis, caulique pilosis; seminibus subrotundis, denticulatis, apice bidentatis. E.

Lowest leaves trifoliate with the leaflets round, those of the stem with the leaflets obovate; the uppermost simple, spathulate-lanceolate, all entire and with the stem hairy; seed nearly round, denticulate, two-toothed at the summit.

This species differs in many respects from the preceding; the stem is short, dichotomously divided at the summit. The lowest leaves small, trifoliate, the folioles all orbicular; the next larger with the folioles sometimes obovate, sometimes nearly round; the upper spathulate-lanceolate; the whole plant instead of being covered with a fine pubescence, is sprinkled with long white glandular hairs. Flowers naked, on peduncles, nearly a foot long, proceeding from the division of the stem. Calyx and corolla as in the preceding variety. Seed nearly round, slightly bidentate, and finely toothed along the margins. Chaff of the receptacle very narrow, longer than the florets of the disk.

Collected in the middle country of Carolina by Mr. Whitlow. Flowers May—
8. **SENIFOLIA.** Mich.

*C. pubescens; foliis sessilibus; trifoliolatis, foliolis lanceolatis, integerrimis; radiis integris; seminibus cuneatis.*

Pubescent; leaves sessile, trifoliate, the leaflets lanceolate, entire; florets of the ray entire; seed cuneate.


C. Major, Walt. 214.

*Root* perennial. *Stem* two to three feet high, generally branching near the summit, pubescent, angled. *Leaves* opposite, closely sessile, trifoliate, forming apparently a six-leaved verticill, leaflets lanceolate, slightly acuminate, pubescent. *Peduncles* opposite, brachiate, forming a terminal corymb. Exterior *involucrum* as long as the interior, both very pubescent. *Florets* of the ray about eight, narrow lanceolate, yellow, externally pubescent, slightly toothed near the summit. *(Seeds oblong, cuneate, Mich.)*

The whole plant sometimes nearly glabrous, Mich. In a specimen which I possess that appears to belong to the glabrous variety of Mich. the middle leaf of the verticill is sometimes three-parted, which I have never observed in the common plant, and the exterior involucrum is much smaller than the interior; these characters seem to indicate a distinct species.

Grows in dry pine lands.

Flowers June—August.

9. **VERTICILLATA.**

*C. subglabra; foliis oppositis, sessilibus, trifoliolatis, interdum quinato-pinnatis, foliolis lineari-lanceolatis, integerrimis; radiis acutis; seminibus obovatis, lævissime bidentatis.*

Nearly glabrous; leaves opposite, sessile; trifoliate, sometimes quinate; leaflets linear-lanceolate, entire; florets of the ray acute, seed obovate, very slightly 2-toothed.

Root perennial. Stem erect, two to three feet high, angled, striate, glabrous, branching near the summit. Leaves sessile, forming a six-leaved verticill. The middle leaflet of each leaf frequently three-parted, the leaflets all narrow, apparently smooth, yet frequently covered with a fine pubescence. Flowers corymbose, peduncles opposite and terminal. Exterior involucre generally ten-leaved, leaflets small, linear obtuse, irregularly arranged at base; interior eight-leaved, leaflets lanceolate, yellowish, and reflected at the summit. Florets of the ray eight, lanceolate, acute, yellow; of the disk numerous, yellowish. Anthers dark purple. Seeds compressed, winged, slightly bidentate. Chaff of the receptacle filiform, dilated at the summit.

Grows in dry soils. Flowers June—August.

10. Tenuifolia. Willd. C. glabra; foliis oppositis, sessilibus, trifoliolatis, foliolis composite multipartitis, segmentis linearibus, integerrimis.

Glabrous; leaves opposite, sessile, trifoliolate, leaflets compoundly many parted, segments linear, entire.


Root perennial. Stem two to three feet high, glabrous, branching towards the summit, slightly angled. Leaves sometimes deeply three-parted, sometimes seeming to form a verticill of six distinct leaves, the divisions or leaves all many parted, sometimes compoundly, the segments all linear and entire. Flowers corymbose. Peduncles opposite and terminal. Exterior involucre nearly as large as the interior, leaflets about eight, narrow and lanceolate. Florets of the ray eight, yellow, acute. The seed of this species I have not had an opportunity of examining.

Grows in the upper districts of Carolina. Dr. Macbride. Flowers July and August.

11. Trichosperma. Mich. C. glabella; foliis subquinato - pinnatis, lineari-lanceolatis, serratis; floribus corymbosis; involucri exterio-

Glabrous; leaves generally quinate, pinnate, linear-lanceolate, serrate; flowers in corymbs; leaves of the
oris foliolis ciliato serratis; radiis integris; seminibus cuneatis, 2—4 dentatis.


Root perennial, (biennial, Pursh.) Stem two to three feet high, glabrous, branching towards the summit. Leaves opposite, somewhat pinnate, the leaflets or segments five to seven, generally more or less notched, thin, glabrous. Flowers on peduncles, opposite and terminal, the upper divisions sometimes dichotomous. Exterior involucrum eight-leaved, leaves oblong, obtuse, sometimes obovate, ciliate; the interior eight-leaved, leaves lanceolate, striate, coloured, particularly along the margin. Florets of the ray eight, lanceolate, yellow, entire; of the disk yellowish. Seeds oblong, compressed, two to four toothed. Chaff of the receptacle linear-lanceolate.

This species appears to vary much, perhaps more than one is now covered under this name.

In specimens sent me from Boston by Dr. Bigelow, the stem is square, the leaflets generally seven, very narrow, (linear,) deeply notched, almost pinnatifid, the flowers large. In specimens sent me from New-York by Dr. Torrey, the stem is nearly round or very obtusely angled, the leaflets five, thin, narrow lanceolate, strongly toothed, the flowers smaller.


C. glaberrima; foliis bipinnatifidis, pinnis linearibus, serrulatis; involucri exterioris foliolis linearibus serrulatis; seminibus oblongis biaristatis.


C. Coronata, Walt. 2. p. 15.

(Root biennial, Pursh.) Stem three to four feet high, obtusely four angled, with very numerous brachiate branches. Leaves decussate, bipinnatifid, the segments slightly scabrous on the upper surface, the uppermost sometimes simply three-parted. Flowers in a loose terminal panicle.
Leaves of the exterior involucrium eight, linear, acute, as long as those of the interior; of the interior lanceolate, pubescent at base, dotted. Florets of the ray eight, obovate, obscurely three-toothed; of the disk numerous, yellow. Anthers dark purple. Seed compressed, with the margin serrulate, nearly as long as the florets of the disk. Chaff of the receptacle linear, obtuse, longer than the florets of the disk, spotted near the summit with purple.

Grows in wet grounds.

Flowers August and September.


C. pubescens; foliis quinato pinnatis, foliolis serratis; radiis integris, lato ovalibus; seminibus cuneato-obo-ovatis, biaristatis; aristis longissimis, divaricatis. Mich.


Flowers large, rays very broad, Pursh. With this species I am unacquainted.


Flowers August—September.

14. **Pubescens.** E.

C. pubescens; foliis quinato-pinnatis, foliolis lanceolatis, obtusis, integerrimis, lateralibus parvulis; involucris exterioris foliolis ovato-lanceolatis; radiis undulatis? pappo diphylllo, foliolis subulatis, pubescentibus. E.

Pubescent; leaves quinate, pinnate, the leaflets serrate; florets of the ray entire, broad, oval; seed cuneate-ovatis, 2-awned; awns very long, divaricate.

Pubescent; leaves quinate, pinnate, leaflets lanceolate, obtuse, entire, the lateral ones small; leaves of the exterior involucrium ovate-lanceolate; florets of the ray undulate? pappus 2-leaved, subulate, pubescent.
Root perennial. Stem about two feet high, obtusely angled, producing a few opposite branches and with the whole plant very pubescent, almost tomentose. First leaves simple, lanceolate, the mature leaf unfolding two pair of small, lateral leaflets. Flowers terminal, on the long, almost naked branches. Leaves of the exterior involucrum eight, ovate-lanceolate, slightly acuminate, as long as the interior, nearly glabrous. Florets of the ray eight, yellow, dilated at the summit, and from specimens appearing to be undulate. Seed nearly round, slightly winged, emarginate and crowned with a short pappus more resembling a leaf than an awn. Chaff of the receptacle linear, acute, longer than the florets of the disk. Grows in the western districts of Georgia. Flowers August—September.

15. Tripteris. Lin.

C. glabra; foliis peti- | Glabrous; leaves pe- tiolate, lanceolate, en- tiolate, lanceolate, ent- tire, those of the root tire, those of the root pinnate, of the stem pinnate, of the stem trilobate; florets of the ray trilobate; florets of the ray entire; seed obo- entire; seed obo- vate, naked at the vate, naked at the summit.


Root perennial. Stem four to six feet high, terete, fistulous, glabrous, branching near the summit. Leaves opposite, the upper trilobate; leaflets lanceolate, acute, entire, glabrous, slightly ribbed, scabrous along the margins. Flowers rather small, in a loose terminal corymb. Leaves of the exterior involucrum linear, shorter than the interior; of the interior lanceolate, coloured, particularly along the margin. Florets of the ray eight, yellow, narrow lanceolate, entire; of the disk numerous, yellowish. Chaff of the receptacle linear, longer than the florets of the disk. Seeds obovate, slightly winged, emarginate at the summit. Grows in the upper districts of Carolina and Georgia; very abundant in the western districts of Georgia. Flowers August—October.
16. **Nudata.** Nutt.

C. caule subsimplici, superne dichotomo; foliis subulato linearibus, remotis, glabris, supermis parvulis; radiis roseis; seminibus nudis. Nutt.

Nutt. 2. p. 179.

*Stem* nearly simple, dichotomous towards the summit; leaves subulate, linear, remote, glabrous, the uppermost small; florets of the ray rose coloured; seeds naked.

Nutt. 2. p. 179.

**Foliis alternis.**

***Foliis alternis.***

17. **Angustifolia.** Aiton.

C. foliis lineari-lanceolatis, integerrimis, laevibus; radiis oblongis, trifidis, lacinia media majore.

Leaves linear-lanceolate, entire, smooth; florets of the ray oblong, 3-cleft, the middle segment larger.


With this species I am not acquainted.

Grows in Carolina and Florida. Bartram.

C. caule glabro, superne dichotomo; foliis angusto-lanceolatis, integerrimis, crassis, in petiolum attenuatis; seminibus obovatis, alatis, alis serrulatis; pappo bisetoso.

Stem glabrous, dichotomously divided towards the summit; leaves narrow lanceolate, entire, thick, tapering to a petiole; seeds obovate, winged, the wings serrulate; pappus 2-awned, bristly.


Root perennial. Stem two to three feet high, slightly furrowed, dichotomously divided towards the summit. Leaves acute, somewhat succulent, those of the root tapering to a petiole three to six inches long. Flowers terminal. Exterior involucrum six to ten leaved, smaller than the interior, leaves lanceolate, irregularly inserted, expanding; interior eight-leaved, leaves lanceolate, coloured. Florets of the ray eight, yellow, dilated and three-lobed at the summit; of the disk numerous, dark purple. Seeds oblong, obovate, compressed. Pappus hairy, about half as long as the florets of the disk. Chaff of the receptacle linear-lanceolate, dark purple, as long as the florets of the disk.

Grows generally in damp pine barrens.
Flowers August—September.


C. foliis ovato-lanceolatis, acutis, denticulatis, subhirtis; floribus corymboso-paniculatis.

Leaves ovate-lanceolate, acute, toothed, somewhat hairy; flowers in corymbose panicles.


With this species, which was described by Pursh from specimens in the Herbarium of Sir Joseph Banks, I am unacquainted.
Grows in Georgia. Bartram.
Flowers—
LEPTOPODA. Nuttall.


Involucrum many leaved, leaves in a double series. Florets of the ray dilated at the summit, 3-cleft. Seeds cylindrical, crowned with a membranaceous pappus, generally 8-leaved. Receptacle convex, naked.

I. PUBERULA. Macbride.

L. caule viscido-pubescente, stricto; foliis alternis, lineari-lanceolatis, semi amplexicaulis, glabris, punctatis, caulinis inciso dentatis; paleis pappi fimbriatis.

Stem viscidly pubescent, striate; leaves alternate, linear-lanceolate, semi amplexicaule, glabrous, dotted, those of the stem notched and toothed; chaff of the pappus fimbriate.


Root perennial. Stem about two feet high, simple, very pubescent towards the summit, fistulous. Leaves alternate, those of the root sometimes a little obovate, generally linear-lanceolate, slightly repand, with an occasional serrature, generally decaying before the expansion of the flower; those of the stem linear-lanceolate, with a few deep indentations. Flower solitary, terminal. Involucrum many leaved, with the leaves arranged in two series, the exterior eighteen to twenty, equal, subulate, pubescent, nearly twice as long as the interior, the interior somewhat lanceolate, pubescent. Florets of the ray numerous, (nearly thirty,) yellow, dilated towards the summit, three to four-cleft; of the disk very numerous, tubular, five-cleft. Stamens rather longer than the florets of the disk. Seed somewhat clavate,
hairy. *Pappus* eight to twelve-leaved, with the leaves membranaceous, fimbriate towards the summit. *Receptacle* convex, dotted.

Grows near the Santee River in damp soils. St. John's, Berkeley. St. James, Santee.

Flowers in April.

2. **Decurrens.** Macbride.

*L. caule* glaberrimo;  *Stem* very glabrous; *foliis* linear-lanceolatis, denticulatis, glabras, decurrentibus;  *leaves* linear-lanceolate, toothed, glabrous, decurrent; *chaff of the pappus* fimbriate.


*Root* perennial.  *Stem* about twelve to eighteen inches high, simple, glabrous, furrowed, not fistulous.  *Leaves* much longer than those of the preceding species, similar but distinctly decurrent, more slightly denticulate.  *Flower* solitary, terminal. *Involucrum* many leaved, in two series; the exterior (eighteen) subulate, a little hairy at the summit, expanding, finally erect, (are these to be considered as scales belonging to the florets of the ray?) *Florets* of the ray eighteen to twenty, cuneate, yellow, pubescent on the outer surface, three-cleft at the summit; of the disk very numerous, with the border five-cleft.  *Stamens* a little longer than the corolla.  *Style* two-cleft; stigma somewhat capitate.  *Seeds* cylindric, glabrous. *Pappus* about eight-leaved, leaves membranaceous, awned, fimbriate. *Receptacle* convex, glabrous, dotted.

Grows in damp soils—along the head branches of Cooper River. Dr. Macbride. In wet pine barrens, Chatham and Bryan counties, Georgia.

Flowers March—April.

As fimbriata, the name applied to one of these plants by Michaux is derived from a generic character applicable to both, and helenium not appropriate, I have taken the liberty of distinguishing these two species by the names given to them by Dr. Macbride, when many years ago he first pointed them out to me as distinct, though hitherto confounded.

**BALDUINA.** Nuttall.

Synogenesis frustranea.

lulosum. Semina in cellulis. Pappus pa-
leis 10, erectis, acutis. | in the cells. Chaff of
the pappus 10, erect, acute.


B. caule unifloro, | Stem one-flowered,
simplici, pubescente; simple, pubescent;
foliis anguste obovatis, leaves narrow, obo-
integerrimis; pappo vate, entire; pappus as
semen æquante. long as the seed.

Nutt. 2. p. 175.

Root perennial. Stem about two feet high, slightly angled. Leaves ob-
 ovate, with an oblong tapering base, dotted, somewhat succulent when young,
pubescent. Involucrum many leaved, leaflets ovate, acuminate, the interior
mucronate, squarrose. Florets of the ray numerous, (nearly thirty,) yellow,
three-toothed at the summit, externally pubescent; of the disk very numer-
ous, tubular, yellow, covered near the summit with a glandular pubescence.
Stamens about as long as the florets of the disk. Style scarcely longer than
the stamens. Seed nearly cylindrical, a little enlarged towards the summit,
hairy. Pappus as long as the seed, if not longer. Scales membranaceous,
erect, generally acute, (surrounded at base by a white, fimbriate, exterior
pappus?) Receptacle convex, deeply honey-comb, the cells somewhat
hexangular, with a denticulate summit, and sufficiently deep to enclose the
seed and its pappus.

Grows in damp soils and along the margins of swamps in the middle
country of Carolina and Georgia.

Flowers July—September.


B? caule ramoso, | Stem branching,
multifloro, glaberrimo; many flowered, gla-
foliis linearibus; invo-
brous; leaves linear;
lucri foliolis acumina-

Stem of the involu-

Nutt. 2. p. 176.
SYNGENESIA FRUSTRANEAE.

Root perennial? Stem two to three feet high, terete, glabrous, with very numerous branches. Leaves linear, almost setaceous, glabrous, alternate, sessile. Flowers terminal, somewhat fastigiate. Involucrum many leaved, imbricate, the leaves narrow ovate, acuminate, equal, covered with glandular atoms and arranged nearly in two series. Florets of the ray small, yellow; of the disk numerous, yellowish. (Anthers bisetose at base, Nutt.) Seed inversely conic, very acute at base, clothed with a glossy silken pubescence, radiated on the summit. Pappus short, expanding, obtuse, almost truncate, the scales fourteen? generally equal to the rays on the summit of the seed. Receptacle nearly globular, cellular, the cells much deeper than the included seed and pappus, somewhat hexagonal, with six acuminate teeth, each of which from its structure is necessarily common to three cells.

Grows in the sand hills along the Altamaha, near Fort Barrington. Flowers in the autumn.

As it is considered incorrect to change names once publicly given, I have continued the name imposed upon this genus, however reluctant the gentleman to whom it is dedicated was to have it preserved. The two species, however, are scarcely congeneres; they differ in habit, in their involucrum, and still more essentially in their seed and pappus. Indeed the bisetose anthers and deep cellular receptacle seem alone to unite them. To the former I had originally given the name of Favosa. The second, as far as imperfect specimens will permit me to describe it, offers the following characters.


When a mature head of this plant is first examined, the seed are seen nestling in the bottom of the cells, exhibiting nothing but their radiated summits, and resembling in a striking manner some of the starry madrepores.

GALARDIA. Fougeroux.


1. Bicolor.


Root perennial. Stem herbaceous, about two feet high, pubescent, sparingly branched, with the branches twiggy and naked. Leaves alternate, sessile, linear-lanceolate, acute, pubescent, with a few serratures, fringed, the hairs of the fringe hooked. Flowers solitary, terminal. Involucrum many leaved, leaves arranged in two series, the exterior (9) reflexed, the interior (12—13) erect, all lanceolate, acute, pubescent. Florets of the ray about eight, dilated at the summit, three-cleft, with the segments unequal, yellow; of the disk numerous, tubular, deeply five-cleft, the segments linear, glandular, at first yellowish, afterwards dark purple. Stamens shorter than the corolla. Anthers yellow. Style of the ray 0; of the disk longer than the stamens, two-cleft. Seeds slightly turbinate, clothed with white hair. Pappus eight or nine leaved, leaves membranaceous, terminating in a long awn, with the awn as long as the corolla. Receptacle conic, glabrous? dotted.

The plant which I have described is certainly the G. Lanceolata of Michaux. I have doubts whether it is the G. Bicolor of Willdenow. Grows in the dry pine barrens in the middle country of Georgia. Flowers May—August.

RUDBECKIA.  Gen. Pl. 1324.

Involucrum subæqual, duplici ordine squamarum. Pappus margine quadridentato. Receptaculum conicum, paleaceum.

* Involucro imbri- * Involucrum imbri- |
cato; paleis receptaculi cato; chaff of the
mucronatis. receptacle mucronate.

1. Purpurea.

R. aspera; foliis inferioribus lato ovatis, Rough; lower leaves wide, ovate, tapering
basi attenuatis, remote at base, remotely too-
dentatis, caulinis lanceolato-ovatis, subintegerrimis, utrinque acuminatis; radiis longis-simis, deflexis, bisidis.   thed, those of the stem lanceolate, ovate, nearly entire, acuminate at each end; florets of the ray very long, deflected, two-cleft.


Root perennial. Stem four to five feet high, sparingly branched, sometimes a little roughened, often smooth. Leaves ovate-lanceolate, slightly acuminate, triplinerved, scabrous on both surfaces, tapering at base to a petiole and varying much in the length of the petiole and the coarseness of the serratures. Flowers large, terminal. Leaves of the involucrum numerous, linear-lanceolate, fringed, imbricate, at least in four or five series, squarrose. Florets of the ray about twelve, purple, two inches long, narrow, two-cleft at the summit, reflected; of the disk numerous, small. Seed four-angled, inversely pyramidal, the summit concave and crenulated. Receptacle convex, chaffy, the chaff narrow, acuminate, nerved, glabrous, longer than the seeds and florets, and with their acute, rigid points forming a hispid capitulum.

This species appears at present to exhibit many varieties. It differs so much in its generic characters, in involucrum, seed, and chaff of the receptacle, from most if not all of the other species of the genus, that it will probably be separated and its distinct varieties established as species.

Grows in the upper and mountainous districts of Carolina and Georgia—in the western districts of Georgia common.

Flowers August—October.

** Involucro subaequali; paleis inermibus.**


R. foliis omnibus pinnatis, pinnis inferioribus interdum bipartitis; pappo integerrimo; caule sulcato hispiduo. Leaves all pinnate, lower segments sometimes 2-parted; pappus entire; stem furrowed, hispid.
SYNGENESIA FRUSTRANEA.


*Flowers* very showy; *florets* of the ray long, bright yellow, hanging downwards; disk ovate, purple. *Pursh.*

Grows in the western parts of Carolina and Georgia. *Pursh.*

*Flowers* July—October.

3. Digitata.

*Digitata.*

Lower leaves pinnate, the segments pinnatifid, the upper simple, pinnate, the highest 3-cleft; pappus crenate; stem smooth.


3. Digitata.

*R. foliis inferioribus pinnatis, pinnis pinnatifidis, superioribus simplicibus pinnatis, summis 3-fidis; pappo crenato; caule laevi.*

Root perennial. *Stem* five to eight feet high, branching, glabrous. *Leaves* thin, slightly scabrous, the segments more or less toothed, generally lanceolate, acute. *Flowers* terminating the branches. *Leaves* of the involucre not numerous, ovate-lanceolate, a little hairy, shorter than the disk. *Florets* of the ray yellow; of the disk numerous. *Seeds* oblong, four-angled, crowned with a short crenate or rather four-toothed margin. Chaff of the receptacle nearly truncate, almost tomentose at the summit, shorter than the seed.

Grows in the mountains of Carolina and Georgia. *Flowers* August—October.

4. Laciniata.

*R. foliis inferioribus pinnatis, pinnis 3-lobis, summis ovatis; pappo crenato; caule glabro.*

Root perennial. *Stem* five to eight feet high, branching, glabrous. *Leaves* of the root and lower stem strictly trifoliate, with the upper foliole three-parted, all lanceolate, acuminate, coarsely toothed, sometimes lacinate, scabrous on the upper surface and along the margins, nearly smooth underneath; upper leaves ovate, nearly sessile, sometimes toothed. *Flowers*
in a loose, terminal, somewhat corymbose panicle. Leaves of the involu-
crum ovate-lanceolate, small, much shorter than the receptacle. Florets of
the ray about six, yellow, obovate, three-toothed; of the disk numerous, yel-
lowish. Seed four-angled, crowned with a crenate margin. Chaff of the
receptacle obtuse, tomentose at the summit.

This species such as I have described it, grows abundantly in the western
districts of Georgia. In a specimen of this plant sent me by Dr. Muhlen-
berg from Pennsylvania, the segments of the lower leaves are all entire,
smaller and but slightly acuminate. Do they belong really to the same
species?

Flowers August—October.

5. Triloba.

R. hispido-pilosa; Hairy, hispid; stem
caule paniculato, ramis paniculate, branches
divaricatis foliosis; fol-
liis lanceolatis, utrin-
que acuminatis, serra-
tis, inferioribus trilo-
bis; involucris squamis
linearibus, deflexis.

178.

Root perennial. Stem four to five feet high, branching, somewhat sca-
brous, and hairy. Lower leaves deeply three-parted, the middle segment
large, lanceolate, serrate, a little hairy; the lateral segments nearly entire; the
base attenuated and very hairy; upper leaves lanceolate, serrate, sessile.
Flowers numerous, on the summits of the branches. Leaves of the involu-
crum linear-lanceolate, reflected, about half as long as the rays. Florets of
the ray about eight, lanceolate, deflexed, yellow, the base and exterior sur-
face becoming deep orange when dry; of the disk numerous, dark purple.
Seed four-angled, crowned with a four-toothed margin. Receptacle conic,
chaff lanceolate, acuminate, longer than the seeds.

Grows in the mountains of Carolina and Georgia. Saluda mountains,
Dr. Macbride.

Flowers August—October.
6. **Tomentosa.**

**R. brevi pubescentia subtomentosa; caule ramoso, ramis erectis virgatis; foliis lanceolatis, acutis, incisodentatis integrisve, scabris, inferioribus trifoliolatis; involucris squamis lineari-lanceolatis, deflexis, radiis multo brevioribus.** E.

Plant-covered with a short tomentum; stem branching, branches erect, virgate; leaves lanceolate, acute, deeply toothed and entire, scabrous, the lower trifoliate; scales of the involucrum linear-lanceolate, deflected, much shorter than the florets of the ray.

R. Subtomentosa, Pursh, 2. p. 575?
R. Triloba, var. Subtomentosa, Mich. 2. p. 144?

**Root** perennial. **Stem** three to four feet high, slightly furrowed, pubescent, bearing very many virgate branches. **Leaves** alternate, sessile, threenerved, scabrous and covered with a fine somewhat tomentose pubescence; the lower nearly trifoliate, having two small lateral leaves at the base; the middle leaflet lanceolate, sometimes deeply notched, sometimes entire; the upper leaves lanceolate, entire. **Leaves** of the involucrum linear-lanceolate, or subulate, tomentose and deflected. **Florets** of the ray about eight, yellow, two-cleft at the summit, three times as long as the involucrum. **Florets** of the disk very numerous, of a brownish yellow. **Seed** four-angled; pappus obsolete, the summit of the seed slightly toothed. **Receptacle** oblong, oval, chaff truncated, longer than the seed, tomentose at the summit.

I am uncertain whether this is the R. Subtomentosa of Mich. and Pursh. It is a very distinct species from the R. Triloba, to which in fact it has no resemblance but in its tripartite leaves.

Grows in the western districts of Georgia.

Flowers August—September.

7. **Mollis.** E.

**R. caule hispido-villoso, ramoso; foliis sessilibus, ovali-lanceolatis, dentatis, mollissime tomentosis; radio mul-**

Stem hispid, villous, branching; leaves sessile, oval-lanceolate, dentate; soft, tomentose; florets of the ray
tifloro, involucro triplo | numerous, thrice as longiore. E.

Root perennial. Plant two to three feet high, very much divided, a little scabrous and clothed with long and somewhat hispid hair. Leaves alternate, sessile, semiamplexicaule and slightly cordate, villous near the base, tomentose on both surfaces, the lowest probably spatulate. Flowers terminal. Scales of the involucrum lanceolate, expanding, or deflected, very hairy. Florets of the ray twelve to twenty, lanceolate, two-cleft at the summit, yellow; of the disk very numerous, dark purple. Seeds four-angled, the margin obsolete or slightly four-toothed. Receptacle convex, chaff concave, linear-lanceolate, as long as the florets of the disk, externally tomentose near the summit; among the exterior rows of the chaff setaceous bristles longer than the seed are also interposed.

Grows in the western districts of Georgia. Flowers August—October.

8. LÆVIGATA. Pursh.

R. undique glaber-rima; foliis ovato-lanceolatis, utrinque acuminatis, triplinervibus, parce dentatis; involucris squamis lanceolatis, longitudine radii. Everywhere smooth; leaves ovate-lanceolate, acuminate at each end, triplinerved, sparingly toothed; scales of the involucrum lanceolate, as long as the ray.


Leaves sub-coriaceous, very smooth and lucid, those of the root spatulate ovate, obtuse, those of the stem not acuminate. Peduncles few, long, naked. Flowers fastigiate, disk oblong. Nutt. Florets of the ray pale yellow, short. Pursh.

Grows in the pine barrens of Georgia. Flowers—

9. DISCOLOR.

R. ramis corymbo-sis, unifloris, pedunculis nudis, elongatis; fo-

Branches corymbose, 1-flowered, peduncles naked, long; leaves
liis lanceolatis, strigosso-pilosis, subintegererrimis, involuci foliolis ovatis, acutis, petalis lanceolatis, integerrimis, discoloribus, longitudine involucri.

Pursh, 2. p. 574.

I know not whether the plant I am about to describe be the real R. Discolor of Pursh; it has many points of resemblance.

Plant about two feet high, a little hairy, with a few long, slender naked branches. Leaves alternate, sessile, spathulate-lanceolate, triplinerved, finely and sparingly denticulate, sprinkled like the stem with very short hair, sometimes slightly cordate at base. Flowers few, small, terminal. The leaves of the involucrum oval, rather obtuse, a little hairy. Florets of the ray twelve to fourteen, lanceolate, two-cleft at the summit, externally hairy, scarcely longer than the involucrum; of the disk very numerous, dark purple. Seeds four-angled; the pappus a slight margin. Receptacle convex, chaff oblong, keeled, dark purple and fringed at the summit. The florets of the ray in this plant are trilobed and have, at least when dry, their bright yellow, the base or under surface dark orange.

To the preceding species this has great affinity, but it is altogether less hairy, its leaves are fewer, smaller, and more finely denticulate, its branches summits fewer, more slender, and naked.

Grows in the western districts of Georgia.

Flowers August and September.


R. gracilis, pubescent; caulibus unifloris, foliis obovato-spathulatis, integerrimis, involucro patulo, imbricato; radiis tridentatis.

Slender, pubescent; stem one-flowered; leaves obovate spathulate, entire; involucrum expanding, imbricate; florets of the ray three-toothed.


A very small slender plant minutely pubescent. Mich.


Flowers July—September.
11. **Radula.** Pursh.

*R. caule inferne hispido, superne glabo, nudiusculo; pedunculis longissimis unifloris; foliis ovatis, attenuatis, tuberculatis, hispidis; involucris imbricatis, squamis ovatis, acuminatis, ciliatis.*

**Pursh, 2. p. 575. Nutt.**

Described by Pursh from specimens in the Herbarium of Sir Joseph Banks.

Collected in Georgia by Bartram.

12. **Fulgida.**

*R. caule hispido, rami virgatim elongatis, unifloris; foliis oblongo-lanceolatis, denticulatis, hispidis, basi angustatis, subcordatis; involucris squamis radii- um subæquantibus; palæis lanceolatis.*


**Root perennial. Stem** two to three feet high, bearing many branches, hispid. *Leaves* numerous, alternate, sessile, somewhat amplexicaule, triplinerved, hispid. Leaves of the *involucrum* lanceolate, hispid, somewhat foliaceous, the exterior the largest. *Florets* of the ray twelve to fourteen, lanceolate, two-cleft at the summit, externally hairy, scarcely longer than
the involucrum; of the disk very numerous, dark purple. Seed four-angled. 

_Pappus_ a slight margin. _Receptacle_ convex, chaff lanceolate, glabrous, with purple summits, nearly as long as the florets of the disk.

Grows in mountain meadows from Pennsylvania to Carolina, Pursh. In the western districts of Georgia.

Flowers August—October.

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### 13. _Hirta._

**R. hirsutissima; caulibus virgatis, subramosis, unifloris; foliis spathulato-lanceolatis, triplinervibus, serratis, hirtis; involucris squamis triplici serie imbricatis, radio brevioribus; paleis obovatis, acutis.**

Very hirsute; stem virgate, sparingly branched, 1-flowered; leaves spathulate, lanceolate, triplinerved, serrate, hirsute; scales of the involucrum imbricate in a triple series, shorter than the ray; chaff obovate, acute.

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_Sp. pl. 3. p._  
_Walt. 214._  
_Mich. 2. p. 143._  
_Pursh, 2. p. 574._  
_Nutt. 2. p. 178._

**Root** perennial. **Stem** two to three feet high, generally undivided, scabrous, hairy. **Leaves** alternate, sessile, semiamplexicaule, the lower spathulate-lanceolate, the upper lanceolate and ovate, all very hirsute. **Flowers** solitary, terminal. **Involucrum** many leaved, the leaves narrow lanceolate, hairy, the interior the smallest. **Florets** of the ray about fourteen, yellow, obliquely two-cleft at the summit, hairy, twice as long as the involucrum; of the disk very numerous, dark purple. **Seed** four-angled. **Pappus** obsolete. **Receptacle** conic, chaffy; chaff oblong, fringed and purple at the summit, hairy, as long as the florets of the disk.

Grows in dry sandy soils.

Flowers June—September.

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### 14. _Aristata._ Pursh.

**R? caule hispidio, ramosis elongatis, corymbosis, unifloris; foliis**

Stem hispid, branches long, corymbose, unifloris; leaves lan-
lanceolato-oblongis, serratis, hispidis; disco subhemisphærico; palesis pappi subulatis, aristatis.  

| lanceolate-oblong, serrate, hispid; disk nearly hemispherical; chaff of the pappus subulate, awned. |

Pursh, 2. p. 574.  
Nutt. 2. p. 178.  

Flowers small, deep yellow. Pursh.  
Described by Pursh from specimens in the Herbarium of Sir Joseph Banks.  
Collected in Carolina by Bartram.  
Can it really belong to this genus?

CENTAUREA.  
Gen. Pl. 1331.

Involucrum varium.  
 radii corollæ infundibuliformes, irregulares.  
Pappus pilosus.  
Receptaculum setosum.  

| Involucrum various.  
Florets of the ray funnel-shaped, irregular.  
Pappus hairy. Receptacle bristly. |

1. Benedicta.

C. involucri squamis duplicato-spinosis, lanceatis, bracteatis; foliis semi - decurrentibus, denticulato spinosis.  

| Scales of the involu- 

Crum doubly armed 

with spines, woolly, 

with bracteal leaves at 

base; leaves somewhat 

decurrent, toothed and 

spiny. |

Sp. pl. 3. p. 2315.  
Nutt. 2. p. 183.  

Annual?  
Stems prostrate, six to twelve inches long, sparingly branched, very villous or woolly.  
Leaves sessile, pinnatifid, rugose, villous, segments acute, the lower sometimes runcinate.  
Flowers solitary, terminal, surrounded by the terminal leaves.  
Involucrum ovate, imbricate, the scales lanceolate, glabrous, terminating in a compound pectinate spine.  
Florets all tubular, those of the ray slender, three-cleft, those of the disk five-cleft, one incision very deep.  
Styles of the fertile florets longer than the corolla, two-
cleft; of the sterile shorter, undivided. *Seed* of the ray abortive; of the disk oblong, slightly curved, finely striate, crowned apparently with a triple pappus, the exterior a ten-toothed margin, the intermediate composed of ten or twelve awns as long as the seed, rigid, serrate, the interior of an equal number of short hairy awns. *Bristles* of the receptacle longer than the seeds.

An exotic now naturalized; not uncommon in dry sandy pastures along the sea-coast; around Beaufort.

Flowers in April.

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**SYNGENESIA NECESSARIA.**

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**CHAPTA LIA.**  Ventenat.

*Receptaculum nudum. Pappus capillaris. Flosculi radii in duplici serie diffomes, foeminei, fertiles; disci, masculi, bilabiat.i. Involucrum subimbricatum.*

*Receptacle naked. Pappus capillary. Florets of the ray dissimilar, in a double series, female, fertile; of the disk masculine, two-lipped. Involucrum somewhat imbricate.*


*C. foliis oblongo-lanceolatis obovatis-que, retrorose denticulatis, subtus argenteotomentosis; scapo nudum, unifloro, floribus nutantibus.*

Leaves oblong lanceolate and obovate, retrorsely denticulate, tomentose and silvery underneath; scape naked, 1-flowered, flowers nodding.
Nutt. 2. p. 182.  
Perdicium Semiflosculare, Walt. p. 204.

Root somewhat tuberose, perennial. Leaves oblong, lanceolate, sometimes obovate, with fine retrorse denticulations, which, in the mature leaf are nearly obsolete, green and glabrous on the upper surface, covered with a white very dense cottony tomentum underneath. Scapes several from each root, six to ten inches long, tomentose, one-flowered; the flowers at first nodding, becoming erect as the seed matures. Calyx imbricate. Scales linear-lanceolate, appressed, clothed with a ferruginous tomentum, except the midrib which is glabrous. Exterior florets of the ray 16 to 20, glabrous, white on the interior surface, purple on the outer; just within these is a second series of female florets with long styles and only the rudiment of the corolla. Florets of the disk sterile, bilabiate, one lip broad, reflexed, slightly three-cleft, the other lip deeply two-cleft, with the segments revolute. Seed of the fertile florets oblong, striate, glabrous.

Grows in damp pine barrens.

Flowers March—April.

SILPHIUM.

Involucrum foliaceum, squarrosum. Semina compressa, obcordata, emarginata, bidentata. Receptaculum paleaceum.*

* Gummiferum. E.

S. caule erecto, hispido, gummifer; folis sinuato pinnatifidis, subtus subhispidis; floribus majusculis, axillaribus subsessilibus; involucris squamis ovatis, acuminatis, margine hispidis. E.

Stem erect, hispid, bearing gum; leaves sinuate, pinnatifid, underneath somewhat hispid; flowers large, axillary, nearly sessile; scales of the involucrum ovate, acuminate, hispid along the margin.

Root perennial? Stem two to three feet high, robust, very hispid and rough, exuding whenever wounded a terebinthine gum, so abundant that it sometimes I am told almost encrusts the plant. Leaves sinuate, pinnatifid, hispid on the under surface, particularly along the veins, the segments very acute, and generally more remote and incised than in the other pinnatifid species. Flowers larger than those of any other species in this genus that I have seen, axillary, on short squarroso peduncles. Scales of the involucrum
1. *Laciniatum.*

*S. caule superne hispidum; foliis radicalibus caulinosque pinnatifidis, laciniis dentato sinuatis; floribus paniculatis; involucri foliolis subcordatis acuminatis.*

Stem hispid towards the summit; leaves of the root and stem pinnatifid, the segments toothed and sinuate; flowers in panicles; scales of the involucrem somewhat cordate, acuminate.


*Root* perennial. *Stem* eight to twelve feet high, simple, smooth near the base, towards the summit rough and hispid. *Leaves* alternate, petiolate, about two feet long and one wide, amplexicaule at base, pinnatifid, segments distant, toothed and sinuate, scabrous. *Scales* of the involucrum ten, terminating in a subulate point. *Florets* of the ray about thirty, as long as the involucrum, yellow as in all the species of this genus. *Florets* of the disk numerous. *Seeds* emarginate, with two small awns.

This plant belongs to the Mississippi and a few of its tributary streams. It has been reported to me as growing in the western districts of Georgia and among the Alleghany mountains. No plant, however, that I have seen belongs properly to the species as described by Linnaeus, unless the following should be considered as one of its varieties.

Flowers August to October. Pursh. More probably from June to August.

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ovate acuminate, the outer ones fringed or hispid along the margins. *Florets* of the ray sixteen to twenty, perhaps twenty-four; of the disk numerous. *Seed* compressed, dilated, slightly winged, crowned with two subulate, very acute teeth.

Grows in the prairies of the Alabama.

Flowers from June to August.

I have introduced this remarkable species in a note, because I know not whether it has ever been found within the limits assigned to this work. The prairies of the Alabama in which this plant is found, commence within a few miles of the western frontier of Georgia, and this appears to be almost exclusively a prairie plant.
2. Pinnatifidum. E.

S. caule glabriusculo; foliis sinuato-pinna-tifidis, subscabris, sub-tus parce pilosis; invo-lucri squamis ovalibus, exterioribus rotunda-tis. E.

Stem somewhat glabrous; leaves sinuate, pinnatifid, somewhat scabrous, a little hairy underneath; scales of the involucrum oval, the exterior nearly round.

Stem four to six feet high, smooth and glabrous even among the branches. Leaves large, sinuate, pinnatifid, the summits of the segments generally acute, the upper surface nearly glabrous, the under surface slightly scabrous, sprinkled with a few short hispid hairs. Flowers large, not numerous, scattered in a loosely branching panicle. Scales of the involucrum imbricate, glabrous, the exterior circular, the interior oval, obtuse. Florets of the ray about as long as the involucrum. Seeds winged, obovate, emarginate.

Grows in the western districts of Georgia, and particularly in and around the prairies of the Alabama. Flowers July to August.


S. caule lævi; foliis cauliniis sinuato-pinna-tifidis, radicalibus ter-natis, sinuato-multifi-dis; floribus parvis, pa-niculatis.

Stem smooth; leaves of the stem sinuate, pinnatifid, of the root ternate, sinuate, many cleft; flowers small, paniculate.


S. Laciniatum, Walt. p. 217.

Root perennial. Stem two to four feet high, simple, nearly glabrous. Leaves much smaller than those of the preceding species, irregularly sinuate and lobed, sometimes pinnatifid, glabrous on the upper surface, sprinkled with hairs on the under surface and along the margin. Flowers small, in a terminal, somewhat corymbiform panicle. Scales of the involucrum ovate,
SYNGENESIA NECESSARIA.

rather obtuse, slightly fringed. Florets of the ray scarcely exceeding twelve, nearly an inch long.

I suspect that some genuine species among the sinuate-leaved Silphiums are yet undefined.

Grows in dry pine barrens.

Flowers May—August.


S. caule lævi; foliis radicalibus amplis, rotundato vel reniformis, sublobatis, dentatisque, caulinis alternis, ovatis, serratis, scabris; panicula compo'sita, multiflora.

Stem smooth; leaves of the root large round or reniform, cordate, slightly lobed and toothed, of the stem alternate, ovate, serrate, scabrous; panicle compound, many flowered.


Stem erect, four to five feet high, glabrous. Root leaves deeply cordate, oblong or round, toothed, when luxuriant slightly lobed along the margin. Flowers more numerous than usual in this genus, in large scattered corymbose panicles. Scales of the involucrum nearly ovate, the exterior rather acute, the interior generally obtuse. Florets of the ray ten to twelve, about an inch long.

This species appears subject to some variations. In specimens sent me by Dr. Schweinitz from Salem, North-Carolina, the root leaves were nearly reniform, simply toothed and very scabrous underneath. In specimens collected in the western districts of Georgia and Alabama, where it appears to be more luxuriant, the leaves were lobed and angled, and nearly glabrous underneath. In the flowers I can perceive no difference.

Grows along the mountains.

Flowers July—August.

*S. caule tetragono, lævi; foliis oppositis, ovatis, serratis.*

S. caule tetragono, lævi; foliis oppositis, ovatis, serratis.

Stem four-angled, smooth; leaves opposite, connate, ovate, serrate.


Stem about six feet high, four-angled, smooth. Leaves opposite, ovate or deltoid, serrate, opposite and perfoliate with decurrent petioles, the upper sessile, very broad, perfoliate. Peduncle terminal and from the axil of the highest leaves. Involucrum squarrose, scales obtuse. Florets of the ray twenty-four. Lin.

Grows in the mountains, Pennsylvania to Carolina. Pursh.

Flowers July to October.


*S. caule tereti, hispido; foliis oppositis, connatis, remote serratis, scabris.*

S. caule tereti, hispido; foliis oppositis, connatis, remote serratis, scabris.

Stem terete, hispid; leaves opposite, connate, remotely serrate, scabrous.


Stem about six feet high, erect, simple, terete, (obscurely angled near the base,) scabrous with deflected hairs. Leaves opposite, connate perfoliate, ovate oblong, sessile, (not united by perfoliate petioles as the S. Perfoliatum) scabrous, rather acute, serrate. Panicle terminal, dichotomous. Involucrum squarrose, the scale ovate, obtuse, smooth, reflected at the summit. Florets of the ray twelve. Lin.

I have used the description given by Linnaeus of this and the preceding species, because I had no specimens on which I could depend, or rather which agreed with the Linnaean plant.

Grows on the high mountains of Carolina, Pursh.

Flowers August—September.
7. **Integrifolium.** Mich.

S. caule tetragono, aspero; foliis oppositis, sessilibus, oblongis, integerrimis, scabris; floribus paucis, breviter pedunculatis.


Stem square, rough. Leaves all uniform, opposite, sessile, erect, oblong, oval, very scabrous on the upper surface. Flowers few, on short peduncles. Mich. From the mountains of Carolina Dr. Macbride brought specimens nearly allied to this species, differing in a few particulars. Stem nearly terete, glabrous, the peduncles slightly angled. Leaves oblong, ovate or oval, acute, entire, scabrous on both surfaces, on short somewhat connate petioles. Flowers not numerous. Scales of the involucrium oblong, ovate, glabrous, slightly fringed, all nearly of one length. Florets of the ray fourteen, rather more than an inch long, of a very brilliant yellow.

The original S. Integrifolium of Mich. was collected in the state of Illinois and may be distinct.

Flowers August—September.

8. **Lævigatum.** Pursh.

S. caule simplici, tetragono, sulcato, glabro; foliis oppositis sessilibus, ovatis, acuminatis, tenuissime serratis, basi subcordatis, utrinque glabratis; involucri squamis ovatis, ciliatis.


Stem simple, 4-angled, furrowed, glabrous; leaves opposite, sessile, ovate, acuminate, very slightly serrate, somewhat ciliate at base, glabrous; scales of the involucrum ovate, ciliate.

The plant I am about to describe agrees in so many respects with this species, that it probably belongs to it. For the differences it will perhaps be easy to account.
Syngenesia Necessaria.

Stem about two feet high, slightly angled, glabrous. Root leaves oblong lanceolate, on petioles one to two inches long. Lower stem leaves oval lanceolate, on short petioles which are connate at base; the upper closely sessile, ovate, the highest almost cordate, all glabrous, slightly acuminate, finely fringed and all but the uppermost serrate. Flowers rather small, in a somewhat compact corymb. Scales of the involucrum ovate, ciliate, the exterior much smaller than the interior, rather acute. The leaves of this species are intensely bitter.

Pursh's description was made from plants collected by Mr. Enslen in Georgia between Savannah and Louisville. My specimens were collected in the western districts of Georgia.

Flowers August—September.

9. Scaberrimum. E.

S. caule subangulato, angulis superne scabris; foliis ovatis, sub-acuminatis, serratis, rigidis, utrinque scaberrimis, breviter petiolatis; floribus subcorymbosis; involucris ovatis, ciliatis.

E.

Stem somewhat angled, the angle rough towards the summit; leaves ovate, slightly acuminate, serrate, rigid, scabrous on both surfaces, on short petioles; flowers corymbose; scales of the involucrum ovate, ciliate.

Stem three to four feet high, very robust, angled when young, becoming terete and glabrous when old. Leaves on short petioles which as usual in this genus, are somewhat connate, three to four inches long, rather more than two wide, acutely serrate, resembling those of a rough leaved Helianthus. Flowers in a somewhat compact corymb. The exterior scales of the involucrum comparatively small, rather acute, scarcely scabrous. Florets of the ray twelve to fourteen, about an inch long. Seed nearly circular, winged, deeply emarginate.

Grows in the western districts of Georgia.

Flowers August—September.


S. caule 6-angulato, laevi; foliis terno verticillatis, ovato-lanceo-

Stem six-angled, smooth; leaves verticillate by threes, ovate-
latis, inæqualiter dentato serratis, supra scabris, superioribus sessilibus; panicula trichotoma.

lanceolate, unequally toothed and serrate, scabrous on the upper surface, the upper ones sessile; panicle trichotomous.

S. Ternifolium, Mich. 2. p. 146.

Stem four to six feet high, slightly angled, glabrous, generally purple. The upper leaves generally sessile, the middle and lower ternate, on short petioles, all ovate-lanceolate, serrulate, tapering to an acute point, slightly scabrous and sprinkled with hair on the upper surface, glabrous and reticulately veined on the under. Flowers in a terminal corymb. Scales of the involucrum ovate, rather acute, ciliate, loosely appressed. Florets of the ray about fourteen, about an inch and a half long, bright yellow.

Grows in the mountainous districts of Carolina and Georgia.

Flowers August—October.

11. Ternatum.

S. caule tereti, lævi; foliis terno-verticillatis, petiolatis, lanceolatis, subdenticulatis, scabriusculis, basi ciliatis, superioribus sparsis, sessilibus; panicula dichotoma; calycibus ciliatis.

Stem terete, smooth; leaves verticillate by threes, petiolate, lanceolate, slightly toothed, ciliate at base, somewhat scabrous, the upper ones scattered, sessile; panicle dichotomous; the calyx fringed.


Stem four to six feet high, slightly angled, glabrous. Leaves nearly sessile, all narrow lanceolate, very acute, denticulately or sometimes acutely serrate, a little hairy and scabrous on the upper surface, the under reticulately veined and hairy along the midrib and larger veins. Flowers in a loose terminal corymb. Scales of the involucrum ovate, rather acute, ciliate, loosely appressed. Florets of the ray twelve to fourteen, about an inch and a half long.

I am not satisfied that I have accurately understood these two last species, nor as far as my specimens are concerned that they are sufficiently distinct.
but the leaves of the former are ovate, while in the latter they are narrow-lanceolate, more pubescent underneath, and the corymb more diffuse.

Grows in the mountainous districts of Carolina and Georgia.

Flowers August—October.


S. caule tereti, lævi; foliis subquaterno-verticillatis, lanceolatis, scabris, subintegerrimis, subsessilibus, basi ciliatis, superioribus sparsis; panicula dichotoma.

Stem terete, smooth; leaves verticillate by fours, lanceolate, scabrous, nearly entire and sessile, ciliate at base, the upper ones scattered; panicle dichotomous.


Stem about four feet high, dark purple, somewhat densely clothed with leaves; the lowest leaves alternate, the next ternate, then quaternate or rather in approximating pairs; the uppermost scattered, all lanceolate, denticate, scabrous, with the midrib dark purple, on short fringed petioles. Florets of the ray very narrow.

This species I have not seen; it is considered by Mr. Nuttall as a variety of the preceding.

Grows in Carolina and Georgia, Pursh.

Flowers August—September.

13. Dentatum. E.

S. caule erectum, subglabro; foliis inferioribus oppositis, superioribus alternis, omnibus lanceolatis, sinuato-dentatis, pilosis, scabris; floribus corymbosis; involucris squamis lato-ovatis, ciliatis.

Stem erect, somewhat glabrous; lower leaves opposite, the upper alternate, all lanceolate, sinuate, toothed, hairy, scabrous; flowers in corymbs; scales of the involucrum broad, ovate, ciliate.
Stem two to three feet high, slightly furrowed, generally glabrous. Upper leaves sessile, the lower on short petioles, irregularly and coarsely toothed, sometimes slightly sinuate and veined along the margin, hairy and scabrous on both surfaces. Flowers in a small terminal corymb. Scales of the involucre ovate, broad, handsomely fringed. Florets of the ray about ten, nearly elliptic, scarcely an inch long.

This is nearly allied to S. Astericus, but it seems sufficiently distinct by its glabrous stem and its corymbose and smaller flowers; its leaves too appear to be more rigid and perhaps less scabrous on the under surface. Grows in the western districts of Georgia. Flowers August—September.


S. caule simplici, tereti, hispido; foliis oppositis alternisve, oblongis, acutis, serratis, scabris; floribus paucis, plerumque solitariis.


Stem two to three feet high, terete, very hispid. Leaves all lanceolate, acute, serrate, sometimes coarsely dentate, scabrous, and somewhat hispid on both surfaces; the lower on short petioles, generally opposite; the upper alternate, sessile, sometimes all alternate. Flowers never numerous, frequently solitary, terminal. Scales of the involucre ovate, the exterior acute. Florets of the ray eight to ten.

Grows in dry sandy soils. Flowers June—August.


S. caule petiolisque tomentosis; ramis unifloris; foliis alternis, cordato-ovatis, serratis, petiolatis, subtus albo tomentosis; seminibus muticis.

Stem and petioles tomentose; branches one-flowered; leaves alternate, cordate, ovate, serrate, petiolate, white and tomentose underneath; seeds unawned.
S. Tomentosum, Pursh, 2. p. 579.

Stem two to three feet high, erect and procumbent, terete, covered like the underside of the leaves with a white tomentum. Leaves oblong, acute, irregularly toothed, conspicuously veined, the upper surface green, pubescent, the uppermost simply ovate. Flowers few, in an irregular corymb. Scales of the involucrum eight to ten, ovate, tomentose, imbricate. Florets of the ray eight to ten, rarely exceeding an inch in length, pubescent on the outer surface; of the disk numerous, dark purple. Seed obovate, crowned when young with two deciduous setaceous awns.

Grows in the high dry pine barrens in the middle country. Flowers July—August.


S. foliis alternis, petiolatis, cordatis, sinu- | Leaves alternate, petiolate, cordate, sin-
atus; involucri squamis obtusis. | uate; scales of the involucrum obtuse.

Pursh, 2. p. 579.

Grows in Carolina. Pursh.


S. foliis alternis, ovato-lanceolatis, cor- | Leaves alternate, ovate-lanceolate, cor-
datis, serratis, obtusi- | date, serrate, rather usculis, villosiusculis.

Pursh, 2. p. 579.

These two species with which I am unacquainted, and which are very imperfectly distinguished, were described by Pursh from specimens in the Herbarium of Sir Joseph Banks. They were probably collected by Bartram (to whom the Botanists of the last century were indebted for a knowledge of many of our plants) on the confines of Georgia, Florida, and Alabama, the country of the Helianthus, the Silphium, the Rudbeckia, and perhaps I may add of the Solidago.
POLYMNIA. Gen. Pl. 1335.

Involucrum duplex; exterius 4—5 phyllum; interius 10-phyllum, foliolis concavis. Receptaculum paleaceum. Pappus nullus.

1. CANADENSIS.

P. viscido-villosa; foliis denticulatis acuminate, inferioribus pinnatifidis, superioribus trilobis, integris.


Stem two to four feet high, villous, somewhat scabrous. Leaves somewhat ovate, thin, slightly scabrous, finely serrate, the upper entire in the outline, the lower becoming deeply lobed and pinnatifid. Flowers in a loose terminal panicle. Peduncles and scales of the involucrum very viscid and villous. Florets of the ray ten, small, yellow.

Grows in the mountains of Carolina, Dr. Macbride.

Flowers July—September.

2. UVEDALIA.

P. foliis oppositis, trilobis, acutis, in petiolum decurrentibus, lobis angulosi-sinuatis; radiis elongatis.

Leaves opposite, 3-lobed, acute, attenuated to a petiole, lobes angled and sinuate; florets of the ray long.


Root perennial. Stem three to five feet high, terete, slightly sulcate, villous, scabrous, branches generally ternate. Leaves opposite, sometimes
ternate, hairy, scabrous, ovate, three to five lobed, tapering at base into a petiole with sinuate wings two to three inches long. Flowers in a loose terminal panicle, the branches opposite or ternate. Exterior scales of the involucrum much larger, the interior ovate, ciliate, somewhat scabrous, the interior lanceolate, acuminate, villous, embracing the germs, and forming in fact only the exterior series of the scales of the receptacle. Florets of the ray ten, lanceolate, three-toothed, yellow, about an inch long; of the disk very numerous. Seeds nearly spherical, somewhat compressed, glabrous. Receptacle flat, chaffy.

Grows in dry soils—in old pastures common.

Flowers June—August.

CHRYSOGONUM. Gen. Pl. 1337.


GYMNOSTYLES. Jussieu.

Calyx polyphyllus | Calyx many leaved ordine simplici. Flos-culi foeminei apetali. | in a simple series. Female florets apetalous.
Semina compressa, apice subdentata, stylo persistente aristata. Seeds compressed, slightly toothed on the summit, awned with the persistent style.

1. Stolonifera?

G. herbacea, procumbens, repens, glabra; foliis pinnatifidis, floribus ad radicem sessilibus. Herbaceous, procumbent, creeping, glabrous; leaves pinnatifid; flowers sessile at the root.

Nutt. 2. p. 134.


Root perhaps perennial, shooting out short runners (stolones) on all sides just under the surface of the ground, which produce new plants; each plant bearing five to six radical leaves and one sessile capitulum in the centre of the leaves. Leaves small, pinnatifid, with the segments linear and sometimes toothed, somewhat succulent and sprinkled with soft cottony hairs, the petiole-like base of the leaves four to eight lines long. Involucrem twelve to sixteen leaved, in a simple series; leaflets oblong, rather obtuse, hairy. Sterile florets in the centre of the capitulum, corolla funnel shaped, very slender, anthers closely united. Female florets in the circumference, corolla and stamens 0, germ dilated and woolly at the summit, margined. Style long, incurved, slightly two-cleft. Receptacle naked. Seed inversely wedge-shaped, crowned with the persistent style, winged, margin corrugate.

R. Brown is disposed to consider Gymnostyles as only a section of the genus Soliva. The character of that genus, however, as given in Persoon, must be reformed before it can include this plant.

Grows in damp sandy soils. On Harleston’s Green, Charleston. Mr. Middleton’s, Ashley River. Mr. Pinckney’s, Ashepoo. Flowers February—May.

PARTHENIUM. Gen. Pl. 1428.

1. **Integrifolium.** Lin.

P. foliis oblongis, inaequaliter dentatis, asperis, superioribus amplexicaulis.

Leaves oblong, unequally toothed, rough, the upper ones amplexicaule.


Root perennial. Stem one to two feet high, striate, slightly scabrous. Leaves alternate, ovate-lanceolate, sessile, the upper amplexicaule, toothed, very scabrous on both surfaces. Flowers numerous in a terminal corymb. Scales of the involucrum five-leaved, villous. Florets of the ray five, very small; of the disk numerous, tomentose. Seed obovate. Receptacle chaffy. (The five external scales of the receptacle very broad, shielding the same number of minute radial florets, each connected at the base with two masculine sheathed florets, Nutt.)

Grows in dry soils, in the middle and upper districts of Carolina and Georgia.

Flowers June—September.

**IVA. Gen. Pl. 1429.**


1. **Frutescens.** Lin.

I. fruticosa; foliis oppositís, lanceolatis, profunde serratis, subscabris; capitulis depressis capitate globosis.

Shrubby; leaves opposite, lanceolate, deeply serrate, slightly scabrous; heads globular depressed.
A shrub three to eight feet high, with very numerous opposite branches and leaves. Stem slightly furrowed, when young somewhat scabrous and pubescent. Leaves three-nerved, slightly scabrous with a somewhat dotted and uneven surface, of a greyish hue, attenuated at base into a short petiole. Flowers axillary, frequently in pairs, deflected, in simple axillary racemes forming together a large terminal panicle. Involucrum five-leaved, the leaves nearly round, viscidly pubescent. Fertile florets five in the circumference. Corolla very small, tubular, generally two? cleft. Style two-cleft, longer than the corolla. Stigmas obtuse. Male florets in the centre of the disk six to seven. Corolla longer than the involucrum, five-cleft, tinged with purple, stamens five, growing from the base of the corolla. Germ and Style very small, abortive. Seed abortive, naked. Bristles of the receptacle as many as the florets, as long as the corolla.

Grows along the seacoast in the vicinity of salt water—very common. Flowers July—September.

2. Imbricata. Walt.

I. perennis, glabra; foliis lineari-lanceolatis, cuneatis, carnosis, superioribus alternis integerrimus; involucris imbricatis; receptaculi paleis spathulatis. E.

Perennial, glabrous; leaves linear-lanceolate, cuneate, succulent, the upper alternate and very entire; involucrum imbricate; chaff of the receptacle spatulate.


Root perennial. Stem annual, terete, slightly angled towards the summit, when young green, afterwards dark purple. Leaves sessile, succulent, three-nerved, generally alternate, the lower sometimes opposite, and sometimes coarsely toothed. Flowers axillary, forming simple racemes towards the summit of the branches, pendulous. Scales of the involucrum six to nine, imbricate, nearly round, carnose, veined, the margin membranaceous and crenately lacerate. Fertile florets two, the corolla very minute, five-parted (sometimes appearing multifid) at the summit. Style twice as long as the corolla; stigmas simple. Male florets numerous. Corolla as long as the involucrum, white. Anthers approximate not united. Seeds slightly compressed, dark purple. Chaff of the receptacle as long as the involucrum, narrow spatulate, crenulate at the summit.

Grows among the drifting sand hills along the margin of the ocean. Flowers July—October.
AMBROSIA. Gen. Pl.

Monoica. Floris masculi—involucrum 1 phyllum, hæmisphæricum, multiflorum; antheræ approximate non coalitæ; receptaculum nudum. Flor. foem. — involucrum 1 phyllum, sub integer aut 5 dentatum; 1-florum; corolla nulla; styli 2; nux e calyce indurato, 1-sperma.

Monoecious. Male florets—involucrum 1-leaved, hemisphærical, many flowered; anthers approximate not united; receptacle naked. Female florets—involucrum 1-leaved, entire or 5-toothed, 1-flowered; corolla 0; styles 2; nut formed from the indurated calyx, 1-seeded.

1. Trifida. Lin.

A. hirsuta, aspera; foliis 3-lobis, serratis, lobis ovali-lanceolatis, acuminatis; fructu infra apicem 6-spinoso.

Hirsute, rough; leaves 3-lobed, serrate, the lobes oval-lanceolate, acuminate; fruit 6-spined below the summit.


Plant annual, four to eight feet high. Stem hairy, and scabrous. Leaves generally opposite, rather large, deeply three-cleft, hairy and scabrous, the segments lanceolate, acuminate, serrate. The flowers as in all of this genus may be considered as in large terminal panicles composed of axillary and terminal spikes. The heads of male florets numerous, solitary, somewhat crowded along the summit of the spike; the fertile florets in small clusters of two to five at the base, surrounded by two or three bracteal leaves. Involucrum of the male florets one-leaved, five to eight lobed, hairy. Corolla small, tubular, white. Stamens distinct. Involucrum of the fertile florets five-lobed, persistent, germ somewhat obovate, abruptly acuminate. Styles two, distinct. Nut one-celled, one-seeded, formed of the indurated involucrum, crowned with six short spines or teeth surrounding the acuminated summit.
2. **Elatior.** Lin.

A. foliis bipinnatifidis, glabriusculis; petiolis longe ciliatis; racemis terminalibus; caule virgato.  

Leaves bipinnatifid, nearly glabrous; petiole conspicuously fringed; racemes terminal; stem virgate.


Stem four to seven feet high, when young pubescent. Upper leaves alternate, the lower sometimes opposite, all bipinnatifid with segments acute, somewhat hairy. Flowers in paniculate racemes. Heads of the male florets globular; involucrum sprinkled with hairs, slightly and irregularly lobed; corolla white. Fertile florets in small distinct clusters; styles two. Nut crowned with six short spines.

Grows in pastures and rich soils, in the upper districts of Carolina and Georgia.

Flowers July—September.

3. **Artemisifolia.** Lin.

A. foliis bipinnatifidis, subtus canescentibus, summis pinnatifidis; racemis ternis, terminalibus; ramis fastigiatis.  

Leaves bipinnatifid, hoary underneath, the uppermost pinnatifid; racemes by threes, terminal; branches fastigiate.


Stem four to six feet high, branching and with the leaves a little pubescent. Leaves sometimes opposite at base, alternate towards the summit, generally bipinnatifid, the segments larger and more distant than in the preceding species, nearly glabrous on the upper surface, pubescent and hoary underneath; racemes scattered, loosely paniculate. Heads of male florets small, globular; female florets remote, axillary; sessile. Spines of the fruit very short, acute.

Grows in the mountains of Carolina, Mich.

Flowers August—September.
4. **Paniculata.** Mich.

_A. caule ramosissimo, superne paniculato, petiolisque villosis; folii utrinque viridibus bipinnatifidis, laciniiis lanceolatis; fructibus aggregatis, pusillis, globoso-obovatis, subinermibus._

Stem branching, paniculate at the summit, and with the petioles villous; leaves green on each surface, bipinnatifid, the segments lanceolate; fruit somewhat clustered, small, obovate, slightly armed.


Root annual. Stem two to four feet high, branching, pubescent and hairy, somewhat scabrous. Leaves alternate, the lower compoundly, the upper simply pinnatifid, the segments all acute, somewhat hairy and scabrous. Flowers in simple racemes, terminal and axillary, the lower fertile, the upper sterile. Calyx of the sterile florets turbinate, ten-flowered, irregularly ten-toothed. Corolla globose. Stamens five, united on a pedicel. Fruit slightly muricate near the summit.

Grows in cultivated ground—very common.

Flowers July—September.

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**XANTHIIUM.**

_Monoicum. Floris masculi—receptaculum paleaceum; antherae approximate non coalescente; involucrum polyphyllum, imbricatum, multiflorum. Floris foem. involucrum 2-phyllum, 2-florum; corolla 0; drupa sicca, muricata, 2-fida. Nux 2-locularis._

Gen. Pl. 1426.

_Monoecious. Male florets—receptacle chaffy; anthers approximate, not united; involucrum many leaved, imbricate, many flowered. Female florets—involutum 2-leaved, 2-flowered; corolla 0; drupe dry, muricate, 2-cleft; nut 2-celled._
1. Strumarium.  

X. caule inermi, ramoso; foliis cordatis, lobatis, serratis, scabris, trinervibus; fructibus ellipticis, pubescentibus, setis rigidis uncinatis.  


Plant annual. Stem three to six feet high, branching, angled, pubescent, and very scabrous. Leaves alternate, generally three-lobed, the lobes coarsely toothed, pubescent and very scabrous on both surfaces, six to eight inches long, nearly of the same width, on petioles three to four inches long. Heads of male florets arranged on axillary racemes. Leaves of the involucrem subulate. Stamens united at base. Anthers distinct. Chaff of the receptacle subulate. Fertile florets one or two at the base of each raceme. Involucrum ten-leaved, two-flowered, the leaflets subulate, equal. Proper calyx an arillus? oblong, armed with hooked prickles of which the two at the summit become much larger than the others. Seed oblong, inclosed in the persistent calyx.  

The germs in this plant which when young appear to be distinct, unite as they mature and form a two-celled bipartible? fruit.  

Grows in fields and about buildings—very common but not indigenous.  

Flowers July—October.  

Sheep-bur.  

2. Spinosum.  

X. spinis ternatis; Spines ternate; leaves foliis trilobis.  


Annual. Stem three to five feet high, terete, pubescent. Leaves alternate, ovate-lanceolate, acute, when young entire, when old, three-lobed, pale green, pubescent on the upper surface, almost tomentose underneath. Petioles two to three lines long, a spine three-forked, rigid, about an inch long, grows on one side of each petiole. Heads of male florets solitary, axillary at the base of each spine. Involucrum many leaved; leaves ovate. Filaments longer than the corolla, united at base. Anthers distinct. Fertile florets solitary, axillary, opposite the spine. Proper calyx armed with short hooked prickles. Styles two. Fruit two-celled.  

An exotic now very common along the seacoast of Carolina and Georgia.  

Flowers July—October.
SYNGENESIA SEGREGATA.

ELEPHANTOPUS. Gen. Pl. 1347.


E. foliis radicalibus caulinisque oblongis, basi angustatis, subpilosis; caule folioso, piloso. Leaves of the root and stem oblong, tapering at base, hairy; stem leafy, hairy.


Root perennial. Stem about two feet high, terete, villous, particularly near the base, branching towards the summit. Leaves numerous on the stem, oblong lanceolate, serrate, thin, slightly scabrous and hairy on both surfaces, tapering to an attenuated base near two inches long. Flowers sessile, in terminal clusters. Bracteas three unequal leaves, cordate, villous, sessile at the base of each capitulum. Heads generally composed of four clusters each four-flowered. Involucrum of the clusters nine to ten leaved, leaves linear lanceolate, hairy on the outside, the interior the longest. Florets all fertile. Corolla purple, tubular, five-cleft, deeply divided on one side so that the border becomes flat and ligulate, like the first division of the Syn. Equalis to which this genus is closely allied. Seeds oblong, slightly angled. Pappus setaceous, awns five.

Grows in dry, moderately fertile soils. Flowers July—September.
2. **Nudicaulis.** E.

<table>
<thead>
<tr>
<th><strong>E. foliis radicalibus</strong></th>
<th>Leaves of the root oval lanceolate, crenately serrate, somewhat scabrous, hairy underneath; stem hairy, rough, nearly naked.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E. Tomentosus? Pursh, 2. p. 582.</strong></td>
<td><strong>E. Carolinianus, var. Simplex, Nutt. 2. p. 187.</strong></td>
</tr>
</tbody>
</table>

*E. Tomentosus*? Pursh, 2. p. 582.  
*E. Carolinianus, var. Simplex, Nutt. 2. p. 187.*

Stem one to two feet high, scabrous, and somewhat hispid, branching towards the summit, generally purple. Root leaves large, scabrous on the upper surface, very villous on the under. Stem leaves 0, excepting a small one at each division of the branches. *Bracteas tomentose. Scales of the involucrium rigid.*

This species which has always been confounded with the preceding though marked as a variety by Mr. Nuttall, is probably distinct. Its leaves are larger, more rigid, more villous, and confined to the base of the stem. The bracteal leaves are much more tomentose, and the scales of the involucrium more rigid and comparatively longer. It appears also to commence flowering later.

Grows in dry moderately fertile soils.  
Flowers August—September.
CLASS XIX.

GYNANDRIA.

§ Monandria.

522 ORCHIS.
523 HABENARIA.
524 GOODYERA.
525 NEOTTIA.
526 CRANICHIS.
527 LISTERA.
528 POGONIA.
529 TRIPHORA.
530 CALOPOGON.
531 ARETHUSA.
532 BLETIA.
533 TIPULARIA.
534 MALAXIS.
535 CORALLORHIZA.
536 EPIDENDRUM.

Diandria.

537 CYPRIPEDIUM.

Hexandria.

538 ARISTOLOCHIA.

† Anthera adnata, sub terminalis, persistens. Pollinia basi affixa e particulis angularis elastice coherentibus, composita.

† Anthers adnate, nearly terminal, persistent. Pollinia affixed by the base, composed of angular particles elastically cohering.

ORCHIS. Gen. Pl.

Corolla ringens, petalo superiore fornicato. Labellum dilatum, basi subtus calcaratum. Pollinia 2, terminalia, adnata.

Corolla ringent, the upper petal vaulted. Lip dilated with a spur beneath at base. Pollinia (anthers, Lin.) 2, terminal, adnate.
1. **Ciliaris.** Lin.

*O. labello oblongo-lanceolato, pinnatifid, ciliato, petalis duplo longiore; cornu germine longiore.*

Lip oblong-lanceolate, pinately ciliate, twice as long as the petals; horn longer than the germ.


*Root* perennial, composed of two small tubers. *Stem* one to two feet high, leafy, glabrous. *Leaves* lanceolate, acute, entire, nerved, sheathing at base, six to eight inches long, one to two wide. *Flowers* in a terminal spike, yellow, each protected by a leaf at base. *Perianth* 6-parted, 3 segments exterior, the upper erect, concave, the two lower obovate, deflected; three interior, the two lateral very small, incised at the summit; the inferior segment or labellum narrow lanceolate, longer than the lateral segments, beautifully laciniate or fringed. *Horn* at the base of the labellum filiform, longer than the germ. *Capsule* triquetrous, six furrowed, one celled, three valved. *Seeds* very numerous, very small.

Grows in wet soils—common along the margin of swamps.

*Flowers* July—August.

2. **Blephariglottis.** Willd.

*O. labello lanceolato, ciliato, longitudine petali suprimei; cornu germine longiore.*

Lip lanceolate, ciliate, as long as the upper petal; horn longer than the germ.


This plant at least as understood by many of our botanists, though readily distinguished by its white corolla or perianth, is a very doubtful species. It grows intermingled with the *O. Ciliaris*, and excepting by colour is not easily discriminated. In the plants I have examined neither labellum nor horn furnished any permanent distinctions.

Grows with the preceding species in wet soils.

*Flowers* July—August.

3. **Cristata.** Mich.

*O. labello oblongo, pinnatifid, pinnatifid, ciliato; petal-ly ciliate; petals round,*
lis rotundatis, binis lateralibus dentatis; cor-
nu germine breviore.


Lip twice as long as the petals, three-parted, with the segments many cleft; exterior petals ovate lanceolate, the interior linear; horn shorter than the germ.

From the O. Psycodes (judging from specimens sent me by Muhlenberg) this plant differs essentially. It is distinguished by a more scattered spike, and by every portion of the flower, germ, segments, and labellum, longer and proportionally narrower.

Grows in the middle districts of Carolina. St. Stephen’s, Dr. Macbride.

Flowers—

5. Flava? Lin.

O. labello ovato, dentato crenatoque; cornu attenuato germinis longitudine; spica conferta; bracteis longitudinalibus flororum.

Lip ovate, toothed and crenate; horn tapering as long as the germ; spike crowded; bracteas as long as the flowers.


Stem about two feet high. Leaves narrow lanceolate, sheathing, the upper one small. Flowers in a short crowded spike, yellow. Bracteal leaves sometimes not longer than the germ. Exterior segments of the perianth larger than the interior; labellum lanceolate, the sides toothed or crenate, almost fimbriate. Horn subulate, generally shorter than the germ, nearly acute at the point.

This is the O. Flava of Nuttall; it appears however, to differ much from the original O. Flava of Clayton, (“floribus in spica longa congestis; labio inferiore nectarii trifido; lacinia intermedia majore; calcar germine longiore.” Gron. Fl. Vir. p. 137.

Grows in the middle and upper districts of Carolina and Georgia.

Flowers in the summer.


O. labello lineari-oblongo, integro; petalis patentibus; cornu filiformi, germine longiore; folis inferioribus linearibus praelongis, superioribus subulatis. Nutt.

Lip linear, oblong, entire; petals expanding; horn filiform, longer than the germ; lower leaves linear, very long, the upper subulate.

Nutt. 2. p. 188.
Lower leaves narrow, a span long, the upper very small. Spike rather dense, two to three inches long, bracteal leaves shorter than the germ. Flowers white, lip longer than the interior segments of the perianth. Genitaliferous column comparatively small, the pollinia consequently nearly sessile. Nutt.

Grows near St. Mary's, Georgia. Described by Mr. Nuttall from specimens collected by Dr. Baldwin. I have specimens which appear to agree with this species in which the horn is generally twice as long as the germ.

Flowers—


O. labello ovato, integerrimo; petalis conniventibus; cornu clavato, longitudine germis; caule unifoliato.

O. Tridensata, Sp. pl. 4. p. 41.

Stem about twelve inches high, glabrous, slender. Leaves lanceolate, nerved, sheathing, one large leaf near the base, and a few small ones towards the spike; sometimes though rarely two large leaves are found upon the stem. Flowers in a short, rather compact spike, small. Petals nearly equal, ovate, obtuse. Labellum longer than the petals, slightly three-toothed at the summit. Horn longer than the germ, conspicuously thickened at the end. (Corolla white, Pursh.)

Grows in the middle and upper districts of Georgia and Carolina.

Flowers—

8. Viridis.

O. labello lineari, apice tridentato; petalis conniventibus; cornu obtuso, scrotiformi; bracteis flore sesquialtioribus.


Not above three inches high. Flower small, greenish white. Pursh.

With this species I am unacquainted.
GYNANDRIA MONANDRIA.

Grows in dry grassy places on the high mountains of Virginia and Carolina. Pursh.
Flowers June—July.

9. **Spectabilis.**

**O. labello obovato, indiviso, crenato, retuso; petalis rectis, lateralibus longioribus; cornu clavato germine breviore; bracteis flore longioribus; caule aphylo.**

Lip obovate, undivided, crenate, retuse; petals straight, the lateral ones long; horn clavate, shorter than the germ; bracteas longer than the flower; stem leafless.


Root palmate, mostly two-leaved; scape acutely pentangular, sometimes producing a leaf, few flowered; bracteas large and lanceolate; spur thick and obtuse, compressed, subclavate, about the length of the germ. Segments of the petaloid calyx all connivent and adhering, never expanding, of a bluish purple; lip white, broad ovate and entire. Pollinia clavate, pedicellate, concealed within the lateral cucullate cells of the genitaliferous column, grains of the pollen agglutinated by the base. Nuttall.
Grows in the mountains of Carolina. Michaux.
Flowers May—June.

10. **Fusescens?**

**O. labello ovato, basi dentato, petalis patentibus; cornu subulate, germinis longitundine.**

Lip ovate, toothed at base, petals expanding; horn subulate, as long as the germ.


Stem about twelve inches high, leafy, glabrous. Leaves large for the size of the plant, lanceolate, glabrous, sheathing at base. Flowers rather scattered in a terminal spike. Rachis angled. Corolla small, (brownish yellow, Pursh,) the labellum longer than the other segments. Horn not as long as the germ.
I have specimens collected by Mr. Jackson near Louisville, Georgia, agreeing very nearly with others sent me from New-York under this name, by Dr. Torrey. In our southern species the bracteal leaves are scarcely longer than the germ, the upper ones not as long, and the horn decidedly shorter than the germ. Whether these plants agree really with the Siberian O. Fuscescens, of which there is no detailed description in Willdenow, remains yet to be determined. I should scarcely expect to meet with a Siberian plant in the alluvial districts of Georgia.

Grows on grassy hills. Pursh.
Flowers July. Pursh.

11. BIDENTATA. E.

O. labello ovali, oblongo, basi bidentata; petalis ovatis, patenti-bus; cornu germine incrassato-breviore; foliis angusto lanceolatis; caule nudiusculo. E.

Lip oval, oblong, 2-toothed at base; petals ovate, expanding; horn shorter than the thickened germ; leaves narrow lanceolate; stem nearly naked.

To the former species this has much affinity. It appears from specimens to be a taller plant with a more naked stem; the bracteal leaves about as long as the flower, the corolla larger, the labellum oval, longer than the petals, entire, excepting the two very distinct teeth near the base, horn scarcely more than half the length of the germ, somewhat thickened at the point; germ unusually thick; perhaps only differing from O. Fuscescens from a difference of soil and in my specimens of maturity.

Grows in the middle districts of Georgia and Carolina.
Flowers—

HABENARIA. Willd.

Corolla ringens, petalis interioribus bipartitis. Labellum dilatatum, basi subtus calcaratum. Pollinia nuda, distincta. Cornua 2 staminiformia, recta

Corolla ringent, with the interior petals two-parted. Labellum dilated with a spur underneath at base. Pollen masses naked, distinct. Horns (steril processes)
ad basin antheræ.


*H.* labello 3-partito, laciniiis lateralibus setaceis; petalis interioribus bipartitis, lacinia inferiore setaceo, petalis exterioribus fere duplo longiore; cornu germine duplo longiore; foliis ovali-lanceolatis; bracteis acuminatis.

Nutt. 2. 189.  

Root Stem about two feet high, entirely clothed with numerous, oval-lanceolate, acute, glabrous leaves, sheathing at base. Leaves three to four inches long; nearly one and a half wide. Flowers scattered in a long terminal spike. Bracteas about the length of the germ, ovate-lanceolate, slightly acuminate. Three exterior segments of the perianth ovate, somewhat acute, concave; of the interior the two lateral biparted, the upper segments small, the lower linear or setaceous, as long as the segments of the labellum. Labellum three-parted, the lateral segments setaceous, longer than the middle one which is also very narrow. Horn twice as long as the germ, somewhat thickened towards the point.

This plant is to me very rare. I have only met with it once or twice, and then in dry pine barrens—near Beaufort.

Flowers August—October.


*O.* labello 3-partito, laciniiis lateralibus setaceis; petalis interioribus bipartitis, lacinia...
inferiore setaceo, petal-<br>lis exterioribus vix lon-<br>giore; cornu germinis<br>longitudine; foliis an-<br>gusto-lanceolatis; brac-<br>teis acutis.

Nutt. 2. p. 190.

Root tuberous, creeping. Stem erect, twelve to eighteen inches high. Leaves not crowded as in the preceding species, narrow lanceolate, distinctly nervet. Bracteas ovate lanceolate, very acute, as long as the flower; three exterior segments of the perianth lanceolate, the upper vaulted, the two lateral expanding, of the interior segments, the two lateral biparted, the upper segment of each small, connivent, covered by the vaulted segment of the outer series, the lower setaceous; the labellum three-parted, the middle segment a little broader and shorter than the others. The Pollen masses are naked and distinct, at first enclosed in a hollow sack. Capsule triquetrous, furrowed, one celled, three-valved.

Grows in damp soils, common in the low grounds around Savannah; I have found it also near Beaufort and Charleston.

Flowers July—October.

†† Anthera persist-<br>ens, stigmati parallela.<br>Pollinia stigmatis sum-<br>mitati affixa, particulis<br>farinaceis sive angula-<br>tis.

†† Anther persistent,<br>parallel with the stig-<br>ma. Pollinia fixed to<br>the summit of the stig-<br>ma, composed of fari-<br>naceous or angular<br>particles.

GOODYERA. Brown.

Corolla ringens, petal-<br>lis duobus inferiori-<br>bus subtus labello gib-<br>bo apice indiviso, posi-<br>tis. Columna libera.<br>Pollen angulatum.

Corolla ringent, the two lower petals placed underneath the gibbous and undivided lip. Column free. Pollen an-<br>gular.
1. **Pubescens.** Willd.

\[
\text{G. foliis radicalibus ovatis, petiolatis, reticulatis, scapo vaginato floribusque pubescentibus; labello ovato, acuminato; petalis ovati.}
\]

Leaves radical, ovate, petiolate, reticulate; scape with its sheath and flowers pubescent; lip ovate, acuminate; petals ovate.

Nutt. 2. p. 190.  

Root creeping. Stem twelve to eighteen inches high, resembling a scape, bearing only a few scattered scale-like flowers, very pubescent towards the summit. Root leaves ovate-lanceolate, entire, reticulately veined, five to seven nerved, attenuated at base to a petiole about an inch long. Flowers in a terminal spike. The upper segment of the perianth vaulted, covering the column, (the labellum ovate, acuminate, Willd.) speckled with purple.

Grows in the middle and upper districts of Carolina and Georgia, in damp soils.

Flowers July.

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**NEOTTIA.** Swartz.

\[
\text{Corolla ringens, petalis duobus inferioribus sub labello imberbi affixis; petalis interioribus conniventibus. Columna aptera. Pollen farinaceum.}
\]

\[
\text{Corolla ringent, the two lower petals affixed under the unbearded lip; interior petals connivent. Column without wings. Pollen farinaceous.}
\]

1. **Tortilis.**

\[
\text{N. foliis radicalibus linearibus, glabris, acutis; scapo vaginato; floribus spiraliter se-}
\]

Leaves of the root linear, glabrous, acute; scape sheathing; flowers spirally secund;
GYNANDRIA MONANDRIA.

Cundis; labello trifido, | lip three-cleft, crenulate.

Limodorum Præcox, Walt. p. 221.

Roots tuberous, creeping. Stem eight to twelve inches high, pubescent towards the summit. Leaves of the stem subulate, acute, scarcely more than scales; of the root linear lanceolate, nine to ten inches long, generally decaying before the plant begins to flower. Flowers in a compact spiral spike. Bracteal leaves pubescent, nearly as long as the flower. Segments of the perianth white, connivent, nearly equal in length. The lip crenulate, indistinctly lobed.

Grows in damp soils.

Flowers through the summer.

2. Cernua.

Leaves lanceolate, 3-nerved; stem sheathed; spike oblong, densely flowered; flowers recurved, nodding; lip oblong, entire, acute.

Limodorum Autumnale, Walt. p. 221.
Ophrys Cernua, Mich. 2. p. 158.

Very similar to the preceding species, from which it differs by a more crowded spike, and by larger flowers.

This genus merits in this country a farther examination. The number of varieties distinguished by the size of the flowers, by the extended or contracted spires of the spike, by the period of flowering, would lead to a suspicion that we had many species, but in the occasional examinations I have given them, I have been able to discover no permanent distinctions.

Grows in damp soils.

Flowers through the summer.
CRANICHIS. Swartz.

Corolla pentapetala, resupinata, subringens. Labellum fornicatum. Anthera stylo parallella, postice inserta.

1. Multiflora.

C. radicibus fasciculatis, teretibus, tomentosis; foliis ovali-lanceolatis, sub sessilibus; scapo multifloro, superne pubescente; petalis interioribus conniventibus; labello fornicato, acuminato. E.

Root fasciculate, terete, tomentose; leaves oval-lanceolate, nearly sessile; scape many flowered, pubescent near the summit; interior petals connivent; lip vaulted, acuminate.

Nutt. 2. p. 191.

Root composed of many terete, villous or tomentose fibres. Scape about two feet high, pubescent towards the summit. Leaves of the root oval-lanceolate, rather acute, glabrous, nerved, attenuated at base but scarcely prolonged to a petiole; of the stem merely sheathing scales. Flowers (fifteen to twenty) somewhat scattered in a terminal spike. Bracteal leaves very small, scarcely half as long as the germ, pubescent. Three exterior segments of the perianth lanceolate, acute, expanding, pubescent on the outer surface, of the interior segments the two upper (turned downwards from the resupine position of the flower) obliquely ensiform, connivent at the summit; labellum fornicate, compressed at the sides, acuminate, generally inclosing the genitaliferous column. Perianth pale green with streaks of deeper green, the sides of the labellum edged with a circle of deep green. Column short, gibbous, with an oblique pointed summit. Anthers inserted behind the summit, but when the column is enclosed in the labellum, appearing to be in front. Germ somewhat triquetous, tapering to the base.

Apparently allied to the C. Pauciflora of Jamaica.

Collected by Dr. Macbride in St. John's, Berkeley.

Flowers October.
LISTERA. Brown.


1. **Pubescens.**

*L. foliis radicalibus, ovatis, acutis; scapo aphylllo, pubescentes, laxifloro; floribus pedicellatis, labello bilobo, vix petalis conniventibus longiore; capsulis clavatis; radice palmato.*

Leaves radical, ovate, acute; scape leafless, pubescent, loosely flowered; flowers on pedicels, with the lip two-lobed, scarcely longer than the connivent petals; capsules clavate; root palmate.

Nutt. 2. p. 191.
Epipactis Pubescens, Pursh, 2. p. 591.
Ophrys Pubera, Mich. 2. p. 158.
Arethusa Racemosa, Walt. p. 222.

*Flowers* small, greenish white. Pursh.
With this species I am unacquainted.
Grows in the pine barrens of Carolina and Georgia. Pursh.
Flowers June.

2. **Convallarioi des.**

*L. caule bifolio; foliis oppositis, cordato-subrotundis, acutis; spica parviflora; labello* Stem two-leaved; leaves opposite, cor- date, nearly round, acute; spike bearing
oblongo, apice dilatato, small flowers; lip ob-
obtuse bilobo; germine long, dilated at the
subgloboso; radice fi-
summit, obtusely two-
brosa.
lobed; germ somewhat
globular; root fibrous.

Nutt. 2. p. 191.

Root fasciculate. Stem about a foot high, bearing near the middle two
opposite sessile leaves. Leaves cordate-ovate, acute, nerved, glabrous.
Flowers small, in a terminal raceme. Pedicels three to four lines long,
bracteal leaves very small. Petals five, somewhat reflected, greenish. Lab-
bellum three or four times as long as the petals, deeply two-cleft, the seg-
ments acute. Capsule oval.

This plant from the acute segments of the labellum probably belongs to
the L. Cordata as described by Mr. Nuttall, but as all the plants sent me
from the north as the E. Convallarioides have this characteristic also, I
have retained this name until I can have an opportunity of comparing the
two species.

Found near Savannah in damp soils by Dr. Baldwin.
Flowers in March.

+++ Anthera terminalis, inserta, persistens. Pollen angulatum
vel farinaceum. +++ Anther terminal, inserted, persistent.
Pollen angular or farinaceous.

POGONIA. Juss.

Petala 5, distincta, Petals 5, distinct,
eglandulosa. Label-
num sessile, cucullatum, Lip
interne cristatum. Pollen
farinaceous.

1. Ophioglossoides. Lin.
P. radice fibrosa; Root fibrous; scape
scapo dissit. bifoliato, remotely two-leaved;
1—2 flowered; leaves oval-lanceolate; petals nearly equal; lip fimbriate.

Nutt. 2. p. 192.

Root perennial. Stem about twelve inches high, terete, glabrous, generally bearing two leaves and one terminal flower. Leaves alternate, one near the middle, the other at the summit of the stem, lanceolate, acute, nerved, sessile, and semiamplexicaule. Perianth five-leaved, purple, approaching to rose colour. Petals distinct, nearly of equal length, somewhat connivent, oblong, the uppermost widest. Labellum scarcely longer than the petals, winged, the centre thickened with elevated crested ridges. Column much shorter than the lip, thick, solid. Anthers operculate, contained in a small depression at the summit.

I have specimens with the leaves narrow lanceolate, very acute; and leaves oval-lanceolate, scarcely acute, with the stem shorter and flowers larger. The first from the low country of Carolina and Georgia, the second from the upper districts.

Grows in damp soils.
Flowers April—May.

2. Divaricata.

P. radice fibrosa; scapo remote bifoliato, unifloro; foliis oblongo-lanceolatis; petalis exterioribus longo-linearibus, patulis; labello subtrilobo, crenulato.

Nutt. 2. p. 192.

Root fibrous, somewhat carnose. Stem about two feet high, bearing two leaves, one near the middle of the stem, the other at the summit, and one terminal flower. Leaves narrow lanceolate, acute, sometimes abruptly so, nerved, glabrous, and slightly glaucous. Perianth five-leaved, the three exterior linear-lanceolate, two to two and a half inches long, expanding or erect, dark purple; the two interior shorter, lanceolate, somewhat connivent; incarnate. Labellum nearly as long as the exterior petals, obtusely three-
lobed towards the summit with the middle lobe extended, crested along the middle, crenulate on the margin. Column much shorter than the lip, clavate, solid. Germ furrowed, one celled, three valved.

Grows in damp soils around ponds in the pine barrens. Flowers May.

3. VERTICILLATA. Muhl.

P. foliis quinis o-vali-lanceolatis, basi cuneatis, verticillatis; caule unifloro; petalis tribus exterioribus longissimis, linearibus, interioribus lanceolatis, labello trilobo, lacinia media undulata. Leaves five, oval-lanceolate, cuneate at base, verticillate; stem one-flowered; the three exterior petals very long, linear, the interior lanceolate; lip 3-lobed, the middle segment undulate.


Root fasciculate, fibres simple and carnose. Stem about twelve inches high, terete, slightly glaucous. Leaves five, verticillate (two, however, inferior) at the summit of the stem, oval-lanceolate, cuneate, nerved, acuminate, a few scales sheathing the base of the stem. Flower sessile on a long germ at the summit of the stem; three exterior petals linear, two to two and a half inches long, of a greenish brown colour, interior petals paler, oblong, obtuse, connivent, scarcely one third of the length of the exterior petals. Labellum shorter than the interior petals, crested along the centre, winged, with the margins inflected, the terminal lobe broad, pendent, undulate. Column shorter than the labellum, subclavate. Anther operculate, two celled, unguiculately articulated behind, and received into a margined depression at the summit of the column. Nutt.

Grows in oak lands, very rare in the low country. Silk Hope, Little Ogeechee—near Columbia, South-Carolina, and Milledgeville, Georgia, more abundant—probably common in all of the upper districts.

Flowers May.

TRIPHORA. Nuttall.

Petala 5, distincta, æqualia, conniventia, without glands. Lip un-
lum unguiculatum, cucullatum. Columna spathulata, complanata, aptera. Pollen farinaceum.

1. Pendula.

T. radice tuberosa; Root tuberous; stem caule folioso, summitate paucifloro (2—4); folis ovatis, amplexicaulis, floribus pedunculatis, alternis; labello integro.

Nutt. 2. p. 193.
Arethusa Pendula, Sp. pl. 4. p. 82. Pursh, 2. p. 590.

Root tuberous, oblong. Stem about twelve inches high, terete, slightly angled by the decurrent leaves, carnose, the summit when young generally nodding. Leaves short, alternate, nerved, somewhat amplexicaule, with the margins slightly decurrent. Flowers two to four, axillary, erect when expanded, before and after expansion nodding. Peduncles five to six lines long. Segments of the perianth five, lanceolate, acute, white tinged with green and pale purple, the two interior connivent. Labellum scarcely longer than the petals, unguiculate, slightly three-lobed, the lateral lobes inflected, the middle circular with the margin crenulate? Column rather shorter than the lip, flat. Anther one celled, purple. (Pollen farinaceous, the masses separated superficially by two internal lamellae. Nutt.)

Grows in rich damp soils.
Flowers July—August.

CALOPOGON. Brown.

Petala 5, distincta. Petals 5, distinct.
2. Pulchellus.

C. foliis radicalibus, angusto - lanceolatis, nervosis; scapo 6—10 floro; labello erecto, basi attenuato, lamina expansa, disco concavo, piloso.

Leaves radical, narrow lanceolate, nerved; scape 6—10 flowered; lip erect, tapering at base, the lateral segments expanding, the disk concave, hairy.

Nutt. 2. p. 194.
Limodorum Tuberosum, Mich. 2. p. 159.
Ophrys Barbata, Walt. p. 221.

Root tuberous, nearly round. Stem twelve to eighteen inches high, erect, naked, glabrous. Leaf generally one, sheathing the base of the stem, (but showing around its own base the vestiges of other leaves, perhaps those of former years,) eight to ten inches long, scarcely one wide, nerved, acute, erect, somewhat rigid. Flowers resupine? rather distant, in a terminal spike. Bracteal leaf small, very acute. Segments of the perianth lanceolate, the two lateral exterior ones oblique, the interior rather narrower. Labellum on the upper side of the perianth (is not the flower as in Cranichis resupine?) about as long as the petals, attenuate and distinctly three-nerved or ribbed along the claw, very much dilated at the summit, very obtuse, conspicuously bearded just where it begins to contract, margin entire, column declining from the lip, curved, tapering to the base, bearing two dilated wings near the summit. Anther, as in all of this division, received into a small cavity at the summit of the column, attached behind by a short jointed pedicel.

Flowers incarnate, large for this class, very handsome.

Var. Graminifolia.

This variety which is remarkable and most probably a distinct species, yet offers no prominent mark of distinction. Its flowers are scarcely more half the size of the preceding, the leaves one to two lines wide, the bracteal leaves acuminate, and the column I think comparatively shorter. It flowers earlier.

Grows in damp soils. The first variety delights to grow on old decaying and floating logs, in mill ponds, &c. mingled with mosses and aquatic grasses.

Flowers May—June.
The second in pine barrens.
Flowers April—May.
GYNANDRIA MONANDRIA.

ARETHUSA. Lin.

Petala 5, basi connata. Labellum basi columnae adnatum, superne cucullatum, cristatum. Pollen angulatum.

Petals 5, connate at base. Lip cucullate at the summit, attached at base to the column, crested. Pollen angled.

1. Bulbosa.

A. aphylloa; radice globosa; scapo vagina-to, unifloro; corolla la-ciniis superioribus incurvatis; labello sub-crenulato.

Leafless; root globose; scape sheathed, one-flowered; corolla with the upper segments incurved; lip slightly crenulate.


Stem about twelve inches high, the lower part clothed with sheaths, (three to four) which have no expanded blade. Flower solitary, terminal, fragrant. Segments of the perianth nearly equal, purple, the upper incurred, somewhat connivent. Labellum not longer than the petals, the inflected margin crenulate, crested internally. Column shorter than the lip. Grows in the mountains of Carolina, Mich. I have never seen it in the low country. Flowers in June, Pursh.

††† Anthera termi-nalis, mobilis, decidua. Pollinia demum cerea-cea.

††† Anther terminal, moveable, deciduous. Pollen finally cereaceous.

BLETIA. Ruiz and Pavon.

Petala 5, distincta. Petals 5, distinct. Labellum sessile, cucul-Lip sessile, cucullate,

1. Verecunda.

B. foliis radicalibus, lato-lanceolatis, plicato-nervosis; scapo multifloro; petalis interrioribus conniventibus; labello ventricoso, lamina emarginata, crispa, sulcata. Swartz.

Leaves radical, broad, lanceolate, plicate, nerv-ved; scape many flowered; interior petals connivent; lip ventricose, the border emarginate, curled, furrowed.

Nutt. 2. p. 194.
Limodorum Trifidum, Mich. 2. p. 159.

With this species I am unacquainted. Pursh mentions, I suspect inaccurately, that it grows in Carolina. Mr. Nuttall considers it as an inhabitant of Florida. Michaux, who cultivated it near Charleston where it flowered in the autumn, received it from the Bahama Islands.


B. aphylla; scapo tereti, squamoso, superne attenuato; squamis ovatis, alternis; labello ecalcarato. Nut.

Leafless; scape terete, scaly, tapering near the summit; scales ovate, alternate; lip without a spur.

Nutt. 2. p. 194.
Arethusa Spicata, Walt. p. 222.

Root tuberous, articulate. Stem one to two feet high, erect, simple. Leaves merely coloured scales, the lower sheathing, the upper sessile. Spikes many flowered, flowers pendulous. Petals five, distinct at base, somewhat connivent, oblong lanceolate, the exterior a little longer than the interior, brown streaked with purple. Lip dilated at the summit, emarginate, slightly undulate, crested along the centre with six brightly coloured
ridges; shorter than the petals, with no vestige of a spur at base, lateral segments erect, veined. Column shorter than the lip, incurved, somewhat clavate; operculum emarginate, vertical, yellow, with the summit of the lobes purple. Pollinia two; yellow, deciduous, each with a fissure through which the farinaceous pollen is discharged. Capsule clavate, somewhat trigonous. This plant has always been considered by our southern botanists as the A. Spicata of Walter. It grows in rich soils near the margins of swamps. St. John's, Dr. Macbride; Louisville, Georgia, Mr. Jackson; Florida, Dr. Baldwin. Flowers August—September.

**TIPULARIA.** Nuttall.


1. **Discolor.**


**MALAXIS.** Swartz.

*Petala* 5, patentia, *Labellum* resupinata. *Lip*

*Petals* 5, expanding, resupine. *Lip*

flattened, undivided, sessile. Columna extended. Pollinia 4, parallel, affixed to the summit of the stigma.

1. Liliifolia. Lin.

M. foliis binis, ovato-lanceolatis; scapo triquetro; petalis interioribus filiformibus, reflexis, discoloribus; labello concavo, obovato, apice acuto.

Leaves two, ovate-lanceolate; scape triquetrous; interior petals filiform, reflexed, differently coloured; lip concave, obovate, acute at the summit.


Roots bulbous. Leaves all radical, two, oval lanceolate, acute, glabrous, slightly nerved, entire, loosely sheathing the base of the stem, about three inches long, nearly two wide, a third, exterior, consisting of scarcely more than a sheath, with an oblique acute summit. Scape angular, six to eight inches high. Flowers numerous in a terminal raceme. (Three exterior segments of the perianth acute, white, the two interior filiform, yellowish, reflexed, the lower lip broad, obovate, with an abrupt point of a pale olive colour. Willd.)

Grows in the upper districts of Carolina and Georgia, in rich woodland, among decaying vegetables. I have not seen it in the low country.

Flowers June—July. Pursh.


M? folio solitario, ovato, amplexicaule; scapo pentagono; labello apice bifido.

Leaf solitary, ovate, amplexicaule; scape 5-angled; lip 2-cleft at the summit.

Sp. pl. 4. p. 90.


Microstylis Ophioglossoides, Nutt. 2. p. 196.
GYNANDRIA MONANDRIA.

Root bulbous. Stem four to six inches high, with a leaf near the middle and a sheath at base. Leaf ovate, sessile, amplexicaule. Flowers numerous, very small, in a terminal raceme. Petals five, connivent, only one of them deflected, the two interior filiform. Lip about the length of the petals, erect, concave, broadest at the base, cucullate over the anthers, summit truncate, emarginate and divaricate, bidentate, producing also an intermediate denticulation. Column minute, scarcely visible. Anthers two; the exterior whitish, producing two masses of pollen, the interior which is acute and whitish only one. Nutt.

Grows with the preceding. Sometimes though rarely met with in the low country.

Flowers May—June. Pursh.

CORALLORHIZA. Haller.

|---|---|

1. Innata. Brown.

C. labello trifido, calcarie obsoleto, germini adnato; capsula obovata; folio nullo. Labellum three-cleft, with the spur obsolete, attached to the germ; capsule obovate; leaf 0.

Nutt. 2. p. 197.

Cymbidium Corallorhizon, Sp. pl. 4. 109.

Root tuberous, branching, divaricate. Stem twelve to fourteen inches high, glabrous, clothed with sheaths which at the summits are abruptly acute, the upper frequently terminating in a subulate leaf nearly an inch long. Flowers in a terminal raceme, nodding. Segments of the perianth oblong lanceolate, connivent; of an obscure purplish brown colour; lip bidentate near the base, with the teeth inflected. Column much shorter than the petals.

Grows in rich wooded lands. I have specimens sent me from Boston by Dr. Bigelow, and some collected at St. Mary's, Georgia, in which I can discern no difference.

Flowers September—October.

C. scapo vaginato; folio nullo; floribus pedicellatis; petalis lanceolatis, æqualibus; labello integro, ovali, obtuso, crenulato, calcare obsoleto, germi
ni adnato; capsula globosa.

Scape sheathed; leaf 0; flowers on pedicels; petals lanceolate, equal; labellum entire, oval, obtuse, crenulate, with the spur obsolete, attached to the germ; capsule globular.

Nutt. 2. p. 197.
Ophrys Corallorhiza, Mich. 2. p. 158.

Root much branched, dentate. Scape eight to twelve inches high, slender, clothed with two or three sheaths, acute at the summit. Flowers numerous, small, in a terminal raceme, pendulous. Segments of the perianth brownish, connivent, the lateral one narrow. Lip dilated, white, spotted with purple. Palate bidentate. Column short, margined at base. Capsule globular.

Grows in rich shaded soils. In oak lands near Beaufort.

Flowers in March, probably again in the autumn.

3. Hyemalis.

C? folio unico, ovali-
lanceolato, nervoso, sub plicato; labello un-
guiculato, trisido, nec basi producto, lacinia intermedia crenulata; petalis conniventibus.

Leaf one, oval lanceolate, nerved, somewhat plaited; labellum unguiculate, three-cleft, not produced at base, the middle segment crenulate; petals connivent.

Nutt. 2. p. 108.

Root concatenately bulbous. Leaf solitary, large, oval, lanceolate, somewhat plaited, rigid, springing from the root and tapering at base to a petiole two to three inches long. Scape twelve to eighteen inches high, clothed with about three loose sheaths. Flowers in a terminal raceme, at first erect,
GYNANDRIA MONANDRIA.

afterwards pendulous. Petals linear oblong, connivent, distinct, all nearly equal in size and form. Lip unguiculate, distinct at the base, and about the length of the petals, dilated towards the extremity, trifid, ridged along the centre, the middle lobe round, with the margin undulate and crenulate. Column of an equal thickness and slightly curved, shorter than the lip; lid of the anthers membranaceous, caducous. Pollinia four, lenticular and cereaceous, laterally attached to the summit of the column, at length deciduous. Nuttall.

Grows in rich shaded soils.

Flowers May. Pursh.

EPIDENDRUM. Lin.

Columna cum labelli ungue in tubum coala- lita, (interdum decurrens.) Pollinia 4, parallela, septis persistentibus divisa, basi filamento granulato, elastico, incrassata.

Column with the claw of the labellum united into a tube, sometimes decurrent. Pollinia 4, parallel, divided by persistent partitions, thickened at base by the granular elastic filament.

1. Conopseum. Aiton?

E. foliis lanceolatis, rigidis, lucidis, perennialibus; caule simpli- ci; floribus spicatis, erectis; labello apice trilobo, lacinia intermedia retusa; petalis interioribus angustioribus.

Leaves lanceolate, rigid, lucid, perennial; stem simple; flowers in spikes, erect; labellum 3-lobed at the summit, the middle segment retuse; the interior petals narrow.


E. Magnoliae, Muhl. Cat. p. 81.

Root composed of thick fleshy fibres matted together and adhering to the barks of trees. Branches short, alternate. Leaves generally two on each branch, approximate, lanceolate, acute, very entire, succulent, ob-
scurely nerved, terminating at base in a closed sheath. Flowers five to eight, in a terminal raceme. Bracteal leaves very small. Exterior segments of the perianth three, lanceolate, a little connivent, six to seven lines long, pale yellow tinged with purple; the two lateral interior segments cuneate, obovate, pale yellow, as long as the exterior, but more slender. Column more than half as long as the perianth, dilated; summit of the lip three-lobed. Pollinia four, near the summit of the tube, covered with an operculum having four cells.

Grows along the sea-coast of Georgia and Carolina, on the bark of trees, principally of evergreens.

The most northern locality in which I have seen this plant is on Edings Island, at the entrance of Port Royal inlet. I found it there growing on the bark of the Magnolia Grandiflora, and sent it to Dr. Muhlenberg, who placed it in his catalogue as the E. Magnoliiæ. In passing to the south along the sea-coast, it becomes more common, and is found on several species of oak, and I believe on other trees.

Flowers in August and September; probably through the whole summer.

GYNANDRIA DIANDRIA.

CYPRIPEDION. Lin.


Labellum ventricose, inflated, forming a sack. Corolla 4-petal- led, expanding. Column near the summit furnished with a petal- like lobe.


C. caule folioso; lobo styli triangulare, the style triangular,
acuto; petalis exterioribus ovato oblongis acuminatis, interioribus linearibus contortis; labello petalis breviore, compresso.


Root perennial, composed of thick fleshy fibres. Stem eight to ten inches high, a little pubescent. Leaves five to six, alternate, lanceolate, acute, nerved, somewhat pubescent underneath, sessile, sheathing at base. Flowers generally solitary. Exterior segments of the perianth three, ovate lanceolate, expanding, two interior narrower, longer, tortuous, bearded on the inner surface near the base, all of an obscure green colour with brown lines externally pubescent. Lobe of the style triangular, somewhat sagittate. Labellum yellow, with obscure spots, shorter than the petals, smooth on the outsides, bearded within at base.

Grows in the upper and mountainous districts of Carolina and Georgia. Flowers May—June. Pursh.


C. caule folioso; lobo styli triangulari-oblongo, obtuso; petalis exterioribus ovato-oblongis, acuminatis, interioribus longissimis linearibus, contortis, labello petalis breviore, compresso.

Stem leafy; lobe of the style triangular, oblong, obtuse; exterior petals ovate oblong, acuminate, the interior very long, linear, twisted; labellum shorter than the petals, compressed.


Petals green, dotted with red. Labellum yellow, contracted at the mouth. From the preceding which it resembles very much, it differs by a flower twice as large and by the different figure of the lobe. Stem one to two flowered. All of the American species have their leaves pubescent, but the hairs in this are more evident. Willd.

The leaves, too, in my specimens are larger, more distinctly nerved, and the narrow segments of the perianth longer; but the plant not as pubescent as C. Spectabile.
GYNANDRIA DIANDRIA.

Grows in rocky soils on fertile hills in the upper districts of Carolina and Georgia.

Flowers in May.


C. caule folioso; lobo styli elliptico-cordato, obtuso; petalis exterioribus lato-ovalibus obtusis; labello petals longiore, antice fisso.

Stem leafy; lobe of the style elliptic-cordate, obtuse; exterior petals broad, oval, obtuse; labellum longer than the petals, split in the front.

C. Reginae, Walt. p. 222.

Root perennial. Stem twelve to fourteen inches high, hirsute. Leaves six to seven, oval-lanceolate, entire, nerved, pubescent, sheathing at base. Flowers two to three, large. Segments of the perianth white, oval, the two interior narrower, linear-lanceolate. Lobe of the style white, with red spots. Labellum pale rose colour, with deeper streaks, internally bearded near the base.

Grows in meadows among the mountains.

Flowers May—June.


C. scapo aphylllo; foliis radicalibus geminis, oblongis, obtusis; lobo styli subrotundo - rhomboideo, acuminato, deflexo; labello petalis lanceolatis longiore, antice fisso.

Scape leafless, one-flowered; leaves of the root two, oblong, obtuse; lobe of the style nearly round, rhomboideal, acuminate, deflected; labellum longer than the lanceolate petals, split in front.

C. Acaule, Mich. 2. p. 199.
Root perennial. Scape six to eight inches high, pubescent, leafless excepting a small bracteal leaf at the base of the germ, one-flowered. Leaves of the root two, lanceolate, nerved, pubescent. Segments of the perianth ovate-lanceolate, brownish purple, the interior narrower and a little tortuous. Labellum purple with deeper streaks, large, divided in front, pubescent.

Grows in rocky soils, in shaded situations. No species of this remarkable genus is found in the low country of Carolina or Georgia.

Flowers May—June.

GYNANDRIA HEXANDRIA.

ARISTOLOCHIA.

Calyx 0. Corolla 1 petala, ligulata, basi ventricosa. Capsula 6 locularis, polysperma, infera.


Leaves cordate, acute; stem voluble; peduncles one-flowered, furnished with an ovate bractea; corolla ascending, the border three-cleft, equal.

A vine climbing over trees of large size. Leaves alternate, very large, cordate, acute, strongly veined, sprinkled with hairs over both surfaces.
**Peduncles** solitary. Corolla long, somewhat tubular, brown, the border three-cleft, equal. **Anthers** six, beneath the stigmas. **Style** short, stigma six-parted.

Grows on the mountains, Pennsylvania to Georgia. Flowers June. Pursh.

### 2. **Tomentosa.** Sims.

**A. caule volubili; foliis rotundato cordatis,** subtus tomentosis; corolla villosa, limbo trifido, subæquali.

Stem voluble; leaves nearly round, cordate, tomentose underneath; corolla villous, the border 3-cleft, nearly equal.

Nutt. 2. p. 199.

A. Hirsuta, Muhl. Cat. p. 81.

Stem ascending to the summits of the loftiest trees, cordate, nearly round, tomentose underneath, strongly veined, when young entirely covered as well as the young branches and corolla with a dense villous tomentum. **Peduncles** solitary, without bracteal leaves. Corolla ascendant, greenish yellow, the border three-cleft, the orifice oblique, the margin rugose, dark purple. **Stigmas** three. **Anthers** immersed in the style. Nutt.

Grows on the mountains of Carolina. Nutt.

Flowers—

### 3. **Serpentaria.** Lin.

**A. foliis cordatis,** oblongis, acuminatis; caule flexuoso; pedunculæ radicalibus; corolla labio lanceolato.

Leaves cordate, oblong, acuminate; stem flexuous; peduncules radical; lip of the corolla lanceolate.


Root perennial, composed of many filiform fibres, pungent and aromatic. Stem six to eight inches high, herbaceous, pubescent, erect, geniculate and knotty at base, as if formed of the remains of older stems. **Leaves** few, oblong lanceolate, slightly acuminate, a little hairy, cordate at base. **Flowers** few, at the base of the stem, laying on or sometimes under the surface of the
earth. Peduncles one-flowered. Corolla ventricose at base, slightly threecleft at the summit; one lobe extended, lanceolate.
Grows in dry soils.
Flowers in the summer.

4. HASTATA. Nutt.

A. caule flexuoso, simplici, erecto; foliis subcordato - hastatis, acutis; pedunculis radicibus; corollae labio ovato. Stem flexuous, simple, erect; leaves somewhat cordate, hastate, acute; peduncles radical; lip of the corolla ovate.

Nutt. 2. p. 200.

Leaves attenuate, sublanceolate, auriculate, acute, pubescent. Nutt.
I have seen specimens from the mountains near Pendleton belonging apparently to this species, in which the leaves were certainly very different from the simple, oblong, cordate leaves of our common A. Serpentaria. They were, however, without flowers, and the plants will still require examination and comparison.
Grows in the mountains of Carolina.
Flowers—
MONOECIA MONANDRIA.

CLASS XX.

MONOECIA.

MONANDRIA.

539 ZOSTERA.
540 CAULINIA.
541 CHARA.

DIANDRIA.

542 PODOSTEMUM.
543 LEMNA.

TRIANDRIA.

544 TYpha.
545 SPARGANiUM.
546 TRIPSACUM.
547 MANISURIS.
548 CAREX.
549 SCLERIA.
550 COMPTONIA.
551 TRAGIA.
552 ERIOCaulON.

TETRANDRIA.

553 ALNUS.
554 BOEHiMERRiA.
555 URTiCA.
556 PARIETARiA.
557 MORUS.

PENTANDRIA.

558 ATRIPLEX.
559 PLANERA.
560 CELTIS.
561 SCHISANDRA.
562 CROTONOPSIS.

VOL. II.

563 AMARANTHUS.

HEXANDRIA.

564 ZIZANIA.

POLYANDRIA.

565 MYRIOPHYLLUM.
566 SAGITTARiA.
567 QUERCUS.
568 CORYLUS.
569 FAGUS.
570 CASTANEA.
571 BETULA.
572 CARPInUS.
573 OSTRY.
574 PLATANUS.
575 LIQUIDAMbar.
576 JUGLAND.
577 CARYA.
578 ARUM.
579 CALADIUM.

MONADELPHiA.

580 PINUS.
581 THUJA.
582 CUPRESSUS.
583 ACALYPHA.
584 CROTON.
585 JATROPHA.
586 STYLLINGIA.
587 EUPHORiBA.
588 PHYLLANTHUS.
589 MELOTHRIa.
590 CUCURBITA.
591 SICYOS.
MONOECIA MONANDRIA.

ZOSTERA.

Calyx et Corolla 0. | Calyx and Corolla
Anthera ovata, sessilis. | 0. Anther ovate, sessile.

1. MARINA.

Z. foliis integerrimis, subtrinerviis; caule teretiusculo. | Leaves entire, slightly three-nerved; stem somewhat terete.


This plant I have not myself seen. But it is found on the coasts of the middle states, and is said to grow on all of the shores washed by the Atlantic Ocean, in which it often floats. Found generally in salt water ditches and on muddy shores.

Flowers August—September.
CAULINIA. Willd.

Masculi—Calyx 0. Corolla 0. Anthera sessilis. Foeminei—Calyx 0. Corolla 0. Stylus filiformis. Stigma bifidum. Capsula monosperma.

Male Florets—Calyx 0. Corolla 0. Anther sessile. Female—Calyx 0. Corolla 0. Style filiform. Stigma 2-cleft. Capsule one-seeded.

1. FLEXILIS. Willd.

C. foliis senis, lineari-ribus, apice denticulatis, patentibus. Leaves verticillate, six in a whorl, linear, denticulate at the summit, expanding.


Root fibrous, perennial. Stem one to two feet long, slender, glabrous, always submersed, branching, jointed. Leaves linear, verticillate, somewhat diaphanous, slightly denticulate near the summit, the denticulation scarcely visible without a lens. Flower solitary, axillary, sessile. Style long. Seed oblong, yellow.

Grows in ditches and stagnant waters.

Flowers May, July, and August.

CHARA. Gen. Pl. 1397.

Masculi—Calyx 0. Corolla 0. Anthera globosa, sessilis. Foeminei—Calyx 0. Corolla 0. Stylus 0. Capsula monosperma.

Male Florets—Calyx 0. Corolla 0. Anther globose, sessile. Female—Calyx 0. Corolla 0. Style 0.
1. Vulgaris.

C. caulibus ramulisque basi nudis; ramulis teretibus, articulis foliosis; foliolis oblongis, subulatis; bracteis bacca brevioribus.

Stem and branches naked at base; branches terete, the joints leafy; leaves oblong, subulate; bracteas shorter than the berry.


Stem submersed, branched, rough, brittle and gritty when dry. Leaves six to eight, in a whorl as long as the joints and of the same texture, narrow, subulate, slightly channelled on the upper surface, the lower ones simple; the upper bearing on their upper sides rows of erect leaflets, four in a cluster among which the flowers are placed. Anther solitary, sitting at the base of the germ. Germ ovate, spirally striated, crowned with five little leaves. (Stigmas?) Fruit with a hard shell. Seeds imbedded in a reddish pulp. Smith. Eng. Bot. No. 336.

Grows in ponds and ditches. Canada to Carolina, Pursh. I have not noticed this species in our low country.

Flowers June—July.

2. Capitata. E.

C? caule ramulisque teretibus, glabris; articulis foliis; fructibus capitatis; bracteis bacca paulo longioribus.

Stem and branches terete, glabrous; joints leafy; fruit in heads; bracteas a little longer than the berry.

Stem submersed, floating, terete, glabrous, somewhat diaphanous. Leaves in whorls, generally six, terete, very acute. Flowers very numerous, collected in axillary heads, at first sessile, afterwards pedunculate. Bracteal leaves 4? transparent, acute, a little longer than the fruit. Berry smooth, yellow.
In this plant, I have not been able to distinguish the anther, nor any spiral striae around the fruit. Dr. Schweinitz sent me from Salem, North-Carolina, under the name of Chara Nidifica a plant closely allied to this. It appears to be more lucid and to bear leaves more numerous and more slender. Its habit is similar, and if not a variety of the present plant may form another species in a distinct genus.

The structure of this genus is obscure, and its real affinity still doubtful. Wallroth, who has examined it with great care, considers its fructifications as of two kinds; Nucules spirally striated, sessile, surrounded by a diaphanous covering, one-celled, many seeded, indehiscent; globules of a reddish colour accompanying the nucules, opening with three to four valves and containing a mass of minute spiral filaments; that it belongs to the cryptogamic plants, where it will constitute the basis of an order, (Characeæ) next to the Confervæ. Leman, on the other hand, considers it as a dicotyledonous plant allied to the Onagrariae and Salicariae, forming with a few other genera a new family under the name of Eleodeæ. Hooker’s Flora Scotica, Part 2. p. 108.

Grows in ditches—common in the rice fields on the Ogeechee river. Flowers April—May.

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MONOECIA DIANDRIA.

PODOSTEMUM. Michaux.

Masculi—Calyx 0. Corolla 0. Stamina 2, pedicello affixa. 
     Foeminei—Calyx 0. Corolla 0. Germen ovatum. Stigmata 2, sessilia. Capsula 2-locularis, 2-valvis, polysperma.

Male Florets—Calyx 0. Corolla 0. Stamens 2, fixed on a pedicel. 
     Female—Calyx 0. Corolla 0. Germ ovate. Stigmas 2, sessile. Capsule 2-cell-ed, two-valved, many seeded.

1. Ceratophyllum.
MONOECIA DIANDRIA.


Root composed of short fibres, perennial. Stem coriaceous, two to three inches high, floating. Leaves alternate, many cleft, the segments somewhat pinnatifid and setaceous. Flowers axillary, solitary. The stamens supported by a simple pedicel at the base of the germ. Filaments two, very short. Anthers two-celled. Germ ovate, surrounded by a few scales. Stigmas two, sessile. Capsule striate, two-valved, two-celled. Seed oval, numerous.

Grows in the rocky beds of rivers—collected near Augusta, Georgia, by Dr. Leavenworth.

Flowers—July. Pursh.

LEMNA. Gen. Pl. 1400.

Masculi—Calyx 1-phyllus. Corolla 0.

Foeminei—Calyx 1-phyllus. Corolla 0.

Stylus 1. Capsula unilocularis, disperma.

1. MINOR.

L. foliis ellipticis, utrinque planis, basi cohaerentibus; radicibus solitariis.


A small floating plant, sometimes nearly covering the surface of stagnant waters. Composed generally of one, two, or three leaves (more correctly fronds) laterally cohering yet each forming an entire plant. The margin of these fronds are slightly cleft, and in these fissures their very minute flowers are produced, or buds which form other fronds. Fronds somewhat thick, succulent, producing from the centre underneath a solitary root. Flowers very rare. Plant generally increasing by buds (gemmæ.)

Var.? Cyclostasa.

L. foliis ellipticis, utrinque planis, in circulo cohaerentibus; radicibus solitariis.

Leaves elliptic, flat on both surfaces, cohering at base; roots solitary.


A small floating plant, sometimes nearly covering the surface of stagnant waters. Composed generally of one, two, or three leaves (more correctly fronds) laterally cohering yet each forming an entire plant. The margin of these fronds are slightly cleft, and in these fissures their very minute flowers are produced, or buds which form other fronds. Fronds somewhat thick, succulent, producing from the centre underneath a solitary root. Flowers very rare. Plant generally increasing by buds (gemmæ.)

Var.? Cyclostasa.

L. foliis ellipticis, utrinque planis, in circulo cohaerentibus; radicibus solitariis.

Leaves elliptic, flat on both surfaces, cohering in a circular arc; roots solitary.
I wish here merely to notice a variety or species of this genus which many years ago I was accustomed to see floating on the surface of the ponds around Beaufort. The fronds were rather larger than those of the L. Minor, and were so attached near one of the foci of the ellipse as to form constantly segments of circles. I do not recollect that I ever saw a circle completed, though I could not discover what stopped or terminated its progress.

Found in ponds, ditches, and stagnant waters, commonly called “Duck Weed,” and considered as a favourite food of many species of the wild duck. The insects which are sheltered by these plants, however, are more probably the food which these birds so eagerly seek.

Flowers July—August?

2. POLYRHIZA.

L. foliis ellipticis, | Leaves elliptic, flat, planis; basi cohaerentibus; radicibus fasciculatis. cohering at base; roots clustered.


Froths larger than those of the preceding species, convex and dark purple underneath. Roots clustered.

Flowers July—August?

This very obscure genus, whose flowers it is so uncommon to find, has lately been examined with great care by Dr. Hooker of Glasgow. It appears in the Linnean system to belong to the class Diandria, and its fructification to consist of a single flower composed 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 two valves. Germen roundish, compressed, carinated on one side, tapering into a style about its own length, and terminated by a flattish stigma. Fruit an utriculus transversely oblong, compressed, emarginate at the top on which is the short persistent style. Seed one, (or more?) very hard, oval, lying horizontally in the utriculus and fixed by its lower sides. Embryo oblong, monocotyledonous, horizontal, central, surrounded by a whitish, fleshy albumen.

Dr. Hooker supported by R. Brown, considers this genus as standing next to Pistia in the natural order of the aroidae. In order, however, to give it this, its proper location, we must consider the perianth as a spath and the spadix as a point bearing two naked flowers, the upper male and diandrous, the inferior female, and the genus will then stand as it now generally does, among the monoecious plants.
MONOECIA TRIANDRIA.

TYPHA. Gen. Pl. 1401.

Masculi—Amentum cylindricum. Calyx obsoletus, triphyllus. Corolla 0.
Foeminei—Amentum cylindricum, infra masculos. Calyx 0. Corolla 0. Semen 1, pedicellatum; pedicello basi pilis longis pappi instar cincto.

Male Florets—Ament cylindrical. Calyx obsolete, three-leaved. Corolla 0.
Female—Ament cylindrical, below the male. Calyx 0. Corolla 0. Seed 1, pedicellate; the pedicel surrounded at base by long hairs resembling a pappus.

1. Latifolia.

T. foliis linearibus, planis; spica mascula femineaque approximatis, utraque cylindrica.

Leaves linear, flat; male and female spike approximate, both cylindrical.


Root fibrous, perennial. Culm about six feet high, terete, glabrous. Leaves as tall as the stem, nearly an inch wide, strap-shaped, glabrous, acute, sheathing the stem at base. Flowers in long cylindrical masses near the summit of the culm, the upper cylinder staminiferous. Calyx composed of three very minute scales. Stamens three, the filaments united at base. Anthers oblong, furrowed. Fertile florets beneath, the cylinder separated by a small interval from that bearing sterile florets. Germ small. Style
simple. *Stigma* acute. *Seed* dark brown on a pedicel surrounded at base by short hairs or bristles that seem in this genus to perform the functions of a perianth.

Grows in stagnant water, common on the margin of ponds.

**SPARGANIUM.** *Gen. Pl. 1402.*

*Masculi*—Amentum subrotundum. Calyx 3-phyllus. Corolla 0.


1. *Americanum?* Nutt.

*S. foliis inferioribus caulem subæquantibus, basi concavis; culmo ramoso; stigmate simplici, superne attenuato, obliquo, stylum æquante.* E.

Nutt. 2. p. 203.


Root perennial, fibrous. *Stem* eighteen to twenty-four inches high, terete, flexuous, glabrous, bearing generally two to three branches. *Leaves* about as long as the stem, strap-shaped, obtuse, glabrous, thick, concave at the base. Heads of flowers globular, sessile. Sterile heads six to nine, fertile two to three, on the branches not so numerous. Of the sterile floret, calyx three-leaved, the leaves obovate, obtuse; filaments twice as long as the calyx; anthers oblong, 2-celled. Of the fertile floret, calyx three-leaved, leaves obovate, embracing the germ and base of the style. *Style* rather longer than the calyx. *Stigma* tapering, rather obtuse, and about as long as the style.
Grows in ditches and in stagnant waters—along the roads in Chatham County, Georgia, not uncommon. Flowers May—June.

**TRIPSACUM.**

*Male Florets*—Glume 2-flowered, the exterior sterile, the interior neuter. Glume of the corolla membranaceous.

*Female*—Calyx a glume 2-flowered, exterior valve resembling an involucrum perforate near the base. Corolla, glume 2-valved. Styles 2. Seed 1.

**GEN. PL. 1134.**


1. *DACTYLOIDES.*

*T. spicis plurimis,* (3—4) aggregatis, superne masculis, inferne foemineis.

Spikes numerous, (3—4) aggregate; florets sterile near the summit, fertile at the base.


*Root* perennial. *Stem* four to five feet high, glabrous, sometimes compressed and flattened on one edge. *Leaves* large, sometimes three feet long, one and a half inches wide, acutely serrulate, channelled, scabrous on the upper surface with a few hairs along the midrib, glabrous underneath, contracted and villous at the throat. *Flowers* in terminal spikes; spikes three to four, (when four brachiately opposite?) bearing flowers on one (the interior) side. Fertile florets two to four, at the base of the spike, sitting in the excavations of the jointed, scabrous, somewhat triquetrous and flexuous rachis. Sterile florets in two-flowered clusters, two clusters in each cavity in the rachis arranged alternately on each margin, but the articulations approach so near that the flowers appear imbricate. Of the sterile flowers the glume is two valved, the exterior oval, obtuse, somewhat scabrous, cartilaginous,
the interior equal, membranaceous; corolla two valved, equal, the valves lanceolate, membranaceous; filaments three; anthers oblong incumbent; nectaries two, carnose, triangular, concave and somewhat two-pointed at the summit. Fertile flowers nestling in recesses in the rachis; common glume two-valved, two-flowered, (the exterior generally abortive;) exterior glume lanceolate, glabrous, cartilaginous, closing very nearly the cavity, perforated near the base? the interior membranaceous; corolla of both florets two-valved, lanceolate, membranaceous, the exterior larger, bearing only the rudiment of a germ and style, the interior with the rudiments of three stamens; germ ovate, glabrous. *Style* thick. *Stigmas* very long, feathered. *Seed* ovate, glabrous.

This species has been to me very rare. I have only seen it growing on a sandy knowl on the margin of the Ogeechee River.

Flowers May—July.


*T. spica solitaria,* Spike solitary, terminali, superne mascula, inferne foeminea. near the summit, fertile at the base.


*Root* perennial. *Stem* three to five feet high, sometimes branching, somewhat compressed, glabrous. *Leaves* one to three feet long, one inch wide, finely serrulate, somewhat scabrous, contracted and a little hairy at base, the sheath shorter than the internode. *Spike* terminal, solitary, the base obliquely articulated, bearing the fertile florets distichously; the summit somewhat triquetrous, bearing the sterile florets on two angles, the back flexuous. The structure of the flower very similar to that of the preceding species.

Grows abundantly on some of the sea-islands (Paris Island) along the margin of the salt-water.

Flowers August—October.


*T. spica solitaria,* Spike solitary, cylindrica, hermaphrodita; spiculis contiguis separating into short in articulos secedenticibus.

With this species of Michaux I am unacquainted, unless, as I suspect, it belongs to an undescribed species of Rottboellia. Grows on the sand hills of Florida. Mich.

**MANISURIS.**


1. **Granularis.** Lin.

M. florum foemineorum globosorum valvulis calycinis tesselato verrucosis; culmo erecto, ramoso; vaginis hirsutis.

**Male florets:** Glume 2-valved, valves lanceolate, flexuous. Of the corolla only a rudiment. Stamens, styles, and nectarium frequently wanting.

**Fertile florets:** Glume two-valved, the exterior nearly round, cartilaginous. Corolla 2-valved. Stamens 3. Styles 2. Seed 1.

**Calyx of the globose fertile floret** verrucose, tesselated; stem erect, branching; sheaths hirsute.


Root annual? Stem erect, two to three feet high, branching, hairy, scabrous particularly near the base. Leaves three to eight inches long, two to five lines wide, acute, keeled, hairy, terminating in an open sheath more hairy than the blade, roughened as well as the stem with small glands from which the hairs arise. Flowers in small spikes, lateral and terminal. Spikes generally fasciculate, each surrounded at base by a sheath, and bearing flowers on one side. Sterile florets (in this species generally neuter) alternating regularly with the fertile along the somewhat flexuous rachis, two-
valved, the valves compressed, hairy along the midrib, conspicuous when young almost concealing the fertile florets; corolla two-valved, valves very minute, slender; of the stamen, styles, or nectary, scarcely a vestige. Fer-
tile florets sessile, two-valved, exterior valve oribicular, cartilaginous, entire, (not emarginate at the sides,) corrugated by irregular transverse ridges, the interior oblong, firmly attached to the rachis; corolla two-valved, valves equal, membranaceous; nectary one? leaved, very small; stamens three, ex-
serted; styles two; stigmas feathered. Seed one, round, enveloped by the persistent calyx.

It appears to me somewhat doubtful whether this plant and the M. Myu-
rus of India are really congeneres.

I am not certain whether this plant is really indigenous, or has been intro-
duced from the West Indies. I have only seen it around Charleston, where, however, it is very common in dry pastures.

Flowers August—October.

**CAREX. Gen. Pl. 1407.**

| **Amentum imbricatum.** Masculi: Calyx squama. Corolla 0. | **Ament. imbricated.** Male florets: Calyx a scale. Corolla 0. |
| Foeminei: Calyx squama. Corolla monopetala, ventricosa, bidentata, persistens. Stigmata 2—3. Seed triquetrum, inclu-
sum. |  |


* Spicis dioicis. | * Spikes dioecious. |

1. Sterilis.

C. spicis subsenis; fructibus ovatis, compresso triquetris, acu-
minatis, apice recurvis, bicuspidatis, margine ciliato serratis.

Spikes generally 6; fruit ovate, compress-
ed, triquetrous, acum-
inate, recurved at the point, two-pointed, cili-
ate serrate along the margin.


** Spicis androgy-nis. **

† Spica unica, flori-bus superioribus ple-rumque masculis.

2. Cephalophora.

C. spicis in formam ellipticam aggregatis; fructibus ovatis, compressis, bifidis, marginatis, superne ciliato-serratis. 


Stem two to three feet high, triquetrous, scabrous along the margins. Leaves linear, very long. Spikes four to six, approximate, forming one terminal head; bracteal leaf longer than the spike; scale ovate, mucronate. Corolla ovate, compressed, scabrous along the margins, about as long as the scale. Styles two. Seed ovate.

Grows in the mountainous districts of Carolina and Georgia. Flowers in May.


C. spica simplici, Spike simple, oval; ovali, inferne mascula; sterile at base; cap-
capsulis imbricatis horizontalibus, rostratis; squamis minimis.


Stem about a foot high, triquetrous, slightly scabrous along the margin. Leaves very narrow, longer than the stem, as usual in this genus glabrous with finely serrulate or scabrous margins. Flowers in a large compact, oval, terminal head, tapering at base. The base covered with sterile florets, with the scales lanceolate acute, slightly coloured. Stamens three. Fertile florets crowded, scale linear lanceolate, scarcely as long as the inflated body of the corolla. Corolla somewhat globose, terminating abruptly in a long, smooth, two-cleft beak. Seed triquetrous. Style persistent.

Grows in the mountains of Carolina and Georgia. Dr. Muhlenberg.

Flowers—


C. spica simplici; stigmatibus plerumque tribus; fructibus alternis, oblongis, tereti triquetris, scabris, acuminati; squamis ovatis, acuminati, infima apice foliacea.


Varies with a sterile spike, linear, terminal, somewhat distinct, fertile florets, three to four, alternate, sessile. Muhl.

The only specimen I possess of this species belongs to this variety. Grows in dry woods, Muhl. In Carolina, Dr. Schweinitz.

Flowers May—June.
†† Spicis pluribus, floribus superioribus masculis. †† Spikes numerous, the upper flowers sterile.

5. Bromoides.

C. spiculis oblongis, alternis, remotiusculis, sessilibus; capsulis oblongis, acuminatis, rostratis, bicuspidatis; squamis, oblongis mucronatis.


Root perennial. Stem slender, triquetrous, about a foot high, scabrous along the angles. Leaves linear, as long or longer than the stem, slightly scabrous along the margins. Flowers in numerous, somewhat linear spikes, the upper ones crowded, the lower rather distant. (Sterile spike linear, inserted beneath the terminal female spike, caducous. Willd.) The fertile florets numerous. Bracteal leaf at the base of each spike, small, ovate, with a setaceous point, the lowest one much longer than the spike, the upper ones shorter. Scales of the fertile florets oblong lanceolate, mucronate, membranaceous, shorter than the corolla. Corolla ovate, slightly acuminate, bifid at the summit, nerved. Stigmas two. Seed oval, compressed.

Grows in damp soils—near Ashepoo along the road side. Flowers in April.


C. spica androgyna, composita; spiculis subquaternis, remotiusculis, superne masculis; fructibus ovatis, bidentatis, margine glabris, reflexo patentibus; squamis oblongo-lanceolatis.

Spike androgynous, compound; spikes generally four, somewhat distant, sterile at the summit; fruit ovate, two-toothed, glabrous on the margin, reflexed; scales oblong, lanceolate.
MONOECIA TRIANDRIA.


Stem very slender, nearly twelve inches high, slightly angled, leafy near the base. Leaves linear, almost filiform, scabrous along the margin. Spikes five to six, few-flowered, sterile at the summit. Scales ovate, acute, keeled, shorter than the corolla. Fruit ovate, acuminate, glabrous, when mature diverging.

Grows in dry soils. In the upper districts of Carolina.

Flowers in May.

7. STIPATA?

C. spiculis plurimis


Stem one to two feet high, thick, succulent, very tender, very glabrous, excepting the margins, which, particularly towards the summit, are slightly scabrous. Leaves as long as the stem, (longer when young,) strap-shaped, channelled, nervcd, slightly serrulate, sheathing the base of the stem. Flowers in numerous, compound spikelets, so closely aggregated as to form a continued and somewhat compact spike, appressed when young, expanding when mature. Male florets terminating each spikelet, scale ovate, membranaceous, mucronate. Scale of the female floret similar. Corolla ovate, tapering to the two-cleft summit, serrulate, nervcd. Stigmas two. Seed obtusely triquetrous.

Grows in swamps—very common.

Flowers April.

8. MUHLENBERGHIA.

C. spiculis plurimis

Spikes numerous, ovatis, alternis, approximatis; fructibus subrotundo - ovatis, ovate, alternate, approximate; fruit ovate, nearly round, winged,
marginatis, compressis, bidentatis, ciliato serratis; squamis mucronatis.


Root perennial. Stem about two feet high, triquetrous, slightly scabrous near the summit. Leaves longer than the stem, linear, scabrous along the margin, sheathing the stem nearly to the middle. Spikes numerous, the upper ones forming a compact cylindrical spike, the lower distinct. Bracteal leaves setaceous, much longer than the spikes. Scales ovate, mucronate, longer than the corolla. Corolla ovate acuminate, compressed, slightly winged, serrulate along the margin, two-cleft at the summit. Seed nearly round, compressed.

Grows in damp soils.
Flowers April.


C. spica oblonga, decomposita, spiculis ovatis, androgyinis, superne masculis; fructibus ovatis, acuminatis, bicuspidatis; squamis ovatis, mucronatis; bracteis foliaceis, filiformibus.


Stem twelve to eighteen inches high, triquetrous, scabrous, particularly along the margins. Leaves narrow, somewhat rigid and scabrous, longer than the stem. Spike compound. Spikelets numerous, approximate, forming a somewhat compact, cylindrical, mass of florets. Scales of the fertile florets lanceolate, slightly mucronate, somewhat chestnut coloured, with a green midrib. Fruit ovate, compressed, scabrous along the margin, when mature diverging and nearly as long as the scale.

Grows in wet lands. In the upper and mountainous districts of Carolina. Flowers May.
10. **Sparganioides.**

C. spiculis multifloris, suboctonis, ovatis, subapproximatis; fructibus ovatis, compressis, marginatis, bisidis, marginie ciliato-serratis, horizontalibus.  

Spikes many flowered, generally eight, ovate, approximate; fruit ovate, compressed, winged, two-cleft, ciliate serrate along the margin, horizontal.


*Stem* twelve to eighteen inches high, nearly terete. *Leaves* numerous, longer than the stem, striate, scabrous along the margins, two to three lines wide. *Flowers* in numerous sessile spikes, (six to eight,) the upper ones approximating. Bracteal leaf setaceous, rather longer than the spikes. *Scales* ovate, mucronate, scarcely as long as the corolla. *Corolla* ovate, slightly acuminate, compressed, horizontally expanding, finely serrate, slightly two-cleft. *Seed* orbicular, compressed.

Grows in damp soils, in the upper districts of Carolina and Georgia.

*Flowers—*

11. **Rosea.** Schkuhr.

C. spiculis subquaternis, remotis; fructibus ovatis, acuminatis, bidentatis, marginie ciliato serratis, horizontalibus, squamis ovatis, obtusis; bractea foliacea ad basin spiculæ inferioris.  

Spikes generally 4, remote; fruit ovate, acuminate, 2-toothed, ciliate serrate along the margin, horizontal; scales ovate, obtuse; bractea leaflike at the base of the lower spike.


*Stem* about twelve inches high, slender, slightly angled. *Leaves* linear, longer than the stem, a little scabrous along the margin. *Spikes* four to six, small, sessile, the lower somewhat distant. The lowest bracteal leaf seta-
ceous, nearly two inches long. Scales ovate, rather acute, nearly as long as the corolla. Fruit when mature diverging.
Nearly allied to C. Retroflexa, perhaps only a variety.
Grows in shaded woods, Pursh. In the upper districts of Carolina.

Flowers—

††† Spicis pluribus, floribus superioribus {foemineis. ††† Spikes nume-
rous, the upper flowers fertile.

12. LEPORINA.

C. spiculis tribus subrotundo - ellipticis, alternis, congestis; fructibus ellipticis, compressis, acuminatis, ore integris.

Spikes three, nearly round, elliptic, alternate, clustered; fruit elliptic, compressed, acuminate, with the mouth entire.


Spikes androgynous, alternate, distinct, sessile, turgid and obtusely ovate, without bracteas, green, sometimes tinged with yellow. Capsules compactly imbricate, convex on one side. flat on the other, acuminate. Mich.
This species I have not seen.

Flowers—

13. SCIRPOIDES.

C. spiculis subqua-
ternis, approximatis, ellipticis; fructibus ovatis, bidentatis, compressis, margine ciliato serratis, erectis; squa-
mis ellipticis obtusis.

Spikes generally 4, approximate, elliptic; fruit ovate, 2-toothed, compressed, ciliate serrate along the margin, erect; scales elliptic, obtuse.

Stem eight to twelve inches high, slender, slightly triquetrous, but at base when surrounded by the sheaths of the leaves appearing cylindrical, slightly scabrous towards the summit along the margins. Leaves very narrow, scarcely a line wide, nearly as long as the stem, sheathing its base, the lowest very short. Spikes generally four to six, squarrose, sessile, bracteas subulate, small, the lowest sometimes longer than the spike. Male florets numerous, forming a long spike at the base of the terminal spike, solitary or wanting at the base of the lower spikes; calyx a scale, membranaceous, very acute, with the midrib green. Scale of the female floret similar to that of the male. Corolla ovate, acuminate, serrate along the margin, two-cleft at the summit, with the teeth erect, expanding horizontally. Stigmas two.

Grows in swamps.
Flowers April.

14. Lagopodioides.

C. spiculis duodenis, alternis, ellipticus, obtusis, approximatis; fructibus ovato-lanceolatis, marginatis, bicuspidatis; bractea foliacea, longissima, ad basin spicæ ultimæ.


Stem erect, one to two feet high, obtusely triquetrous, scabrous near the summit. Leaves strap-shaped, longer than the stem, sheathing its base. Spikes very numerous, ten to twenty, ovate, approximate, forming one large, oblong head. Florets in each spike very numerous, imbricate, corolla ovate lanceolate, distinctly two-pointed, nerved, much longer than the ovate scale. Lower bracteal leaf setaceous, as long as the head.

Grows in swamps and wet meadows, in the mountainous districts of Carolina. Dr. Schweinitz.

Flowers—

15. Foénea. Muhlenberg?

C. spiculis pluribus, inferioribus distinctis, compositis, superiori-...
bus sub approximatis, ovatis; fructibus ovatis, acuminatis, bidentatis, squama paulo longioribus; bractea setacea longa ad basin spicæ ultimæ. E.


Stem one to two feet high, obtusely triquetrous, scabrous near the summit. Leaves strap-shaped, as long as the stem, scabrous along the margins, sheathing the base of the stem for some distance from the ground. Spikes numerous, (eight to ten,) the lower separate and compound, the upper forming a continued mass of flowers. Florets numerous, imbricate. Corolla ovate, acuminate, very finely serrulate, very slightly two-cleft at the summit, larger than the ovate lanceolate scale. The lower bracteal leaf subulate, two to three inches long, the upper ones very small.

For specimens of this plant, and for my knowledge of it as a southern species, I am indebted to Dr. Schweinitz.

Grows in the upper districts of North and South-Carolina.

Flowers—

16. Ovalis.

C. spiculis subsexis, subrotundo - ellipticis, alternis, sub approximatis, inferne masculis; fructibus ovatis, marginatis, bidentatis, ciliato-serratis.

Spikes generally 6, elliptic, nearly round, alternate, approximate, florets at base sterile; fruit ovate, margined, two-toothed, ciliate serrate.


Stem about twelve inches high, triquetrous, with the angles acute, scabrous. Leaves narrow, about as long as the stem. Spikes approximate, oval, Scales ovate lanceolate, acute, as long as the corolla. Corolla oblong, acuminate, with the mouth entire. Good. Trans. Lin. Soc. 2. p. 148.

With this species I have no acquaintance. It is mentioned by Dr. Schweinitz, in his letters, as one of our southern species.

Flowers—
17. **Scoparia.**

C. spiculis subquinis, alternis, ellipticis, obtusis, subapproximatis; fructibus ovato-lanceolatis, marginatis, bicuspidatis; bracteis oblongis, mucronatis. Spikes generally 5, alternate, elliptic, obtuse, approximate; fruit ovate lanceolate, winged, two-pointed; bracteas oblong, mucronate.


Stem one to two feet high, obtusely triquetrous. Leaves linear, channelled, with the margins and keel scabrous towards the summit, closely sheathing the stem at base. Spikes five to eight, approximate, distinct, lanceolate, sessile, all surrounded at base with a few sterile florets. Lower bracteal leaves longer than the spikes, the upper shorter. Scales ovate, membranaceous, rather acute, white with the midrib green, about as long as the corolla. Corolla ovate, compressed, tapering at the summit, slightly two-cleft, acutely serrulate. Stigmas two, long.

This species, perhaps the most common in our low country, appears to vary with spikes lanceolate, nearly round, (perhaps from age,) and sometimes obovate. It appears almost to be intermediate between the C. Scoparia and Straminea of the northern states.

Grows everywhere in damp soils.

Flowers April—June.

18. **Festucacea?**

C. spiculis suboctonis, subapproximatis, alternis, cylindraceis; fructibus subrotundovatis, rostratis, bidentatis, margine ciliatoserratis, squama lanceolata mucronata majoribus. Spikes generally 8, approximate, alternate, cylindrical; fruit ovate, nearly round, beaked, two-toothed, ciliate serrate along the margin, larger than the lanceolate, mucronate scale.


Root perennial. Stem twelve to eighteen inches high, very slender, triquetrous, scabrous on the margins. Leaves narrow, about as long as the stem. Flowers in linear spikes, generally approximate, sometimes patent,
with one or two male florets at the summit, and some frequently intermingled with the fertile. Bracteal leaves very small. Scales oblong lanceolate, very acute, excepting the midrib membranaceous. Stamens three. Corolla of the fertile floret at first shorter than the scale, increasing with age, becoming long, tapering, nerved, very slightly serrulate along the margins, somewhat contracted at the summit of the seed, two-cleft at the summit. Stigmas two, very long. Seed oval, compressed.

The male florets in this species appear to grow very irregularly; they are sometimes on the summit of the spikes, and sometimes occupy near the whole of one of the middle spikes. A specimen resembling this very much was sent me by Dr. Muhlenberg as the C. Paniculata, but the C. Paniculata of Europe is certainly distinct.

Grows in swamps and damp soils.
Flowers March—April; one of our earliest species.

*** Spicis sexu distinctis; spica mascula solitaria.***

19. CÆSPITOSA. Lin.

C. spicis foemineis, cylindraceis, obtusis, subternis, distantibus, insima brevissime pedunculata; fructibus ovatis, obtusis, squama oblonga obtusa majoribus; foliis patulis.

Fertile spikes cylindrical, obtuse, generally 3, distant, the lowest on a very short peduncle; fruit ovate, obtuse, larger than the oblong, obtuse scale; leaves expanding.


Stem slender, triquetrous, striate, twelve to eighteen inches high. Leaves linear, acute, scabrous along the margin, as long as the stem. Sterile spikes one to two; fertile alternate, nearly sessile, long, slender, three to four, sometimes bearing sterile florets at the summit. Scale linear lanceolate, dark coloured with a green midrib. Capsule oblong. Bracteal leaves long.

Grows in boggy, turfy soils. Carolina, Dr. Schweinitz.
Flowers—

20. CRINITA.

C. spicis masculis | Sterile spikes 2, fergeminis, foemineis qua. Sterile spikes 4, distant, pedun-
ternis, distantibus, pedunculatis, cylindraceis, pendulis; fructibus subrotundo - ellipticis, ventricosis, brevissime rostellatis, ore integris, squama oblonga aristata, brevioribus.


Stem about two feet high, acutely triquetrous, concave on the sides so as to appear slightly winged, finely serrulate along the margins. Leaves longer than the stem, the lower ones sheathing, channelled, nerved, very glabrous, not even scabrous on the edges. Male spikes with us generally solitary, slender, pendulous, the scales lanceolate, mucronate. Female spikes generally three, not very distant, pendulous, on short peduncles merely enveloped, not inclosed, each terminated by a number of male florets; scales ovate, with a long subulate point. Corolla ovate, compressed, terminating in a simple point, shorter than the scale. Stigmas two.

Grows in river swamps.
Flowers April—May.


C. spicis masculis binis, ternisve, foemineis subquaternis, subpedunculatis, subnutantibus, cylindraceis, remotis; fructibus oblongis brevissime rostellatis, ore integro, squamam oblongam acutam sub æquantibus.

Sterile spikes 2 or 3, fertile generally 4, on short peduncles, somewhat nodding, cylindrical, remote; fruit oblong, with a very short, entire mouth; nearly the length of the oblong, rather acute scale.


Stem about two feet high, triquetrous, scabrous. Leaves narrow, keeled, scabrous along the margin, the lower sheathing the base of the stem, the upper sessile. Sterile spikes one to three, cylindrical; the fertile about three, the upper sessile, the lowest on a short peduncle, and the summit of each for nearly one third of its length frequently occupied with sterile florets.

VOL. II.
Corolla ovate, nearly entire at the summit, scarcely longer than the dark brown scale.
Grows in bogs and turfy soils. In the upper districts of Carolina.
Flowers April—May.

§ 2. STIGMATIBUS 3.   § 2. STIGMAS 3.

* Spica terminalis mascula, caeteris androgynis.
* Terminal spike sterile, the rest androgynous.

22. TRICEPS. Mich.

C. spicis sub quaternis, approximatis, ellipticis, sessilibus; fructibus ovatis, compressis, glabris, squamam ovatam acuminatam sub æquantibus.

Spikes generally 4, approximate, elliptic, sessile; fruit ovate, compressed, glabrous, about as long as the ovate acuminate scale.


Stem twelve to eighteen inches high, acutely triquetrous, scabrous along the margins, slender. Leaves linear, slightly scabrous on the edges, scarcely longer than the stem, a little pubescent near the sheaths. Spikes generally four, three larger, approximate, whence the name given by Michaux, the fourth smaller, and a little remote, all sessile, or on very short peduncles, the base of the upper spike surrounded with male florets. Scales ovate, slightly acuminate. Corolla of the female florets ovate, somewhat compressed, not pointed at first, shorter than the scale, when old quite as long. Stigmas three. Seeds triquetrous.

Nearly allied to C. Virescens, from which it appears to differ by its cylindrical or elliptic spikes and glabrous corolla.

Grows in damp soils.
Flowers April—May.

23. HIRSUTA.

C. spica androgyna oblonga, obovata, interne mascula; foeminaeis remotiusculis, sub-

Terminal spike androgynous, oblong, obovate with sterile florets at base; fertile spikes
MONOECIA TRIANDRIA.

ternis, subsessilibus, oblongis; fructibus ovatis obtusissimis, obtuse triquetris; foliis vaginisque hirsutis.

generally three, nearly sessile, oblong; fruit ovate, very obtuse, obtusely triquetrous; leaves and sheath hirsute.


Stem about a foot high, slender, triquetrous, pubescent near the summit. Leaves narrow, rather longer than the stem, somewhat hairy. Spikes three to four, the terminal sterile at base, the rest generally fertile, the lower somewhat cylindrical on short peduncles. Scales of the fertile florets ovate mucronate, scarcely as long as the mature fruit. Corolla ovate, nerved.

In specimens of this plant collected near St. Mary's, by Dr. Baldwin, the leaves are less hairy, and the lateral spikes more nearly sessile, than in those I possess from Pennsylvania.

Grows near St. Mary's, Georgia. Dr. Baldwin.

Flowers—

24. BUXBAUMII. Wahlenberg.

C. spica androgyna pedunculata, obovata, inferne mascula, foemineis subternis, remotis sub pedunculatis; fructibus ellipticis, triquetris, obtusis, obsolete bidentatis, squamam oblongam mucronatam subæquantibus.

Androgynous spike pedunculate, obovate, bearing sterile florets at base, fertile florets three, remote, on short peduncles; fruit elliptic, triquetrous, obtuse, slightly 2-toothed, as long as the oblong, mucronate scale.


Stem one to two feet high, slender, triquetrous; glabrous, somewhat scabrous near the summit. Leaves narrow, long, with the margins scabrous. Spikes three or four, the terminal spike with the lower half, or sometimes more than half, bearing sterile flowers, the lower spikes generally fertile, erect, sessile or on very short peduncles. Scales of both florets in my specimens lanceolate, very dark brown, almost black, with a green midrib, very acute, rather longer than the fruit. Corolla ovate, compressed, smooth, somewhat
Monoecia triandra, triquetrous, nearly white, terminating in a very short, two-cleft summit. Lower bractea longer than the spike, the upper ones shorter. Grows in swamps and bogs in the upper districts of Carolina. Dr. Schweinitz. Flowers July—August. Pursh.

25. Trichocarpa.

C. spicis androgynis tribus, foemineis binis pedunculatis, erectis, cylindraceis, remotis; fructibus ovatis, acuminatis, bicuspidatis, pilosis, squama ovato-lanceolata aristata longioribus. Spikes 3 androgynous, 2 female, erect, cylindrical, pedunculate, distant; fruit ovate, acuminate, two-pointed, hairy, longer than the ovate lanceolate, awned scale.


Stem two to three feet high, acutely triquetrous, serrulate along the margins. Leaves four to seven lines wide, rather longer than the stem, channelled, very acute, scabrous on the upper surface, the margins and midrib serrulate, sheathing at base. Flowers in distinct spikes, the sterile superior, one to five, alternate, terete, sessile, one to two inches long; fertile spikes two to three, remote, nearly sessile, erect, cylindrical, the fruit expanding. Of the sterile florets the bracteal leaf is setaceous or subulate, the lower longer than the spike, the scale lanceolate, rather obtuse, the midrib rufous. Stamens three. Of the fertile spike the bracteal leaves resemble the root leaves, are very long, and have little or no sheath. Scale lanceolate, slightly mucronate. Corolla ovate, inflated, nervèd, acuminate, pubescent, a little longer than the scale. Stigmas three. Seed obtusely triquetrous.

Our plant is larger than the specimens sent me from Pennsylvania by Dr. Muhlenberg, and the fruit less hairy. Does it belong to this section? Grows in deep swamps; to me rare; found in fresh marshes along the Ogeechee river. Flowers in April.

** Spicis sexu distinctis; mascula solitaria, foemineis subsessilibus, vel incluse pedunculatis. ** Fertile and sterile spikes distinct; sterile spike one; fertile spikes nearly sessile, or with peduncles sheathed.
26. **Varia.**

*C. spicis foemineis subternis, subapproximatis, sessilibus, subglobosis; fructibus subgloboso-triquetris, rosstratis, bidentatis, pubescentibus, squama oblonga brevioribus; culmo erecto.**

Fertile spikes generally three, approximately three, sessile, nearly globose; fruit triquetrous, somewhat globose, beaked, two-toothed, pubescent, shorter than the oblong scale; stem erect.


*Stem* slender, six to eight inches high, scabrous along the angles. *Leaves* generally longer than the stem, narrow, subulate, scabrous along the margins. *Flowers* in three or four small spikes, the upper sterile, the lower fertile, sometimes approximate, sometimes distinct. Sterile spike oblong lanceolate, the scales lanceolate, with ferruginous sides. Fertile spikes compact, the scales ovate lanceolate, acute, rather shorter than the mature fruit, tinged with brown. *Corolla* globose, pubescent, with a short acuminate point.

Grows in shaded rich soils.

*Flowers* April—May.

27. **Dasycarpa.** Muhl.

*C. spica mascula parva, foemineis subternis, subapproximatis; fructibus ovato triquetrinis, villosis hispidis, squama acuminata longioribus. E.*

Sterile spike small, fertile generally three, approximate; fruit ovate, somewhat triquetrous, villous and hispid, longer than the acuminate scale.


*Stem* twelve to eighteen inches high, triquetrous, glabrous. *Leaves* very narrow, lanceolate, linear, glabrous, all excepting the bracteas shorter than the stem. Sterile spike very small, terminal, scales lanceolate. Fertile spikes generally three, near together, the upper sessile, the lower on short peduncles. Bracteas resembling the leaves, longer than the stem, embracing the base of the peduncle. *Scale* ovate acuminate. *Corolla* obtusely
MONOECIA TRIANDRIA.

This species of Carex, which I sent to Dr. Muhlenberg many years ago, I have never found but once; I then met with it in dry pastures, on Paris' Island. Its corolla is more villous than that of any species with which I am acquainted. The spikes and fruit larger than those of C. Virescens.

Flowers in May.

28. MARGINATA. Muhl.

C. spicis foemineis subgeminis, approximatis, subglobosis, sub-sessilibus; fructibus globosis, tomentosis, bidentatis, squama oblongo-ovata majoribus; foliis radicalibus, culmo longioribus.

Fertile spikes generally two, approximate, subglobose, nearly sessile; fruit globose, tomentose, two-toothed, larger than the oblong oovovate scale; leaves radical, longer than the stem.


Plant scarcely a foot long, growing in tufts. Stem slender, triquetrous, scabrous along the margins. Leaves linear, almost subulate, nearly as long as the stem, slightly scabrous along the margins. Spikes crowded at the summit, sterile spike terminal, cylindrical, six to eight lines long, scales ovate, chestnut coloured with a white margin, the lower obtuse, the upper somewhat acute. Fertile spikes at the base of the sterile, two to three each, bearing three to six flowers, scales ovate, acute, sometimes mucronate, nearly as long as the fruit.

Grows on dry hills and rocks. Pursh.

Flowers April and May.

29. VESTITA. Willd.

C. spica mascula lanceolata, foemineis geminis, ovatis, sessilibus, approximatis, fructibus ovatis, ros-tratis, ore obliquis, pubescentibus, squamam

Sterile spike lanceolate, the fertile two, ovate, sessile, approximate; fruit ovate, beaked, with an oblique summit, pubescent, as long as the ovate acute
ovatam acutam subæ-quantibus.


Stem about two feet high, acutely triquetrous, scabrous along the margins. Leaves narrow, strap-shaped, about as long as the stem. Sterile spike terminal, narrow, lanceolate, almost cylindric, scales ovate, dusky, with a membranaceous margin. Fertile spikes two, cylindric, nearly sessile, just below the base of the sterile. Corolla ovate, attenuate at the summit, slightly two-cleft, pubescent, almost tomentose. Scales ovate, the lower sometimes mucronate, about as long as the corolla. Bracteas scarcely longer than the spikes.


30. Tentaculata.

C. spicis foemineis tribus, ovatis, sessilibus, horizontalibus, sub approximatis, confer-titis; bracteis longissime foliaceis; corollis ovatis, ventricosis, nervosis, longissime rostratis, ore bidentatis, squama parvula ovata mucronata longioribus.


Stem two feet high, triquetrous. Leaves very long, lanceolate, linear, nervd, scabrous along the margins, sheathing the base of the stem. Sterile spike long, solitary, scale linear lanceolate, mucronate. Fertile spikes three, approximate, the two upper sessile, the third with a short included peduncle. Bracteal leaves much longer than the stem; scale very much dilated at base, mucronate; corolla ventricose, ovate, terminating in a long beak, very slightly two-cleft, nervd, but the nerves less conspicuous than those of the two preceding species, very compactly crowded on the spike.

Grows in wet soils. I have not seen it in the low country. Flowers April and May.
30. **Lupulina.**

*C. spicis foemineis tribus, pedunculatis, oblongis, approximatis; bracteis longissimis, foliaceis; fructibus ovatis, ventricosis, nervosis, longissime conico-rostratis, ore bicuspidatis, squama ovata mucronata multoties longioribus.

Fertile spikes three, oblong, approximate, with inclosed peduncles; bracteas very long, leafy; fruit ovate, ventricose, nerv-ed, with long, conical, 2-pointed beaks, much longer than the ovate mucronate scale.


*Stem* two to three feet high, triquetrous. *Leaves* lanceolate linear, with the margin and midrib scabrous. Sterile spike solitary, sometimes two, scales linear lanceolate, very acute, mucronate. *Fertile spikes* two to three, approximate, ovate, sometimes globose, on short peduncles, the lower enclosed in a short sheath, scale lanceolate, acuminate, with the point somewhat hispid. *Corolla* ovate, inflated, distinctly nerved, terminating in a long, two-cleft beak, much longer than the scale. *Stigmas* three.

Grows in swamps and wet soils. Flowers April—May.

31. **Gigantea.** Rudge.

*C. spicis foemineis 3—4, remotis, cylin-dricis, erectis, incluse pedunculatis; bracteis foliaceis, longissimis, glaberrimis; corollis ovatis, conico rostratis, bifidis, nervosis, ventricosis, squama ovato-lanceolata longioribus.

Fertile spikes 3—4, remote, cylindrical, erect, with inclosed peduncles; bracteas long, leafy, glabrous; corolla ovate, with a conical two-cleft beak, nerved, ventricose, longer than the ovate lanceolate scale.

**Stem** one to two feet high, triquetrous, glabrous. **Leaves** longer than the stem, strap-shaped, slightly channelled, scarcely scabrous along the margins, sheathing at base. Male spike terminal, scales ovate, acute. Female spikes three, sometimes with a few male florets at the summit of each, distant, half or more of the long peduncle inclosed. **Corolla** ovate, acute, nervied, two-cleft at the mouth, twice as long as the ovate, very acute scale, somewhat inflated when mature. **Stigmas** three. **Seed** triquetrous.

Grows in bogs and swamps; very common. Flowers April—May.

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**Folliculata.**

*C. spicis foemineis sub quaternis, erectis, exerpe pedunculatis, paucifloris; fructibus ovatis, ventricosis, nervosis, rostratis, squama ovata longioribus.*

Fertile spikes generally 4, erect, pedunculate, few flowered; fruit ovate, ventricose, nervied, beaked, longer than the ovate scale.


**Stem** about two feet high, erect, triquetrous, with the margins near the summit, scabrous. **Leaves** longer than the stem, strap-shaped, scabrous, slightly channelled, with short sheaths at base. Male spike solitary, terminal, scales lanceolate, acute. Female spikes two to four, rarely solitary, erect on short exerted peduncles, the lower one, when there are four, remote. **Florets** six to twenty, expanding horizontally. **Corolla** ovate, rostrate, slightly two-cleft at the mouth, nervied, conspicuously inflated, longer than the narrow, ovate, slightly acuminate scale. **Stigmas** three. **Seed** triquetrous.

A few male florets generally occur at the summit of each fertile spike. Grows in swamps. Flowers April—May.

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**Fertile spikes on peduncles.**

**Spicis foemineis pedunculatis.**

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**Plantaginea.**

*C. spicis pedunculatis, foemineis quaternis* Spikes pedunculate, fertile four, distant;
distantibus; fructibus ellipticis, triquetris, pedicellatis, glabris, squama ovata cuspidata (trimum), brevioribus; bracteis vaginatis apice subfoliaceis; foliis radicalibus, lanceolatis, nervosis.

fruit elliptic, triquetrous, pedicellate, glabrous, at first shorter than the ovate, cuspidate scale; bracteas sheathing at the summit, leaflike; leaves radical, lanceolate, nerv-ed.


Stem twelve to eighteen inches high, glabrous. Leaves lanceolate linear, assuming the lanceolate form more than usual among grasses, nerved, glabrous, thin, very slightly serrulate along the margins. Sterile spike one, terminal, fertile generally about four, distant, erect, linear, the fruit not crowded, the lower on long peduncles, the peduncles of the upper scarcely longer than the sheaths. Bracteal leaves resembling those of the root, all sheathing for at least half an inch the base of the peduncle. Scales of the sterile floret lanceolate, acute, not mucronate; of the fertile ovate mucronate. Corolla oblong, somewhat oblique, acute, slightly notched at the summit, very distinctly nerved, and when mature, in my specimens always longer than the scale.

Grows in rich shaded soils.

Flowers April.

35. Castanea. E.

C. spica mascula solitaria; foemineis tribus, subrotundis, insima longissime pedunculata, cernua, superioribus sessilibus; corolla triquetra ovata, glabra, puncticulosa, squama ovata, obtusa tanto longiore.

Sterile spike solitary; fertile spikes three, nearly round, the lowest on a long peduncle, nodding, the upper sessile; corolla triquetrous ovate, glabrous, slightly dotted, much longer than the ovate, obtuse scale.

**MONOECIA TRIANDRIA.**

*Root* perennial, stoloniferous. *Stem* about two feet high, triquetrous, slender, purple at base. *Leaves* linear, nerv'd, scabrous along the margin; shorter than the stem. Sterile spike about an inch long, much shorter than its three-nerved bracteal leaf; scales oblong, obtuse, brown with a white margin. Fertile spikes three, (nine to sixteen flowered,) the upper bearing on the summit a few sterile flowers, sessile as well as the middle spike, the lower cernuous on a long peduncle. *Corolla* inflated, ovate, obtusely triquetrous, distinctly nerv'd, terminating in a long beak, two-cleft at the summit, somewhat coriaceous, lucid, and transversely striate, resembling under a lens the surface of fine morocco leather. *Seed* triquetrous.

This species appears to me to have no resemblance to the European *C. Fulva,* at least as that plant is figured in Trans. Lin. Soc. 2. t. 20. f. 6. I have, therefore, changed its name. Its close and strong affinity is to *C. Folliculata,* from which, however, it is by its calyx and corolla sufficiently distinct. It is also a coarser grass.

Grows in wet pine barrens. Chatham county, Georgia.
Flowers in April.

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**36. ANCEPS.**

*C. spicis foemineis* tribus, remotis, inferiores pedunculatis; fructibus ovatis, nervosis, ore membranaceis, squama oblonga mucronata? longioribus.

Fertile spikes three, distant, the lower pedunculate; fruit ovate, nerv'd, membranaceous at the mouth, longer than the oblong, mucronate? scale.


*Stem* triquetrous, compressed, almost ancipitous. Bracteal leaves sheathing. The upper fertile spike sessile, the rest on peduncles. Fertile *florets* alternate, rather remote. Willd.

I quote the observations of Willdow on this species, because to me it has been obscure. The plants returned to me by Dr. Muhlenberg as *C. Anceps,* are too nearly allied to *C. Flexuosa.* Dr. Muhlenberg has himself referred *C. Anceps* to *C. Plantaginea.*

Grows in wet fields on the sides of ditches. Pursh.
Flowers April—May.

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**37. CONOIDEA.**

*C. spicis foemineis* binis, remotis, suprema subsessili, infima

Fertile spikes two, distant, the upper nearly sessile, the lower on
548 MONOECIA TRIANDRIA.

longe pedunculata; fructibus oblongo- conicis, obtusis, squamam aristatam æquantibus. | a long peduncle; fruit oblong conic, obtuse, as long as the awned scale.


I have been accustomed, perhaps incorrectly, to refer the following plant to this species.

Stem about twelve inches high, triquetrous. Leaves narrow, somewhat subulate, those of the root shorter than the stem, all scabrous along the margin. Sterile spike terminal, small, scales lanceolate. Fertile spikes two to three, the upper ones (when two) approximate, on short peduncles, the lower distant on a peduncle one to two inches long, all small, somewhat cylindrical, but not compact. Corolla lanceolate, tapering at each extremity, triquetrous, somewhat oblique, nerved, the mouth nearly entire, longer than the ovate lanceolate scale. The lower bractea leaflike, longer than the stem.

Grows in wet soils.

Flowers in April.

38. GRANULARIS.

C. spicis foemineis tribus remotis, binis inferioribus pedunculatis; fructibus globoso-ovatis, nervosis, ventricosis, brevissime rostellatis, ore obsolete emarginato, squama ovato-lanceolata longioribus. | Fertile spikes three, distant, the two lower pedunculate; fruit ovate, globular, nerved, ventricose, with a very short beak, the mouth slightly emarginate, longer than the ovate lanceolate scale.


Stem about twelve inches high, glaucous, when old decumbent. Leaves narrow, somewhat glaucous. Spike of sterile florets solitary, sometimes, though very rarely, there is a second with fertile florets intermingled. Spikes of fertile florets two or three, the lowest on a peduncle, the upper nearly sessile. The peduncles all sheathed at base. Scale ovate acuminate. Corolla nearly round, distinctly nerved, with the mouth entire and recurved.

This species I have not seen in this country. In specimens sent me from Pennsylvania by Dr. Muhlenberg, some pubescence is visible on the leaf and sometimes on the corolla.
Grows in barren meadows and woods, from Canada to Carolina. Pursh.

Flowers in May.

39. TETANICA.

C. spicis foemineis

binis, remotis, suprema

subsessili, infima longe

pedunculata; fructibus

ovatis, utrinque acutis

apice recurvis, ore in-
tegris, squama obtusa

ovata longioribus.


Stem twelve to eighteen inches high, slender, triquetrous, glabrous. Leaves linear, acute, much shorter than the stem. Spikes few, small; sterile one terminal, fertile generally two, very distant, one nearly sessile towards the summit of the stem, the lower pedunculate, erect. Scales of the sterile florets obtuse; of the fertile, in my specimens, acute. Corolla triquetrous, acute at each end, distinctly nerved, somewhat oblique.

Grows in Carolina. Mich. Sent to me from North-Carolina by Dr. Schweinitz.

Flowers—

40. LAXIFLORA. La Marek?

C. spicis foemineis.

tribus, distantibus, 6—

8 floris, infima remote

pedunculata; fructibus

oblongis ventricosis,
obtusis, squama ovata

mucronata majoribus.


Stem one to two feet high, triquetrous, with the margin scabrous. Leaves

Fertile spikes three, distant, 6—8 flowered, the lowest distant, peduncled; fruit oblong ventricose, obtuse, larger than the ovate, mucronate scale.
MONOECIA TRIANDRIA.

narrow lanceolate, nerved, very acute, somewhat scabrous along the margins. Sterile spike terminal, slender. Fertile spikes two to three, the lowest on a peduncle one to two inches long, the upper ones shorter. Spikes few flowered, the flowers unusually distant (for this genus.) Corolla lanceolate, tapering at each extremity, oblique, obtusely triquetro, nerved, the mouth nearly entire, about as long as the ovate, acuminate, mucronate scale. Bracteal leaves all much longer than the stem.

Grows in damp, shaded soils. Carolina, Dr. Schweinitz. Allied to C. Conoidea?

Flowers April—May.

41. HYSTERICINA. Muhl.

C. spica mascula solitaria, squamis ovato-oblongis sub mucronatis, foemineis cylindraceis 2—4, insima longe pedunculata; fructibus ovatis, multinervibus, rostratis, ore bifidis squama oblonga cristata longioribus.

Sterile spike solitary, scales ovate, oblong, slightly mucronate, fertile spikes cylindrical 2—4, the lowest on a long peduncle; fruit ovate, many-nerved, beaked, the mouth two-cleft, longer than the oblong awned scale.


Stem about two feet high, triquetrous, scabrous along the angles. Leaves long, narrow, scabrous, sheathing the base of the stem. Sterile spike terminal, cylindrical, one to two inches long; scales ovate lanceolate, acute, with a hispid, setaceous point. Fertile spikes three to four, cylindrical, pedunculate, the lower peduncle very long, scabrous, corolla ovate, attenuate into a long, two-cleft beak; scale ovate, small, slightly emarginate, terminated with a hispid, setaceous bristle (mucro) nearly as long as the corolla. Bracteal leaves all longer than the stem.

Grows in bogs and wet soils. Carolina, Dr. Schweinitz.

Flowers April—May.

42. FLEXUOSA.

C. spicis foemineis Fertile spikes gene-subquaternis, remotis, rally four, distant, fili-
filiformibus, pedunculis cernuis; fructibus distantibus, alternis, oblongis, rostratis, bifidis, squama ovata mucronata, duplo longioribus.


Stem about twelve inches high, slender, triquetrous, glabrous, with the edges towards the summit slightly glabrous. Leaves linear, rather longer than the stem, scabrous along the margins, slightly channelled. Male spike solitary, terminal, slender; scales lanceolate, rather obtuse; stamens three. Female spikes four, remote, pendulous, with the base of the peduncles enclosed, the lower peduncle four to six inches long, one half or more inclosed, the upper gradually shortening and the sheaths comparatively shorter; scales lanceolate, rather obtuse; corolla ovate, striate, when old, somewhat oblique, scarcely rostrate, nor are the flowers very distant. Stigmas three.

Grows in damp soils.
Flowers April—May.

43. Digitalis. Willd.

C. spicis foemineis subternis, remotis, filiformibus, pedunculatis, cernuis; fructibus ellipticis obtusis, squama oblongo lanceolata longioribus.

Fertile spikes generally three, distant, filiform, pedunculate, nodding; fruit elliptic, obtuse, longer than the oblong lanceolate scale.


Stem nearly twelve inches high, triquetrous, glabrous. Leaves rather broad, acute, longer than the stem. Sterile spike linear, with lanceolate scales. Fertile spikes two to three, pedunculate, erect, filiform, about ten-flowered, flowers distant. Fruit elliptic, ventricose, compressed, triquetrous, very obtuse. Scales oblong lanceolate, shorter than the fruit. Bracteas sheathing, broad, leaflike, longer than the stem. Wild.

This species which I have never seen, I add on the high authority of Dr. Schweinitz.
Grows in bogs and wet meadows.  Muhl.

Flowers May.

44. Miliacea.

C. spicis foemineis tribus, filiformibus, summa subsessili, reliquis pedunculatis; fructibus ovatis, triquetris, breve rostratis, ore integris, squama oblonga emarginata aristata longioribus.

Fertile spikes three, filiform, the upper nearly sessile, the rest pedunculate; fruit ovate, triquetrous, with a short beak and entire mouth, longer than the oblong emarginate awned scale.


Stem slender, triquetrous, scabrous along the angles.  Leaves linear, acute, scabrous along the margins.  Spikes slender, sterile, one terminal; fertile two to three, the lower on a long peduncle, pendulous; the upper sometimes sessile, when on peduncles pendulous also.  Bracteal leaf to the lower spike longer than the stem, to the upper small.  Scales of the fertile florets emarginate with a mucronate point.  Corolla ovate, with only the lateral nerves, the summit acute and nearly entire, longer than the scale.

Grows in wet meadows, Canada to Carolina.  Pursh.

Flowers—

45. Furcata.  E.

C. spicis foemineis tribus, pedunculatis, pendulis, cylindricis; fructibus ovato-lanceolatis, rostratis, furcatis, squama subulata, primum brevioribus demum longioribus.

Fertile spikes three, pedunculate, pendulous, cylindrical; fruit ovate lanceolate, beaked, forked, at first shorter, finally longer than the subulate scale.

Stem about two feet high, thick, acutely triquetrous, very scabrous along the margins near the summit. Leaves longer than the stem, channelled, three to four lines wide, scabrous along the edges, the long bracteal leaves scabrous also along the midrib, nerved, with small nodosities between the nerves which become conspicuous as the leaf begins to wither. Male spikes long, slender, scales linear lanceolate, acute. Female spikes generally three, pendulous, cylindrical, on peduncles generally increasing in length as they descend, inclosed at base by the amplexicaule bracteal leaf. Corolla ovate, rostrate, nerved, conspicuously forked with the divisions disposed to become revolute. Scale small, with a long, subulate, serrulate point, at first longer than the corolla, afterwards shorter. Stigmas three. Seed triquetrous.

There is to this species sometimes a fourth female spike somewhat remote; this when it occurs generally has the base of the peduncle inclosed.

This species has usually been considered in the southern states at least, as the C. Pseudo-Cyperus, but though nearly allied it does not agree entirely with the character of that species; the summit is much more pointed and divided than the figure in English Botany, No. 242, and it is, I think, unquestionably indigenous.

Grows in deep swamps.
Flowers April.

46. GLAUCESCENS. E.

C. spicis foemineis 3—4, cylindricis, pedunculatis, demum pendulis; corollis ovatis, compressis, enervibus, glaucis, squamam emarginatam, mucronatam subaequantibus; foliis glaucescentibus.

Fertile spikes 3—4, cylindrical, pedunculate, finally pendulous; corolla ovate, compressed, nerved, indistinct, glaucous, as long as the emarginate, mucronate scale; leaves somewhat glaucous.

Stem about two feet high, triquetrous, glabrous, the margins near the summit slightly roughened. Leaves narrow, channelled, acutely serrulate, the lower conspicuously glaucous, shorter than the stem. Sterile spike cylindrical, solitary, pedunculate, scales ovate, emarginate, mucronate, ferruginous with the midrib green. Fertile spikes on slender peduncles one to three inches long, not enclosed at base, becoming pendulous as the fruit matures, scales ovate, deeply emarginate, mucronate, ferruginous with the midrib green. Corolla ovate, with a very short two-cleft mouth, very glaucous, the nerves excepting the two lateral ones indistinct, much longer than the blade of the scales and nearly as long as the mucronate point. Seed triquetrous.
Grows around pine barren ponds.
Flowers April—May.

**** Spicis sexu distinctis; masculis pluribus.

47. Pellita.

C. spicis masculis geminis, foemineis geminis cylindraceis, erectis, remotis, superiore sessili; fructibus ovatis, bisidis, pilosis, squama oblonga aristata brevioribus.

Sterile spikes two; fertile two, cylindrical, erect, remote, the upper sessile; fruit ovate, two-cleft, hairy, shorter than the oblong awned scale.


*Stem* eighteen to twenty-four inches high, triquetrous. *Leaves* linear, long, scabrous along the margins. Sterile spikes two to four, the upper pedunculate, the lower sessile, scale ovate, obtuse, ferruginous with a darker midrib. Fertile spikes two to three, the upper sessile, the lower on peduncles, erect; scales lanceolate, mucronate. *Corolla* ovate, very hispid, acuminate, the point short, two-cleft.


Flowers—

48. Riparia.

C. spicis masculis quaternis; foemineis tribus, erectis, pedunculatis, apice masculis; fructibus ovato-oblongis, nervosis, bifurcatis, squama mucronata paulo brevioribus. E.

Sterile spikes four; fertile three, erect, on peduncles, bearing sterile flowers at the summit; fruit ovate oblong, nerved, 2-forked, a little shorter than the mucronate scale.

**MONOECIA TRIANDRIA.**

Stem about two feet high, triquetrous, smooth, scabrous on the edges towards the summit. Leaves longer than the stem, strap-shaped, the lower forming short sheaths at base, the upper nearly amplexicaule, scabrous along the margin. Spikes dioecious and androgynous. Male spikes generally four, each about two inches long; scales tapering to an acute point, chaffy, scarious. Androg: spikes two to three inches long, erect, on moderately long peduncles, the lower one enclosed at base in a short sheath, the two upper merely enveloped. Scale ovate, tapering to an acute point, at first shorter than the corolla, when mature rather exceeding it in length. Corolla ovate, slightly acuminate, nerved but not very conspicuously, two-cleft at the summit. Stigmas three, long, glandular. Seed triquetrous.

Grows in the fresh marshes and rice field ditches. Ogeechee.

**Flowers March—April.**

49. **Verrucosa.** Muhl.?

C. spicus masculis tribus, foemineis plurimis (4—6), erectis, cylindraceis, apice masculis; corollis compressis, ovatis, brevissime bifidis, squama ovata, subemarginata, mucronata brevioribus. E. Sterile spikes three, fertile numerous (4—6), erect, cylindrical, bearing sterile flowers at the summit; corolla compressed, ovate, slightly two-cleft, shorter than the ovate, somewhat emarginate, mucronate scale.


Stem two to three feet high, triquetrous, glabrous. Leaves very long, acute, nerved, somewhat glaucous, sheathing the base of the stem. Sterile spikes generally three, the terminal one two to three inches long, cylindrical, very obtuse, scale ovate mucronate, dark brown; fertile spikes three to six, two to three inches long, all terminated with sterile flowers. Lower peduncle about one and a half inches long, sheathed at base; the upper shorter, nearly surrounded by the long bracteal leaves. Scale ovate, obtuse, sometimes emarginate, mucronate, dark brown. Corolla ovate, obscurely nerved, glaucous, with a very short, slightly cleft mouth, about as long as the scale exclusive of the mucronate point. Seed triquetrous.

Collected many years ago along the road between Stono and Combahee Ferry; probably at the latter place.

Flowers April.
MONOECIA TRIANDRIA.

50. **Bullata**?

*C. spicis masculis* tribus, foemineis binis, cylindraceis, pedunculatis, erectis; fructibus ovato-globosis, rostratis, bifurcatis, rostris hispidis, squama lanceolata majoribus.

Sterile spikes three; fertile two, cylindrical, pedunculate, erect; fruit ovate, globose, beaked, two-forked, (the beaks hispid,) larger than the lanceolate scale.


Stem about two feet high, slender, acutely triquetrous, slightly scabrous on the margins. Leaves narrow, longer than the stem, somewhat channelled, scabrous along the edges, with a very short sheath at base. Male spikes frequently but two, slender, scales lanceolate, rather obtuse, the summit and margins membranaceous. Female spikes two, a little distant, erect, cylindrical, on short peduncles merely enveloped at base. Scales lanceolate, acute. Corolla ovate, almost globular at base with an attenuated two-cleft beak, nerved, the nerves pubescent near the summit. Stigmas three. Seed triquetrous.

This plant differs but not materially from the description of Willdenow. I have had no opportunity of comparing specimens.

Grows in bay galls and ditches. Near Beverly, Chatham county, Geo. Flowers April.

**SCLERIA.** Gen. Pl. 1408.

*Masculi*—*Calicis* gluma 2, s. 6 valvis, multiflora. Corollæ glumæ muticæ.

*Foeminei*—*Calicis* gluma 2, s. 6 valvis, uniflora. Corolla 0. Stigmata 1—3. Nux colorata subglobosa.

*Sterile florets*—*Calyx* 2, or 6 valved, many flowered. Valves of the corolla unawned.

Fertile florets—*Calyx* 2, or 6 valved, 1-flowered. Corolla 0. Stigmas 1—3. Nut generally globular.

* Nut *lævi.  

* Nut smooth.
1. Oligantha?

S. culmo gracili, triquetro, glabro; foliis angustis, nervosis, scabriusculis; spicis 2—3 subterminalibus sessilibus, 1? laterali, remotata, longe pedunculata; nuce nitidissima. E.

Mich. 2. p. 167?

Stem slender, triquetrous, glabrous; leaves narrow, nerved, slightly scabrous; spikes 2—3 near the summit of the stem, sessile, one lateral remote, on a long peduncle; nut very smooth and polished.

It appears to me probable that this species is the S. Oligantha of Michaux, for the upper spikes are distinct, which in S. Pauciflora are fasciculate. His silence respecting the seed must, however, leave this uncertain, unless his own herbarium can resolve the doubt. This, however, is not the S. Pauciflora of Pursh, nor S. No. 4, of Muhl. Gram. p. 268, under which a reference is made to S. Oligantha, Mich. as both of those plants have rugose seeds.

Grows in wet pastures and pine barrens. St. John's, Dr. Trescott.

Flowers May.

2. Gracilis. E.

S. culmo filiformi, triquetro, foliisque glabris; spiculis paucis, paucifloris, fasciculatis, subterminalibus; glumis glabris; nuce laevi, nitido. E.

Stem filiform, triquetrous, and with the leaves glabrous; spikes few, few flowered, fasciculate, nearly terminal; glumes glabrous; nut smooth, polished.
Plant about a foot high, very slender, and in my specimens entirely smooth. Leaves linear, very narrow, shorter than the stem. Bracteal leaf resembling those of the root, thence to four inches long. Spikes two or three, clustered together at the summit of the stem, each bearing one fertile floret. Scales ovate lanceolate, slightly mucronate, ferruginous, glabrous. Nut white, showing in some specimens slight longitudinal ribs.

Collected by Dr. Baldwin near St. Mary's, Georgia.

Flowers—


S. caule triquetro, scabrato; foliis lanceolato-linearibus, canaliculatis, scabriusculis parce pilosis; spicis lateralibus terminalibusque fasciculatis; glumis ciliatis; nuce lævi. E.

Stem acutely triquetrous, rough; leaves lanceolate linear, channelled, somewhat rough, a little hairy; spikes lateral and terminal, fasciculate; glumes fringed; nut smooth.


Stem about two feet high, very acutely triquetrous, striate, scabrous, and a little hairy near the summit. Leaves about twelve inches long, three to four lines wide, somewhat scabrous, hairy along the angles, sheathing the stem at base. Flowers generally in one terminal and one lateral cluster each composed of three or four aggregated spikes, the lateral cluster usually pendulous. Bracteal leaves much longer than the spikes, pendulous. Calyx of both florets three-valved, valves ovate, carinate, mucronate, somewhat unequal, conspicuously fringed. Female florets two or three in each spike. Style one. Stigmas three. Seed white, polished, showing some slight inequalities on its surface.

This is the most common of our species. I have always doubted whether it is the S. Triglomerata of Michaux; but it agrees better with that than with any other of his species. It is not the S. Triglomerata of Pursh.

Grows in dry soils.

Flowers April—October.

** Nuce corrugato. | ** Nut wrinkled.


S. caule triquetro, | Stem triquetrous and
foliisquelinearibus glabris; spicis lateralibus terminalibusque pauci-floris, lateralibus pendulis, terminalibus aggregatis; glumis glabris; nucibus exasperatis. E.


Stem twelve to eighteen inches high, slender, acutely triquetrous, glabrous. Leaves linear, glabrous, shorter than the stem, scabrous along the margin, sheathing at base. Spikes lateral and terminal, the lateral commonly two, on long, slender, pendulous peduncles, the lowest frequently bearing only sterile florets. Bracteal leaves slightly fringed, longer than the spikes. Glumes of all the florets ovate, carinate, slightly acuminate, glabrous, ferruginous. Stamens three. Stigmas three. Nut globular, roughened with elevated points and transverse irregular lines, mucronate at the summit.

I have a variety from Florida in which the stem appears more rigid, and the nut not so conspicuously roughened.

Grows in damp pastures and pine barrens.

Flowers May; probably through the whole summer.

5. CILIATA. Mich.

S. caule erecto, nudiusculo, glabro; foliis linearibus, canaliculatis, supra pubescentibus; spicis terminalibus fasciculatis; bracteis glumisque ciliatis; nucibus exasperatis.

Stem erect, nearly naked, glabrous; leaves linear, channelled, pubescent on the upper surface; spikes terminal, clustered; bracteas and glumes ciliate; seeds roughened.


Stem one to two feet high, erect, glabrous, and in my specimens having only a solitary leaf sheathing the base. Leaves linear, channelled, a little hairy on the upper surface. Spikes terminal, clustered. Bracteal leaves much longer than the spikes, conspicuously fringed. Glumes ovate, acum-
nate, unequal, ferruginous, the exterior slightly fringed. Nut globular, roughened with small tubercles, very slightly mucronate.
Grows in damp soils.
Flowers May—June.


**S. caule erecto, gracili, foliisque bracteisque hirsutulis; spicis terminalibus, axillari-busque; glumis pubes-centibus; nucibus transversim corrugatis.** E.


Stem erect, slender, and with the leaves and bracteas slightly hirsute; spikes terminal and axillary; glumes pubescent; seed transversely wrinkled.

Grows in damp soils.
Flowers in the summer.

**Var. Strigosa.**

Under this head I will place a plant nearly allied in its characters, but less hairy excepting along the angles of the stem and the margins and midrib of the leaves, its spikes also are larger and more numerous, its glumes fringed, of a light chestnut colour, and the nut rather roughened by distinct tubercles than by transverse lines.

Collected by Dr. Baldwin on the confines of Georgia and Florida; perhaps a distinct species.


**S. culmo foliisque glabris; vaginis alatis; spicis sparsis axillari-bus terminalibusque; axillary and terminal;**

Stem and leaves glabrous; sheaths winged; spikes scattered,
MONOECIA TRIANDRIA. 561

glumis bracteisque glabris; nuce reticulato, glabrous; seed reticulate, dotted.


Stem one to two feet high, glabrous, acutely triquetrous. Leaves shorter than the stem, narrow, glabrous, sheathing at base; the sheaths winged. Spikes numerous, axillary and terminal on long peduncles, racemose, sometimes somewhat paniculate, slender, the terminal ones nearly naked. Glumes lanceolate, acute, glabrous. Stamens two? Seed globose, rugose, rather with impressions than elevations.

Grows in damp pastures.

Flowers July—August.

8. VERTICILLATA. Muhl.

S. culmo simplicissimo, triquetro foliisque glabris; spica glomerata, nuda, glomerulis alternis, distantibus; glumis glabris; nucibus globosis, mucronatis, transversim rugosoverrucosis.


Stem about a foot high, very slender, triquetrous, glabrous. Leaves filiform, shorter than the stem, glabrous, sheathing, with a few hairs sprinkled along the sheath. Flowers in distinct sessile clusters towards the summit of the stem. Spikes and flowers both small. Bracteal leaves scarcely longer than the spikes. Glume ovate, acuminate. Keel glabrous. Nut globose, small, tuberculate, distinctly mucronate.

Grows in damp soils.

Flowers July—August.

9. INTERRUPTA.

S. culmo simplicissimo, triquetro, foliisque | Stem simple, triquetrous, and with the

VOL. II. B 4
pubescentibus; spica glomerata, nuda, glomerulis alternis, distantibus; glumis setosis; nucibus globosis, mucronatis, transversim rugoso-verrucosis. leaves pubescent; spike clustered, naked, the clusters alternate, distant; glumes bristly; seed-globose, mucronate, transversely wrinkled.


This species I have not seen, but the description of Michaux evidently applies here. Grows in damp meadows from Carolina to Florida.

Flowers—

COMPTONIA. GEN. PL. 1764.

**Masculi—Amentum.**

*Calyx* squama. *Corolla* dipetala. *Fila-

menta* bifurca.

**Foeminei—Ament-


**Sterile florets—A-

ment.** *Calyx* a scale. *Corolla* 2-petalled. *Filaments* forked.

**Fertile florets—A-


1. *Asplenifolia.*


A small shrub two to four feet high. *Leaves* long, linear-lanceolate, alternate, sessile, irregularly pinnatifid after the manner of a fern, lobes obtuse. *Flowers* in oval, sessile, axillary spikes (aments.) Of the sterile florets, calyx reniform, acuminate, one-flowered; corolla and filaments shorter than the calyx; filaments three, divided; anthers six. Of the fertile florets, corolla six-leaved, much longer than the calyx. *Nut* oval, without valves. The whole plant when bruised is aromatic.

In specimens which I have from Pennsylvania the stem and leaves are slightly pubescent, and the lobes of the leaves somewhat remote. In specimens from the mountains of Carolina, the leaves on the upper surface are more or less hairy, on the under surface tomentose, the lobes nearly orbicular, overlaying one another; the branches tomentose. The scales so deeply fringed as to make the young aments almost resemble a ball of hair.
Grows in the mountains of Carolina and Georgia. Flowers April.

TRAGIA. Gen. Pl. 1410.

**Masculi**—Calyx 3-partitus. Corolla 0.  
**Foeminei**—Calyx 5-partitus. Corolla 0.  

**Sterile florets**—Calyx 3-parted. Corolla 0.  
**Fertile florets**—Calyx 5-parted. Corolla 0.  

*Stylus* 3-fidus. *Capsula* 3-cocca, 3-locularis. *Semina* solitaria.

1. **Linearifolia**.

*T. caule suberecto, subramoso, pubescente; foliis linearibus, pubescentibus; spicis longioribus*. E.

**S**tem twelve to eighteen inches high, pubescent, almost tomentose. **Leaves** alternate, sessile, one to two inches long, linear, pubescent, in my specimens entire. **Spikes** axillary, numerous near the summit of the stem, longer generally than in our other species of Tragia. **Sterile florets** very small. **Capsules** hirsute.

I am not certain whether this plant is the *T. Urens* var. *Linearis* of Mich. it appears to me, however, to be very distinct from that species.

Grows in the southern districts of Georgia.

**Flowers**—

2. **Urens.** Lin.

*T. foliis lanceolatis, sessilibus, obtusis, apice subdentatis; caule erecto, ramoso pubescentibus*.

**Leaves** lanceolate, sessile, obtuse, slightly toothed near the summit; stem erect, branching, pubescent.
MONOECIA TRIANDRIA.


*Stem* about twelve inches high, branching, villous. *Leaves* alternate, sessile, lanceolate, dentate, pubescent, somewhat hoary underneath. *Flowers* in small spikes generally terminal. Of the sterile floret, calyx four-parted, the segments lanceolate, pubescent; filaments two to four, short, thick; anthers two to four, united by pairs. Fertile floret on a short peduncle, calyx six-parted, the segments small; corolla none. *Style* very short. *Stigma* three-cleft. *Capsule* hispid, composed of three united, globular, two-valved cells each one-seeded. *Seed* spherical. Varies with leaves oval, or more or less lanceolate. Grows in dry soils. Flowers May—August.

3. URTICIFOLIA. Mich.

T. foliis cordatis, Leaves cordate, ovatis, serratis; caule ovate, serrate; stem erecto, hirsutissimo. rect, very hirsute.


*Stem* twelve to eighteen inches high, erect, very hirsute. *Leaves* alternate, on short petioles, cordate ovate, deeply serrate, very hirsute particularly along the veins. *Spires* opposite the leaves. Sterile florets numerous towards the summit. Fertile on short peduncles near the base of each spike. *Capsules* very hirsute. Grows in dry soils. Common in the middle country of Carolina and Georgia. Flowers May—August.

ERIOCAULON. GEN. PL. 132.

*Flores* in capitulo terminali aggregati. Flowers collected in a terminal head.

*Masculi* in disco. *Calyx* squama. *Corolla* 4-partita, laciniis duabus interioribus fe- re ad summitatem co-

Sterile florets in the *Calyx* a scale. *Corolla* 4-parted, the two interior segments cohering almost to the
hærentibus. Stamina 4—6?


1. Decanquulare.

E. scapo decemstriato; foliis ensiformibus, glabris; capitulo magno, depresso-globoso; squamis involucri ovalibus, acutis, paleis receptaculi mucronatis.


E. Serotinum, Walt. p. 83.

Root perennial. Leaves strap-shaped, very narrow, acute, glabrous, showing no distinct midrib, ten to fifteen inches long. Scape two to three feet long, terete, glabrous, ten to twelve furrowed, sheathed near the base. Scales of the involucrium ovate, closely appressed, rather acute; scales of the disk longer than the florets, ovate, very acute. Corolla very white, deeply two? parted, fimbriate at the summit.

Grows in wet soils. St. Thomas, Mr. Caradeux.

Flowers July—August.


E. scapo subcompresso, decemstriato; foliis brevibus, subulate-ensiformibus, glabris; capitulo convexo; summit. Stamens 4—6?

involuci squamis ovalibus, obtusis, scariosis, argenteo-lucidis.

E. Decanulare, Walt. p. 83.

Perennial. Leaves eight to ten inches long, smooth, very glabrous, somewhat lucid, nerveless. Scape ten to fourteen inches high, furrowed, as in all of the genus somewhat spiral, sheathed at base. Flowers in a very compact head. Scales of the involucrum ovate, scarious, lucid, when young villous.

On comparing the description of Michaux with a specimen now before me, it would seem that two species were now united under this name.

Grows in damp, poor soils—common around pine barren ponds.

Flowers May—August.


E. scapis aggregatis, compressis, sub quadrissulcis, villosis; foliis brevibus, subulato linearibus, pilosis; capitulo sphæroideo parvo; flosculis subfuscilinosis.

E. Anceps, Walt. p. 83.

Perennial. Leaves two to three inches long, subulate, hairy, but not as villous as the scape or sheath. Scape about twelve inches long, slender, villous, furrowed, several from each root. Head small, globose. Scales ovate, acute, dark coloured. Corolla nearly black, the fimbriae at the summit white. Stigmas two.

Grows in damp, poor soils.

Flowers—May to September.


E. scapis aggregatis, subseptem striatis, subpubescentibus; foliis Scapes numerous, generally four furrowed, villous; leaves short, subulate linear, hairy; head small, spherical; florets dusky.

E. Anceps, Walt. p. 83.

Flowers—May to September.
brevibus, subulato-ensiformibus, nervosis; capitulo convexo; squamis involucris suborbiculatis.

leaves short, subulate-ensiform, nerved; head convex; scales of the involucrum nearly orbicular.


Perennial. Leaves one to two inches long, subulate, nerved, somewhat pellucid, sprinkled with a few hairs, and showing very distinctly between the nerves the numerous transverse partitions which are common in this genus. Scape three to four inches high, furrowed, nearly glabrous. Scales of the involucrum thin, scarious, nearly orbiculate; of the disk linear-lanceolate. Style one. Stigmas two. Capsules two, united, (didymous.)


Flowers—

**ALNUS.** Willd.

**Masculi amentum receptaculis cuneiformibus, truncatis, trifloris compositum. Calyx squama. Corolla quadripartita.**

**Foeminei amentum. Calyceis squamae biflorae. Corolla 0. Semina compressa, ovata, nuda.**

**Sterile florets. Ament, with the receptacles cuneiform, truncate, 3-flowered, compound. Calyx a scale. Corolla 4-parted.**

**Fertile florets. Amentum. Scales of the calyx 2-flowered. Corolla 0. Seed compressed, ovate, naked.**

1. **Serrulata.** Aiton.

**A. folis obovatis, acuminatis, venis et axillis venarum subtus pilosis; stipulis ellipticis, obtusis.**

Leaves obovate, acuminate, with the veins and axils of the veins on the under surface hairy; stipules elliptic, obtuse.
MONOECIA TRIANDRIA.


A shrub eight to twelve inches high, with many crooked, rather rigid branches. Leaves alternate, obovate, or ovate, at the summit slightly acuminate, doubly serrulate, nearly glabrous on the upper surface, strongly veined and pubescent underneath. Stipules oval or ovate, generally obtuse. Sterile flowers in a long pendulous amant. Fertile in an ovate cone near the base of the sterile. Styles two? Seed compressed.
Grows along the margin of water courses, very common.
Flowers during the winter while destitute of leaves.

BOEHMERIA.  Gen. Pl. 1421.

Maeuli Calyx 4- partitus. Corolla 0. Nectarium 0.
Foeminei Calyx 0. Corolla 0. Stylus 1. Semen 1.

Sterile florets. Calyx 4-parted. Corolla 0. Nectary 0.
Fertile florets. Calyx 0. Corolla 0. Style 1. Seed 1.


B. foliis oppositis, ovato-oblongis, acuminatis, dentatis, glabris; floribus dioicis; spicis masculis glomeratis, interruptis, foemineis cylindricis; caule herbaceo.

Leaves opposite, ovato-oblong, acuminate, toothed, glabrous; flowers dioecious; sterile spikes clustered, interrupted, fertile spikes cylindrical; stem herbaceous.


Stem two to four feet high, obtusely four-angled, glabrous. Leaves ovate, lanceolate, acuminate, three-nerved, on petioles. Stipules subulate, caducous. Flowers dioecious, the sterile in distinct clusters on a moderately long spike, the fertile forming a compact cylindrical spike one to two inches long.
Grows in shaded wet soils.
Flowers—June to August.
2. **Lateriflora.** Muhl.

B. foliis alternis, o-vato-lanceolatis, acuminatis, serratis, scabris; floribus glomeratis, lateralibus; caule herbaceo.

Leaves alternate, o-vate-lanceolate, acuminate, serrate, scabrous; flowers lateral, clustered; stem herbaceous.


Stem herbaceous, somewhat four-angled, glabrous, with the branches opposite. Leaves alternate, one and a half to two inches long, o-vate-lanceolate, conspicuously acuminate, triplinerved, veiny, coarsely serrate, scabrous on both surfaces, but particularly on the upper, on long petioles. Clusters alternate lateral and axillary, few flowered. Willd.

This species I have not noticed in the low country. Dr. Muhlenberg mentions it as a native of Carolina.

Flowers—July to August.

**URTICA.** Gen. Pl. 1422.

*Masculi.* Calyx 4-phyllus. Corolla 0. Nectarium centrale, cyathiforme.

*Foeminei.* Calyx 2-valvis. Corolla 0. Semen 1, nitidum.

*Sterile florets.* Calyx 4-leaved. Corolla 0. Nectary central, cyathiform.

*Fertile florets.* Calyx 2-valved. Corolla 0. Seed 1, shining.

1. **Pumila.** L.

U. foliis oppositis, o-vatis, acuminatis, tri-nervis, serratis; petiolis inferioribus longitutidine folii; floribus monoecios, triandris, capitato-corymbosis, petiolo brevioribus.

Leaves opposite, o-vate, acuminate, three-nerved, serrate; the lower petioles as long as the leaves; flowers monoecious, triandrous, in clustered corymbs, shorter than the petiole.
MONOECIA TRIANDRIA.


Stem generally erect, about twelve inches high, obtusely four-angled, car- nose, lucid, glabrous, branching sometimes from the base. Leaves opposite, decussate, lanceolate, acuminate, coarsely serrate, three-nerved, sprinkled with hairs on the upper surface, petioles very long, the lower longer than the leaves. Flowers in corymbose panicles, much shorter than the petioles, sometimes recurved. Sterile and fertile florets sometimes intermingled, sometimes one half of the panicle will be exclusively fertile the other sterile. Calyx of the sterile flower, four-leaved, leaves lanceolate. Stamens twice as long as the calyx, expanding as in all the species of this genus which I have examined, elastically. Of the fertile floret calyx 3? leaved, persistent. Style 0. Stigma sessile. Seed compressed, ovate, glabrous.

I have never been able to discover a nectary in the sterile florets of this species.

Grows in shaded wet soil.
Flowers July—September.

2. URENS. L.

U. foliis oppositis, el- lipticis subquinquenervi- bus, argute serratis; spicis glomeratis, geme- natis.


Stem about twelve to fourteen inches high, obtusely four-angled, hairy; somewhat hispid, branching. Leaves opposite, cordate ovate, rugose, hairy, coarsely toothed, three-nerved, with the exterior nerves divided, sprinkled besides the hairs with white prickles. Petioles nearly an inch long. Flowers in axillary racemes, two in each axil, shorter than the petiole. Sterile and fertile florets intermingled. Of the sterile floret calyx four-leaved, leaves hairy, obtuse; filaments longer than the calyx, expanding elastically and discharging elastically the pollen; nectarium cyathiform; of the fertile floret calyx two-leaved, persistent, seed compressed.

Grows in damp soils, common around Beaufort; St. Mary's, Georgia.
Flowers December to February.

3. CHAMÆDROIDES. Pursh.

U. foliis oppositis, sub- sessilibus, ovatis, serratis, subtus strigosis; glo- strigose underneath;
MONOECIA TRIANDRIA.

merulis axillaribus, sessilibus, subglobosis, reflexis; caule stimuloso. cluster of flowers axillary, sessile, somewhat globose, reflexed; prickles stimulant.


Stem nearly simple, glabrous, four to six inches high. Leaves ovate, on short petiols, hairy underneath, sprinkled with a few hairs and white prickles on the upper surface, small, and for their size coarsely toothed. Flowers in compact axillary clusters scarcely longer than the petioles, the upper florets fertile, the lower sterile. Calyx of both florets hairy.

Collected on St. Simons, Georgia, by Mr. Lyon.

Flowers February to March.

4. Dioica.

U. foliis oppositis, cordatis, ovato-lanceolatis, grosse serratis; floribus dioicis; spicis paniculatis, glomeratis, geminatis, petiolo longioribus.

Leaves opposite, cordate, ovate lanceolate, coarsely serrate; flowers dioecious; spikes paniculate, by pairs, longer than the petiole; flowers clustered.


Stem branching and with the leaves and whole plant very hispid. Leaves cordate, ovate, slightly acuminate; acutely and deeply serrate, nervied, on petioles one to one and a half inches long. Flowers dioecious, (more frequently monoecious, Mich.) in clustered panicles, two from each axil.

In this species and in U. Urens the calyx of the fertile floret is four-leaved, two leaflets ovate cordate, two others opposite, very small. Leers in Sp. pl. l. c.

Grows along roads and in waste places, from Canada to Carolina, Pursh. I have not seen this species in the low country.

Flowers June—August.


U. foliis oppositis, ovato lanceolatis, serratis; petiolis ciliatis; flo-

Leaves opposite, ovato-lanceolate, serrate; petioles fringed;
ribus dioicis; spicis sub-ramosis, glomeratis, geminatis, petiolo longioribus. E.

flowers dioecious; spikes branching, clustered, by pairs, longer than the petioles.


Stem three to four feet high, obtusely four-angled, pubescent. Leaves opposite, ovate lanceolate, sometimes obtuse, sometimes slightly acuminate, acutely serrate, strongly nervèd and veined, sprinkled with hairs on the upper surface, very pubescent underneath along the veins. Petioles one to two inches long, pubescent and ciliate. Flowers in compact approximate clusters, on branching spikes. Spikes two from each axil, in all of my specimens longer than the petioles, sometimes nearly as long as the leaf. Calyx somewhat hairy.

In specimens of this plant which I received from Dr. Muhlenberg himself, and in others sent me from our upper country, the leaves are never cordate, and the spikes uniformly longer than the petiole.

Grows in wet soils in the upper districts of Carolina and Georgia. Flowers July—August.

6. CAPITATA.

Leaves alternate, cordate ovate, acuminate, serrate, three-nerved, spikes solitary, folio brevioribus, superne foliosis, caule nudo.


Stem four to five feet high, obtusely four-angled, somewhat scabrous, furrowed. Leaves oblong, oval or lanceolate, coarsely toothed, scabrous, three-nerved; sometimes slightly cordate, large; those of the stem generally opposite, of the branches alternate; petioles long, unequal, when the leaves are opposite. Flowers in sessile clusters, lateral and axillary. Sterile and fertile florets intermingled. Calyx a little hairy. Seed compressed ovate.

Grows in shaded wet soils. Flowers July—August.
7. **Divaricata.**

(U. foliis alternis, o-vatis, acuminatis, serratis, glabriusculis; petiolis longis, ciliatis; paniculis axillaribus, solitariis, divaricato ramosissimis, petiolo longioribus; caule stimuloso. Pursh.)

Leaves alternate, o-vate, acuminate, serrate, nearly glabrous; petioles long, ciliate; panicles axillary, solitary, divaricately branched, longer than the petioles; stem stimulant.


This species is nearly allied to the following, but is sufficiently distinct, in the leaves being not cordate and smooth, the panicles solitary and mixed with fertile florets, and in the general appearance of the plant. Pursh.

With this species I am unacquainted.

Grows in damp soils in rocky situations, from Canada to Carolina. Pursh.

Flowers July—August.

8. **Canadensis.**

(U. foliis alternis, cordato ovatis, acuminatis, serratis, utrinque hispidis; paniculis axillaribus, plerumque geminatis, divaricatis, ramosissimis, inferioribus masculis, petiolo longioribus, superioribus elongatis, femineis; caule hispidissimo, stimuloso. Mich.)

Leaves alternate, cordate ovate, acuminate, serrate, hispid on both surfaces; panicle axillary generally in pairs, divaricately branched, the lower sterile, longer than the petiole, the upper spikes long, fertile; stem very hispid, stimulant.


*Stem* four to eight feet high, branching, hispid. *Leaves* ovate, slightly acuminate, coarsely toothed, thin, sprinkled with hairs, sometimes cordate. *Flowers* in loose divaricate panicles nearly as long as the leaves, the lower
panicles, perhaps most of the early flowers sterile, the later fertile, branches of the panicle very hispid. **Calyx** hairy. **Seed** oblique, resembling much one joint of the pods of the Hedysarum.

The fibres of the two last described species are so strong that it has been strenuously proposed to substitute them in many cases for hemp.

Grows in Carolina along the mountain streams, Pursh. I have not seen this species in the maritime districts of Carolina or Georgia.

Flowers July—August.

### MORUS. **Gen. Pl. 1424.**

- **Masculi. Calyx** 4-partitus. **Corolla** 0. **Sterile florets. Calyx** 4-parted. **Corolla** 0.
- **Foeminei. Calyx** 4-phyllus. **Corolla** 0. **Fertile florets. Calyx** 4-leaved. **Corolla** 0. **Styli** 2. **Calyx** baccatus. **Semen** 1. **berry formed Seed** 1.

#### 1. **Alba.**

**M. foliis profunde cordatis, basi inaequalibus, ovatis lobatisve, inaequaliter serratis, laevusculis.**

Leaves deeply cordate, unequal at base, ovate and lobed, unequally serrate, nearly smooth.


*Leaves* undivided, shining, thin. *Flowers* monoecious.

This tree, a native of China and Persia, is now entirely naturalized in this country. Around the plantations in the low country it occurs, I think, more frequently than our native species. It grows from twenty-five to thirty feet high, and sometimes two to three feet in diameter. Its peculiar inhabitant, the silk worm, thrives equally well.

Flowers March.

#### 2. **Rubra.**

**U. foliis cordatis, ovatis, acuminatis trilobisve, aequaliter serratis, scabris, subtus pubescentibus.**

Leaves cordate, ovate, acuminate, frequently three-lobed, equally serrate, sca-
bescentibus; amentis brous, pubescent underneath; fertile aments cylindrical.

A tree which, in favourable situations, is said by Michaux to attain the height of sixty to seventy feet, and a diameter of eighteen to twenty-four inches, branches long, virgate. Leaves of the old tree, ovate, acuminate, serrate, scabrous on the upper surface pubescent underneath; those of the young plants frequently palmate and very scabrous. Flowers, I believe, always dioecious. Sterile florets in a spike or ament one to two inches long, calyx four parted, stamens four, longer than the calyx. Fertile florets in a short spike. Calyx four-leaved, after flowering closing becoming juicy, forming a cylindrical fruit composed of many one seeded berries.

Grows in rich alluvial soils, along the margin of rivers and swamps, not uncommon though rarely becoming in the low country a large tree. The timber is durable and is generally preferred in building boats, or for the light timbers of vessels to any wood excepting the red cedar.

Flowers March.

<table>
<thead>
<tr>
<th><strong>PARIETARIA.</strong></th>
<th><strong>Gen. Pl. 1576.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hermaphroditus.</strong></td>
<td><strong>Herm. Calyx 4-cleft.</strong></td>
</tr>
<tr>
<td>Calyx 4-fidus.</td>
<td>Corolla 0.</td>
</tr>
<tr>
<td>Semen 1, superum, elongatum.</td>
<td>Style 1.</td>
</tr>
<tr>
<td><strong>Foeminei.</strong></td>
<td><strong>Fertile florets.</strong></td>
</tr>
<tr>
<td>Calyx 2—4-fidus.</td>
<td>Calyx 2—4-cleft.</td>
</tr>
<tr>
<td>Corolla 0.</td>
<td>Corolla 0.</td>
</tr>
<tr>
<td>Stamina 0.</td>
<td>Stamens 0.</td>
</tr>
<tr>
<td>Semen 1, superum, elongatum.</td>
<td>Style 1.</td>
</tr>
</tbody>
</table>

1. **Pennsylvanica.** Muhl.

P. foliiis oblongo-lanceolatis, venosis, opaco-punctatis; involucro 3-phylllo, floribus longiore. Leaves oblong lanceolate, veiny, opake dotted; involucrum 3-leaved, longer than the flower.
Stem twelve to fifteen inches high, striate, very pubescent. Leaves alternate, linear lanceolate, with a long nearly acute summit, dotted, pubescent particularly along the veins and margin, tapering at base to a petiole about half an inch long. Flowers in compact axillary clusters. Female and Hermaph. intermingled. Two hermaph. and one female floret generally enclosed in a six-leaved involucrem. Leaves of the involucrem oblong, hispid. Calyx oblong, persistent, the segments uniting and forming a cover for the seed.

Grows in the upper districts of Carolina and Georgia. Sent me from Augusta by Dr. Leavenworth.

Flowers May—July.


P. foliis rotundato-ovatis, obtusis, opaco-punctatis; floribus glo-meratis, involucrium æquantibus; caule as-surgente.

Nutt. 2. p. 208.

Stem twelve to eighteen inches high, decumbent, with the branches erect, pubescent near the summit, sometimes nearly glabrous at base. Leaves ovate, dotted, pubescent, sometimes nearly round, sometimes abruptly acuminete, but still obtuse, on petioles as long as the leaves. Flowers in axillary clusters, not generally so crowded as in the former species. Leaves of the involucrem nearly linear, not longer than the flowers.

Grows in sandy soils when damp. Common along the sea coast of Carolina and Georgia. First sent me from Florida by Dr. Baldwin under the name of P. lucida.

Flowers May—October.

ATRIPLEX. Gen. Pl. 1577.

Foeminei. Calyx 2-phyllus. Corolla 0. Stamina 0. Stylus 2-partitus. Semen 1, compressum.  
Fertile florets. Calyx 2-leaved. Corolla 0. Stamina 0. Style 2-parted. Seed 1, compressed.

1. Patula.

A caule herbaceo, patulo; foliis triangulari hastatis acuminatis, subdentatis; fructus calycibus rhomboïdis, apice denticulatis, disco submuricatis.  
Stem herbaceous, expanding; leaves triangular, hastate, acuminated, slightly toothed; calyx of the fruit rhomboïdal, toothed at the summit, slightly muri-cate on the disc.


Annual. Stem prostrate, somewhat angled, branching, glabrous, one to two feet long. Leaves attenuate, triangular, hastate, generally entire, glabrous, on petioles nearly an inch long. Flowers clustered on axillary and terminal spikes. Calyx persistent, denticulate near the summit, muricate or crested on the back.

The plant of our low country which has been referred to this species appears to be certainly indigenous. It grows in brackish soils at the head of tide water in many of our creeks. Bees creek, Pocotaligo, and near Charleston. I have, however, at present no specimen with mature seed, which I could compare more accurately with the European plant.

Flowers June to September.

2. Angustifolia.

A. caule herbaceo, divaricato; foliis inferiories hastatis, subdentatis, superioribus lanceolatis, integerrimis; fructus calycibus hastato lanceolatis, integerrimis.  
Stem herbaceous, divaricate; lower leaves hastate, slightly toothed, the upper lanceolate, entire; calyx of the fruit hastate lanceolate, entire.

Sp. pl. 4. p. 965.
MONOECIA TRIANDRIA.

Annual. Stem divaricate, somewhat prostrate, angled, glabrous. (Lower leaves hastate slightly toothed, Willd.) upper lanceolate, narrow, entire, glabrous, attenuated at base. Flowers in compact clusters axillary and terminal. Calyx of the fruit deltoid, hastate, sometimes denticulate, the back strongly veined but not crested.

Found though rarely near the margin of salt water around Charleston, perhaps an exotic. I have never seen the lower leaves hastate, but the early leaves of plants frequently decay before the flowers are expanded.

Flowers June—July.

3. Laciniata.

A. caule erecto, herbaceo; foliis triangulilibus profunde dentatis, subitus albidis; fructus calycibus rhombeis, trinerviis, denticulatis.


The whole plant covered with a thin separating epidermis. Stem erect, terete, naked, virgate. Leaves, except the very lowest, alternate, deltoid, toothed, silvered over with small plates or scales. Terminal spikes hermaphrodite with the anthers light red. Female florets axillary, in pairs. Calyx of the fruit compressed, five toothed, the intermediate one the largest. Lin. Leaves when growing spontaneously almost snow white underneath, when cultivated pale white. Will.

Grows generally along the margins of salt or brackish streams. Walter appears to have seen this species; I have not met with it.

Flowers June—August.


A. caule herbaceo, patente; foliis subsessilibus oblongo-ovatis, integerrimis, argenteatis; fructus calycibus muricatis, dentatis, re tusis.

Nutt. 1. p. 198.

A. Glauca. Walt. p. 252.
Stem about two feet high, geniculate, much branched, glabrous, frequently purple, the epidermis generally in a state of separation. Leaves alternate, oblong, mucronate, the lower rather obtuse, covered on both surfaces with silvery scales, nearly sessile. Flowers monoecious; the sterile in terminal spikes clustered; the fertile in axillary clusters. Of the sterile florets; Calyx five-leaved, the leaves lanceolate, small; Filaments five, longer than the calyx. Anthers didymous bright purple. Of the fertile florets, the calyx two-leaved persistent. Leaves appressed, three-lobed; the lateral lobes two-toothed; the intermediate, long acute, each bearing two short dentated crests.

Styles two, longer than the calyx. Seed orbicular, compressed.

Grows in soils that are occasionally inundated by the ocean. Flowers July—November.

AMARANTHUS. Gen. Pl. 1431.

| Masculi. Calyx 3—5 phyllus. Corolla 0. Stamina 3 s. 5. | Sterile florets. Calyx 3—5 leaved. Corolla 0. Stamens 3 or 5. |

1. Lividus.

A. glomerulis triandris, subspicatis, rotundatis; foliis ellipticis retusis; caule erecto. Flowers clustered, triandrous, in rounded spikes; leaves elliptic, retuse; stem erect.


Plant annual. Stem 2—3 feet high, smooth, generally purple. Leaves alternate, more commonly ovate as described by Linnaeus, than elliptic, obtuse, emarginate, slightly undulate, strongly veined, glabrous, on petioles 1—2 inches long. Spikes compound, axillary and terminal. Sterile and fertile florets intermingled, small clusters of fertile florets in the axils of the lower leaves. Calyx 3-leaved. Stamens 3, longer than the calyx. Styles two and three, very short. Capsule rugose, somewhat persistent.

Grows in cultivated lands and about buildings—common. Flowers from June—September.
2. **Pumilus.**

A. glomerulis pentandris axillaribus; foliis ovatis, obtusis, emarginatis, carnosis, rugosis; caule procumbente, glabro. E.

Flowers pentandrous in axillary clusters; leaves ovate, obtuse, emarginate, carnos, rugose; stem procumbent, glabrous.


3. **Hybridus.**

A. racemis pentandris, decompositis, congestis, erectis; foliis o-vato-lanceolatis.

Flowers pentandrous, in decompound, erect, clustered racemes; leaves ovate lanceolate.


4. **Sanguineus.**

A. racemis pentandris, supradecompositis, erectis; ramis patentibus, glabris; foliis oblongis, acutis.

Flowers pentandrous in supradecomound, erect racemes; branches expanding, glabrous; leaves oblong, acute.
**5. Hypochondriacus.**

**A. racemis pentandris, compositis, con-**

fertis erectis; foliis oblongo lanceolatis, mu-

cronatis.

<table>
<thead>
<tr>
<th>Flowers pentandrous,</th>
<th>in compound, crowded,</th>
</tr>
</thead>
</table>
| Racemes terminal, erect racemes; leaves oblong lanceolate, mu-
| crane.               |


Annual. Stem four to eight feet high, glabrous, furrowed. Leaves long, large, lanceolate, entire, ribbed, lurid on the upper surface, generally purple on the under, on long petioles. Racemes terminal, paniculate. Sterile and fertile florets intermingled. Calyx 5-leaved, leaves very acute, bright purple. Stamens five, longer than the calyx. Styles three. Capsules circumscissed.

Grows in cultivated ground, not indigenous, at least in the low country of Carolina.

Flowers June—October.

**6. Spinokus.**

<table>
<thead>
<tr>
<th>Flowers pentandrous,</th>
<th>in compound, terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racemis, terminalibus, com-</td>
<td>racemes; axils spiny.</td>
</tr>
<tr>
<td>positis; axillis spinosis.</td>
<td></td>
</tr>
</tbody>
</table>


Stem two to three feet high, diffusively branched, glabrous, generally coloured. Leaves lanceolate, rather obtuse, mucronate, entire, glabrous, slightly glaucous underneath. Petioles as long as the leaves, with two spinous stipules at their base. Spikes compound axillary and terminal, the upper florets generally sterile. Calyx five-leaved, the leaves lanceolate, very acute, filaments five, longer than the calyx. Styles three. Capsule ovate, transparent, somewhat persistent.

A very common weed around buildings and in cultivated land.

Flowers June—October.

In several species of this genus the two halves of the capsule appear to cohere until they both decay; in others the upper half falls as soon as the seed matures.


Sterile florets. Calyx 5-leaved, inferior, imbricate. Corolla 5-petalled. Filaments 0. Anthers sitting on a receptacle.


1. COCCINEA. Mich.


Stem voluble, glabrous, ten to fifteen feet long. Leaves alternate, lanceolate, sometimes denticulate, glabrous, occasionally somewhat cordate, peltolate. Flowers solitary, axillary, on short peduncles. Corolla and receptacle? of the sterile florets of a deep crimson colour, and acquiring from the pale yellow, sessile anthers, that stellular appearance from which the name of Brickell was derived. In the fertile floret the germs are aggregated as in the flowers of the Rubus, but the receptacle extends as it matures, and the berries do not unite and form one fruit as in the Rubus or Morus, but become detached and scattered. Berries red, one seeded. Dr. Brickell considered the fruit as a two celled, one seeded drupe.

In my description of this plant I have followed, in a great measure, the manuscript notes of the late Dr. Brickell, who, I believe, had examined it with great attention.

Grows in rich damp soils, near Savannah.

Flowers May—June.

CROTONOPSIS. Michaux.

Masculi. Calyx 5-partitus. Corolla 5-petala.

Foeminei. Calyx 5-


Fertile florets: Cal-
partitus. Corolla 0. Stig mata 3, duplicato bifida. Capsula monosperma, nondehis cens.

1. Linearis.

C. caule erecto, dichotome-ramossim o; foliis supra stellato pilosis, subtus argenteolepidotis.

Stem erect, dichotomously branching; leaves on the upper surface stellularly hairy, underneath covered with silvery scales.


Stem twelve to eighteen inches high, dichotomously branched, with the divisions generally remote, covered like the under surface of the leaves, with silvery scales. Leaves linear-lanceolate or ovate, entire, on short petioles. Flowers in short terminal and axillary spikes, small, the upper florets sterile. Capsule oval, covered also with scales.

The leaves of this plant vary from linear-lanceolate to ovate; the extremes appear sufficiently distinct, but intermediate specimens seem to connect them.

Grows in dry pine barrens, near Georgetown, and in the middle districts of Carolina.

Flowers June—May.

PLANERA. Gmelin.

Masculi. Calyx campanulatus, 4-fidus. Corolla 0. Stamina 3—5, exserta.

Sterile florets. Calyx campanulate, 4-cleft. Corolla 0. Stamens 3—5, exserted.

Hermaphrodit. Calyx campanulatus, 4-fidus. Corolla 0. Stigma tata 2, sessilia, recurv-
vata. *Nux monosperma*, one-seeded, coriaceous, squamulos.

1. **Aquatica**. Walt.


A small tree generally about twenty-five to thirty feet high, twelve to fifteen inches in diameter, branches slender, virgate. *Leaves* ovate, acute, serrate, slightly scabrous on short petioles. *Flowers* monoecious, expanding before the leaves. Sterile florets in small sessile clusters near the extremity of the last year's wood. Stamens longer than the calyx, 3—4 or 5. Fertile florets solitary, or in small clusters intermingled with the sterile. *Nut* ovate, one-celled, not winged, but covered with loose ovate scales.

Grows along the margin of river swamps; most common in the middle districts of Carolina and Georgia.

*Flowers* March.

**CELTIS. Gen. Pl. 1591.**


**Sterile florets.** *Calyx* 5—6 parted. *Corolla* 0. *Stamens* 5—6.


1. **Occidentalis.**

*C. foliis ovatis, acuminatis, serratis, basi inæqualibus, supra scabris, subtus hirtis.*

Leaves ovate, acuminate, serrate, unequal at base, scabrous on the upper surface, hairy underneath.

A tree which sometimes on the sea-islands obtains a height of sixty to seventy feet, with a diameter of two to four feet; branches erect and expanding; bark united but corrugate, rimose. Leaves attenuate, ovate, acuminate, oblique at base, when old nearly glabrous; the young somewhat hairy, scabrous and entire. Petioles three to five lines long, hairy. Flowers axillary, the lower sterile frequently by threes; the upper fertile solitary. Peduncles four to ten lines long. Stipules two, pubescent, as long as the peduncles. Of the sterile floret, calyx five to six parted; filaments five to six, as long as the calyx, united at base. Anthers greenish. Of the fertile floret, germ superior; style or rather stigmas two, expanding curved. Fruit, a globular dry drupe, of a purple colour and saccharine taste.

Around Beaufort formerly this tree was very common, and several of them in the town had obtained the size I have mentioned. The wood, however, appears not to be strong; the branches are easily broken from the stem by high winds, and in the frequent gales to which the sea-coast of Carolina and Georgia has been exposed during the last twenty or twenty-five years, the finest of these trees have literally been torn to pieces. Along the margin of the sea-islands this tree, perhaps, occurs more frequently than in any other situation.

Flowers March.

**ZIZANIA. Gen. Pl. 1433.**

**Masculi.** Calyx 0. Corolla, gluma 2-valvis, mutica, foemineis mixta.

**Foeminei.** Calyx 0. Corolla gluma 2-valvis, aristata. Stylus 2-partitus. Semen 1, corolla plicata vestitum.

**1. Aquatica.**

Z. panicula pyramidata, inferne divaricata mascula, superne spicata foeminea; pedicellis florum clavatis; aristis longis; semine elongato.

Panicle pyramidal, divaricate and sterile at base, spiked and fertile towards the summit; pedicells of the flower clavate; awns long; seed long.
Z. panicula effusa, pyramidata; glumis brevi-aristatis; floribus masculis et foemineis mixtis; stylo 1; semine ovato, laevi; foliis perennantibus glaucescentibus.

Z. Aquatica, Sp. pl. 4. p. 394?

Root perennial. Stem 6—12 feet high, terete, glabrous, polished, encircled at the joints with a silken pubescence. Leaves oblong-lanceolate, slightly channelled, finely serrulate, glabrous on both surfaces, of a light green colour, 2—4 feet long, one to one and a half inches wide, closely sheathing at base, the sheaths shorter than the internodes. Flowers in a large terminal panicle, the branches verticillate, the lower expanding, bearing sterile florets, the upper somewhat erect, the florets all fertile, on short incrassated pedicels; of the sterile floret glume 2-valved, valves equal, ciliate along the back and margins; nectary 2 very small lanceolate membranes at the base of the filaments; filaments 6, short; anthers oblong; the sterile flower pendulous caducous. Of the fertile floret glume 2-valved, valves unequal, the exterior linear-lanceolate, tapering to a bristle nearly 2 inches long, ciliate; the interior smaller, very acute; nectary as in the sterile floret; germ short, oval. Styles 2, short. Seed oblong.

This grass grows in great abundance near the mouths of our fresh water rivers. It constitutes a considerable portion of the fresh water marshes; preferring those situations where the soil is overflowed one or two feet deep at high water. Its leaves are succulent and eaten with avidity by stock of all descriptions. In Savannah, under the name of wild oats, it is used almost exclusively during the summer season as green fodder for their cows and horses. It is said not to make good hay, but I suspect it has not been fairly tried; perhaps the experiments have been made on leaves or plants not sufficiently mature. The seed are more saccharine than those of any other of the gramineæ which I have ever tasted, but they are also the most caducous.

Flowers October and November.


Panicle expanding, pyramidal; glumes with short awns; florets sterile and fertile intermingled; style 1; seed ovate, smooth; leaves perennial, glaucescent.
IvIONOECIA
TRIANDRIA.

587
glaucous, perennial, sheath at base open, shorter than the internodes. *Flow-
ers* in a large terminal pyramidal panicle, the lower branches generally by threes, the upper lanceolate. *Flowers* sterile and fertile intermingled, the upper florets generally sterile. Of the sterile floret glume 2-valved, valves equal, lanceolate, slightly mucronate, nerv’d, serrulate near the summit; filaments 6, very short; nectaries 2, minute. Of the fertile floret valves 2, unequal, lanceolate, mucronate. *Style* 1, longer than the interior valve of the corolla. *Stigmas* 2. *Seed* oval, glabrous.

This species is more common than the preceding, and grows in similar situations; its leaves are harsh and coarse, eaten, I believe, by no animal, perennial, and of a dull glaucous colour.

Flowers April—May.

3. FLUITANS. Mich.

*Z. pusilla*, culmis gracilibus, ramosis; foliis linearibus, planis; spicis solitariis axillaribus, setaceis, subquadifloris; glumis muticis.

Plant small; stem slender, branching; leaves linear, flat; spikes solitary, axillary, setaceous, generally 4-flowered; glumes unawned.


This species is said by Dr. Baldwin, to be very common in the vicinity of Savannah. A small, creeping, jointed grass, floating whenever the soil on which it grows is overflowed. I have had no opportunity of examining it when in flower, nor of ascertaining whether our Southern plant is really the species described by Michaux. In habit and appearance it is totally unlike the two preceding species.

MYRIOPHYLLUM. Gen. Pl. 1440.


**Sterile florets**. *Calyx* 4-cleft. *Petals* 4, caducous. *Stamens* 4 or 8.

**Fertile florets**. *Calyx* and *Corolla* like those of the sterile floret. *Germs* 4. *Style* 0. *Capsules* 4, one-seeded.
1. **Verticillatum.** Lin.

*M. foliis pinnatis, capillaceis, superioribus pectinato-pinnatifidis; floribus axillaribus, verticillatis, superioribus masculis, 8-andris.*

Leaves pinnate, capillary, the upper pectinate, pinnatifid; flowers axillary, verticillate, the upper sterile octandrous.


The upper florets of this species sometimes produce both styles and stamens.

Grows from Canada to Carolina; and in Lower Louisiana, Nutt.

Flowers July—August. Pursh.

2. **Scabratum.** Mich.

*M. foliis pinnatifidis; floribus omnibus verticillatis axillaribus; superioribus masculis 4-andris, inferioribus femineis; fructu 8-angulato.*

Leaves pinnatifid; flowers verticillate axillary; the upper sterile tetrandrous, the lower fertile; fruit 8-angled.


Potamogeton Pinnatum, Walt. p. 90.

Root perennial. Stem about 12 inches high, terete, procumbent and assurgent, floating, taking root at the lower joints. Leaves verticillate, generally by fours, the lowest setaceous resembling fibres, the upper linear, pinnatifid, rarely an inch long, with 2 segments usually on each side. Flowers verticillate, also by fours, sessile, small; the upper sterile. Corolla of both florets pale purple. Stamens 6, scarcely longer than the corolla. Fruit as if composed of 4 seed united each having an elevated broad 2-edged rib along the back.

Grows in shallow ponds.

Flowers April—June, and probably through the whole summer.


*M. foliis inferioribus capillaceo pinnatis, superioribus pinnatis, su-

Lower leaves capillary, pinnate, the up-
perioribus ovalibus, ar-gute serratis; floribus 6-andris.


Stem 1—2 feet high, terete, glabrous, floating, radicant, occasionally branching. Lower submersed leaves numerous, verticillate, setaceous, rather more than an inch long, pinnate with the segments also setaceous; the upper leaves lanceolate, sessile, acutely serrate, somewhat irregularly verticillate. Flowers in irregular whorls sitting in the axils of the lanceolate leaves, the upper sterile. Calyx and Corolla small, somewhat persistent. Stamens rather longer than the corolla. Germs 4. Capsules united, ribbed, as in the preceding, along the back.

Grows in pine barren ponds.

Flowers May—July.

SAGITTARIA. Gen. Pl. 1441.


1. Sagittifolia, var. Latifolia.

S. foliiis ovatis, sub-acutis, sagittatis, lobis ovatis, acuminatis, rectis; scapo simplici, floribus monoeicos; bracteis ovatis, acutis.

Leaves ovate, generally acute, sagittate, lobes ovate, acuminate, straight; scape simple; flowers monoecious; bracteas ovate, acute.

MONOECIA TRIANDRIA.

Root perennial. Stem 0. Leaves all from the root, ovate, sagittate, acute, sometimes obtuse, entire, very glabrous, strongly nerved, lobes long, acuminate, and very acute; with the lobes 6—14 inches long, 4—7 wide, on petioles 1—2 feet long dilated at base. Scape 1—2 feet long. Proper peduncles by threes, verticillate, scarcely an inch long, upper flowers sterile, the lower fertile. Involucrum 3-leaved, (perhaps 1-leaved, deeply 3-parted, with the segments 3-cleft,) leaves ovate, acute, frequently 3-cleft. Calyx 3-leaved, of the sterile floret deciduous. Petals 3, larger than the calyx, round, white. Stamens about 30, shorter than the corolla. Gomps very numerous, collected into a globular head. Style very short. Capsule? incurved, gibbous on one side, not opening, containing one oval seed.

Grows in ponds, ditches, and wet places.
Flowers August—October.

2. PUBESCENS. Muhl.

S. pubescens; foliis oblongo-ovatis, acutis, sagittatis; lobis ovatis, acuminatis, rectis; scapo simplici; floribus monoicis; bracteis subrotundis, pubescentissimis.

Pubescent; leaves oblong ovate, acute, sagittate; lobes ovate, acuminate, straight; scape simple; flowers monoecious; bracteas nearly round, very pubescent.


A plant very similar in most respects to the preceding, but with the stem and leaves pubescent, and the bracteal leaves and calyx very pubescent. As far as it has fallen under my observation, it appears to bear smaller leaves, longer in proportion to their size, and the lobes less divaricate; and the bracteal leaves which in the former species are with us ovate and acute, are in this shorter, nearly round, and obtuse.

Grows very common in the western districts of Georgia. I do not remember to have seen it along the sea coast.
Flowers August—October.

3. HASTATA. Pursh.

S. foliis oblongo-lanceolatis, sensim-acutis, sagittatis, lobis patentibus, lanceolatis, longissime - acuminati;

Leaves oblong-lanceolate, acute, sagittate; lobes expanding, lanceolate, with very long acuminate points;
scapo simplici; floribus dioicis; bracteis calycibusque subrotundis, obtusis.

S. Gracilis, Pursh, 2. p. 396.

A plant in its general habit resembling the two preceding, but the leaves are long, very narrow, with long, slender, divaricate lobes. In the var. Gracilis, Pursh remarks that the leaf (from the summit of the petiole) rarely exceeds 3 inches in length.

Grows (at least the var. Gracilis) in the mountainous districts of Carolina and Georgia.

Flowers July—August.


S. foliis natantibus, elliptico-lanceolatis, obtusis, nervosis, infimis subcordatis; scapo simplici, paucifloro; pedunculis inferioribus elongatis.


Root perennial, the fibres articulated. Leaves generally floating, elliptic, entire, 3-nerved, the lowest ovate cordate, 7-nerved, 1—2 inches long. Scape generally erect, 3—6 inches long. Flowers not numerous, small, the upper sterile. Leaves of the calyx lanceolate. Petals round. Stamens about 8. Germs numerous.

Grows in shallow ponds. When deserted by water it becomes erect, but rarely exceeds 6—8 inches in height.

Flowers May—August.

5. Lancifolia.

S. foliis lato-lanceolatis, utrinque acutis, glabris, coriaceis, sub-perennantibus; scapo simple; flowers dioecious; bracteas and calyx nearly round, obtuse.

Leaves floating, elliptic-lanceolate, obtuse, nerved, the lowest slightly cordate; scape simple, few-flowered; lower peduncles very long.

Leaves broad, lanceolate, acute at each end, glabrous, coriaceous, somewhat perenni-
MONOECIA TRIANDRIA.

simplici; seminibus compressis, subfalcatis. E. al; scape simple; seed compressed, slightly falcate.

S. Falcata, Pursh, 2. p. 397.

Root somewhat tuberous, creeping. Sap, as in most of this genus, lactescent. Leaves large, 10—14 inches long, 3—5 wide, lanceolate, entire, striate, many nerved, coriaceous. Petioles 1—2 feet long. Scape 2—3 feet long. Flowers verticillate by threes, the upper sterile. Leaves of the involucrum ovate, acuminate, glabrous. Leaves of the calyx round, tinged with purple. Petals much larger than the calyx, white as in all of this genus. Filaments numerous, (nearly 60) hairy. Gersms numerous. Stigma 3—5 cleft. Capsules collected into a compact globular head.

Grows in deep marshes and wet and boggy soils.

Flowers April—June.


S. foliis lineari-lanceolatis, triplinervibus, subperennantibus; scape simplici; floribus monoicis; bracteis ovatis, acuminatis.

S. Simplex, Pursh, 2. p. 397?

Root perennial. Leaves linear-lanceolate, entire, glabrous, 3—4 inches long, scarcely half an inch wide, many of them living through the winter. Petioles about a foot long. Scape rather longer than the petioles. Flowers verticillate by threes, the upper sterile. Leaves of the calyx lanceolate, small. Petals much longer than the calyx. Filaments about 10, hairy. Anthers frequently 2 on each filament. Capsules obliquely mucronate, collected into a globular head.

Grows in shallow ponds; very common in pine barrens.

Flowers April—June.

QUERCUS. Gen. Pl. 1446.

MONOECIA TRIANDRIA.


Fertile florets. Calyx one-leaved, very entire, scabrous. Corolla 0. Styles 2—5. Nut coriaceous, surrounded at base by the persistent calyx.

* Fructificatio bennis; foliis plerumque setaceo-mucronatis. * Fructification biennial; leaves generally mucronate.


Q. foliis deciduis, linear-lanceolatis, utrinque attenuatis, integerrimis, glabris, mucronatis; nuce subrotunda.

Leaves deciduous, linear-lanceolate, tapering at each end, entire, glabrous, mucronate; nut nearly round.


A tree 30—60 feet high, erect, straight, generally slender for its height. Leaves linear-lanceolate, entire, very slightly mucronate, nearly sessile, generally deciduous, when young of a very light green colour, resembling somewhat those of the willow. Spikes of sterile florets near the termination of the last year's wood. Fertile florets solitary in small clusters. Fruit (an acorn) nearly spherical, mucronate, small, sitting in a scaly cup.

The leaves of the young plant have generally one tooth or angle, rarely more, on each side.

Grows generally in swamps or along their margins; the timber is but little used.

Flowers March and April.

Willow oak.
2. **Cinerea.** Mich.

Leaves perennial, coriaceous, oblong-lanceolate, entire, with the margin slightly revolute, mucronate at the summit, stellularly tomentose underneath; fruit sessile; nut nearly spherical.


_Q. Cinerea._

Leaves perennantibus, coriaceis, oblongo-lanceolatis, integerrimis, margine subrevolutis, apice mucronatis, subtus stellatim tomentosis; fructibus sessilibus; nuce subglobosa.


A small tree rarely exceeding 20 feet in height, with irregular crooked branches. _Leaves_ on short petioles, oblong-lanceolate, sometimes acute, sometimes obtuse, always mucronate, very slightly revolute along the margin, covered underneath with a very close and short tomentum, of a greyish hue, but very generally discoloured with shades of brown. _Acorn_ small, not abundant, nearly spherical. _Cup_ shallow, sessile.

Grows on the dry and barren hills in the middle districts of Carolina and Georgia, sometimes called high ground Willow Oak, Turkey Oak, Scrub Oak, which last name, however, includes the _Q. Nigra_ or Black Jack and _Q. Catesbaei_, to which it more peculiarly belongs.

Flowers March—April.

3. **Pumila.** Walt.

Leaves deciduous, oblong-lanceolate, slightly undulate, obtuse at base, acute and mucronate at the summit, glabrous on the upper surface, tomentose underneath; nut nearly spherical.


A small shrub with creeping roots, rarely exceeding two feet in height. Stem slender, virgate, tomentose when young, sparingly branched. Leaves on short petioles, oblong-lanceolate, obtuse at base, undulate particularly when young, the under surface covered with a dense hoary tomentum, the upper when young sprinkled with a stellular pubescence, becoming glabrous with age. The sterile florets are produced in such profusion, as to render the plant very conspicuous at the season of flowering. Acorn small, not produced in any abundance even when not destroyed by fire, nearly spherical. Cup shallow, on a very short peduncle.

The figure of Michaux the younger, arb. for. which recalls the plant very accurately to my recollection, represents the leaves as tapering at base, specimens before me have them all very obtuse. In this respect it probably varies.

This has always appeared to me a very distinct species, marked by many characteristic features. In many situations where the woods have not for years been burnt, I have seen it growing, without exceeding the height I have specified. I know not how Mr. Nuttall was led to consider it as a Swamp variety of the Q. Cinerea; for although it does not generally grow in a soil as arid as the sand hills in the middle country to which the Q. Cinerea appropriately belongs, it is found only in the driest pine barrens along that district which is emphatically called the "low country of Carolina and Georgia."

Flowers March—April.

4. VIRENS. Aiton.

Q. foliis perennanti-bus, coriaceis, ovali-lanceolatis, integerrimi, margine revolutis, basi obtusis, apice sub acutis, subtus stellatim pubescentibus; fructibus pedunculatis; nuce oblonga.

Leaves perennial, coriaceous, oval-lanceolate, entire, with the margins revolute, obtuse at base, generally acute at the summit, stellularly pubescent underneath; fruit on peduncles; nut oblong.


A large tree, with spreading curved and twisted branches, rarely exceeding 50 feet in height, but covering with its enormous limbs when growing in open situations, a large circumference. The Stem sometimes attains a diameter of 5—7 feet, but generally divides into large branches at 8 or 10 feet from the ground. Leaves oval-lanceolate, with the margins conspicuously revolute, pubescent, almost tomentose underneath, entire on the old tree,
toothed or angled on the young, frequently obtuse. *Aments* of sterile florets small, fertile florets very numerous. *Fruit* oval, nearly black, mucronate, pedunculate, generally in pairs.

The timber of this oak is perhaps the most valuable that is known for the purposes of naval architecture. Its fibre is compact, heavy, strong, and durable, twisted so as to split with difficulty, and hardening with age or on exposure to weather. The natural curvature of the branches is in general precisely such as the timbers of a ship require, so that the strength of the wood may, with a little care, be entirely preserved. It is also used in machines, for the fellows of cog wheels, and in general wherever strength and durability are required, and where its weight and crookedness form no objection. Its bark is excellent for the use of the Tanner, and its smaller branches are generally used for fuel, and constitute in fact the best firewood in our country.

This tree is now becoming scarce in the forests, as the soil and situation in which it naturally grows, is that peculiarly adapted for the cultivation of the Sea-Island Cotton. It is only seen in perfection in old fields, or as an ornamental tree near buildings, or on the margins of islands or points of lands projecting into salt water. It is much to be regretted, that residents on the Sea-Islands do not plant avenues of this noble tree along the roads leading up to their houses, as a means not only of preserving and eventually increasing the supply of timber, but of adding embellishments to situations, which have frequently all the beauties that water and wood can give to the scenery of a level country. We perhaps want the variety which cultivation even in its most regular aspect can bestow. All, however, who have seen the fine avenues of Live Oak near Dorchester, will acknowledge, that they would add magnificence to any landscape.

Grows along the sea coast, often flourishing luxuriantly when a portion of its roots are washed by the salt water at a very high tide.

Flowers and sheds a portion of its leaves in April.

**5. Maritima.** Willd.

*Q. foliis perennantisbus, coriaceis, lanceolatis, integerrimis, glabrae, basi attenuatis, apice acutis, mucronatis; nuce ovali.*

Leaves perennial, coriaceous, lanceolate, entire, glabrous, tapering at base, acute at the summit, mucronate; nut oval.


A shrub 4—10 feet high, growing along the sea coast. *Leaves* oblong-lanceolate, (often sinuately toothed, smooth and of the same colour on both sides, Nutt.) on very short petioles. *Nut* oblong, mucronate, rather large. *Cup* pedunculate.

This species has always appeared to me to be most nearly allied to the *Q. Virens*. Its acorn is similar in shape, but larger.
Grows in the vicinity of salt water.

Flowers April.


Q. foliis perennantisibus, coriaceis, parvis, oblongo-obovatis, mucicis, utrinque acutis, glabris, supra nitidis reticulatisque, margine revolutis.

Leaves perennial, coriaceous, small, oblong-ovate, unawned, acute at each end, glabrous, shining and reticulate on the upper surface, margin revolute.


Branches terete. Leaves on short petioles, coriaceous, oblong, rather acute at base, entire and slightly revolute, shining on the upper surface, opake and glabrous underneath, resembling very much those of the common Myrtle, wild; scarcely larger than those of the Box, Nutt.

This species of oak was discovered, I believe, by Mr. Kim, on Cumberland Island in Georgia, and probably extends along the sea-coast of Florida; its fruit is still unknown.

Flowers.


Q. foliis sub perennantisibus, sessilibus, oblongo-lanceolatis, sub acutis, basi attenuatis, integerrimis, utrinque glabris; nuce subovata.

Leaves nearly perennial, sessile, oblong-lanceolate, nearly acute, tapering at base, entire, glabrous on both surfaces; nut somewhat ovate.


Q. Hemisphaerica, Bartram’s Travels, p. 320.

Icon. Mich. Querc. t. 17 and 18; perhaps also t. 20. f. 2.

A tree sometimes growing 40—50 feet high, and 2—4 feet in diameter, with its branches regularly expanding and forming a large handsome hemispherical head. Leaves oblong-lanceolate, sometimes obovate, acute or obtuse, nearly sessile, very glabrous on both surfaces, with the margins slightly revolute; those of the young plant toothed and irregularly sinuate; all some-
what clustered near the summit of the small branches. Flower ovate. Cup shallow, nearly sessile.

This is one of our handsomest species of oak, and is frequently cultivated around buildings instead of the live oak, as it is supposed to be more easy to remove, more rapid in its growth, and by some considered, on account of the regularity of its branches, more beautiful. The old trees shed their leaves freely towards the close of the winter, and are nearly naked in March. The young plants generally retain their foliage. The timber is supposed to possess neither the strength nor durability of the live oak.

The figure in Mich. Querc. t. 20. f. 2. exactly resembles the young plants of this species. And as this oak, though growing in dry soils, is more known by the name of “Water Oak,” than by any other appellation, it is not impossible that Michaux may have been misled by its popular denomination to insert a figure of it among the real Water Oaks.

I have always considered this as the real Q. Hemisphaerica of Bartram. It certainly is the species to which his description most appropriately applies.

Grows in rich sandy soils along the margin of swamps, appearing to take the place of the live oak as you leave the margin of the ocean, but growing also with the live oak on the sea-islands.

Flowers April.

8. IMBRICARIA. Mich.

Q. foliis deciduis, oblongis, utrinque acutis, mucronatis, integerrimis, nitidis, subtus pubescentibus; nuce subglobosa.

Leaves deciduous, oblong, acute at each end, mucronate, entire; shining, pubescent underneath; nut nearly spherical.


A tree 40—50 feet high, 12—18 inches in diameter, with numerous irregular branches. Leaves lanceolate, entire, mucronate, shining on the upper surface, very pubescent and somewhat ferruginous underneath, on very short petioles. Fruit rather small, nearly spherical. Cup shallow, nearly sessile.

The leaves of this species are much larger than those of the Q. Laurifolia, and are very pubescent underneath; the fruit also differs in figure. The wood is said by Michaux to be of little value, but it splits easily, and is used in the Western States, where it more frequently occurs, for shingles.

Grows in the mountains of Carolina, Dr. Macbride; not found in the low country.

Flowers—
**Foliis apice lobatis.**

**Leaves lobed at the summit.**

9. **Aquatica.** Walter.

Q. foliis obovato-cuneiformibus, glabris, integerrimis, apice obsolete trilobis, muticis, lobo intermedio majore; glande subglobosa.

Leaves obovate cuneiform, glabrous, entire, obscurely 3-lobed at the summit, unawned, the middle lobe large; nut nearly spherical.


A tree rarely exceeding 30 or 40 feet in height, and 12—18 inches in diameter. Branches somewhat regular but never forming a handsome head. Leaves sessile, cuneate obovate, obscurely 3-lobed at the summit, very glabrous, the veins underneath prominent. Fruit not abundant. Germs generally in pairs. Acorn ovate, rather small. Cup shallow, on a very short peduncle.

This tree bears some resemblance to the Q. Laurifolia, but is, I think, sufficiently distinct. It is neither valued for timber nor fuel.

Grows in damp, springing soils, around ponds and in shallow swamps. Flowers March—April.

10. **Nana.** Willd.

Q. foliis cuneiformibus, glabris, apice trilobis, basi subsinuatis, lobi divaricatis, mucronatis, intermedio majore, axillis venarum subtus pubescentibus; nucce ovato-subglobosa.

Leaves wedge-shaped, glabrous, 3-lobed at the summit, slightly sinuate at base, the lobes divaricate, mucronate, the middle one the largest, axils of the veins pubescent underneath; nut ovate, nearly glabrous.


With this species I am personally unacquainted. A single leaf, however, which was sent me under this name by Dr. Muhlenberg, agrees minutely with the description of Wildenow, and certainly belongs to no variety of the Q. Aquatica or Q. Laurifolia that I have seen. It resembles the leaves of the Q. Ilicifolia more nearly than those of any species that I possess; but differs from that by being more distinctly 3-lobed at the summit, by being glabrous underneath except in the axils of the large leaves. *Leaves* between 2 and 3 inches long, deeply, 3-lobed and mucronate at the summit, obtusely sinuate near the base. Grows in the pine barrens of Carolina and Georgia, Pursh. Flowers.

11. Nigra.

*Q. foliis coriaceis, cuneiformibus, basi subcordatis, apice dilatatis, retuso-subtrilobis, junioribus mucronatis, supra glabris, subtus rubiginoso-pulverulentis; glande brevi-ovata.*

| Leaves coriaceous, wedge shaped, slightly cordate at base, dilated at the summit, retusely 3-lobed, when young mucronate, glabrous on the upper surface, rusty and pulverulent underneath, nut short, ovate. |

A small tree 20—25 feet high, rarely exceeding 10 inches in diameter, irregular in its growth, and covered with a thick rough black bark. *Leaves* on short petioles 5—7 inches long, obovate, dilated at the summit, obscurely 3-lobed, glabrous on the upper surface, covered underneath with a ferruginous dust. *Nut* short, ovate, mucronate, not abundant. *Cup* rather deep, sessile. The wood of this tree is of little or no value as timber, but it is much esteemed for fuel. It is universally known by the name of Black Jack, while the name of Black Oak is as generally given to another species. It varies with the lobes, sometimes obsolete unarmed, sometimes very distinct and mucronate. Grows on the poorest sand hills, and always indicates a dry barren soil. Flowers March, April.

Q. foliis obovato-oblongis, laevissime sinuatis, subtus in axillis pubescentibus, lobis oblongis, obtusis, obsolete denticulatis, setaceo-mucronatis; glande depresso-globosa.

Leaves obovate, oblong, slightly sinuate, pubescent underneath in the axils, lobes oblong, obtuse, obscurely toothed, mucronate; nut depressed, globular.


This is one of our largest species of Oak, growing in the rich high land of the upper country, 60—70 feet high, and 3—4 feet in diameter, covered with a very dark-coloured bark, from whence it has derived its common name of Black Oak. Leaves on petioles about an inch long, obovate, angled, slightly and obtusely sinuate, mucronate, glabrous on the upper surface, when young slightly pubescent or pulverulent on the under, afterwards only pubescent in the axils. Nut depressed ovate, rather large. Cup deep, sessile.

This tree appears to vary much; besides the var. Sinuosa figured by Michaux the elder, t. 23. and which evidently belongs to this species, the plate of Michaux the younger, arb. for. 2. p. 110. t. 22. seems to represent an entirely distinct species. I have specimens of this latter variety or species sent me from Philadelphia by Mr. Kim, as the Q. Tinctoria, which agree exactly with Michaux's figure; they would be Q. discolor, but they are glabrous underneath, and are not discoloured.

Grows in the rich uplands of the upper country, rare along the sea-coast. Flowers March—April.


Q. foliis oblongis, pinnatifido - sinuatis, subtus pubescentibus, lobis oblongis, dentatis, setaceo - mucronatis; glande ovata.

Leaves oblong, pinnatifid, sinuate, pubescent underneath, lobes oblong, toothed, mucronate; nut ovate.


Leaves nearly resembling those of Q. Coccinea, but pubescent underneath; by the Autumn, however, the leaves are nearly naked, only pubescent

VOL. II.
along the veins. In the Spring they are hoary and pubescent on both surfaces, which is not the case with either the Q. Coccinea or Q. Rubra—Wild.

With this species I am not well acquainted. The leaves in the figures of Abbot resemble very much those of the last variety mentioned under Q. Tinctoria, but are hoary from their pubescence.

Grows in the oak lands of the middle and upper country—a large tree. Flowers April.


Q. foliis oblongis, profunde sinuatis, glabras, lobis divaricatis, dentatis, acutis, setaceo-mucronatis; calycibus fructus basi attenuatis.

Leaves oblong, deeply sinuate, glabrous, lobes divaricate, toothed, acute, mucronate, calyx of the fruit tapering at base.


A large tree 70—80 feet high, and 3—4 feet in diameter. Leaves deeply sinuate, very glabrous, the sinuses obtuse, the lobes very acute, acutely notched and toothed, and mucronate. Petioles 2—4 inches long. Fruit very abundant. Nut ovate, oblong, mucronate. Cup turbinate, sessile, enclosing about half of the nut.

This species, which constitutes a large proportion of the oak forests of the upper country, is distinguished by the brilliant colour of its leaves towards the close of Autumn. Its wood is principally converted into staves or rails or fuel. It is one of the many species to which the name of Red Oak is indiscriminately applied. Its leaves are perhaps more dissected than those of any other species except the Q. Palustris.

Grows in the rich oak lands of the upper country. Not common in the lower.

Flowers in April.

15. Rubra.

Q. foliis oblongis, obtuse sinuatis, glabris, lobis acutiusculis, dentatis, setaceo-mucronatis; calycibus fructus subtus planis.

Leaves oblong, obtusely sinuate, glabrous, lobes nearly acute, toothed, mucronate; calyx of the fruit flat at base.

A large tree growing 70—80 feet in height, and 3—4 in diameter. Leaves glabrous, sinuate, with the re-entering angles frequently acute, the lobes very acute and very acutely notched, mucronate. Petioles 2—4 inches long. Fruit abundant. Nut ovate, mucronate, nearly truncate at base. Cup shallow, very flat, sessile.

This species has a strong affinity to the Q. Coccinea, but its leaves are generally larger, not so deeply sinuate, the base of the sinus more frequently acute, and in Autumn they change to a dull red and finally become yellow. The acorn also in this species is larger, and remarkable for its flat base and shallow cup.

This tree is very abundant in the oak land of the upper districts of Carolina and Georgia. It is rare along the sea-coast. Its wood is used for staves, and rails for fences. Its bark is valuable to the tanner. For the purposes of the Architect, however, the timber of none of the "Red Oaks" is equal either in strength or durability to that of the different species and varieties of the White and Chesnut Oaks.

Grows in dry soils.

Flowers April.


Q. foliis lœvissime petiolatis, basi cuneatis, oblongis, coriaceis, glabris, profunde sinuatis, lobis divaricatis, acutis, mucronatis; cupula turbinata, ampla, squamis obtusis, marginalibus introflexis; nuce ovata.


A small tree from 15 to 36 feet high, and rarely exceeding 12 inches in diameter, the branches and stem irregular and crooked. Leaves nearly sessile, coriaceous, glossy, deeply sinuate, the lobes very commonly simple, divaricate and falcate, sometimes bearing 1 or 2 acute teeth. Fruit not abundant. Nut rather ovate. Cup large for the size of the fruit, deep, including commonly half of the acorn, sessile, and remarkable for its obtuse scales, which cover a portion of its inner surface.

The leaves of this species are lobed very much like those of Q. Rubra,
but the lobes are much more simple, the leaf itself is more coriaceous and sessile, and the fruit and tree altogether distinct.

It is not used at all as timber. Its wood makes excellent fuel, and its bark is valuable to the tanner, but is not easily procured.

Grows in dry, poor, sandy soils; the largest that I have seen are to be found on the Sea-Islands.

Flowers April.


Q. foliis longe peti-loatis, basi obtusis, subtus tomentosis, trilobis, sinuatis, lobis subfalcatis, setaceo-mucronatis, terminali elongato; glande globosa.

Leaves on long petioles, obtuse at base, tomentose underneath, 3-lobed or sinuate, lobes somewhat falcate, mucronate, the terminal one long; nut globular.

Q. Elongata, Sp. pl. 4. p. 444.
Q. Rubra, Walt. p. 234.

This is one of our largest trees, growing 70 to 80 feet in height, and in favourable situations 3—4, and sometimes 5 feet in diameter, having generally a straight trunk and large branches regularly expanding. Leaves on long petioles, deeply lobed, lobes in general not numerous (3—5) falcate, simple, acute, mucronate, smooth and glossy on the upper surface, covered with a dense tomentum underneath. Nut small, abundant, ovate. Cup shallow, somewhat turbinate on a short peduncle.

This, along the sea-coast of Carolina and Georgia, is the most common species of Oak, particularly in soils that are dry and only moderately fertile. Its wood is principally used for staves, or more commonly consumed for fencing or as fuel. Its bark, however, is preferred to that of every other species of Oak for tanning.

Var. a. Triloba.

Q. foliis cuneiformibus, basi obtusis, apice subaequaliter trilobis, mucronatis, supra glabris, subtus tomentosis.

Leaves wedge shaped, obtuse at base, nearly equally 3-lobed at the summit, mucronate, glabrous on the upper surface, tomentose underneath.
MONOECIA TRIANDRIA.


This variety grows promiscuously with the preceding, and resembles it entirely in size, habit and appearance; yet, I do not recollect to have seen any tree bearing indiscriminately the 3-lobed and falcate leaves. If not a distinct species, it is certainly a very permanent variety.

These two trees are called by the inhabitants Red Oak or Spanish Oak. Where I have seen any distinction made, Red Oak was applied to the Q. Triloba—Spanish Oak to the Q. Falcata.

Grows in dry soils, moderately fertile.

Flowers April.

Var. b. Pagodefolia.

Q. foliis oblongis, multilobatis, basi sub acutis, lobis simplicibus, divaricatis, mucronatis, sub oppositis, subtus pubescentibus; nuce ovata. Leaves oblong, many lobed, nearly acute at base, lobes simple, divaricate, mucronate, generally opposite, pubescent underneath; nut ovate.

This tree, which has a strong affinity to the Q. Falcata, may deserve a further examination. Its leaves on petioles 2—3 inches long, have frequently 11—13 lobes generally opposite, simple, acute, and diminishing very regularly upwards from the first or second pair; the under surface is only pubescent, not tomentose. The acorn is small, ovate. The tree itself large.

This tree I first noticed on the banks of the Roanoke in North-Carolina, along the road from Petersburg to Raleigh. I have since seen it near Granby, South-Carolina, growing in both places in rich swamp land.


Q. foliis longe petiolatis, obovato-cuneiformibus, tri-quinquelobis, margine integerrimis, subtus cinereo tomentosis, lobis setaceo mucronatis; nuce subglobosa. Leaves on long petiole, obovate, wedge-shaped, 3—5 lobed, entire along the margin, cinereous and tomentose underneath, the lobes mucronate; nut nearly spherical.

A small shrubby Oak, generally growing from 3—4 feet high, sometimes 8—10. Leaves cuneate, usually 5-lobed, the lobes rather acute and mucronate, the upper surface smooth, the under covered with a white tomentum. Petioles about an inch long. Fruit so abundant as sometimes to cover the branches. Nut ovate. Cup large for the size of the acorn, shallow, Mich.

Grow in dry, poor, gravelly soils—New-York to Georgia, Muhl. I have never seen this species in our low country.

Flowers.

** Fructificatio annua; folia mutica. ** Fructification annual; leaves unawned.

† Foliis lobatis. † Leaves lobed.


Q. foliis oblongis, Leaves oblong, sinuatis, basi cuneatis, cuneate at base, subtus pubescentibus, pubescent underneath, lobis obtusis, superioribus dilatatis; calycibus lobes obtuse, the upper dilated; calyx of the fructus hemisphaericos, fruit hemispherical; nuce ovali.

Q. Stellata, Sp. pl. 4. p. 452.

A tree generally from 30—40 feet high, and 1—2 in diameter, but sometimes attaining a height of 50—60 feet, and a diameter of 3—4; branches generally straggling, irregular, and the foliage not dense. Leaves on short petioles generally 5-lobed, the upper lobes dilated and emarginate, or bilobed; all very obtuse, glabrous on the upper surface, covered with a stellular pubescence underneath. Nut oblong. Cup hemisphaerical, inclosing nearly half of the acorn.

This tree is very common in cold, stiff, gravelly soils. Its timber is supposed in strength and durability to surpass that of any other species of the Oak, except the Live Oak; and, therefore, it is highly prized when it can be
obtained sufficiently large, to be used in the construction of vessels. The small trees are much used in fencing for posts, hence its common name of "Post Oak." Near the sea-coast of Carolina and Georgia it rarely becomes a large tree; but, in the fertile lands in the State of Alabama, it attains a great size.

Grows in moist or gravelly clay soils.
Flowers April.

20. **LYRATA.** Walter.

**Q. foliis oblongis, sinuatis, glabris, lobis oblongis; sub acutis, superioribus dilatatis, angulato-truncatis; calycibus fructus nucis magnitudine; glande globosa, subtecta.**

Leaves oblong, sinuate, glabrous, lobes oblong, nearly acute, the upper dilate, angled; calyx of the fruit as large as the nut; nut globular, nearly covered.


A large tree attaining the height of 60—70 feet, and a diameter of 2—4, with branches somewhat regular, and a head of dense and handsome foliage. Leaves long, irregularly and lyrately sinuate, the lower lobes generally acute, the upper obtuse and sometimes emarginate, glabrous on both surfaces, nearly sessile. Nut of a middling size, almost globular, covered excepting its mucronate summit, with its scaly cup. Cup muricate, on a short peduncle.

The timber of this tree is said by Michaux to be valuable, but inferior to the White Oak. It is, in fact, so circumscribed in its habitat, that it is but little used or known. Over Cup Oak.

Grows almost exclusively in the rich swamps that border our large rivers. By no means rare in its native habitations.
Flowers April.

21. **ALBA.** Lin.

**Q. foliis oblongis, pinnatifido - sinuatis, subtus pubescentibus, lobis oblongis, obtusis, integerrimis; calycibus fructus pedunculatis, basi planis; nuce ovata.**

Leaves oblong, pinnatifid, sinuate, pubescent underneath, lobes oblong, obtuse, entire; calyx of the fruit on peduncles, flat at base; nut ovate.
This is one of the largest and most valuable trees in the American Forests, growing frequently to the height of 70 or 80 feet, with a diameter of 3—5, and, according to Michaux, sometimes of 7 feet. Its trunk is often straight for 40 or 50 feet, and free from branches. Leaves on short petioles, deeply pinnatifid, pubescent and glaucous underneath, lobes oblong, obtuse. Fruit large, frequently in pairs. Nut ovate. Cup deep, inclosing nearly half of the acorn.

This tree is supposed to produce the best timber of any Oak in the United States, excepting the Q. Virens. It furnishes to Naval Architecture, from its straight trunk and great size, many pieces of timber which cannot be procured from the Live Oak. In Civil Architecture, in Machinery, to the Carriage-Maker, and to numerous other artizans, it offers many advantages, and is employed wherever a wood, straight, compact, strong, elastic, durable but heavy, is required. Its staves are also preferred to those of any other tree; and its bark, not much used, is said to be valuable to the tanner. Perhaps no tree in the United States possesses so many good qualities.

It grows in a rich damp soil. In the low country of Carolina and Georgia, it is found along the margins of swamps, and in flat rich high lands. In the upper country it seeks a rich and rather damp soil. In all of these situations it attains a large size. But, the district which contains the finest forests of the Q. Alba, the Q. Obtusiloba, and the Q. Prinus (Palustris) in the United States, and probably in the world, is the country which encloses the Alabama and its tributary streams.

Flowers April.

†† Folii dentatis. | †† Leaves toothed.

22. PRINUS. Lin.

Q. foliiis petiolatis, obovatis, acutis, subtus pubescentibus, grosse dentatis, dentibus sub-æqualibus, dilatatis, apice callosis; glande majuscula, ovata.

Leaves on petioles, obovate, acute, pubescent underneath, coarsely toothed, teeth unequal, dilated, callos at the summit; nut large, ovate.

A large and magnificent tree, growing 70—80 feet in height, and 2—5 or 6 feet in diameter, with a shaft frequently 40—50 feet without branches, and a fine regular head. Leaves large, on petioles about an inch long, obovate or frequently oblong-lanceolate, regularly, equally and obtusely toothed, glabrous on the upper surface, slightly pubescent underneath. Fruit very abundant. Nut large, ovate. Cup nearly hemispherical, inclosing about one-third of the acorn, on short peduncles.

This tree grows in the same soil and situation as the Q. Alba. In the low country it is more abundant, and generally attains a large size than the White Oak. Its timber, though perhaps inferior, is generally employed indiscriminately with that species with which even in name it is often confounded.

Flowers in April.

23. Michauxii.

Q. foliis petiolatis, obovatis, basi obtusis, inaequaliter dentatis, sinuatisque, subtus tomentosis; fructibus subbinis; nuce maxima, ovata.

Nutt. 2. p. 215.

A large tree found intermingled with the two preceding species. The leaves are more irregularly toothed, more obtuse at base, (sometimes slightly cordate) and much more tomentose and soft underneath, than those of the Q. Prinus; and the acorn, judging from my own specimens, are larger than those of Q. Macrocarpa.

The Q. Velutina of Mr. Kin seems to belong to this species.

Grows in rich flat lands and along the margins of swamps.

Flowers April.


Q. foliis obovatis, acutis, subtus albo tomentosis, grosse dentatis, dentibus subaequalibus, dilatatis, apice callossis, calycibus frue-
tus hemisphæricis; nu-
calyx of the fruit he-
ce ovata.


A tree belonging to the large division of the Chesnut Oaks, but not as large as either of the preceding species. It grows from 30—50 feet high, and from 1 to 3 feet in diameter, rarely, however, attaining the largest of these dimensions. To the Q. Michauxii it has much affinity, but its leaves are more uniformly toothed, less obtuse at base, and its acorns scarcely half as large as those of that species. Its timber and bark are said by Michaux to be more valuable than those of the other Chesnut Oaks, and for fuel it is in the Northern States much prized.

Grows in rocky situations and soils, common along the base of the Alleghany Mountains.

Flowers.


Q. foliis oblongo-
lanceolatis, acuminatis,
subtus tomentosis, gros-
se dentatis, dentibus
subaequalibus, dilatatis,
apice callosis; calyce
fructus hemisphærico;
uoce ovata.


A large tree growing 60—70 feet in height and 2—4 in diameter. Leaves on long petioles, narrower than usual among the Chesnut Oaks, acuminate, with coarse obtuse and nearly equal teeth, glabrous on the upper surface, tomentose and white underneath. Fruit oval, of a middling size. Cup hemispherical, inclosing one-third of the acorn, sessile.

This tree is disseminated rather sparingly in rich damp soils. I have never seen it in the low country. Michaux found it along the Savannah River as low down as the Sister’s Ferry, about 35 miles above the city of Savannah. It is probably confounded both in name and use with the Q. Prinus and Q. Michauxii.

Q. foliis obovatis, obtusis, glabris, grosse dentatis, dentibus subÆqualibus, dilatatis, apice callosis; calyce fructus hemisphaerico; nuce parva ovata.

Leaves obovate, obtuse, glabrous, coarsely toothed, teeth nearly equal, dilated, callous at the point; calyx of the fruit hemispherical; nut small, ovate.


A small shrub 3—4 feet high, Stem slender, smooth. Leaves on short petioles, oblong-lanceolate, coarsely toothed, glaucous underneath, slightly pubescent when young, glabrous when mature. Fruit very abundant. Nut very small, ovate. Cup sessile.

This small Oak grows in sterile rocky soils, and is most common near the base of the Mountains. According to Michaux, it rarely occurs solitary, but generally covers patches of from 50 to 100 acres, frequently intermingled with the Q. Ilicifolia, and bears its acorns so abundantly, as frequently to bend to the earth under their weight. In my specimens the fruit is very small, and more covered with the cup. than in the figure given by Michaux, arb. for. l. c.

Flowers.

**CORYLUS.** Gen. PL 1450.

**Masculi.** Amentum imbricatum. Calyx squama. Corolla 0. Stamina 8.

**Foeminei.** Calyx 2-partitus, lacerus. Corolla 0. Stylis 2. Nux ovata, calyce persistente cincta.

**Sterile florets.** Ament imbricate. Calyx a scale. Corolla 0. Stamens 8.

**Fertile florets.** Calyx 2-parted, torn. Corolla 0. Styles 2. Nut ovate, surrounded by the persistent calyx.

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<th>1. <strong>Americana.</strong> Walt.</th>
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<td>C. foliis subrotundis,</td>
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calycibus fructus subrotundis, campanulatis, nuce majoribus, limbo dilatato, multifido. | lyx of the fruit nearly round, campanulate, larger than the nut, with the border dilated, many cleft.


A shrub 6—8 feet high, with erect virgate branches, pubescent when young. Leaves alternate, on short petioles, cordate, ovate, broad, acuminate, angled, serrate, pubescent particularly on the under surface. Aments of sterile flowers near the summit of the branches, 1—2 inches long, scales of the calyx 3, one nearly enveloping the other two. Fertile florets axillary. Calyx 2-parted, persistent, with the border dilated, many cleft. Nut ovate, compressed, acuminate, edible.

Grows in moderately rich soils; common in the upper districts of Carolina and Georgia; found sparingly within 40 or 50 miles of the sea-coast, but never, I believe, in its immediate vicinity.

Flowers February—March.


C. foliis oblongo-ovalatis, subcordatis, acuminatis; calycibus fructus nuce majoribus, hirsutissimis, summitate tubulosis bipartitis, laciniiis incisis. | Leaves oblong-ovate and oval, slightly cordate, acuminate; calyx of the fruit larger than the nut, very hirsute, at the summit tubular and 2-parted, the segments notched.


A small shrub rarely exceeding 3—4 feet in height. Leaves on short petioles slightly cordate, nearly oval, acuminate, finely and doubly serrate, pubescent particularly on the under surface, thinner than those of the preceding species. Calyx of the fruit somewhat globular, very hirsute, terminating in a tube one and a half inches long, 2-parted for about half of its length, the summits many cleft.

Grows on the mountains of Carolina. Pursh.

Flowers March—April.
**MONOEORIA POLYANDRIA.**

**FAGUS. Gen. Pl. 1448.**

Masculi. Calyx 5-fidus, campanulatus. Corolla 0. Stamina circiter 12.  
Fertile florets. Calyx 5-cleft, campanulate. Corolla 0. Stamens about 12.

Sterile florets. Calyx 4-toothed, bristly. Corolla 0. Germs 2. Nuts 2, inclosed in an echinate, coriaceous, 4-cleft calyx.

1. **Sylvatica.** Lin. Var. Americana.

F. foliis ovatis, acuminatis, leviter dentatis, margine ciliatis, basi acuti; nucibus ovato triquetris, obtusis cum mucrone.  
Leaves ovate, acuminated, slightly toothed, fringed along the margin, acute at base; nuts ovate-triquetrous, obtuse but mucronate.


A large and beautiful tree, growing sometimes from 50 to 60 feet in height, and 2 to 3 in diameter. The trunk covered with a smooth white bark, branches numerous, and forming a very compact handsome head. Leaves alternate on short petioles, oval, lanceolate, acuminate, ribbed, serrate. Amenets or Spikes of sterile florets, somewhat terminal or on short peduncles, fertile florets axillary, very small. Calyx persistent, somewhat like those of the chinquapin, but 4-cleft, and the spines weak and flexible. Seeds generally triquetrous.

This is one of the handsomest of our forest trees. The verdure of its leaves in the Spring surpasses in delicacy and beauty that of any other of our trees. The grain of its wood is fine and close, yet it is but little used, as the dog wood (Cornus Florida) and some other of our close grained trees, surpass it much in strength and durability.

It grows in damp and rich soils, and where the substratum is clay, the soil is generally as durable as it is fertile. Where the substratum however is as is frequently the case in the low country of white sand, no soil is more speedily exhausted.

Flowers March—April.
CASTANEA. Tournefort.


C. foliis lanceolatis, acuminatis, mucronato-serratis, utrinque glabris. Leaves lanceolate, acuminate, mucronately serrate, glabrous on both surfaces.

Icon. Mich. arb. for. 2. p. 156.

A very large tree, growing sometimes from 60—70 feet in height, and 3—5 feet in diameter, the trunk generally erect and straight, the branches often irregular. Leaves large, oblong-lanceolate, pubescent underneath when young, very glabrous when old. Spikes or Aments of sterile flowers, axillary, very long, florets in small clusters, mostly dodecandrous, but varying from 5—20 stamens. Corolla 6-parted, somewhat lateral. Stamina longer than the corolla. Fertile Spikes 2—3 together, short, thick. Calyx or Involucrum 2—3 flowered, solitary, squamose, at length muricate. Corolla tubular, irregularly 6—8-parted. Style 1. Stigmas numerous, rigid and white. Abortive stamens about 12. Nuts generally 3, enclosed in the persistent and spinous involucrum. Nuttall.

The wood of this tree is very extensively used; it is supposed to resist vicissitudes of the weather better than that of most of our forest trees, and is therefore employed wherever that quality is particularly required.

Grows very abundantly in dry, stony, gravelly ridges; not found along the sea-coast.

Flowers April—May.
2. Pumila.

C. foliis oblongis, acutis, mucronato-ser- rate, subtus albo-tomentosis. Leaves oblong, acute, mucronately serrate, tomentose and hoary underneath.

Icon. Mich. arb. for. 2. p. 166.

A small tree, sometimes growing 30—40 feet in height, and 12—15 inches in diameter, but more commonly assuming the form of a shrub from 12—15 feet in height. Leaves much smaller than those of the preceding species, oval and obovate, mucronately serrate, tomentose underneath, and as in all of this genus, very regularly ribbed. Fertile florets generally 1 in each involucrum; if more, the rest commonly prove abortive. Nut small, ovate, acute, enclosed in the spiny involucrum.

The wood of the Chinquapin, whenever it can be obtained large enough for posts, is much valued, as it is supposed to be more durable when exposed to the weather than any of our trees, excepting the Red Cedar.

Grows in light fertile soils; very abundant near the sea-coast; I believe rare in the upper country.

Flowers in May.


C. humilis; foliis ovali-lanceolatis, sub-obtusis, mucronato-ser- ratis, supra nitidis subtus sub-tomentosis. A small shrub; leaves oval-lanceolate, rather obtuse, mucronately serrate, shining on the upper surface, slightly tomentose underneath.

C. Alnifolia, Nutt. 2. p. 217.

This small shrub rarely if ever exceeds 2 feet in height; it grows in small patches with creeping roots; its leaves are larger than those of the preceding species, more glossy on the upper surface, less tomentose underneath, and much more irregularly ribbed, and consequently serrate; involucrum of the fertile florets 1—3, on the lower part sterile. Ament, generally maturing, as in the preceding species. Only 1 nut.

The low-bush Chinquapin grows in sandy pine barrens. The nut is generally much larger, but less abundant than those of the preceding species.

Flowers May.
BETULA. Gen. Pl. 1419.


Foeminei. Amentum imbricatum. Calyx squama biflora. Corolla 0. Semen 1, alatum.

Sterile florets. Ament imbricate, scales peltate, three-flowered. Calyx a scale. Corolla 0. Stamens 10—12.

Fertile florets. Ament imbricate. Calyx a scale 2-flowered. Corolla 0. Seed 1, winged.

1. Nigra. Lin.

B. foliis rhombo-ovatis, duplicate-serratis, acutis, subtus pubescentibus, basi integris; amentis foemineis ovatis, squamis villosis, laciniiis linearibus æqualibus.

Leaves rhomboidal, ovate, doubly serrate, acute, pubescent underneath, entire at base; fertile aments ovate, the scales villous, the segments linear equal.

B. Alba, Walt. p. 231?

A tree growing commonly 30—40 feet, and from 1—2 feet in diameter, though sometimes attaining a much greater size; the trunk covered with a smooth scaly bark, the branches long and flexible. Leaves on short petioles, ovate, acuminate, somewhat angled and acutely serrate, very pubescent underneath when young. Fruit in small oval aments, scales 3-cleft villous, the segments equal.

Grows along the margins of rivers whenever the soil is wet and sandy. The wood, I believe, is very little used in the Southern States.

Flowers March.
Leaves cordate-ovate, acutely serrate, acuminate, nerves underneat and petioles hairy; scales of the ament glabrous, lobes obtuse, equal, with elevated veins.

Icon. Mich. arb. for. 2. p. 147.

A tree sometimes growing 70 feet in height and 2—3 in diameter, with long slender branches frequently speckled when young. Leaves on petioles about an inch long, ovate, cordate, acuminate, finely and acutely serrate, very hairy along the mid rib and veins. Sterile ament 3—4 inches long, pendulous; fertile cylindrical, about an inch long, terminating the small branches. Scales with divaricate lobes strongly veined.

The wood of this tree possesses a fine and handsome grain susceptible of polish. It is therefore valued when it grows freely, and is used for many of the purposes of the Cabinet-Maker. It has been called from the quality and colour of its wood Mountain Mahogany, or Cherry Birch.

Grows along the borders of mountain torrents. In the Southern States, only found among the ridges of the Alleghany Mountains. Mich.

Flowers May. Pursh.

CARPINUS.


GEN. PL. 1449.


1. **Americana.** Mich.

*C. foliis oblongo-ovatis, acuminatis, inaequaliter serratis; strobilorum squamis tripartitis, lacinia intermedia obliqua, ovato-lanceolata, uno late dentata.*

Leaves oblong ovate, acuminate, unequally serrate; scales of the strobilus three-parted, the middle segment oblique, ovato-lanceolate, toothed on one side.


C. Caroliniana, Walt. p. 236.

A small tree rarely exceeding 20 feet in height or 6—8 inches in diameter. *Leaves* alternate on short petioles, oval-lanceolate, acuminate, finely serrate, ribbed, a little hairy along the veins. *Aments* axillary and terminal; fertile ament generally terminating the small branches, pendulous, sometimes leafy. *Style* 1. *Stigmas* 2. *Scales* of the strobilus increasing as the fruit matures, resembling leaves 3-lobed, the middle one large ovate, serrate on one side. *Nut* small, ovate, acuminate, nerved, very hard.

Grows in rich soils.

Flowers March—April.

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**OSTRYA.** Micheli.

**Masculi. Amentum imbricatum. Calyx squama. Corolla 0. Filamenta ramosa.**

**Foeminei. Amentum nudum. Calyx 0. Corolla 0. Capsulae inflatae, imbricatae, mono-spermae.**

**Sterile floret. Ament imbricate. Calyx a scale. Corolla 0. Filaments branching.**

**Fertile florets. A-ment naked. Calyx 0. Corolla 0. Capsules inflated, imbricate, one-seeded.**

1. **Virginica.** Willd.

*O. foliis ovato-oblongis, basi sub cordatis, acuminatis, inaequaliter* leaves ovate-oblong, slightly cordate at base, acuminate, une-
serratis, strobilis oblongo-ovatis, erectis, geminis, acutis. Qually serrate, strobilus oblong-ovate, erect, acute, generally in pairs.


A small tree 20—30 feet in height and 8—12 inches in diameter, sometimes though rarely exceeding these dimensions. Leaves on very short petioles, oval-lanceolate, acuminate, cordate at base, finely serrate, a little-pubescent along the veins and particularly in the axils. Aments terminal and axillary. Fertile ament erect, composed of ovate inflated capsules, very hairy at base, imbricate and containing one seed.

The grain of this wood is close and so compact and hard, that it has acquired the popular name of Iron Wood. It is well adapted for cogs in Mill wheels, and for many other uses where a strong fine-grained wood is required. But it is so much less common than the Dog Wood, (Cornus Florida) that it appears to be but little used or sought after.

Grows in fertile soils.
Flowers March—April.

PLATANUS. Gen. Pl. 1451.


Sterile florets. Ament globular. Calyx 0. Corolla scarcely manifest. Anthers growing round the filament.

Fertile florets. Ament globular. Calyx many leaved. Corolla 0. Styles with a recurved stigma. Capsule somewhat clavate, 1-seeded, pointed with the style, hairy at base.

P. foliis quinqueangulare, obsolete lobatis, dentatis, subtus pubescentibus; ramulis albosecentibus.

Leaves 5-angled, obscurely lobed, toothed, pubescent underneath; branches nearly white.


This is one of the largest trees of the American forest. In the low country of Carolina, where it is rather scarce, it rarely exceeds 3 feet in diameter by 70—80 in height; but in the fertile vallies of the Ohio, it is said by Michaux to have been found from 13 to 16 feet in diameter, and frequently with an undivided trunk of from 60 to 70 feet in height. Leaves alternate on long petioles, cordate, nearly round, acuminate, angled and toothed with the nerves almost tomentose. Aments axillary on long peduncles, globular. Seed forming a compact ball on a spherical receptacle.

This tree is generally distinguished in this country as the Sycamore; to the Northward it is commonly called the Button Wood. Its wood is soft, and when exposed to the weather not durable, and is excelled in many respects by so many of our other forest trees, that it is only as an ornamental tree that it is now valued.

Grows in damp fertile soils.

Flowers March—April.

LIQUIDAMBAR. Gen. Pl.

Masculi. Amentum conicum, involucro 4-phyllo cinctum. Calyx 0. Corolla 0. Fila menta numerosa.

Foeminei. Amentum globosum, involucro 4-phyllo cinctum. Calyx 1-phyllus, urceolatus. Corolla 0. Style 2. Capsule 2, calyce basi

Sterile florets. A-ment conical, surrounded by a 4-leaved involucrum. Calyx 0. Corolla 0. Filaments numerous.

Fertile florets. A-ment globular, surrounded by a 4-leaved involucrum. Calyx 1-leaved, urceolate. Co-
cinctæ, uni-loculares, polyspermaæ. | \textit{rolla} 0. \textit{Styles} 2 \textit{Capsules} 2, one-celled, many seeded, surrounded at base by the calyx.

1. \textbf{Styraciflua.} \textit{Lin.}

\textit{L. foliis palmato-lobatis, lobis acuminatis, serratis, sinibus baseos venarum villosis.} | Leaves palmately lobed, lobes acuminate, serrate, with the sinuses at the base of the veins villous.

Icon. Mich. arb. for. 3. p. 194.

A large tree 70—80 feet in height, and 2—4 in diameter. \textit{Leaves} alternate on petioles 2—3 inches long, palmately lobed, and cordate; the lobes acuminate and serrate, when young sprinkled with a few hairs; when old, hairy only in the axils of the leaves. Sterile ament terminating the small branches, ovate, composed of globular heads. \textit{Stamens} numerous. \textit{Fertile ament} globular near the base of the sterile. \textit{Calyx} glandular. \textit{Germes} numerous. \textit{Styles} 2, thick. \textit{Stigmas} obtuse. (\textit{Ament} at length ligneous and alveolate, capsules by pairs inserted in the alveoli, 1-celled, 1-valved, folliculate, internally lined with collateral rows of angular scrobiform deciduous bodies, applied to the few winged and perfect seeds, Nuttall.)

The leaves of this tree when bruised are fragrant, and it exudes a gum which is pleasant and slightly aromatic. Its wood decays rapidly when exposed to the weather; and though fine grained and adapted to some of the uses of the Carpenter and Cabinet-Maker, it is yet but little employed.

Grows every where in wet and damp soils. Attains its greatest size in our river swamps.

Flowers March and April.

**JUGLANS.** \textit{Gen. Pl.} 1446.


**Fertile florets. Calyx 4-cleft. Styles 2. Drupe coriaceous, somewhat spongy. Nut rugose, irregularly furrowed.**

### 1. Nigra.

**J. foliolis numerosis, ovato-lanceolatis, serratis, subcordatis, superne augustatis, subtus petiolarisque sub-pubescentibus; fructibus globosis, scabro-punctatis.**

Leaves numerous, ovate-lanceolate, serrate, slightly cordate, tapering to the summit, the under surface and petioles slightly pubescent; fruit globular, scabrous, dotted.


A large tree growing 50—60 feet in height, and 2-4 in diameter, with a large and spreading head when permitted to expand freely. Leaves alternate, pinnate, the leaflets numerous, (15—21) ovate lanceolate, somewhat cordate or unequal at base, the partial petioles very short, and with the underside of the leaves very pubescent when young. Aments of sterile flowers axillary near the termination of the last year's wood, simple, two or three inches long; fertile florets terminal. Fruit spherical, covered with a thick spongy undivided pericarp, externally dotted and scabrous, which decays after heavy frosts, and exposes the black corrugated nut.

The timber of the black walnut is compact, fine grained, heavy and dark coloured when exposed to the air. It is now much valued; and were it not for the facility with which mahogany is obtained, it would form a great portion of the furniture of our houses. The fruit is well tasted, and is very commonly introduced on our tables.

This tree grows only in the richest soils. It is sparingly disseminated along the sea-coast; more frequent, I believe, in the vallies near the Mountains.

Flowers April.

### 2. Cinerea. Lin.

**J. foliis numerosis, lanceolatis, serratis, lanceolate, serrate,**

Leaves numerous, lanceolate, serrate,
basi rotundatis, subtus pubescenti - mollibus, petiolis villosis; fructibus oblongo-ovatis, nuce oblonga acuminata, insigniter insculpta.

round at base, pubescent and soft underneath; petioles villous; fruit oblong ovate; nut oblong acuminated, conspicuously sculptured.


This species becomes also a large tree, and bears much resemblance to the preceding. Its leaves are pinnate, leaflets oblong-lanceolate, (15—19) very pubescent. The habit and fructification very similar to that of the preceding species, but the fruit is oblong, with a protuberant summit; the nut oblong, acuminated, much more deeply and irregularly sculptured. The wood, though somewhat similar to that of the Black Walnut, is said to be inferior. The decoction of its bark has long been used and celebrated in the Northern States as a cathartic medicine. Its nuts are so oily and so soon grow rancid, that I believe they are never eaten.

This tree, so commonly known to the inhabitants of the United States as the Butter-Nut, is said by Michaux to inhabit the mountains of Carolina and Georgia. I believe it has never been found along the sea-coast of these two States.

Grows in fertile soils.
Flowers in April.

CARYA. NUTTALL.


Fertile florets. Calyx 4-cleft, superior. Corolla 0. Style 0. Stigma 4-lobed. Pericarp 4-valved. Nut somewhat quadrangular, smooth.

C. foliolis subnovenis, obovato-lanceolatis, acuminatis, serratis, subitus pubescentibus; fructibus subrotundis 4-carinis, nuce oblonga, læviter compressa, longe mucronata.

A large tree when growing in fertile soils, 60—80 feet high, 2—4 feet in diameter. 

2. Alba. Lin

C. foliolis quinis septennisve, longe petiolatis, oblongo-lanceolatis, acuminatis, argute serratis, subitus villosis; amentis filiformibus, glabris; fructibus depresso-globosis; nuce compressa.

This is rare in the low country of Carolina; but the greater part of our hickories resemble each other so closely in their leaves, and vary so much in their fruit, that it is very difficult to discriminate the species. This is remarkable for the thickness of its pericarp, from whence it is frequently called "thick-shelled Hickory. Its nuts are well flavoured.

Flowers April.

One of the largest and most valuable trees of this genus, remarkable for the exfoliation of the epidermis in old trees, whence it has acquired the name of shag or shaggy-barked Hickory. *Leaves* alternate, pinnate, leaflets 5—7, large, oblong-lanceolate, acuminate, finely serrate. *Ament* of the sterile florets 3-parted, long, pendulous. Female flowers terminal. *Nut* nearly spherical, with two sides flattened and somewhat angled, the shell thinner than that of most of the other species of this genus. *Pericarp* thin, 4-parted, globose, depressed at the summit.

The timber of this tree is much used and valued wherever a close grained, strong, elastic fibre is required. It decays, however, quickly when exposed to the weather. Its nuts are preferred for the table to those of any other species. Grows in fertile soils. I have never seen it along the sea-coast of Carolina or Georgia. Around Columbia, however, it begins to appear, and probably multiplies as you approach the Mountains. 

Flowers April.


*C. foliolis sub-septeninis novenisve, obovato-lanceolatis, acuminatis, laeviter serratis, subtus pubentissimis, subscabris; amentis filiformibus, tomentosis; fructibus sub-globosis, laevibus; nuce sub-sexangulata, putamine crassa durissima.*

Leaflets generally 7 or 9, obovate-lanceolate, acuminate, slightly serrate, pubescent underneath, slightly scabrous; ament filiform, tomentose; fruit nearly spherical, smooth; nut somewhat 6-angled, the shell thick and very hard.

Nuttall, 2. p. 221.  

A large tree. *Leaves* pinnate, leaflets sometimes only 5, generally 7, pubescent on the upper surface along the veins, very pubescent underneath, almost tomentose; pubescence, as in all of the species of this genus, stellular. *Ament* of the sterile florets 3-parted, long, very tomentose. (*Scales* 2-parted, and with a dorsal bractea resembling a 3-parted calyx?) *Stamens* 8. *Fruit* large. *Nut* compressed, somewhat oval, with 4 prominent angles.

**Vol. II.**  
K 4
on the sides, and 2 obscure ones on the ends. *Pericarp* thick, separating into 4 parts.

This is the most common species of this genus in the Southern States, and that which is in general exclusively meant by the generic name of Hickory; all of the other species have some peculiar epithet to distinguish them. The wood of this species, like that of the preceding, is used for many purposes by the Wheelwright, Millwright and Carpenter, and for fuel, the different species of hickory are preferred in this country to all other wood, one or two species of oak perhaps excepted. The nut of this species is well flavoured.

The variety Maxima, Nutt. distinguished by its very large fruit, grows, though sparingly, on the sea-islands.

It is certainly singular, that shoots of this species of *Carya* should be found disseminated over extensive tracts of pine barren, where it is very rare to discover a tree large enough to bear fruit. They are called Hickory Grubs, and are supposed to indicate a soil adapted for cultivation.

Grows in rich soils.

Flowers April.

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*C. foliolis subnovenisis, ovato-oblongis, acuminatis, argute serratis, utrinque glabris; fructibus sub-globosis, nuce laevi, mucronata; putamine fragili.*

Leaflets generally 9, ovato-oblong, acutely serrate, glabrous on both surfaces; fruit nearly spheric; nut smooth, mucronate, with the shell fragile.

Nutt. 2. p. 222.

A large tree. *Leaves* pinnate, leaflets generally 9, sessile, oblong-lanceolate, large, acutely serrate, glabrous on both surfaces, except the nerves and midrib, which are pubescent, almost tomentose. *Fruit* globular, the nut almost obcordate, very bitter, enclosed in a pericarp which in general is only divided to the middle.

This species grows generally in very flat rich soils; and in the Southern States is, I believe as remarked by Michaux, universally confounded with the next species.

Flowers April.

C. foliolis sub-septeninis, lanceolatis, acuminatis, serratis, utrinque glabris, fructibus parvulis; nuce lævi, durissima.

Leaflets generally 7, lanceolate, acuminate, serrate, glabrous on both surfaces; fruit small; nut smooth, very hard.

Nutt. 2. p. 222.  
Juglans Porcina, Pursh. 2. p. 638.  

A very large tree, growing 70—80 feet in height, and in favourable soils frequently occurring 3—4 feet in diameter. Leaves pinnate, leaflets 7—9; smaller, narrower, and more glabrous than those of the C. Tomentosa. Fruit small, varying much. Nut oblong or spherical, very bitter, with a hard shell.

This tree, in the low country of Carolina and Georgia, generally grows to a larger size than any other species. It is found along the margins of swamps, or on the flat knowls with which our swamps are frequently broken, and is commonly known as the Swamp or Pignut Hickory.  
Flowers April.


C. foliolis sub-unde- 

nitis, angusto oblique-lanceolatis, acuminatis, sub-serratis, glabris sessilibus; fructibus pedunculatis, ovatis, suturis 4, prominentibus, nuce subrotunda, compressa.

Leaflets generally eleven, narrow and obliquely lanceolate, acuminate, slightly serrate, glabrous, sessile; fruit on peduncles, ovate, sutures 4, prominent; nut nearly round, compressed.

Pursh. 2. p. 638.  
Nutt. 2. p. 222.  
Mich. arb. for. 1. p. 182.

A tree growing 40—50 feet high, and resembling in its habit the other species of this genus. Leaves pinnate, leaflets 9—13 long, very narrow and obliquely lanceolate, very acute, slightly acuminate, serrate, more glabrous than those of any other species of Carya, except the midrib, which is
tomentose, the lateral ones sessile, the terminal petiolate. Fruit on short peduncles, ovate, nearly round. Pericarp and Nut both with prominent angles; shell of the nut thin, kernel very bitter.

This tree is, I believe, exclusively confined to swamps. In the midst of forests it is easily overlooked and confounded with other species. But it is very frequently found on the margin of rivers hanging over the stream, and is then generally a crooked, stunted tree.

Grows very abundantly along the Ogeechee River. Flowers April.

7. MYRISTICÆFORMIS. Mich.

C. foliolis quinis, ovato-lanceolatis, acuminatis, serratis, glabris, impari sub-sessili; fructibus ovalibus, rugoso-scabris; nuce ovali; brevi-acuminata, sulcato-lineata, durissima.

Leaflets 5, ovate-lanceolate, acuminate, serrate, glabrous, the terminal one sessile; fruit oval, rugose, scabrous, nut oval, slightly acuminate, furrowed, very hard.

Icon. Mich. arb. for. 1. p. 211.

Nothing is yet known of this species but what is contained in the very valuable work of Michaux the younger, on the Forest Trees of North America. The specimens of the tree and nut which he obtained in Charleston, had been collected on Mr. Izard's plantation near Goose Creek, and appear to be sufficiently distinct from the Pignut Hickory. Many searches have since been unsuccessfully made for this tree; and we only notice it to invite the further inquiries of those who feel an interest in our Botany.

Flowers probably in April.

ARUM. Gen. Pl. 1387.

Spatha monophylla, cucullata. Spadix supra nudus, inferne foemineus, medio stamin-eus. Calyx et Corolla 0. Bacca 1 aut polysperma.

Spathe one-leaved, cucullate. Spadix naked at the summit, bearing sterile florets in the middle, fertile beneath. Calyx and Corolla 0. Berry one or more seeded.
1. **Dragontium.** Lin.

A. acaule; foliis pedatis, foliolis lanceolatis, oblongis, integerrimis; spadice subulato, spathe oblonga convoluta longiore.


Root tuberous, perennial. Stem 0. Leaf 1? Petiole twelve to eighteen inches high, sheathing for one half of its length the scape, and terminating in a pedate leaf (or rather dichotomous) at the summit, each branch bearing 4 or 5 leaflets, and 1 always in the division of the petiole. Leaflets oblong-lanceolate, slightly acuminate, glabrous, thin, very entire. Scape 1, nearly a foot long. Spathe short, convolute. Spadix bearing fertile flowers at base, crowded with stamens immediately above, and terminating in a naked subulate summit 4—6 inches long. Seeds—

This species grows in rich lands, generally in high river swamps.

Flowers—

2. **Quinatum.** Nutt.

A. acaule? foliis quinatis, lanceolatis, acuminatis.

Nutt. 2. p. 222.

With this species I am unacquainted. It was discovered by Dr. Baldwin in the southern district of Georgia, and appears to be nearly allied to the A. Triphyllum.

Flowers—

3. **Triphyllum.** Lin.

A. acaule; foliis ternatis, foliolis ovatis, acuminatis, integerrimis; spadice clavato, spathe ovata acuminata.

Stemless; leaves ternate, leaflets ovate, acuminate, entire; spadix clavate, about half as long as the ovate, a-
ta, plana, pedunculata, dimidio-breviore; spadiceus foemineis staminiferisque plerumque distinctis. cuminate, flat, pedunculate spathe; fertile and sterile spadix frequently distinct.


Root tuberous, perennial. Stem 0. Petioles about 1 foot high, sheathing at base, and inclosing the base of the scape, and sometimes of younger leaves. Leaves ternate, leaflets oval-lanceolate, acuminate, entire, glabrous, the lateral ones sometimes oblique. Scape 8—12 inches high. Spathe at base somewhat tubular, expanding at the summit into a flat ovate, acuminate, blade. Spadix scarcely longer than the tube of the spathe, bearing generally either germs or stamens near the base, the summit thick cylindrical or clavate. Berries scarlet, 3—4 seeded.

The sterile and fertile scapes are said to grow from the same root, (Lin.) more probably dioecious, (Nutt.)
The spathe is sometimes purple handsomely striped with white; sometimes green with a purple border; sometimes green.

Grows in rich soils generally in shaded places.
Flowers March.


A. acaule; foliis oblongis, hastato cordatis, acutis, lobis obtusis, spathe elongata incurva; spadice superne longius masculifloro. Stemless; leaves oblong, hastate cordate, acute, with the lobes obtuse; spathe long, incurved; spadix for a long distance from the summit bearing sterile flowers.


Root tuberous perennial. Leaves 12—15 inches long, slightly acuminate, entire, very glabrous, cordate, with the lobes sometimes hasteate, sometimes straight, generally obtuse. Petioles nearly 12 inches long, sheathing the scape at base. Scapes many from one root 12—18 inches long. Spathe ong, acute, slightly repand or undulate along the margin, closely embracing the spadix. Spadix nearly as long as the spathe. Berry many seeded.

Grows in swamps and marshy soils, very common.
Flowers April—May
5. Walteri?

A. acaule foliis sagittatis, triangulis, angulis divaricatis, acutis.

A. Sagittifolium, Walt. p. 224.

Intermingled with the preceding species is found the one which I have always supposed to be the A. Sagittifolium of Walter. The leaves, when fully grown, are larger than those of A. Virginicum, triangular, with divaricate long, very acute lobes. Between the mature leaves of this and the preceding species the distinction is strong, the young and small leaves frequently resemble each other. In the spathe and spadix I have noticed no difference.

Grows in swamps.
Flowers April—May.

CALADIUM. Ventenat.

Masculi. Calyx 0. Corolla 0. Antheræ peltatæ, multiloculares, in spicam ad apicem spadicis compositæ.

Foeminei. Calyx 0. Corolla 0. Germina ad basin spadicis inserta. Stylus 0. Bacca unilocularis, polysperma.

1. Glaucum? E.

C. acaule; foliis glaucis, hastato cordatis, acuminatis, lobis oblongis, obtusis; spathe cucullata, superne ovali-

Sterile florets. Calyx 0. Corolla 0. Anthers peltate, many celled, collected in a spike at the summit of the spadix.

Fertile Florets. Calyx 0. Corolla 0. Germs inserted at the base of the spadix. Style 0. Berry one-celled, many seeded.

Stemless; leaves glaucous, hastate cordate, acuminate, lobes oblong, obtuse, spathe cucullate, the summit
lanceolata, alba, spadice longiore. oval lanceolate, white, longer than the spadix.

Caladium Sagittifolium, Nutt. 2. p. 222.
Arum Sagittifolium, Pursh 2. p. 399.

Root tuberous, perennial. *Petioles 12—15 inches long. Leaves hastate cordate, abruptly acuminate, entire, glaucous particularly on the under surface, the lobes long, slightly divericate, generally obtuse, and with the leaf from 5—7 inches long. Scape about as long as the petioles. Spathe somewhat tubular at base, dilated at the summit, cucullate, very white. Spadix longer than the tube. Female florets at base. Male flowers numerous, extending to the summit of the spadix. Anthers many (covered by a peltate operculum?) Berries many seeded, red?

This plant is certainly neither of the species of Esculent Arum to which Linnaeus refers. It is smaller than the Arum Virginicum, and like the Calla Ethiopica, which it somewhat resembles, merits culture as an ornamental plant. Considering it a North-American species, I have ventured to impose on it a new name.

In the low country of Carolina and Georgia it is rare. I have only seen it in the neighbourhood of Savannah, where it formerly grew abundantly about a mile to the south-east of the city, in springing, spungy soils.

Flowers May—June.

PINUS. Gen. Pl. 1451.

Masculi. Calyx 4-phyllus. Corolla 0. Stamina plurima. Antheræ nudæ.

* Pinus. Squamis strobili apice incrassatiss, angulosis et umbilicatis.

* Pines. Scales of the cone thickened at the summit, angled and umbilicate.
1. Inops. Aiton.

P. foliis brevibus geminis; strobilis recurvis, oblongo-conicis, longitudine foliorum, aculeis squamarum subulatis, rectis. Leaves short by pairs; cones recurved, oblong, as long as the leaves, spines of the scales subulate, straight.


A small tree, rarely attaining the height of 30 or 40 feet, and 12—15 inches in diameter, with scattered, tough, flexible and smooth branches. Leaves, as in all of the genus linear, acute, 1—2 inches long, united in pairs in each sheath. Cone ovate, about 2 inches long; spines near the summit of the scales subulate, straight, acute.

This is a scrubby species of pine, and its wood is said to be of little value. It is said by Pursh to grow in Carolina; and it is probably one of the 2-leaved species described by Walter. I have, however, never seen it in the low country of Carolina or Georgia.

Grows in dry gravelly soils.

Flowers—

2. Variabilis.

P. foliis elongatis binis ternatisque tenueibus, canaliculatis; strobilis ovato-conicis subsolitariis; squamarum aculeis incurvis. Leaves by pairs and by threes, slender, channelled; cones generally solitary; spines of the scales incurved.


A large tree, sometimes growing 70—80 feet in height, and 2—3 feet in diameter, more disposed to branch near the surface of the ground than is common in this genus, and it therefore is only in very thick woods that it is found with a straight naked stem. Leaves generally 2 in each sheath, (sometimes 3 on young branches, Mich.) 4—5 inches long, of a darker green than those of our other pines. Cones small, solitary, not exceeding 2—3 inches in length.
This species is, I believe, universally known along the sea-coast of Carolina and Georgia as the spruce or short-leaved pine. The name of yellow pine is, with us, exclusively applied to the Pinus Palustris. The timber of this tree is not valued. Indeed, I know not that I have ever seen it applied to any use whatever. This, however, may be caused by the abundance which we possess of the very superior Pinus Palustris.

Grows along the sea-coast of Carolina and Georgia only in the most fertile soils—becoming there a tree of great magnitude.

Flowers April.

3. RIGIDA.

P. foliis ternis, vaginis abbreviatis; amentis masculis erecto-incumbentibus; strobilis ovatis, sparsis vel aggregate, squamarum aculeis reflexis. | Leaves by threes, the sheaths short; sterile aments incumbent nearly erect; cones ovate, scattered or clustered, spines of the scales reflexed.


Icon. Mich. arb. for. p. 89.

A large tree, growing sometimes from 70—100 feet in height, and 2—3 in diameter. Leaves 4—6 inches long. Cones generally clustered 2—4 inches long, the scales with acute rigid spines, and closing strongly on each other.

This tree is not very common in the low country of Carolina, where it generally grows intermingled with trees of other kinds not forming forests exclusively of pine. The variety with clustered cones is very conspicuous; and if it really belongs to this species, appears also to vary in having its scales more loosely imbricate.

Michaux remarks, that on the ridges of the Mountains this pine is sometimes exclusively found for many miles—that the cones in such situations are solitary and the tree small. The timber is inferior to that of several other species.

Flowers April.

4. SEROTINA. Mich.

P. foliis elongatis; amentis masculis erecto-incumbentibus; strobilis sphaeroideo - ovatis, | Leaves long, by threes; sterile aments incumbent nearly erect; cones spheroidal-ovate,
squamarum aculeis rec-|spines of the scales
|tis, tenuissimis. straight, slender.


A small tree, sparingly disseminated in close or damp poor soils, rarely exceeding 30—40 feet in height, or 12—15 inches in diameter. Leaves 3 in each sheath 6—8 inches long. Cone 3 to 4 inches long, globular, frequently opposite on the small branches, with the scales closely imbricate, not opening and discharging the seed before the second year; sometimes, according to Mich. not until the third or fourth year.

This species in habit, leaf, bark and colour, resembles the young or stunted loblolly pines (P. Taeda) so much, that the cone alone appears to distinguish them. The cone resembles that of G. Rigida in some respects, but it is larger and more globular, and I think the leaves are longer than those of that species.

Grows around ponds and in damp soils.
Flowers April.


P. foliis geminis, brevibus, acutis; strobi-|Leaves by pairs,
is ovato-conicis, acu-|short, acute; cones o-
leis squamarum elonga-|vate-conical, spines of
|tis, subulatis, incurvis,
is inferioribus reflexis.
inferior reflexed.


A tree 40—50 feet high, 1—2 feet in diameter, with many irregular branches. Leaves 2—3 inches long, 2 in each sheath, somewhat rigid. Cones ovate, sessile, 3—4 in a cluster. Scales closely imbricate, armed with large, rigid, acute spines.

Of this tree I have no personal knowledge: I am even uncertain whether it grows within the limits assigned to this work. The knob of the Alleghany Mountains however, generally known as the Table Mountain, is in South-Carolina. Mr. Nuttall considers its habitat as confined to the high ridges around the sources of the Catawba, North-Carolina; and perhaps from some summit in that neighbourhood it may have taken its popular name of Table Mountain Pine.

I think it probable, however, that it may be found on some of the high ridges of the Cherokee Mountains.
Flowers—
6. **Teda.** Lin.

P. foliis elongatis, ternis, vaginis elongatis, strobilis oblongo-conicis, deflexis, folio brevioribus, spinis inflexis. | Leaves long, by threes, the sheaths long; cones oblong-conical, deflexed, shorter than the leaves; spines inflexed.


This is probably the largest species of pine in the Southern States. Along the margins of swamps it grows sometimes upwards of an hundred feet in height, and 3 feet in diameter. I have measured the trunk of one, which was 72 or 3 feet long without a branch. Its bark is thicker and coarser and more deeply furrowed than that of any species. Leaves 6—10 inches, 3 in a sheath. Cones 2—5 inches long, conical. Scales loosely imbricate, armed with a rigid spine.

This species is very abundant in South-Carolina and Georgia, along the sea-coast perhaps even more common than the P. Palustris. Its wood is used for all of the purposes to which that species is applied; but the heart or real wood is much smaller in proportion to its diameter, and even in its best state it is very inferior. It is therefore only as a substitute that it is employed where the P. Palustris cannot be readily obtained. There is so little rosin in this pine, that when dead it decays entirely and forms no lightwood. Its seed is dispersed so easily and so universally over the country, that all lands which are thrown out of cultivation are immediately covered with this tree, intermingled however if the soil be sandy with the P. Palustris.

**Var. Heterophylla.**

Along the marshes near the mouths of the fresh-water rivers, (at least in Georgia) this pine is very common. It is frequently called the smooth-bark Loblolly Pine. It becomes occasionally a very large tree; its bark is as smooth as that of P. Palustris but in longer scales; it has more sap-wood than any of our pines, and its leaves I have found in some instances by twos and threes indiscriminately mingled even on the old branches. Not having had an opportunity of seeing Lambert’s splendid monograph on the genus Pinus, I was, until lately, accustomed to consider this as his P. Variabilis.

This species, (as all I believe of the real pines) bears aments of sterile flowers in clusters at the summit of the branches, the calyx yellow, tinged more or less with violet, the flowers when mature discharge so much pollen, that surface of stagnant pools appears to be almost covered with this “yellow dust.” Even in the streets of Charleston, after heavy storms, I have seen small pools margined with the pollen which had been born by the winds across the adjacent rivers.
Grows in damp soils and those that are partially mingled with other forest trees. Much of the land bearing this pine is fertile, and becomes productive when well drained and broken up. Flowers early in April.

7. **PALUSTRIS.**

*P. foliis ternis, longissimis, stipulis pinna-tifidis, ramentaceis, persistentibus; strobilis subcylindraceis muri-catis.*


Icon. P. Australis, Mich. arb. for. 1. p. 64.

This fine tree generally grows from 80—100 feet in height, and from 24—30 inches in diameter. Its trunk is usually from 40—50 feet without branches. Its bark is smoother than common in this genus, and divided into an innumerable quantity of thin scales, which appear to be constantly exfoliating. *Leaves 3* in each sheath, those of the old trees about 12 inches long, those of the young tree frequently 18. *Cones 6—10* inches long, cylindrical or conical, the scales separating and discharging their seed early in the fall. This tree is almost universally distinguished in the two Southern States as the Yellow Pine; it is sometimes called the Long-leaved Pine, and sometimes Pitch Pine. It is more extensively used than any other species of timber we possess. For the frames, the covering, and even the roofing of houses, it is used wherever cypress cannot be obtained; for the flooring of houses, it is preferred to any wood that is known. It is extensively used in ship-building; for the beams, plank, and running timber of vessels. It is used to make the casks in which we ship our rice, and the fencing of our plantations.

This tree contains more rosin than any other species of pine; the fibre is sometimes protected from the operations of the atmosphere by the abundant formation of this substance; and when the tree begins to decay, portions of the trunk in which this rosin has accumulated; knots at the junction of the branches or callosities where injuries have been sustained, are converted into lightwood; this, when charred afterwards by the annual fires which run through our forests, become almost imperishable. The large pieces are used for the sills of houses, the smaller for posts; and the irregular fragments are used for fuel or as torches, or are employed in the manufacture of Tar. From the sap of the living tree most of the turpentine of commerce is obtained.

The name originally imposed on this species is unfortunate, as it produces a false impression, and has been the source of error to foreigners, if not to our own countrymen. If an inhabitant of the Southern States, ignorant o
Botany, should be interrogated respecting the P. Palustris or Swamp Pine, he would instantly revert to the P. Taeda, and his answers would be drawn from that species.

Grows in dry sandy soils, where the sub-soil however, though 2 or 3 feet below the surface is usually of clay, covering nearly all of the ridges along the coast of Carolina and Georgia within 120 miles of the ocean. Wherever the land becomes moist or fertile, the P. Taeda, and sometimes the P. Rigida encroach upon it.

Flowers April.

8. STROBUS. Lin.

P. foliis quinis gracilibus, vaginis brevissimis; strobilis pendulitis, cylindraceis, folio longioribus, squamis laxis.

Leaves by fives, slender, sheaths very short; cones pendulous, cylindrical, longer than the leaf, scales loose.


This tree attains a greater size than any other species of North-American Pine. It has been known to grow upwards of 140 feet in height, and from 6—7 in diameter. The bark is smoother than that of the 3-leaved pines, and the aspect of the tree somewhat different. Leaves about 4 inches long, pale, almost glaucous green, 5 in a cluster, confined by a sheath scarcely a line long. Cones solitary, much longer than the leaves, the scales very loosely imbricate, and unarmed at the summit.

The wood of this tree is very extensively used; it is soft, fine grained and light, and free from turpentine; it is therefore used for all the interior work of houses except the floors, and in the Northern States for the covering, and even for the frames. From its size and lightness it is preferred for the masts of vessels to all other wood. To the yellow pine (P. Palustris) it is inferior in strength, in hardness, and in durability.

This tree perhaps attains its greatest size in the States of Maine, New-Hampshire and Vermont. In the Southern States it is confined to the ridges of the Alleghany Mountains, and I believe there does not attain to any great size.

Grows (on the declivities of Mountains) in damp sphagnous soils along the margins of streams.

Flowers April—May.

** Abies. Foliis solitariis, basi distinctis; coni squamis laevibus, attenuatis. **

** Fir. Leaves solitary, distinct at base, scales of the cone smooth, tapering. **

P. foliis solitariis, planis, emarginatis integrisve, subtus glaucis, subpectinatis, supra suberectis, recurvato-patentibus; conis cylindraceis erectis, bracteolis abbreviatis obovatis, longe mucronatis, subserrulatis.

Leaves solitary, flat, emarginate or entire, glaucous underneath, somewhat pectinate, at the summit nearly erect, below recurved, expanding; cones cylindrical, erect; bracteas short, obovate, mucronate, slightly serrulate.

Abies Balsamifera, Mich. 2. p. 207.

A small tree, rarely exceeding 30 to 40 feet in height, from 12 to 15 inches in diameter; the leaves 6 to 10 lines long, solitary, bright green on the upper surface, glaucous underneath. Cone solitary, erect, somewhat cylindrical. The scales closely and handsomely imbricate, with the margins thin and smooth.

This species, like all the rest of the firs, is only to be found in the Southern States on the highest summits of the Alleghany Mountains. The P. Fraseri of Pursh seems only to be a variety of this species. It is commonly called the Silver Fir, Balm of Gilead, or Balsam Fir.

Flowers April—May.


P. foliis solitariis, planis, denticulatis, subdistichis; strobilis ovatis, terminalibus, vix folio longioribus.

Leaves solitary, flat, denticulate, somewhat distichous; cones ovate terminal, scarcely longer than the leaf.

Icon Abies Canadensis, Mich. arb. for. 1. p. 137.

This tree, in favourable situations, attains a large size, and is found 70—80 feet high and 2—3 in diameter; its branches are generally horizontal, and the leaves irregularly distichous, and somewhat crowded near the extremities of the branches which are also distichous. Leaves 6—8 lines long, flat,
MONOECIA MONADELPHIA.

glabrous, though pubescent when young. *Cones* very small, terminal, with smooth imbricate scales. Even when this tree is abundant its wood is little valued. Its grain is said by Michaux to be irregular and almost spirally contorted, and it decays soon when exposed to the weather. It is therefore only used where better timber cannot be procured. Its bark is extensively used for tanning, and is valuable though inferior to the oak. It is generally known as the Hemlock Spruce, or Pine.

In the Southern States this tree is confined to the highest ridges and valleys of the Alleghany Mountains.

Flowers April—May.

11. NIGRA. Aiton.

*P. foliis solitariis, tetragonis, undique sparsis, erectis, strictis; strobilis ovatis, squam-is ellipticis, margine undulatis, apice erosodenticulatis.*

Leaves solitary, 4-angled, scattered on all sides, erect, straight; cones ovate, scales elliptic, undulate along the margin, the summit denticulate.


This fir, in favourable situations, also becomes a fine tree, attaining sometimes 60—80 feet in height, and 12—18 inches in diameter, generally forming a handsome pyramid at summit. *Leaves* very numerous, scarcely exceeding half an inch in length, of a very dark green. *Cones* oval, 1—2 inches long, growing near the extremities of the small branches, generally turned towards the earth. *Scales* imbricate, broad, the margins crenulate or divided.

The tall slender bodies of this tree are extensively used for the spars of vessels, and from its young branches principally the spruce of commerce is prepared. In the sphagnous swamps among the Mountains in the northeastern districts of the United States, the fir is very abundant. In the Southern States it is rare, and confined to the high ridges of the Alleghany Mountains.

Flowers April—May.

12. ALBA. Aiton.

*P. foliis solitariis tetragonis, incurvis; stro-

Leaves solitary, 4-angled, incurved; cones
bilis subcylindricis, laxis, squamis obovatis, nearly cylindrical, loose, the scales obovate, entire.

Abies Alba. Mich. 2. 207.

A small tree 40 to 50 feet high, from 12 to 15 inches in diameter. Leaves 5 to 8 lines long, less crowded than those of the preceding species, pale or slightly glaucous. Cones slender, oblong, about 2 inches long, turned towards the earth. Scales broad, imbricate, the margin very entire.

Grows with the preceding species.
Flowers April—May.

THUJA. Gen. Pl. 1457.


Foeminei. Amentum strobilaceum. Calyx squama, 2-flora. Corolla 0. Nux 1, cincta ala marginata.


T. ramulis ancipitibus; foliis quadrisfariam imbricatis, ovato-rhombeis, adpressis, nudis, tuberculatis; strobilis obovatis, squamis interioribus truncatis, infra apicem gibbosis.

Nutt. 2. p. 224.
Icon. Mich. arb. for. 3. p. 29.

Branches ancipitous; leaves imbricate in 4 rows, ovate-rhomboidal, appressed, naked, tuberculatus; cones obovate, interior scales truncate, gibbous below the summit.
A small tree, sometimes however reaching the height of 40—50 feet, and about 2 feet in diameter, with spreading irregular branches, the small branches generally somewhat distichous. Leaves perennial, resembling small ovate scales, imbricate, in four rows, and closely appressed. Aments of sterile flowers oblong, somewhat conical. Cone oblong, terminating the small branches, composed of scales loosely imbricate, and opening down to the base. Seeds small, winged, and emarginate.

The wood of this tree is said by Michaux to be one of the most durable which our forests produce; it is therefore eagerly sought after, and employed for the posts and rails of enclosures, and for every purpose to which its small and generally irregular trunk can be applied.

In the Southern States it is confined like the firs to the high Mountains, and to the margin of the mountain streams, and, I believe, enters very little into the domestic economy of our farmers.

Flowers in May.

CUPRESSUS.  Gen. Pl. 1458.

**Masculi.** Amentum imbricatum. Calyx squama. Corolla 0. Antherae 4, sessiles. Ab-sque filamentis.


1. Disticha.

C. foliis distichis, planis, deciduis; floribus masculis aphylllo-paniculatis; strobilis sub-globosis.

Leaves two-rowed, flat, deciduous; sterile florets paniculate, leaf-less; cones spherical.

This is the largest, and in some respects, the most remarkable tree in the
low country of the Southern States. Its usual height is from 90—100 feet,
and though commonly only from 2—4 feet in diameter, it is frequently found
nearly twice that size, and if measured within 3 feet of the surface of the
ground, its dimensions would be still greater. Its roots for 6 or 7 feet be-
neath the surface of the ground, appear to be but a continuation of the stem,
while its small ramifications rise to the surface of the earth, and produce at
15, 20 or 30 feet from its base, small conical knobs from 1—2 feet high,
which are always hollow, and never discover any signs of vegetation. The
trunk of this tree for 50' or 60 feet is naked and almost undiminised in size;
it branches then rise obliquely, and terminate in a flat or fastigate summit.
From this peculiar conformation of the branches, a cypress tree can be dis-
tinguished as far as the eye can reach; while from the fineness of its leaves,
the comparatively small size of its head, and its massive and extended roots,
it resists the violence of our autumnal gales more obstinately than any other
of our forest trees.

The leaves of the Cypress are small, linear, acute, glabrous, arroyed dis-
tichally along small deciduous branches, which serve as a common petiole; a
few are sometimes scattered along the small woody branchlet's. The sterile
flowers in terminal aments. Calyx a scale, ovate-lanceolate, imbricate. Co-
rolla 0. Filaments 0. Anthers 4, nearly round, sessile. The fertile flo-
rets in obovate sessile cones, clustered near the summit of the branches. Ca-
lyx a scale, ovate-lanceolate, 1-flowered? Styles 2, thick. Cone globular,
with an irregular surface, exuding an aromatic gum. Seeds or Nut angular,
enclosing a cylindrical kernel which contains the embryo.

The Cypress grows only in wet miry soils, and it is in situations where a
wet alluvial soil of 5 or 6 feet deep overlays a bed of sand, that it attains its
greatest dimensions. It begins to decay at the centre in small vesicular
cells, from whence, in this state, it is commonly said to be honey-combed at
heart. From the straightness of its fibre, it is very liable to be "heart-
shaken."

The wood of this tree is soft, rather fine-grained, and when exposed to the
weather is the most durable of our timber. Where it can be procured easily it
is preferred to the yellow pine for the frames and coverings of houses; and if
it were not for its price, would be preferred to the white pine for the inte-
rior work. It is universally employed for shingles. Nearly all the can-
oes or small boats of the country are fabricated out of it. It could be
employed advantageously in the construction of vessels, and is particu-
larly sought after for all of those works which, from the rise and fall of the
tide, or from other circumstances are perpetually exposed to the action of
heat and moisture.

Our inhabitants distinguish two varieties of this tree, called from slight
shades of difference in the colour of the bark and wood, White and Black
Cypress; the wood of the latter is preferred, and the tree is supposed by
some to grow in a richer soil. This, however, is but prejudice; the two va-
rieties are found mingled indiscriminately in the same swamps, and the
causes of their difference is not understood.

Var. Imbricaria, Nutt. This is a small tree growing in pine-barren ponds.
It produces its knobs (Exostoses) more abundantly than the large variety; and
on its lower branches the leaves are frequently imbricate after the manner of
the Junipers. But on the upper branches the leaves are often expanded and
MONOECIA MONADELPHIA.

distichous. It is perhaps only a stunted variety, growing in an unfavourable soil.
Flowers in February.

2. THYOIDES. Lin.

\( \text{C. ramulis compressis; foliis quadrifariam imbricatis, ovatis, basi tuberculatis; strobilis globosis, parvis.} \)

Branches compressed; leaves in 4 rows imbricate, ovate, tuberculate at base; cones spherical, small.


A tree of moderate dimensions, sometimes however attaining the height of 70 or 80 feet in height, and from 2 to 3 in diameter. The leaves are perennial, nearly resembling scales, imbricate on the compressed branches. Flow- ers axillary among the small branches. Cone globular, on a short pedicel 3 to 4 lines in diameter. The scales somewhat rhomboidal.

The wood of this tree is soft, fine-grained, light and durable. It has nearly all the good qualities of the Cupressus Disticha; and, therefore, where it is abundant, it is applied as far as its size will admit, to all of the uses for which that species is employed.

Grows in the great morasses which are found near the sea-coast in the Middle States. In the Southern States it becomes rare. I have been informed that it grows in and around the savannas in Horry and Williamsburg Districts. Michaux mentions that he heard of it as far south as the borders of the Savannah River.

Flowers—

ACALYPHA.  \( \text{Gen. Pl. 1461.} \)

\[ \begin{align*}
\text{Masculi.} & & \text{Sterile florets.} \\
\text{Calyx} & 3 & \text{Calyx} & 3—4 \text{ leaved.} \\
\text{4-phyllus.} & \text{Corolla} & 0. & \text{Corolla} & 0. \\
\text{Stamina} & 8—16. & \text{Stamens} & 8—16. \\
\text{Foeminei.} & \text{Calyx} & 3- \\
\text{Corolla} & 0. & \text{Fertile Florets.} & \text{Calyx} & 3-leaved. \\
\text{Styli} & 3. & \text{Corolla} & 0. & \text{Styles} & 3. \\
\text{Capsula} & 3-locularis. & \text{Capsule} & 3-celled. & \text{Semen} & 1. \\
\text{Semen} & 1. & \text{Seed} & \text{one in each cell.}
\end{align*} \]
1. VIRGINICA. Lin.

**A. floribus foemineis ad basin spicæ masculæ; involucris cordato-ovatis, acuminatis, dentatis; foliis oblongo-lanceolatis, remote, obtuse serratis.**

Fertile florets at the base of the sterile spike; involucrum cordate ovate, acuminate, toothed; leaves oblong-lanceolate, remotely and obtusely serrate.


**Plant** annual. **Stem** 12—18 inches high, striate, pubescent, branching. **Leaves** alternate, lanceolate, pubescent, dotted, crenulate. **Involucrum** axillary on a short peduncle, cordate, nerved, notched, pubescent, much shorter than the leaves. Sterile florets very small, in a spike longer than the involucrum. **Calyx** 4-leaved. **Leaves** lanceolate, hairy. **Stamens** 8—16. **Filaments** short, cohering at base. Fertile florets at the base of the sterile, included in the involucrum. **Calyx** 3-leaved. **Styles** 3, 3 to 8-parted. **Capsule** composed of 3 united cells, hispid. **Seed** globular, 1 in each cell.

This plant is said by Dr. Atkins of Coosawhatchie, to be expectorant and diuretic. He has used it successfully in cases of humid Asthma, Ascites and Anasarca.

Grows in cultivated lands and in woods where the soil is dry and fertile; very common.

Flowers June—September.

2. CAROLINIANA. Walter.

**A. foliis longe petiolatis, ovali-lanceolatis, acuminatis, acute serratis, nervosis, basi sub cordatis; ramulis frutiferis plerumque nudis; involucris sessilibus, incisis; capsulis echinatis. E.**

Leaves on long petioles, oval lanceolate, acuminate, acutely serrate, nerved, slightly cordate at base; fruit bearing branches generally naked; involucrum sessile, notched; capsules echinate.


**Plant** annual. **Stem** 1—2 feet high, striate and very pubescent. **Leaves** sprinkled with hairs on both surfaces, 3—5-nerved, 2—3 inches long, on pe-
tioles about as long as the leaves. *Involucrum* small, sessile, deeply notched. *Spike* of sterile florets axillary, small, scarcely exceeding an inch in length. *Stamens* numerous. *Spike* of fertile florets 2—4 inches long, leafless except at base, perhaps only the lower flowers really maturing their seed. *Capsule* small, echinate.

This species differs so much in appearance and habit from the preceding, as to excite at least a doubt whether it belongs to the same genus. It is to me, however, very rare, and for many years I have had no opportunity of examining it in a living state.

Found on Paris Island in cultivated land.

Flowers August—October.

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**CROTON.**

*Gen. Pl. 1462.*


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1. **Maritimum.** Walt.

*C. foliis petiolatis, subcordato-ovalibus ovatisve, obtusis, ramulisque tomentosis, supra pallidis subitus inconcis; spicis foemineis paucifloris, plerumque binis; caule suffruticoso. E.*

Leaves on petioles, slightly cordate, oval or ovate, obtuse, with the branches tomentose, pale on the upper surface, hoary underneath; fertile spikes few flowered, frequently but 2; stem somewhat shrubby.

Stem 2—3 feet high, trichotomously divided, the branches cinereous, when young brownish, rather rough, dotted and covered, together with the leaves and calyx, with a stellular tomentum. Leaves about 2 inches long, very obtuse or cordate at base, entire, slightly undulate, light grey or hoary underneath. Flowers at first terminal; by the growth of the plant the seed, before it ripens, is found in the divisions of the stem. Spike of sterile florets many flowered (12—20) sometimes 2 or 3 together. Calyx 1-leaved, the border 6-cleft. Corolla 0. Filaments about 12, as long as the calyx; 5 yellow curved glands in the bottom of the calyx surround the base of the filaments. Female florets generally in pairs, separate from the sterile spikes. Calyx inferior, persistent. Corolla 0. Styles 3, very short, 3 or 4-cleft. Capsule 3-celled, tomentose. Seed, 1 in each cell.

Grows in the drifting sands along the margin of the Ocean.

Flowers June—October.

2. ARGYRANTHEMUM. Michaux.

C. caule fruticoloso; foliis integerrimis, obtusis, obovatis; racemis terminalibus, brevibus, congestim multifloris, calycibus pedicellatis, argenteis. Mich.

Stem somewhat shrubby; leaves entire, obtuse, obovate; racemes terminal, short, many flowered; calyx on pedicels, silvery.


With regard to this species I can add nothing to the description of Michaux. I once saw specimens of it collected by Mr. Lyon on the sand-hills around Fort Barrington on the Altamaha, but I had no opportunity of examining them.

Grows in very dry soils in Carolina and Georgia, Mich.

Flowers June—September.

3. GLANDULCUM. Lin.

C. foliis oblongis, serratis, subitus hirtis, basi subintegerrimis, biglandulosis; caule trichoto- mico, herbaceo; spicis in dichotomia caul. Leavess oblong, serrate, hairy underneath, nearly entire at base, bearing 2 glands; stem herbaceous, trichotomous; spikes in the division of the stem.
Plant annual. Stem about 2 feet high, hispid, often coloured, trichotomously divided towards the summit. Leaves alternate, on very short petioles, crowded near each division of the stem, elliptic, coarsely and obtusely serrate, pubescent on the upper surface, hairy underneath. Flowers in the divisions of the stem, the fertile sessile, the sterile in small spikes intermingled with them. Sterile florets. Calyx 1-leaved, tubular. Corolla 5-petalled, petals lanceolate, white, longer than the calyx inserted into its base. Stamens 10. as long as the corolla. Fertile florets. Calyx 5-leaved, persistent, hisped, 2 large, 3 smaller. Corolla 0. Styles 3, 2-cleft. Stigmas simple. Capsules hispid, the cells separating when mature, each 2-valved, 1-seeded.

Grows in all cultivated land, very common. Flowers June—October.

Ellipticum? Nutt.

C. foliis ovali-lanceolatis, integerrimis, senioribus obtuisis, stellato-tomentosis, subtus pallidoribus; floribus terminalibus, congestis, foemineis masculisque immixtis.

Leaves oval-lanceolate, entire, when old obtuse, stellularly tomentose, pale underneath; flowers terminal, clustered, sterile and fertile intermingled.

Nutt. 2. p. 225.

Plant annual, when bruised aromatic. Stem 1—2 feet high, pubescent, tomentose when young, branching irregularly. Leaves on short petioles, oblong-lanceolate, sometimes obtuse, light green and somewhat smoother in the upper surface, hoary underneath. Flowers in terminal clusters, the sterile spike growing from the midst of the sessile fertile flowers. Calyx of both tomentose. Styles 3, each compoundly dichotomous. Capsules very tomentose. Cells 1-seeded.

This species agrees in many respects with the C. Capitatum of Mich. and the C. Ellipticum of Nutt. and differs slightly from both. Not having specimens of each, I have hesitated where to place it.

Grows in the pine-barrens near Columbia, Mr. Herbemont.

Flowers in the summer.
JATROPHA.


Sterile florets. Calyx 0, or 5-leaved. Corolla 1-petalled, funnell-shaped. Stamina 10, alternately short.

J. herbacea, pilis stimulosis hispida; foliis palmato-lobatis, lobis obtusiusculis, subsinuatis dentatisque; cymis brevi pedunculatis; corollis albis.

Herbaceous, hispid with stimulating prickles; leaves palmate-lobed; lobes rather obtuse, slightly sinuate and toothed; cymes on short peduncles; corolla white.


Root perennial, the fibres very long. Stem 6—18 inches high, branching, terete, covered as well as the leaves and fruit, with stimulating prickles. Leaves 3 or 5-lobed, cordate at base, the lobes toothed or sinuate, ciliate, strongly veined. Flowers in a terminal cyme, di or trichotomously divided, the fertile florets generally sitting in the divisions of the peduncle. Sterile flowers. Calyx 0. Corolla hypococateriform, pubescent, the tube as long as the 5-cleft border. Stamina 10, united at base, those in the centre the longest. Fertile florets. Calyx 0. Corolla 5-petalled. Style appearing short, thick, many (12) cleft, (composed really of 3 styles, soldered together, each compoundly dichotomous) an orange-coloured gland surrounds the base of both stamens and germ. Capsule rough, very hispid, 3-celled. Seed, 1 in each cell.

For so small a plant the root is very remarkable, the principal fibres or branches are rather larger than a quill. They penetrate the loose soil in VOL. II.
which this plant delights to grow, to a great distance. I have followed them by digging 3, 4 or 5 feet, but never to their termination.

The prickles of this plant, like those of the Nettle, produce on delicate skins great irritation for a few minutes. Children are very much accustomed to annoy each other with them. But of the serious injury which, according to Pursh, the feet of our Negroes sustain from them, I can only say I have never heard.

Grows in light sandy soils.

Flowers through the whole summer.

**STILLINGIA.**

_Masculi._ Calyx hemisphaericus, multiflorus. Corolla tubulosa, erosa.


**Gen. Pl. 1470.**

_Sterile florets._ Calyx hemispherical, many flowered. Corolla tubular, erose.

_Fertile florets._ Calyx 1-flowered, inferior. Corolla superior. Style 3-cleft. Capsule 3-celled. Seed, 1 in each cell.

1. _Sylvatica._ Lin.

_S. herbacea; foliis sessilibus, oblongo-lanceolatis, basi attenuatis, serrulatis; flosculis masculis squamam floralem vix superantibus.

_S. herbacea; foliis sessilibus, oblongo-lanceolatis, basi attenuatis, serrulatis; flosculis masculis squamam floralem vix superantibus._

_Herbaceous; leaves sessile; oblong-lanceolate, tapering at base, serrulate; sterile florets scarcely longer than the bracteal scale._


_Root_ large, woody, perennial. _Stem_ herbaceous, 2—3 feet high, somewhat angled by the base of the leaves, with the whole plant glabrous and lactescent. _Leaves_ alternate, irregularly serrulate, somewhat coriaceous, shining on the upper surface, paler underneath. _Stipules_ several small subulate glands in the axils of the leaves and flowers. _Flowers_ in a terminal spike, the upper crowded as in an amant, sterile, with interposing cupulate glands. _Fertile florets_ few at the base. _Sterile florets._ Calyx a scale, ovate, obtuse, mucronate, many flowered (7.) _Corolla_ 1-petalled, funnel-
shaped, rugose, yellowish, the border somewhat bilabiate, undulate, filaments 2, thick, longer than the corolla. Fertile florets. Calyx obtuse. Corolla superior, 1-petalled, with the margin fimbriate. Style erect, 3-cleft. (perhaps 3 united.) Capsules rather rough, 3-celled, one seed in each cell.
Grows in dry sandy soils.
Flowers May—June.

2. **Sebifera.**

S. arborea; foliis petiolatis, rhombeis, acuminatis, integerrimis, infra basin glandula petiolari; floribus masculis pedicellatis.  
A tree; leaves on petioles, rhomboidal, acuminated, entire, with a petiolar gland below the base; sterile florets on pedicels.

Croton Sebiferum, Lin.

A tree 20—40 feet high, the young branches and leaves glabrous and somewhat lacsmented. Leaves alternate, broad and rhomboidal, conspicuously acuminate, on petioles 1—2 inches long. Flowers terminal spikes, the sterile very much crowded towards the summit, the fertile few at base. Sterile floret. Calyx ovate, obtuse, 10—12-flowered, having 2 greenish glands at base, each floret on a pedicel 2—3 lines long. Corolla 1-petalled, 4-toothed. Filaments 2, longer than the corolla. Fertile floret. Calyx a scale, 3-parted, persistent. Corolla . Styles 3, subulate, reflexed. Stigma simple. Capsule a little rough, black, 3-celled. Seed one in each cell, very white.
This tree, originally from China, is now completely naturalized along the sea-coast of our country. It bears its fruit in great abundance, but though they contain much oil no use is yet made of them.
Grows in rich close soils.
Flowers June—July.

3. **Ligustrina.** Mich.

S. fruticosa, foliis lanceolatis, utrinque attenuatis, integerrimis, petiolatis; flosculis masculis brevissime pedicellatis.  
A shrub; leaves lanceolate, tapering at each end, entire, on petioles; sterile florets on short pedicels.

In all of the specimens I have seen of this species, there are as usual in this genus 2 or 3 fertile florets at the base of each spike.

In this genus I think the scale that surrounds each group of sterile florets can only be considered as a bracteal leaf, and the corolla a real calyx.

Grows along the margin of creeks and swamps in the middle districts of Carolina and Georgia.

Flowers May—July.

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**EUPHORBIA.**

Involucrum calyciforme, ventricosum, 8—10 dentatum, dentibus alternis plerumque petaloideis.

Masculi pauci, lateri interiori involucri adnati. Calyx polyphyllus? folioliis laceris. Stamina 4—5? (Calyx monophyllus vel 0. Stamen 1.)


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Involucrum resembling a calyx, ventricose, 8—10 toothed, the alternate teeth generally petaloidal.

Sterile florets few, attached to the interior side of the involucrum. Calyx many leaved? the leaflets lacerate. Stamina 4—5. (Calyx 1-leaved or 0. Stamen 1.)

1. **Cyathophora.** Murr.

   *E. fruticasens; foliis petiolatis, ovatis, subdentatis, panduriformibus, summitate involucellisque coloratis; floribus subumbellatis.*

   Somewhat shrubby; leaves on petioles, ovate, slightly toothed, panduriform, the upper ones and the involucrums coloured; flowers somewhat umbellate.


   *Plant annual. Stem about 2 feet high, glabrous. Leaves alternate on petioles nearly an inch long, oblong, panduriform, the segments toothed, the summit slightly acuminate, the upper and those that surround the flowers, coloured near the base deep red. Flowers in a terminal cluster. Sterile florets numerous. Pedicel of the fertile floret longer than the involucrum. Capsule smooth, 3-celled, the cells 2-valved, 1-seeded.*

   *This plant is seen occasionally in our gardens, but is not naturalized as far north as Savannah.*

   *Flowers through a great part of the summer.*

2. **Graminifolia.** Mich.

   *E. pusilla, erecta, abimo ramosa, minutissime puberula; foliis sparsis, linearibus, intege-errimis, supremsi discoloribus; floribus fasciculato-terminalibus.*

   Small, erect, branch- ing from the base, finely pubescent; leaves scattered, linear, entire, the upper ones discol-oured at base; flowers fasciculate, terminal.


   *This species is said by Michaux to grow along the sea-coast of Georgia and Florida. I have never met with it.*

   *Flowers—*

3. **Hypericifolia.** Lin.

   *E. glabra; ramosissima, patulo-erecta; ra- Specimen destroyed*  

   Glabrous, branch- ing, erect, expanding;
mis divaricatis; foliis oppositis; serratis, ovali-oblongis, subfalcatis; branches divaricate; leaves opposite, serrate; oval-oblong, slightly falcate, corymbis terminalibus.


E. erecto-patula; foliis oppositis, serratis, oblongis, pilosis; floribus axillaribus solitariis; involucris laciniis interioribus coloratis.

Erect, expanding; leaves opposite, serrate, oblong, hairy; flowers axillary, solitary, interior segments of the involucreum coloured.


5. Thymifolia? Lin.

E. humifusa, gracilis; foliis oppositis; serratis, ovali-oblongis, pilosis; floribus axillaribus solitariis; involucris laciniis interioribus coloratis.

Procmnbent, slender, pubescent; leaves
sitis, ovali-oblongis, obtusis, superne sub-serratis; capitulis axillaribus, glomeratis, sub-sessilibus, opposite, oval-oblong, obtuse, slightly serrate near the summit; heads axillary, clustered, nearly sessile.


This species is described by Michaux as inhabiting the borders of the Ohio and Mississippi. Walter mentions it among the plants of this country. It is probable that the following species is the one intended by Walter. At least, I have seen no one agreeing with the character of E. Thymifolia, or with the figure of Plukenet, t. 113. p. 2. It may be remarked also, that the original E. Thymifolia is a native of the East-Indies.


E. caule humifuso, gracili, pubescente; foliis oppositis, ovalibus, sub-serratis, basi inaequalibus, supra glabris; subtus pilosis pallidis; floribus solitariis, axillaribus, folio multo brevioribus. E. Stem procumbent, slender, pubescent; leaves opposite, oval, slightly serrate; unequal at base, glabrous on the upper surface, hairy underneath and pale; flowers solitary, axillary, much shorter than the leaf.

Plant annual. Stem prostrate, branching, 8—12 inches long, hairy, almost villous, branches alternate. Leaves finely serrate, obtuse, sometimes acute, somewhat glaucous underneath, about half an inch long, on petioles 1—2 lines long. Flowers solitary, appearing clustered at the extremity of the branches, from the shortness of the joints. Peduncles 1—2 lines long. Stipules 4 at each joint, 3—4 lines long, plumose; petaloid segments of the involucrum 4, white, small. Capsule hairy.

This species has commonly been considered here as the E. Thymifolia, Mich.; but its flowers are certainly not in axillary heads or clusters. Dr. Torrey sent me some time ago specimens of it from New-Jersey, under the name of E. Depressa.

Grows in cultivated dry soils, very common.

Flowers through the whole summer.
7. **Cordifolia. E.**

_E. humifusa, ramosissima, glabra; foliis parvulis, oppositis, lateto-ovalibus, integerrimis, basi cordatis; floribus axillaribus, solitariis._

_Procumbent, branching, glabrous; leaves small, opposite, broadly oval, entire, cordate at base; flowers axillary, solitary._

*Plant* annual. *Stem* prostrate, 8 to 15 inches long, very glabrous, branches alternate. *Leaves* on petioles scarcely a line long, oval, entire, glabrous, unequal and cordate at base, generally 3—4 lines long. *Flowers* solitary, axillary, on pedicells about half as long as the leaves, surrounded at base with incised almost feathered stipules; petalloid segments of the involucrum white.

Grows in cultivated land, common around Beaufort in dry soils. Flowers in the summer.

8. **Polygonifolia. Lin.**

_E. humifusa, ramosa, glaberrima, carnosa; foliis oblongo-ovatis, ovalibusque, integerrimis, basi obtusis interdum sub-cordatis; floribus solitariis in dichotomia caulis; stipulis simplicibus._

_Procumbent, branching, very glabrous, succulent; leaves oblong-ovate and oval, entire, obtuse at base, sometimes slightly cordate; flowers solitary in the division of the stem; stipules simple._


In many respects resembling the preceding species, but from its habitat more succulent, its leaves also are longer, more ovate, on longer petioles, more crowded near the summit of the branches, and less cordate, the flowers on shorter peduncles, and the petaloid segments of the involucrum uncoloured. The stipules which in the former species are many cleft, in this are subulate, simple, or sometimes one has a single division.

Grows on the drifting sands of the sea-shore, frequently covered with sand excepting the extremities of the branches. This appears to be the real _E._
Polygonifolia of Clayton, (consequently of Linnaeus) who speaks of it as a maritime plant. I quote Pursh with great hesitation.
Flowers through the whole summer.

9. **Ipecacuanha.** Lin.

**E. procumbens** erectaque, pumila, glabra; foliis oppositis, obovatis lanceolatisaque; pedunculis axillaribus; unifloris, elongatis.

Procumbent and erect, small, glabrous; leaves opposite, obovate and lanceolate; peduncles axillary, one-flowered, long.


*Plant* perennial, with very long creeping roots. *Stem* generally short, sometimes buried in the sand and appearing fasciculate and leafless, sometimes erect 12—15 inches high. *Leaves* opposite; sessile, elliptic or obovate, (sometimes linear, Mich.) entire, glabrous. *Flowers* solitary in the divisions of the stem. *Peduncle* about as long as the leaves.
Grows in dry sandy soils.
Flowers from April to July, perhaps through the whole summer.

10. **Gracilis.** E.

**E. caule** erecto, dichotomo, glabro; foliis oppositis, remotis, sessilibus, linear-lanceolatis; pedunculis solitariis in dichotomia caulis, foliiis longioribus.

Stem erect, dichotomous, glabrous; leaves opposite, remote, sessile, linear-lanceolate; peduncles solitary in the divisions of the stem, longer than the leaves.

E. *Polygonifolia?* Mich. 2. p. 211.

*Plant* perennial. *Stem* about 12 inches high, like the whole plant glabrous, very regularly dichotomous, the divisions remote for the size of the plant. *Leaves* opposite at the divisions of the stem, linear or linear-lanceolate, entire, sessile. *Peduncle* solitary, longer than the leaf, petaloid segments scarcely coloured.
I have always been accustomed to consider this plant as the E. Polygonifo-
folia of Michaux. Yet it resembles very much, and may be the linear-leaved
variety of E. Ipecacuanhae. The E. Polygonifolia of Pursh I do not know.
Grows in dry sandy soils near Ogeechee Ferry.
Flowers May—July.

11. **Pubentissima.** Michaux.

E. perennis, erecta, pubentissima; caulibus sub-dichotomis; foliis oppositis, sessilibus, sub-cordato-ovalibus, obtusis; pedunculis solitariis; involucvi laci-
niis interioribus albis. Perennia, erecta, ve-
ry pubescent;—stem somewhat dichotomous;
leaves opposite, sessile, oval, slightly cordate,
obtuse; peduncles solitary; interior segments
of the involucrum white.


Stem 12 to 18 inches high, divided towards the summit, hirsute. Leaves
opposite, sessile, nearly an inch long, elliptic, entire, not so hairy on the
stem, except along the midrib. Flowers solitary in the divisions of the stem.
Peduncle nearly as long as the leaf. Petaloid segments white.
Grows in the pine-barrens in the middle districts of Carolina and Geo-
gia.
Flowers April—July, perhaps as most of our species until October.

12. **Helioscopia?** Lin.

E. umbella quinque-
fida, trifida, dichotoma;
foliis floralibus obova-
tis; foliis cuneiformi-
bus, serratis, glabris;
capsulis laevibus. Umbel 5-cleft, 3-
cleft, dichotomous; flo-
ral leaves obovate;
leaves wedge-shaped,
serrate, glabrous; cap-
sules smooth.

Sp. pl. 2. p. 914a.

Plant annual. Stem 12—18 inches high, glabrous, branching. Leaves
alternate, sessile, cuneate, obovate, finely serrate, glabrous, those at the divi-
sions of the umbel broad-lanceolate. Umbel 5-cleft, 3-cleft, the small bran-
ches finally dichotomous. The flowers solitary in the divisions of the umbel, small, on peduncles one to two lines long. *Fruit* tuberculate.

This species approaches very nearly to the *E. Helioscopia* of Europe, although its roughened fruit and the lanceolate leaves of the umbel may serve to distinguish it. It is, I think, certainly indigenous.

Found in damp clay soils near the Horse-shoe Bridge, Ashepoo; on Hutchinson’s Island, opposite Savannah.

Flowers May.

13. **Corollata.** Lin.

*E. umbella 5-fida,* 3-fida, dichotomus; folii floralibus foliisque oblongis, obtusis; involucr i laciniis interioribus petaloideis, obovatis.

Umbel 5-cleft, 3-cleft, dichotomous; floral leaves and those of the stem oblong, obtuse; interior segments of the involucrum resembling petals, obovate.


Root perennial. Stem herbaceous, about 2 feet high, terete, a little hairy, rarely branched. Leaves alternate, oval, glabrous on the upper surface, paler and sprinkled with hairs underneath, on petioles 1—2 lines long. Flowers in a terminal umbel, each floret solitary in the divisions of the stem, on peduncles 3—4 lines long. Petaloid segments of the involucrum more conspicuous than usual in this genus, obovate, white. Fruit glabrous.

This species varies much in the size and breadth of its leaves. I have found it also with 5 rays to the umbel. The following, if no more than a variety, deserved to be noticed.

**Var. Angustifolia.**

Leaves 3—4 inches long, linear-lanceolate, sessile as in the common variety, paler and hairy underneath. Umbel 3-fid, rays elongated, the upper branches dichotomous. Flowers few, small, thinly scattered near the summit of the branches.

Very common, preferring dry soils. The variety Angustifolia was collected by Mr. Caradeux in St. Thomas, near Charleston.

Flowers May—September.
14. PANICULATA. E.

E. umbella trisida, dichotoma; floribus terminalibus, sub-paniculatis; foliis alternis, ovalibus, sessilibus, subtus sub-pilosus; caule subpilosus. E.

Umbel 3-cleft, dichotomous; flowers terminal, somewhat paniculate, oval, sessile, slightly hairy underneath; stem somewhat hairy.

Stem 1—2 feet high, slightly angled, very hairy around the base of the leaves. Leaves about 1½ inches long, one inch wide, entire with the margin revolute, hairy along the midrib. Umbel at first generally 3-fid, the upper branches dichotomous, and near their summits the flowers are numerous, axillary and terminal, with small opposite bracteal leaves at each joint. Fruit smooth.

Grows in the middle districts of Carolina and Georgia. Columbia, Mr. Herbeumont.

Flowers August—September.

Many opinions have been entertained as to the real structure of the flowers of this genus. Each involucrum (Calyx, Lin.) contains one central female floret, and several points near the base bearing stamens, these points or receptacles are as numerous generally as the petaloid segments of the involucrum. Linnaeus considered the whole as one flower, the stamens inserted into the calyx, and coming to maturity irregularly. Jussieu first suggested the now prevailing opinion that the structure was monoecious, a common involucrum with a pistilliferous floret in the centre, surrounded by clusters of monandrous florets, each cluster generally containing 3—5 florets, separated by bristles or membranaceous multifid leaves, and these florets naturally coming to maturity at different periods.

PHYLLANTHUS. GEN. PL. 1412.


Capsula 3-locularis. Semen 1.

Capsule 3-celled. Seed 1 in each cell.

P. foliis alternis, ovalibus, obtusis, glabris, sub-distichis; floribus paucis (2—4), axillaris, pedicellatis, nutantibus; caule erecto, distichic ramoso. E.

Leaves alternate, oval, obtuse, glabrous, somewhat distichous; flowers few (2—4), axillary, on pedicels, nodding; stem erect, branches distichous.


Plant annual. Stem about 12 inches high, glabrous, with alternate branches distichally expanding. Leaves alternate, oval, generally obtuse, entire, glabrous. the upper ones lanceolate, all distichous, on petioles about 1 line long. Flowers axillary, nodding, on very short pedicels, 2—4 at each axil, fertile and sterile intermingled. Calyx of both florets 6-leaved? Leaves reddish at base, white along the margin. Stamens 6, united at base. Style 3, very short, 2-cleft. Capsule globose, somewhat depressed, 6-celled, 6-valved, the valves opening elastically. Seed striate with elevated dots.

As the leaves of this plant are very rarely obovate, I have restored the original name proposed by Walter.

Grows in damp soils, Prince William's, near Charleston. Flowers September—October.

MELOTHRIA. Gen. Pl. 68.


Sterile florets. Calyx one-leaved, 3—5 toothed. Corolla campanulate. Stamina 3, attached to the tube of the corolla.

1. **Pendula.**

M. foliis sub-reniformibus, lobato-angulosis, sub-hispidis; baccas ovalis, glabra.

Leaves somewhat reniform, lobed and angled, slightly hispid, berry oval, smooth.


A slender vine running over small shrubs and herbaceous plants. Stem hairy, branching. Leaves somewhat hispid, generally 5-angled, the angles acute, dentate, the intermediate one the longest, the hairs jointed and slightly hooked. Petioles 1—2 inches long. Tendrils 5—6 inches long. Flowers axillary, the sterile in small racemes; the fertile solitary. Common peduncle of the sterile florets about 2 inches long. Calyx 5-toothed, the teeth subulate. Corolla longer than the calyx, yellow, the border 5-lobed. Stamens short, a cyathiform gland at the base of the fertile floret. Berry 3-celled, small. Seeds many in each cell, obovate, compressed.

Grows in shaded, rich soils. Flowers through the whole summer.

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**CUCURBITA.** Gen. Pl., 1478.


*Fertile florets.* Calyx 5-toothed. Corolla 5-cleft. Pistil 3-cleft. Seeds of the fruit (a melon) with a tumid margin.

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1. **Lagenaria.** Lin.

C. foliis cordatis, rotundato-obtusis, pubescentibus, denticulatis, basi subtus biglanduloso— Leaves cordate, nearly circular, pubescent, toothed, underneath at base bearing
sis, peponibus lignosis 2 glands; fruit woody, clavatis.


A large, coarse, strong-scented vine, generally procumbent, but sometimes running over reclining trees. Stem and leaves tomentose. Leaves cordate, nearly round, 10—15 inches in diameter, undulate or slightly lobed. Flowers solitary, axillary, the early florets and those near the summit of the branches generally sterile. Corolla large, white. Fruit varying like all cultivated plants very much, round, pyriform, clavate, straight or curved, the exterior coat hard, almost woody.

The Calabash is rarely found growing in woods, and is certainly not indigenous. It appears to have been brought by the antient inhabitants of our country from a warm climate. It now grows spontaneously around the settlements, particularly on the sea-islands, and delights in a rich dry soil.

Flowers through the whole summer.

SICYOS. Gen. Pl. 1481.


1. Angulata.

S. foliis cordatis, 5-angularibus, denticulatis, scabris; fructibus capitatis, hispidis. Leaves cordate, 5-angular, toothed, scabrous; fruit in clusters, hispid.


A small procumbent vine. Stem pubescent. Leaves alternate, on petioles 1—2 inches long, cordate, 5-angular, the angles rather acute, scabrous,
pubescent particularly along the veins, finely denticulate. *Tendrils axillary,* divided. *Flowers* axillary, the sterile at the summit of racemes 4-6 inches long. The fertile clustered at the summit of peduncles 1-2 inches long. *Peduncles* very hairy. *Corolla* deeply 4-cleft, whitish with green veins. *Styles* 3 united, each bearing 2 or more? anthers. Female floret 6-10 in a head. *Fruit* small, oval or ovate, very hispid.

Grows in the upper districts of Carolina and Georgia, Dr. Macbride. *Flowers* June—September.
CLASS XXI.

DIOECIA.

DIANDRIA.

592 VALLISNERIA.
693 SALIX.
594 FRAXINUS.
595 BORYA.
596 CERATIOLA.

TETRANDERIA.

597 VISCUM.
598 MYRICA.
599 ILEX.

PENTANDRIA.

600 HAMILTONIA.
601 NYSSA.
602 VITIS.
603 ZANTHOXYLUM.
604 PANAX.
605 IRESINE.
606 ACNIDA.

607 HUMULUS.

HEXANDRIA.

608 SMILAX.
609 DIOSCOREA.
610 PRINOS.
611 GLEDITSCHIA.

OCTANDRIA.

612 POPULUS.
613 DIOSPYROS.

ENNEANDRIA.

614 HYDROCHARIS.

POLYANDRIA.

615 MENISPERMUM.

MONADELPHIA.

616 JUNIPERUS.

VALLISNERIA. Gen. Pl. 1491.

Masculi. Spatha 2- Sterile florets. Spadix tectus | the 3-parted. Spadix

VOL. II. P 4
flosculis. **Corolla** 3-partita.

**Foeminei.** Spatha 2-fida, 1-flora. **Calyx** 3-partitus, superus. **Corolla** 3-petala. **Capsula** 1-locularis, polysperma.

covered with florets. **Corolla** 3-parted.

**Fertile florets.** Spatha the 2-cleft, 1-flowered. **Calyx** 3-parted, superior. **Corolla** 3-petalled. **Capsule** 1-celled, many seeded.

1. **Americana.** Mich.

V. foliis linearibus, obtusis, 3-nervibus, serrulatis; pedunculis masculis brevissimis, foemineis spiralibus. Nutt.

Leaves linear, obtuse, 3-nerved, serrulate; peduncles of the sterile florets very short, of the fertile spiral.


An aquatic plant, floating or growing in stagnant or slow-flowing streams. Leaves all radical. Scapes axillary. Female flowers generally furnished with a spiral filiform scape, so as to admit them to rise to the surface of the water when ready to expand. Scape of the sterile floret very short, always submersed; the flower itself, when mature, separates from the scape, rises to the surface of the water, expands and floats among the female florets until it decays. The female floret, after the period of inflorescence, sinks beneath the surface of the water and matures the fruit. Nutt.

Grows from New-York to Florida. Nutt. This, like many of our aquatic plants, has escaped my notice.

Flowers August—October. Pursh.

**SALIX.** Gen. Pl. 1493.

**Masculi. Amentum** cylindraceum. **Calyx** squama. **Corolla** 0. **Stamina** 1—6, glandula baseos nectariferas. **Sterile florets. Ament** cylindrical. **Calyx** a scale. **Corolla** 0. **Stamens** 1—6, with a nectariferous gland at base.
**Dioecia Diandria.**


*Foliis integerrimis aut obsolete serratis.*

*Leaves entire or obscurely serrate.*

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**1. Muhlenbergiana.**

S. foliis lanceolatis, acutiusculis, subintegerrimis, pubescenti- 
canis, subitus rugoso-venosis, margine revolutis; stipulis deciduis, 
lanceolatis; amentis praecocibus diandris, squamis oblongis mar- 
gine villosis; germinibus ovato-lanceolatis, sericeo-villosis longe 
pedicellatis; stylo brevi; stigmatibus bifidis.

Leaves lanceolate, nearly acute and entire, pubescent, hoary, 
rugosely veined underneath, with the margins revolute; stipules 
deciduous lanceolate; aments appearing before the leaves, diand- 
drous; scales oblong, the margins villous; germs ovate-lanceolate, 
coated with silken hairs, on long pedicels; style short; stigmas 
two-cleft.


A shrub 1—4 feet high, often decumbent with pubescent branches. 
Leaves lanceolate, nearly acute, entire, though sometimes furnished with 
1 or 2 obsolete teeth, hoary and pubescent on the upper surface, white and 
tomentose underneath. Stipules short, lanceolate, deciduous. Scales of
the fertile florets oblong, villous along the margin. **Germs** pedicellate, villous. **Style** short **Stigma** 4-cleft. Willdenow.
Grows in shady dry woods from New-York to Virginia. If the quotation from Walter is correct, extending along the Mountains to Carolina.
Flowers—

2. **Tristis.** Aiton.

*S. foliis lineari-lanceolatis, utrinque acutis, integerrimis, margine revolutis, supra glabriusculis subtus rugoso-venosis, tomentosis; stipulis nullis,amentis præcocibus oblongis.*

Leaves linear-lanceolate, acute at each end, entire with the margins revolute, glabrous on the upper surface, rugosely veined and tomentose underneath; stipules 0; aments appearing before the leaves.


Resembles the preceding species, but differs in the form of the leaf and by the absence of stipules. Willd.
Grows in dry sandy woods; New-Jersey to Carolina. Pursh.
Flowers March—April.

3. **Rosmarinifolia.** Lin.

*S. foliis lineari-lanceolatis, subintegerrimis, planis, supra pubescentibus, subtus sericeis; germinibus lanceolatis, villosis; stilis elongatis.*

Leaves linear-lanceolate, nearly entire, flat, pubescent on the upper surface, silky underneath; germs lanceolate, villous; styles long.


A shrub 1—3 feet high, the branches covered with a silken pubescence. **Leaves** about an inch long, linear-lanceolate, on the upper surface hoary and covered with appressed hairs, becoming glabrous when old; on the under eloathed with a silken pubescence, furnished with a few, very small, glandu-
Grows in wet meadows and mountain swamps; Pennsylvania to Carolina. Pursh.
Flowers March—April.

** Foliis serratis. | ** Leaves serrate.


S. foliis oblongo-lanceolatis, remote serrulatis, supra glabris, subtus planis, tomentosis; stipulis lunatis, subdentatis; germinibus lanceolatis, villosis; stylo elongato. Leaves oblong-lanceolate, remotely serrulate, glabrous on the upper surface; flat and tomentose underneath; stipules falcate, slightly toothed; germs lanceolate, villous; style long.


A small shrub, the branches when young pubescent. Leaves oblong-lanceolate, acute, finely and acutely serrate, entire near the base, green and glabrous on the upper surface, soft and tomentose underneath, almost glabrous when old. Petioles long. Ament early. Scales lanceolate, very villous. Germ lanceolate, villous. Style long. Stigmas four.
Grows in shaded, dry, gravelly soils. Pursh.
Flowers March—April.

5. Discolor.

S. foliis oblongis, obtusiusculis, glabris, remotely serratis, apice integerrimis, subtus glaucis; amentis sub-coætaneis; germinibus sessilibus, lanceolatis, pilosis. Leaves oblong, rather obtuse, glabrous, remotely serrate, entire near the summit, glaucous underneath; aments appearing with the leaves; germs sessile, lanceolate, hairy.


Flowers April.


S. foliis linear-lanceolatis, acutis, tenuissimae serratis, utrinque glabris, nitidis, concoloribus; stipulis nullis; amentis coætaneis, cylindricis, villosis; squamis ovatis, acutis; filamentis 3—5, usque ad medium barbatis.


Of this species I know nothing. Pursh, upon whose authority it rests, only says that its branches are very brittle at base; and that it grows in Virginia and Carolina.

7. Nigra.

S. foliis lanceolatis, acuminatis, serratis, glabris; petiolis pubescentibus; amentis coætaneis, tetrandris; germinibus pedicellatis, subulatis, glabris.

Leaves lanceolate, acutum, serrate, glabrous; petioles pubescent; aments appearing with the leaves, tetrandrous; germs on pedicels, subulate, glabrous.
DIOECIA DIANDRIA.


A small tree, from 15—20 feet high, generally branching from the base. Leaves alternate, lanceolate, slightly acuminate, serrulate, glabrous; the earliest leaves slightly pubescent. Petioles 1—2 lines long. Sterile aments about 3 inches long. Scales obovate, obtuse, villous. Filaments generally 5, but varying from 3—6, much longer than the scale. Ament of fertile flowers 10—15 lines long. Stigmas 3-cleft. Capsule oblong, ovate, glabrous.

We have a remarkable variety of this plant, the young branches and leaves pubescent, somewhat hoary, almost tomentose; but I have been able to perceive no other difference either in the shape or size of the leaves of the tree, or in the period of flowering.

This, I believe, is the only species of Salix which is found in the low country of Carolina, except the exotic S. Babylonica and the S. Vitellina, which are occasionally cultivated in gardens.

It grows in great abundance along the margins of fresh-water rivers, in swamps and wet soils. On the rivers where the stems are found sufficiently large, I am informed that they are used for the timbers of boats, and are considered light and durable.

Flowers in March.

FRAXINUS. Gen. Pl. 1597.


Sterile florets. Calyx 0, or 4-parted. Corolla 0, or 4-petalled. Stamens 2, (sometimes bearing a germ and seed.)

Fertile florets. Calyx and Corolla as in the sterile. Stamens 0. Pistil 1. Samara 1-seeded, terminated with a lanceolate wing.

F. foliolis lanceolato-ellipticis, sub-serratis; samaris cuneatis, apice obtusis, emarginatis, inferne teretibus. Leaflets elliptic-lanceolate, slightly serrate; samara cuneate, obtuse and emarginate at the summit, terete at base.


A tree of middling size, 40—60 feet in height, and rarely exceeding 2 feet in diameter. Leaves unequally pinnate. Leaflets 3—4 pair, oval-lanceolate, acuminate, obscurely serrate, strongly veined, almost ribbed, very glabrous. Flowers in small axillary panicles. Stamens much longer than the rudiments of the corolla. The fruit in panicles composed of small clusters, terete at base, extending from the summit a very long narrow wing, slightly emarginate at the summit.

Grows in the high river swamps, Santee. Dr. Macbride.

Flowers in March.

2. Acuminata. La Marek.

F. foliolis petiolatis, oblongis, nitidis, acuminatis, integerrimis, subtus glaucis; floribus calyculatis. Leaflets on petioles, oblong, shining, acuminate, entire, glaucous underneath; flowers calyculate.

Icon. Mich. arb. for. 3. p. 106.

A tree 50—70 feet high, and sometimes 2—3 feet in diameter. Leaves opposite, and as in all of the American species of the genus unequally pinnate. Leaflets, 3—4 pair, oval-lanceolate, acuminate, generally entire, glabrous underneath. Fruit somewhat terete at base, with a long lanceolate wing extending from the centre.

The wood of this species, under the name of White Ash, is said by Michaux to be employed in preference to that of the other species of this genus. I believe, however, they are all indiscriminately used. Their wood is light, elastic, and sufficiently strong, and is much used by Carriage-Makers, Wheelwrights, and Cabinet-Makers.

Grows as most if not all of the genus, in rich swamp or bottom land.

Flowers March.
3. Caroliniana.

F. foliolis petiolatis, lanceolatis, serrulatis, nitidis, glabris; ramulis glabris; floribus calyculatis. Leaflets on petioles, lanceolate, serrulate, shining, glabrous; flowers calyculate.


F. foliolis petiolatis, serratis, samarisque lanceolato-elliptis. Leaflets on petioles, serrate, and like the fruit lanceolate-elliptic.


A small tree. Leaves opposite, unequally pinnate. Leaflets oval-lanceolate, acute, finely but acutely serrate, paler underneath, veins prominent, pubescent when young, on petioles 2—3 lines long. Wing of the fruit broad, lanceolate, slightly emarginate at the summit, extending from the base of the seed.

Michaux says that this tree rarely exceeds 30 feet in height. I think it sometimes becomes a large tree. I have seen, however, as he remarks, young shoots (probably from old roots) not exceeding ten feet in height, bearing flowers and fruit in great profusion. Grows in deep swamps. Flowers March.

5. Pubescens. Walt.

F. foliolis petiolatis, elliptico-ovatis, serratis, subtus petiolis ra-

Vol. II.
mulisque tomentosis; | oles and young branch-
floribus calyculatis. | es tomentose; flowers
calyculate.

F. Tomentosa, Mich. arb. for. 3. p. 112.

A tree 50—60 feet high, and generally from 1—2 in diameter. Leaves opposite, unequally pinnate. Leaflets 3 or 4 pair, ovate-lanceolate, acuminate with a long summit, serrate, pubescent or tomentose underneath; on petioles 2—3 lines long. Wing of the fruit oblong-lanceolate, slightly emarginate, extending nearly to its base.

Grows in swamps and damp rich soils.
Flowers March—April.


F. foliolis obovatis, integerrimis, subsessilibus, subtus tomentosis, basi obliquis, fructibus latioribus, obovatis, plerumque trialatis, basi attenuatis.

Leaflets obovate, entire, nearly sessile, tomentose underneath, oblique at base; fruit broad, obovate, generally 3-winged, tapering at base.

Nutt. 2. p. 232.

Points of the leaves obtuse, the underside paler and softly villous, the common petiole and nerves beneath smooth. Fruit, at first sight, almost similar to Halesia; more frequently 3 than 2 winged; the seed also 3-sided. Nuttall.

Grows in the oak forests of Carolina. Nutt.
Flowers—

BORYA. Willd.

Masculi. Calyx 4- | Sterile florets. Calyx 4-leaved. Corolla 0. Stamina 2—3.
Corolla 0. | Lyx 4-leaved. Corolla 0. Stamens 2—3.

Foeminei. Calyx 4- | Fertile florets. Calyx 4-leaved, unequal.
Corolla 0. Stigma capi- | Corolla 0. Stigma

1. **Porulosa.** Mich.

*B. foliis oblongo-lanceolatis, obtusis, sessilis, coriaceis, margine revolutis, subtus punctatis.*

Leaves oblong-lanceolate, obtuse, sessile, coriaceous, dotted underneath, the margins revolute.


This species I have not seen.


Flowers—

2. **Acuminata.** Mich.

*B. foliis ovali-lanceolatis, utrinque attenuatis, petiolatis, membranaceis, laevissime serrulatis.* Leaf oval-lanceolate, tapering at each end, on petioles, membranaceous, slightly serrulate.


*Berry* oblong, when young tapering to an acute point. *Kernel* striate or furrowed, resembling a nut. Mich.

Of this species I cannot speak with confidence. The shrub which the Botanists who have visited the Southern States, have been accustomed to refer to it, resembles it in habit, except that it wants the spinous processes which are represented in Michaux's figure. But the calyx is 4-parted, the stamens 4, inserted in the calyx, and some of the flowers appear polygamous. It probably belongs to a distinct genus; but, as I have not seen the living plant, I cannot decide.

Grows along the margins of rivers in Carolina and Georgia. Mich. Flowers—
CERATIOLA. Mich.

Masculi. Calyx imbricatus, squamis plurimis (6—8.) Corolla 0. Stamina 2, exserta.


Sterile florets. Calyx imbricate, scales numerous (6—8.) Corolla 0. ...Stamens 2, exserted.


1. ERICOIDES. Mich.


An evergreen shrub, 4—8 feet high, branches virgate, somewhat verticillate; when young tomentose. Leaves linear-labrous, rigid, with the margins revolute, 6—8 lines long, verticillate, 3—4 in each whorl. Flowers axillary, verticillate, sessile. Scales of the calyx tomentose on the margin, persistent. Berry small, yellowish, 2-seeded, somewhat persistent. Seed hard.

This singular plant, which resembles the genus Erica so much in its appearance and habit, though not in its seminal affinities, grows generally in the most dry and sandy soils. Near Murphy's Bridge, on the Edisto River, it covers a space of 3 or 400 yards wide and two or three miles long, which appears to have been a sand bank formed by some of the antient freshets of that river, and on which only lichens and a few stunted oaks (Q. Catesbæi and Nigra) are found intermingled with it. Near Augusta, Mr. Nuttall. St. Mary's, Pursh. On the sand-hills between Camden and Columbia.

Flowers August and September? The berries are ripe in November.
DIOECIA TETRANDRIA.

VISCUM.  Gen. Pl. 1504.

Masculi. Calyx 4-partitus. Corolla 0. Filamenta 0. Corolla 0. Antherae calycri adnatae.

Sterile florets. Calyx 4-parted. Corolla 0. Filaments 0. Anthers attached to the calyx.

Foeminei. Calyx 4-phyllus, superus. Stylus 0. Corolla 0. Bacca 1-sperma. Semen cordatum.

Fertile florets. Calyx 4-leaved, superior. Style 0. Corolla 0. Berry 1-seeded. Seed cordate.

1. VERTICILLATUM. Lin.

V. ramulis oppositis verticillatisque; foliis cuneato-obovatis, 3-nervibus; spicis axillariis, foliis paulo brevioribus; bacca albe-scentibus. E.


Branches opposite and verticillate; leaves cuneate-obovate, 3-nerved; spikes axillary, a little shorter than the leaves; berries nearly white.

A small shrub, growing parasitically on the branches of old or decaying trees; rarely however found on the pine or cedar. Stem 1—2 feet long, branches opposite or verticillate by fours. Leaves perennial, nearly sessile, tapering at base, 3-nerved, entire, obovate, obtuse, like the branches opposite or verticillate. Spike axillary, opposite or verticillate, nearly as long as the leaves. Florets very small. Berries yellowish white, pellucid.

Flowers April and May.

The V. Rubrum and Purpureum I have never seen. They are said by Catesby to inhabit the Bahama Islands, and to be found on trees foreign to our climate.
MYRICA.  Gen. Pl. 1510.

Masculi.  Amentum oblongum.  Calyx squama ovata.  Corolla 0.


Sterile floret.  Ament oblong.  Calyx an ovate scale.  Corolla 0.


M. foliis cuneato-lanceolatis, acutis, apice rariter serratis; amentis masculis laxis; squamis acutis; fructibus globosis minoribus.

Leaves cuneate-lanceolate, acute, with a few serratures near the summit; sterile aments loose; scales acute; fruit globular, small.


A small tree 10—18 feet high, diffusely branching, the small branches crowded near the summit of the larger ones.  Leaves perennial, alternate, somewhat coriaceous, linear-lanceolate, sometimes entire, glabrous, dotted, nearly sessile; when young a little pubescent.  Flowers in short cylindrical, axillary aments.  Scale nearly round.  Filaments 4, longer than the scales.  Styles of the fertile florets 2, longer than the scales.  Stigma simple.

This tree bears its small grey fruit in great profusion.  These little drupes appear to the eye dry and juiceless, but by boiling, a wax of a very pleasant flavour is extracted from them, which is used in the manufacture of soap and candles.

Grows in almost all soils, preferring those which are wet and swampy.  Flowers in March—April.

2. Caroliniensis.

M. foliis cuneato-oblongis, grosse denta-long, coarsely toothed;
DIOECIA TETRANTRIA.

Very similar to the preceding, but the stem is only 4 or 5 feet high, and the leaves wider, coarsely toothed, and never entire. Willd.

This species appears to include both the varieties Media and Pumila of the M. Cerifera of Michaux. I have found it very difficult to ascertain any specific distinctions; it is, however, a smaller shrub, generally growing about 3 feet high, and its leaves and fruit are larger.

Grows generally in damp pine-barrens; sometimes found in very dry soils.

Flowers in March and April.

ILEX. Gen. Pl.


Sterile florets. Calyx 4-toothed. Corolla rotate. Stamens 4, inserted in the divisions of the corolla.


1. OPACA. Aiton.

I. foliis ovali-lanceolatis, acutis, spinosis, glabris, planis; floribus ad basis ramulorum annotinorum sparsis. Leaves oval-lanceolate, acute, spiny, glabrous, flat; flowers scattered at the base of the branches a year old.

A very beautiful tree, growing in rich soils 30—40 feet in height, and 1—2 feet in diameter, with a compact, dense, generally oblong head. Leaves alternate, oval-lanceolate, dentate, the teeth spinous, glabrous, coriaceous, perennial, lucid on the upper surface, on short petioles. Flowers clustered at the base of the small branches, on short peduncles. Calyx small, with 4 minute teeth. Corolla small, rotate, 4-parted, white. Fruit, as in all of our species, a bright scarlet berry, bearing four seeds.

This is one of our most ornamental trees; its bright deep green, perennial leaves, and the brilliant colour of its berries, which remain on their pedicels generally until February, render it in the depths of our winter very conspicuous in our forest scenery. The wood is fine-grained, compact, hard, and is used by Cabinet-Makers and Turners in many of their fabrications.

Grows in rich dry soils.

Flowers April—May.

2. **Dahoon.** Walt.

*I. foliis oblongo-lanceolatis, junioribus spinoso-serratis, veteribus sub-integris; fasciculis floribus pedunculatis.*

Leaves oblong-lanceolate, when young armed with spiny serratures, when old frequently entire; clusters of flowers pedunculate.


A very handsome shrub, 4 to 10 or 12 feet high, with long virgate branches. Leaves alternate, lanceolate, coriaceous, glabrous, acute; when young the serratures are sometimes as acute as those of the *I. Opaca*; when old the leaves are frequently entire. Flowers axillary in paniculate clusters, 6—10 in each cluster. Corolla white, small. Berry red, persistent.

This plant, wherever in this country it has a popular name, is distinguished as the Dahoon Holly.

Grows in swamps.

Flowers May.

3. **Ligustirna.**

*I. foliis lineari-lanceolatis, basi cuneatis, plerumque integerrimis; floribus fertilibus solitariis.*

Leaves linear-lanceolate, cuneate at base, generally entire; fertile florets solitary.
I. Angustifolia, Muhl. Cat.

A shrub 6—10 feet high, like the rest of the genus Stoloniferous, branches expanding. *Leaves* acute, rigid, coriaceous, perennial. *Fruit* scattered, solitary.

This shrub has been to me very rare. I have only seen it once, and then in fruit. Its leaves are as long as those of the I. Dahoon, but not half as wide; entire, very acute, but not mucronate. It is the I. Angustifolia of Muhl. Cat.; but this name has been applied to the next species, and to avoid confusion I have restored to this plant the name under which I understand it was cultivated in the garden of the late William Hamilton of the Woodlands, Philadelphia.

Found in fruit in the little Ogeechee Swamp at Preston's Old Field, about 12 miles from Savannah.

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4. **MYRTIFOLIA.** Walt.

I. *foliis linear-lanceolatis, mucronatis, rigidis, utrinque glaberrimis; floribus fertilibus, solitariis.* Mich.

I. Rosmarinifolia, La Marck. Muhl.


Grows around ponds in flat pine-barrens.

Flowers in May.

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5. **CASSENA.**

I. *foliis ovalibus, utrinque obtusis, crenato-serratis.*

A shrub 6—15 feet high, stoloniferous, branches virgate, erect, the small branches expanding, bark glabrous, smooth, when very young pubescent. Leaves alternate, perennial, glabrous, shining, coriaceous. Flowers in axillary clusters, each peduncle triflorous. Peduncles short, slightly pubescent. Teeth of the calyx very minute. Segments of the corolla obtuse. Filaments shorter than the corolla, into which they are inserted between the segments. Berry globose, scarlet, 4-celled. Seed, one in each cell, boney.

This is a handsome shrub, although its flowers are not conspicuous. It forms neat hedges, but not sufficiently strong to resist hogs and cattle; they are therefore only used as ornaments along the borders of gardens.

Grows in loose soils; very abundant near the ocean. A strong decoction of this plant is used by the tribes of the Creek Indians at the opening of their councils. They send annually to the sea-coast for a supply of the leaves. It acts as a mild emetic; hence the name given it in the Hortus Kewensis. It is universally known in this country as the Cassena, its old and appropriate name. But even if the name of Aiton should be retained to this plant, it is surely incorrect to apply the name of Cassena to another species, and one to which, in this country, it is never given.

Flowers March and April.

6. Prinoides.

I. foliis deciduis, oval-lanceolatis, utrinque acutis, serratis; pedunculis 1-floris, fertili-bus solitariis.

Leaves deciduous, oval-lanceolate, acute at each end, serrate; peduncles 1-flowered, the fertile solitary.


A shrub 6—8 feet high, and sometimes, I believe, becoming a small tree. Branches somewhat virgate. Leaves lanceolate, slightly acuminate, glabrous with appressed serratures. (I find that the leaves, as well as flowers of the sterile plant are always smaller than those of the fertile; in each the flowers appear to be clearly hermaphrodite, but in one always abortive. Dr. Baldwin.)

Grows in dry sandy soils.

Flowers April—May.
### Dioecia Pentandria

#### Hamiltonia. Mühl.

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<td>Corolla 0.</td>
<td>Nectarium discus 5-dentatus.</td>
<td>Stamina 5.</td>
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<td>Foeminei.</td>
<td>Calyx 5-part.</td>
<td>Corolla 0.</td>
<td>Nectarium discus 5-dentatus.</td>
<td>Pistillum 1.</td>
<td>Drupe infera?</td>
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<tr>
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#### Oleifera. Mühl.


Grows along the margin of mountain streams, Pennsylvania—Georgia. Flowers May—June. Pursh.


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<tr>
<th>Masculi</th>
<th>Sterile florets.</th>
<th>Calyx 5-parted.</th>
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1. Multiflora. Walt.

N. foliis ovali-lanceolatis, integerrimis, utrinque acutis, petiolo, costa media, margineque villosis; pedunculis foemineis multifloris (3—8.)

Leaves oval-lanceolate, entire, acute at each end, with the petiole, midrib and margin villous; fruit bearing peduncles many flowered.

Nutt. 2. p. 236.

A tree 40—50 feet high, and 1—2 feet in diameter, with a head rather compact and close. Leaves oval-lanceolate, entire, rather short, the petiole and under surface generally pubescent, sometimes though rarely villous. Flowers in small somewhat umbellate clusters. Fertile florets 5 to 8 or 10 in a cluster, though rarely maturing more than three. Sterile florets more numerous. Common peduncle axillary, solitary, 1—2 inches long. Drupe nearly spherical, black-blue.

This tree grows generally in damp clayey soils. Its wood does not easily split, and it is used therefore for the nuts of wheels, and for a few other purposes. It is usually called the Black Gum or high-ground Gum. The leaves with us rarely exceed two inches in length, and differ much from the figure of Michaux.

Flowers in April.


N. foliis oblongo-lanceolatis, integerrimis, utrinque acutis, glabris; pedunculis foemineis bifloris.

Leaves oblong-lanceolate, entire, acute at each end, glabrous; fruit bearing peduncles 2-flowered.

A tree, which around ponds or in poor soils rarely exceeds 30—40 feet in height, but which, in the deep river swamps becomes one of the largest trees of our forests, 60—80 feet in height, and 2—4 in diameter. Leaves oblong-lanceolate, very acute, entire, sometimes slightly pubescent underneath. Sterile flowers numerous, very small. Stamens in the whole genus, as remarked by Nuttall, variable, but more frequently I believe 5 than 10. Fertile florets almost invariably 2. Fruit oval, compressed, dark blue.

Leaves with us longer than those of the N. Multiflora.

Grows in swamps and wet soils.

Flowers April—May.


N. foliis brevissime petiolatis, oblongo-lanceolatis, ovalibusque, sub-integerrimis, sub-tus pubescentibus sub-canisque; pedunculis masculis capitatis; fœmineis unifloris. E. Leaves on very short petioles, oblong-lanceolate and oval, nearly entire, pubescent and somewhat hoary underneath; sterile florets capitate; fertile one-flowered.


A small irregular tree, very often not exceeding the size of a shrub, and, I believe, rarely reaching the height of 20 feet. Leaves oblong-oval, often varying, ovate or obovate, sometimes obtuse, sometimes cuneate at base, always pubescent and somewhat hoary underneath, sometimes denticulate. Sterile flowers in compact heads. Calyx tomentose. Ståmens much longer than the calyx. Fertile florets solitary, on a short peduncle. Calyx very tomentose. Style sometimes 2-cleft. Fruit ovate; when ripe of a dull red colour and pleasantly subacid.

The Ogeechee River appears to be the northern limit of this tree; the pleasant acid of its fruit induced some of the early inhabitants of Georgia to use it as a substitute for the lime, hence its common name of the Ogeechee Lime, but its last flavour is austere.

Grows around ponds in wet sandy soils.

Flowers April—May.


N. foliis longe petiolatis, oblongis, acumi- Leaves on long petioles, oblong, acumi-
natis, acute dentatis, subtus tomentosis; pedunculis foemineis unifloris.

nate, acutely toothed, tomentose underneath; fruit bearing peduncles one-flowered.


With this tree I am unacquainted.

Grows near the river St. Mary's, Georgia, and in Florida. Mich.

Flowers—

5. Uniflora. Walt.

N. foliis longe petiolatis, oblongis, acuminatis, parce angulatodentatis; subtus sub-pubescentibus, inferioribus sub-cordatis; pedunculis foemineis unifloris.

Leaves on long petiolates, oblong, acuminates, sparingly and angularly toothed, slightly pubescent underneath, the lower ones sometimes cordate; fruit bearing peduncles one-flowered.


A large tree 60—80 feet in height, 2—4 in diameter. Leaves large, ovate and oval-lanceolate, irregularly and acutely toothed, sometimes only on one margin, pubescent underneath, particularly along the nerves, the lower or older leaves distinctly cordate. The sterile florets I have never noticed. Fertile solitary, axillary. Fruit oval or ovate, large, dark blue.

Grows in deep swamps. A truly aquatic tree. I have seen it flourishing in mill-ponds and "back waters," where the water has been maintained for half a century from 5 to 8 feet deep. I believe the N. Aquatica grows also in similar situations. The root of this tree is as light as the bark of the cork tree, (Quercus suber) but wants elasticity.

Flowers April—May.
VITIS. Gen. Pl. 396.

**Masculi.** Calyx 5-dentatus. Corolla, peta
tala 5, apice cohaeren
tia.

**Foeminei.** Calyx et Corolla maris. Bacca 5-sperma, supera.

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Leaves on both sides lucid, cordate, unequal-
ly toothed; flowers of the racemes in many small heads; berries large.

V. Vulpina, Walt. 243.

This vine varies much in size, sometimes ascending the loftiest trees, more frequently humble. Young branches tomentose. *Leaves* 2—3 inches in diameter, cordate, round, shining, glabrous, but with small tufts of hair at the junction of the veins, commonly with 3—5 prominent teeth, and the residue by no means equal. *Flowers* polygamous, in racemes composed of simple heads, 6—8 flowered. *Fruit* large, 7—8 lines in diameter, covered with a coriaceous integument, the flavor not unpleasant. This species of grape may be, perhaps at some future day, cultivated advantageously.

The real *V. Vulpina* of Linnaeus has been a subject of some doubt. I have long supposed that this may have been his original species. The characters agree sufficiently well, and notwithstanding the remark of Michaux, that this is commonly called the Muscadine Grape, as far as my observations reach, it is, in our low country, uniformly and universally known under the name of Fox Grape. Linnaeus may have received his name and specimens from the Southern States.

Grows in light rich soils.

*Flowers* May. *Fruit* ripens in July and August.
2. **Cordifolia.** Mich.

*V. foliis cordatis, acuminitatis, sub-æqualiter dentatis, utrinque glabris; racemis laxe multifloris; baccis parvulis serotinis.*

Leaves cordate, acuminate, almost equally toothed, glabrous on each surface; racemes loosely many flowered; berries small, late.


*Berries* pale, small, ripening late in the season, of a very tart taste.

Pursh. Winter Grape.

Grows in rich soils and along the margins of rivers.

Flowers May.


*V. foliis inæqualiter incisodentatatis breviusculæ trifidis; petiolo, nervis margineque pubescentibus.*

Leaves unequally notched and toothed; slightly 3-cleft; the petiole, nerves and margin pubescent.


*Flowers* very fragrant. Pursh.

To this species probably belongs the winter grape of our upper districts, which promises to become valuable when duly cultivated. It is said to surpass in flavour all of our native grapes. I have endeavoured several times unsuccessfully to cultivate it in our low country, and can only speak of it from report.

Grows in rich soils along the margin of rivers.

Flowers May—July. Pursh.


*V. foliis lato-cordatis, 3—5 lobatis, subtus tomentosis, puberu-fa; sinubus rotundato-|

Leaves broad, cordate, 3—5 lobed, tomentose underneath; down rufous; the sinu-
obtusis; paniculis fertileibus oblongis; baccis parvulis.


A vine climbing the loftiest trees in our forests, the old branches glabrous with the bark fibrous, the young tomentose. Leaves nearly round, sometimes entire, sometimes much dissected, always dentate. Petioles 2—5 inches long, tomentose. Plant polygamous and dioicus. The flowers similar on every plant. Panicles opposite the leaves, composed of small fascicles 3—6-flowered, a short villous leaf at the base of each fascicle. Calyx persistently entire, binding the base of the germ. Corolla 5-petalled, caduceous, greenish, the petals adhering at the summit. Nectary a yellow, truncate gland, surrounding the germ. Filaments longer than the corolla, inserted with the petals between the calyx and the germ. Anthers erect. In the sterile flowers only the rudiments of a germ can be discovered. In the fertile the germ is above, turbinate, tapering to a short style. Stigma obtuse. Berry small, black, very acid and austere.

Grows in rich lands, and its size is supposed by many to be one of the best indications of soil which our forests furnish.

Flowers May.

5. LABRUSCA. Lin.

V. foliis lato-cordatis, sublobato-angulatis, subtus incano-tomentosis; racemis fertileibus parvis; baccis majoribus. 


This is one of our largest species of vine, climbing over the loftiest trees of our forest, and covering them with large, thick and almost tomentose leaves. The fruit large and in small clusters of an austere and disagreeable flavour, ripening in August and September.

Grows on high spots in the deep river swamps, preferring always the richest soils.
**ZANTHOXYLUM. Gen. Pl. 1512.**

| Masculi. Calyx 5-partitus. Corolla 0. Stamina 3, 5, 6, 8. | Sterile florets. Calyx 5-parted. Corolla 0. Stamina 3, 5, 6, 8. |

1. **Clava Herculis.**

Z. aculeatum; foliis pinnatis, foliolis ovatis, acuminatis, repandis, basi æqualibus; petiolo communi aculeato; floribus terminalibus paniculatis.

Prickly; leaves pinnate, leaflets ovate, acuminated, repand, equal at base; common petiole prickly; flowers terminal paniculate.

Z. Fraxineum, Pursh, 1. p. 209.

With this species I am entirely unacquainted. Does it not really belong to the West Indies? The “Hercules Club” of our Negroes and Countrymen is, as far as I have been able to ascertain, the Aralia Spinosa. Grows in the woods of the West Indies and Carolina. Lin. Flowers—

2. **Tricarpum. Mich.**

Z. foliis glaberrimis, pinnatis; foliolis petiolaris, falcato-lanceolat — Leaves very glabrous, pinnate; leaflets on petioles; falcate lan-
tis, crenato-serratis; petiolis inermibus; flo-ribus corollatis; capsu-lis subternis. E. ceolate, crenately serr-rate; petioles unarmed; flowers bearing petals; capsules generally by threes.


A small tree 12—20 feet high and 6—10 inches in diameter, with numerous expanding branches, and the old bark thickly studded with prickles, very acute at the summit, dilated at base, ovoid, and sometimes an inch in their longest diameter. Leaves alternate unequally pinnate, leaflets (3—4 pair) obliquely lanceolate, generally equal at base, sparingly dotted, lucid on the upper surface, the terminal leaf not oblique. Flowers in terminal panicles composed of small umbels, the florets on pedicels about 5 lines long. Calyx very small, 5-parted. Corolla 5-petalled, petals oval, much longer than the calyx. Stamens variable, more frequently 5 than any other number, longer than the corolla. Styles in the fertile flowers 2 or 3, incurved gibbous. Stigmas simple. Capsules 1-seeded.

Grows in dry sandy soils, confined I believe to the sea-coast. The leaves are very aromatic and pungent. Prickly Ash.

Flowers June.

PANAX. Gen. Pl. 1604.


1. QUINQUEFOLIUM.

P. radice fusiformi; foliis ternis, quinatis, Root fusiform; leaves ternate, quinate, the
DIOECIA PENTANDRIA.

Foliolaris ovalibus, acuminate serratis, petiolatis. | Leaflets oval, acuminate, serrate, on petioles.


Root perennial. Stem herbaceous, about a foot high, generally bearing 3 leaves at the summit, each leaf bearing 5 leaflets on short petioles; leaflets oblong oval or obovate, acuminate, coarsely serrate, membranaceous, glabrous. Flowers in a central umbel proceeding from the summit of the stem. Common peduncle about as long as the common petiole. Involucrum many leaved, leaves ovate with a subulate summit. Styles sometimes 3, the berry then 3-seeded.

Grows in rich soils in the mountains.
Flowers May. Pursh.

2. TRIFOLIUM.

P. radicex subrotundotuberosa; foliis ternis, ternatis quinatisve, foliolis oblongo-lanceolatis, serratis, subsessili-

bus. | Root tuberous, nearly round; leaves by threes, ternate or quinate, leaflets oblong-lanceolate, serrate, nearly sessile.


A plant much smaller than the preceding. Leaves 3, each bearing 3 leaflets, leaflets small, lanceolate, acutely serrate, nearly sessile. Peduncle of the fertile umbel about as long as the leaf; of the sterile longer. Sterile florets very numerous; fertile florets few. Styles very frequently 3.

Grows in the upper districts of Carolina and Georgia.
Flowers in May.


petala. Nectaria 5 | 5-petalled. Nectaries 5 or 7.

petala. **Stigmata** 2, sessilia. **Capsula** seminibus tomentosis. | 5-petalled. **Stigmas** 2, sessile. **Capsule** with tomentose seed.

### 1. **Celosioides.**

**I. foliiis punctato-scapbris, inferioribus oblongis, acuminatis, superioribus ovato-lanceolatis; panicula ramosa consteta; caule sulcato.**

Leaves dotted, scabrous, the lower oblong, acuminate, the upper ovate-lanceolate; panicle branching, crowded; stem furrowed.


**Root** annual. **Stem** erect, 3—4 feet high, sulcate, glabrous, fistulous, thickened at the joints, branches opposite. **Leaves** opposite, lanceolate and ovate lanceolate, with a long tapering summit, irregularly serrulate, scabrous particularly on the upper surface, 2—3 inches long, 4—6 lines wide. **Flowers** in compound terminal panicles composed of small spikes. **Sterile** floret; calyx 3-leaved, persistent, leaves lanceolate, membranaceous, white; corolla 5-leaved, leaves twice as long as the calyx, membranaceous, white; stamens 5, much shorter than the corolla, attached to the base of the nectary; nectary composed of 6 or 7 globular, yellow, glandular bodies situated between the filaments. **Fertile** florets; calyx and corolla similar to those of the sterile floret, but with the corolla surrounded with long hair. **Germ** superior. **Styles** 2, short. **Capsule** ovate, 1-celled. **Seed** 1, shining, compressed.

Our plant appears to differ in some respects from the usual character of the genus.

Grows along the saline rushes (scirpi, &c.) along the shore. **Flowers** September—October.

### **ACNIDA.** **Gen. Pl. 1521.**

**Masculi. Calyx 5-partitus. Corolla 0.**

**Foeminei. Calyx 3-partitus. Corolla 0. Styli 0. Stigmata 3—5, sessilia. Capsula monosperma.**

**Sterile florets. Calyx** 5-parted. **Corolla** 0.

**Fertile florets. Calyx** 3-parted. **Corolla** 0. **Styles** 0. **Stigmas** 3—5, sessile. **Capsule** 1-seeded.
1. **Cannabina.** Lin.

*A. foliis ovato-lanceolatis; capsulis lâevibus acutangulis.*

Leaves ovate lanceolate; capsules smooth, acutely angled.


Root fibrous, annual. *Stem* erect, 4—8 feet high, slightly angled, very glabrous, a little fistulous. *Leaves* alternate, ovate-lanceolate, acute at each end, ribbed, obscurely crenulate, 2—5 inches long, one to two and a half wide, on petioles 1—3 inches long, generally coloured. *Flowers* in large panicles axillary and terminal, the sterile more slender than the fertile. *Florets* all sessile, or on very slender pedicels. Sterile florets; calyx 5-parted (5-leaved?) segments lanceolate, acute, glabrous, the margins coloured (obscurely red; corolla 0; stamens 5, as long as the calyx. Fertile florets; calyx 3-parted, persistent; corolla 0. *Germ* superior. *Styles* 0. *Stigmas* 3—5, reflexed, almost plumose. *Capsule* ovate, 3—5 angled, agreeing in number with the stigmas. *Angles* obtuse or acute, slightly rugose, not opening. *Seed* ovate, compressed, glabrous, tapering at base by which it is attached to the base of the capsule.

Grows in marshes and wet soils along the margins of our fresh water rivers, resembling very much an amaranth.

Flowers October—November.


*A. foliis ovali-lanceolatis; capsulis obtusangulis, rugosis.*

Leaves oval-lanceolate; capsules obtusely angled, rugose.


Plant large, erect, 6—8 feet high. *Stem* thick, fistulous, angled. Mich. With this species I am unacquainted. At least I have noticed but one species in our marshes, and as I felt some doubt where to refer it, I have described it with some minuteness.

Grows along the marshes of our rivers from Canada to Florida. Nutt.

Flowers—

**HUMULUS.** Gen. Pl. 1523.

*Masculi. Calyx 5-phyllus. Corolla 0.*

Sterile florets. *Calyx* 5-leaved. *Corolla* 0.

*Foeminei. Calyx 1-lyx.*

Fertile florets. *Calyx* 0.
phyllus, oblique patens-integer. **Corolla 0.** lyx 1-leaved, obliquely expanding, entire. **Corolla 0.**

**Styli 2.** Semen 1 in-tracalycefoliatum. **Styli 2.** Seed 1 within the leafy calyx.

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1. **Lupulus.** *Lin.*


*Root* perennial. Stem herbaceous, twining, scabrous. *Leaves* opposite, 3—5 lobed, veiny, scabrous, serrate, on petioles 2—4 inches long. Sterile flowers alternate and coarsely paniculate, axillary and terminal. Fertile florets verticillate and sessile, densely spiked, forming axillary and terminal panicles. *Seed* one, small, covered by the persistent calyx forming a strobilus in which the fragrant bitter so valuable if not indispensable in the manufacturing of beer resides.

Grows in the mountains of Carolina. Dr. Macbride.

Flowers June—August.

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**SMILAX.** *Gen. Pl. 1528.*

**Masculi.** Calyx 6-phyllus. **Corolla 0.**

**Sterile florets. Calyx 6-leaved. Corolla 0.**

**Foeminei.** Calyx 6-phyllus. **Corolla 0.**

**Fertile florets. Calyx 6-leaved. Corolla 0.**

**Styli 3. Bacca 3-locularis. Semina 2.**

**Bacca 3-celled. Seeds 2.**

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* Caule fruticoso. | * Stem shrubby.

**S. caule angulato,** aculeato; ramulis inermibus; foliis lanceolatis, acuminatis, basi auriculato-hastatis, trinervibus, margine ciliato-aculeatis.

Stem angled, prickly; branches unarmed; leaves lanceolate, acuminate, auriculate and hastate at base, three nerved, the margin fringed with prickles.


A twining plant climbing over small shrubs. Stem slightly angled, glabrous, when old armed with small prickles, the young branches distinctly angled, unarmed. Leaves alternate, on petioles nearly an inch long, hastate at base, the summit long, narrow lanceolate, 3-nerved with two smaller lateral nerves, glabrous, ciliate, sometimes entire. Flowers in small axillary umbels, the common peduncle about an inch long. Berry globose, black?

Grows in rich shaded soils.

Flowers June—July.


**S. caule inermi,** angulato; foliis cordato-ovatis, acutis, septem nervibus, ciliato-aculeatis.

Stem unarmed, angled; leaves cordate-ovate, acute, 7-nerved, fringed with prickles.


S. Variegata, Walt. p. 244.

A vine similar to the preceding, and like that the old wood becomes prickly. Leaves cordate, ovate, sometimes slightly hastate, glabrous, discoloured or variegated on the upper surface, armed with small prickles on the midrib and along the margin. Berries black?

Grows like most of the genus in damp rich soils along the margins of swamps.

Flowers June—July.

S. caule aculeato, | Stem prickly, 4-angled; leaves unarmed, quinque-ner

Stem prickly, 4-angled; leaves unarmed, ovate, acute, 5-nerved. quinque-ner


Stem 4-angled, unarmed towards the summit, bearing a few scattered prickles near the base. Leaves ovate, slightly cordate, acute, 5-nerved, reticulate. Willd. Berries black. Pursh.

Grows in dry woods along the edges of ponds from Pennsylvania to Carolina. Pursh.

Flowers June—July.


S. aculeata; foliis | Prickly; leaves cordato-ovatis, lævi-

cordato-ovatis, lævi-

Prickly; leaves cordato-ovate, smooth, 3-nerved; berries acuminate.

Pursh, 1. p. 249.
S. China, Walt. p. 245.

Stem angled, spiny. Leaves cordate ovate, 3-nerved, smooth. Berries red, acuminate, 3-seeded. Walt.

Of this species of Walter I have no knowledge; I insert it to excite inquiry. Walter lived in a situation favourable to the examination of this genus, and appears to have paid it much attention.

Grows along the rivers in the low country of Virginia and Carolina. Berries red. Pursh.

Flowers July. Pursh.

5. Sarsaparilla. Lin.

S. caule aculeato, stem prickly, slight-

S. caule aculeato, subtetragono; foliis in-

subtetragono; foliis in-

Stem prickly, slightly 4-angled; leaves unarmed, ovate lanceolate, cuspidate, somewhat 5-nerved, glaucous underneath; peduncles long.

VOL. II.
698

DIOECIA HEXANDRIA.


Stem 4-angled, prickly, prickles scattered, subulate, incurved. Leaves two inches long and upwards, ovate-lanceolate, cuspidate, dilated and then suddenly contracted into a petiole, glaucous underneath, with three distinct and two obscure nerves. Willd. Peduncles long. Flowers small. Berries black, 3-seeded.

Grows in rich soils; sometimes found in those that are dry.
Flowers June—July.


S. subinermis; foliis inermibus, ovatis, acutis, cuspidatis, 3-nervibus, concoloribus; pedunculo-communi petiolis breviore. Generally unarmed; leaves unarmed, ovate, acute, cuspidate, 3-nerved, uniformly coloured; common pedicle shorter than the petiole.


I refer to the S. Ovata of Pursh the sea-shore species of Smilax so remarkable for the fragrance of its flowers. Stem nearly terete, unarmed, branching, geniculate and covering the small shrubs over which it grows. Leaves perennial, ovate and oval, generally obtuse, always mucronate, 3-nerved, reticulate, on short petioles. Flowers in small umbels, common pedicel about half an inch long. Corolla greenish, very fragrant. Berries black.

Grows in dry sandy soils, common on the sea islands near the margin of the ocean.
Flowers June and July.


S. inermis; foliis lanceolatis ovatisque, acutis vel acuminatis, 3—5 nervibus, glaberrimis, perennantibus; umbellis multifloris, pedunculis brevibus. E. Unarmed; leaves lanceolate and ovate, acute or acuminate, 3—5 nerved, very glabrous, perennial; umbels many flowered; peduncles short.

S. Pseudo China? Walt. p. 244.
A vine climbing over shrubs sometimes 15 or 20 feet high, terete, with its upper branches unarmed. *Leaves* somewhat membranaceous, entire, varying a little in their figure, acute or slightly acuminate, and very often a little oblique near the summit, paler underneath, with 3 distinct though not prominent and two obscure nerves, on a petiole about 3 lines long. *Flowers* numerous in small axillary umbels on a common peduncle rarely half an inch long. *Berries* red.

Grows like most of the genus in damp rich soils. Flowers May—June.

8. **Laurifolia.** Lin.

*S. aculeata,* ramis inermibus; foliis oval-lanceolatis, paulo acuminatis, 3-nervibus, coriaceis, lucidis, perennantibus; umbellis brevissime pedunculatis.


*Stem* climbing to a considerable height, armed near the base, the branches terete, smooth. *Leaves* numerous, somewhat crowded, oblong, elliptic with a sudden and slight acumination at the point, rigid, coriaceous, lucid, perennial. *Flowers* small, in axillary umbels, common peduncle very short, not as long as the pedicels. (*Berries* spherical, black, one-seeded. Walt.)

Grows in swamps and wet soils. Flowers July. The fruit matures late in the winter.

9. **Pumila.** Walt.

*S. inermis,* foliis cordato-ovatis, integerrimis, sub 5-nervibus, subtus molliter pubescentibus; umbellis breviter pedunculatis, pedicellis brevissimis; baccis oblongis acutis; caule procumbente. E. Unarmed; leaves cordate, ovate, entire, somewhat 5-nerved, softly pubescent underneath; umbels on short peduncles, pedicels very short; berries oblong acute; stem procumbent.
DIOECIA HEXANDRA.

Walt. p. 244.

Stem prostrate, rarely exceeding 3 or 4 feet long, pubescent, sparingly branched, unarmed. Leaves perennial, alternate, cordate ovate, obtuse, mucronate, scabrous on the upper surface, almost tomentose and hoary underneath, 5-nerved the exterior obscure, on petioles 1—3 inches long. Flow- ers in small axillary umbels, the common peduncle 5—10 lines long, the partial 1—2 lines. Calyx of both florets 6-leaved, 3 exterior, oblong, greenish yellow. Corolla 0. Stamens shorter than the corolla, rugose, between the interior petals of the fertile flower are often found the rudiments of 3 sta- mens. Germ superior. Style short thick. Berry oval, white, 1-seeded?

Grows in rich shaded soils. Flowers September—October. Matures its fruit in March.

10. PSEUDO CHINA. Lin.

S. inermis; foliis in- armibus, caulinis cor- datis, rameis ovato-ob- longis, 5-nervibus; pe- dunculis longissimis. Unarmed; leaves un- armed, those of the stem cordate, of the branches ovate oblong, 5-nerved; peduncles very long.

S. Sarsaparilla, Walt. p. 245.

Roots tuberous, creeping, nodose. Stem climbing over small shrubs. Leaves as in most of the genus semiperennial, many of them adhering to the stem during the winter. The lower leaves distinctly cordate, nerved, the young ones ovate. Berries black?

Most of the species of this genus have large tuberous roots, but in this they are very conspicuous. This species is, I believe, the one generally preferred in medicine as an alternative, and forms the basis of many “diet- drinks” among the “unlicensed faculty.” From these roots, with Indian corn, (maize) sassafras and molasses, the negroes manufacture a very pleasant beer.

Grows in almost all soils, frequently found in dry sandy situations. Flowers June—July?

11. ROTUNDIFOLIA. Lin.

S. caule aculeato, te- retiisculo; foliis subro- tundo-ovatis, acumina- ovate, nearly round, Stem prickly, some-
DIOECIA HEXANDRIA. 701

tis, lævissime cordatis, acuminate, slightly cor-
quinquenervibus. date, 5-nerved.


Stem terete, sometimes slightly angled, flexuous, armed with small acute
prickles. Leaves cordate, nearly round, mucronate, entire, 5—7 nerved, 3
more distinct than the others, paler or glaucescent underneath. (Berries
spherical. Mich.)
Grows in rich shaded soils.
Flowers June. Pursh.

12. CADUCA. Lin.

S. aculeata; foliis ovatis, mucronatis, membranaceis, 5-nervi-
bus; pedunculo communix petiolis longiore. Prickly; leaves o-
vate, mucronate, membranaceous, 5-nerved; common peduncle
scarcely longer than the petioles.


Stem flexuous, sometimes angled, very thinly armed with prickles. Leaves
annual, ovate, entire, mucronate, with 3 nerves as usual more dis-
tinct than the rest, when young often acuminate, very thin, on petioles
about half an inch long. Flowers in axillary umbels, the pedicel as long as
the common peduncle.
Flowers June—July.

13. TAMNOIDES. Lin.

S. caule aculeato, te-
reti; foliis ovato oblon-
gis, acutis, sub-pandu-
ræformibus, obsolete
cordatis, quinquenervi-
bus, pedunculo commun-
i petiolis longiore. Stem prickly, terete; leaves ovate oblong,
acute, slightly panduri-
form, obsoletely cor-
date, 5-nerved; com-
mon peduncle longer
than the petiole.

S. Panduratus, Pursh, 1. p. 251.
Stem twining, terete, prickly. Leaves on petioles 6—8 lines long, panduriform, acute, sometimes almost hastate, with the lobes round, lucid, somewhat rigid, with 3 distinct and 2 or 4 obscure nerves. Flowers in axillary umbels, common peduncle about an inch long, twice as long as the pedicels. Berry spherical, black.

I feel some hesitation in referring to this species the S. Tannifolia of Michaux, (2. p. 238.) The plant I am describing is certainly not herbaceous. Grows often in dry soils.

Flowers—

** Caule herbaceo. | ** Stem herbaceous.


S. caule tereti, scandente; foliis subrotundato-ovatis, cordatis, acuminitatis, 9-nervibus; umbellis longissime pedunculatis.

S. Inermis? Walt. p. 244.


Grows in rich soils; not common in the low country of Carolina.

Flowers May—July. Pursh.


S. caule subangulato, erecto; foliis ovalibus cordato-ovatisque, acuminitatis, nervosis, subtus pubescentibus, |

Stem slightly angled, erect; leaves oval and cordate-ovate, acuminate, nerved, pubescent underneath, the lower
inferioribus alternis, superioribus verticillatim congestis; pedunculis prælongis, compressis. E.


Root perennial. Stem herbaceous, 2 to 3 feet high, erect, slightly angled, glabrous, bearing sometimes one or two small branches. Leaves when young oval or ovate, when old slightly cordate, acuminate, 5 to 7 nerved, very pubescent on the under surface, particularly along the nerves, the lower alternate, the upper somewhat verticillate at the summit of the stem, 4 to 5 inches long, 3 to 4 wide, on angled petioles 2 to 4 inches long. Flowers on the lower part of the stem. Umbels on very long compressed peduncles. Stigmas 3. Germ 3-celled, each bearing the rudiments of 2 seeds, but maturing only one, sometimes neither. Berry spherical, black, 2 to 3 seeded.

Grows in fertile soils. Flowers May—July.

This genus is very extensive in the Southern States and merits a more careful examination than it has yet received. While waiting for that day which so often eludes our expectations, when I should be able to collect and examine them at leisure in a living state, I have permitted some opportunities which I really enjoyed to escape, I feel now that my knowledge of the genus is incomplete, perhaps inaccurate. The two last species will probably constitute a distinct genus.

**DIOSCOREA.**

**Masculi.** Calyx 6-partitus. Corolla 0.

**Foeminei.** Calyx 6-partitus. Corolla 0. Styli 3. Capsula 3-locularis, compressa. Semina 2, membranacea.

**GEN. PL. 1530.**

Sterile floret. Calyx 6-parted. Corolla 0.

1. **Villosa.** Lin.

**D. foliis alternis, oppositis verticillatisque, cordatis, acuminatis, subtus pubescentibus, 9-nervibus, nervis lateralis simplicibus.**

Leaves alternate, opposite and verticillate, cordate, acuminate, pubescent underneath, 9-nerved, the lateral nerves simple.

D. Paniculata, Mich. 2. p. 239.
D. Quinata, Walt. p. 246.

*Root* perennial. *Stem* herbaceous, climbing over shrubs, sometimes 12 to 15 feet high, terete, glabrous? Lower leaves verticillate, the upper generally alternate, cordate, acuminate, 9-nerved, as far as it has occurred to me generally glabrous. Sterile florets in slender axillary panicles, very small, in small clusters on the branches of the panicle. Fertile florets in simple racemes; germ inferior; styles three; stigmas 3-cleft; capsule 3-celled, 3-winged, 2-seeded.

Grows in dry sandy moderately fertile soils.

*Flowers* May to July.

2. **Quaternata.** Walt.

**D. foliis verticillatis, quaternis alternisve, cordatis, acuminatis, utrinque glabris, 7-nervibus, nervis lateralis bifidis.**

Leaves verticillate, by fours and alternate, cordate, acuminate, glabrous on both surfaces, 7-nerved, the lateral nerves divided.


A vine very similar to the preceding. Describing from the specimen now before me, I should say that the leaves are rather smaller with a more tapering and acuminate summit, 7-nerved with the exterior pair divided at some distance from the base, and the sterile florets more numerous, more thickly clustered, and the calyx rather longer.

Grows in dry fertile soils.

*Flowers* May to July.
PRINOS. Gen. Pl. 594.


P. foliis deciduis, ovali-lanceolatis, utrinque acuminatis, laevissime crenato serrulatis, subtus pubescentibus; floribus 4—5 fidis, masculis aggregatis, foemineis axillaribus subsolitariis. E.

Leaves deciduous, oval-lanceolate, acuminate at each end, slightly and crenately serrulate, pubescent underneath; flowers 4—5 cleft, the sterile aggregate, the fertile axillary, generally solitary.


A small shrub rarely exceeding 3—4 feet in height, with terete, somewhat virgate branches. Leaves on very short petioles, very pubescent underneath. Sterile florets in clusters of 20—30, axillary, but appearing to spring from the summit of the last year’s buds, each pedicel 1-flowered. Teeth of the calyx, segments of the corolla and stamens sometimes 5, but much more frequently 4, hence it was arranged by Dr. Macbride, perhaps correctly, as an Ilex. Fertile florets sometimes 3—4 in an axil. Corolla of the fertile floret withering slowly. Stigma obscurely 4 or 5 furrowed. Seeds corresponding in number with the divisions of the stigma. Berry red.

Sufficiently distinct from P. Verticillatus.
Grows in St. John’s, Berkeley. Dr. Macbride. St. Mary’s, Georgia. Dr. Baldwin.
Flowers April—May.

VOL. II.
2. **Verticillatus.** Lin.

P. foliiis deciduis, ovalibus, acuminatis, serratis, subtus pubescentibus; floribus 6-fidis, masculis axillari-bus umbelluliformibus, foemineis aggregatis. | Leaves deciduous, oval, acuminate, serrate, pubescent underneath; flowers 6-cleft, the sterile axillary, umbellate, the fertile clustered.


A large shrub sometimes becoming a small tree. Leaves on petioles about five lines long, oval, acuminate, finely serrate, pubescent, somewhat hairy underneath. Flowers hexandrous. The sterile distinctly axillary in small umbellate clusters, the fertile few, aggregated, when in fruit commonly solitary. Berries red.

Nearly allied certainly to the preceding species, but differs somewhat in the shape and serratures of the leaves, in its hexandrous flowers, and the umbellate structure of its sterile florets.

Grows in light fertile soils.

Flowers April—May.

3. **Integrifolia.**

P. foliiis deciduis, ovalibus, integerrimis, mucronatis, petiolatis, utrinque glabris; floribus foemineis solitariis, longe pedunculatis.—Nutt.

Leaves deciduous, oval, entire, mucronate, on petioles, glabrous on each surface; fertile florets solitary, on long peduncles.

P. Ambiguus, Nutt. 1. p. 213.

A small tree with a smooth whitish bark. Leaves oval, always entire, about one and a half inches long and one inch wide, on petioles near half an inch long. Peduncles of the fruit often two inches in length. Nutt.

This species I have inserted from Mr. Nuttall, who considers it as the real P. Ambiguus of Mich. The one I have described under that name is, however, certainly the Cassine Caroliniana of Walter, and therefore probably the plant of Michaux, agreeing also in the "partitione quaternaria."

The habitat is not mentioned, but it probably belongs to the Southern States.
4. **Lanceolatus.** Pursh.

P. foliis deciduis, lanceolatis, tenuissime et remote serrulatis, utrinoque acutis, utrinoque glabris, floribus foemineis sparsis, subgeminis, pedunculatis, 6-fidis, masculis aggregatis, 3-andris.

Leaves deciduous, lanceolate, finely and remotely serrulate, acute at each end, glabrous on each surface, fertile florets scattered, generally in pairs, on peduncles, 6-cleft, stercile aggregate, triandrous.


*Berries* small, scarlet. Pursh.

Grows in the lower districts of Carolina and Georgia. Pursh.

Flowers June.

This species has escaped my notice. But I believe there are several species of this genus with deciduous leaves yet to be described. I saw in the Herbarium of Mr. Lyon many years ago, one collected near Augusta, and one or two collected near Tuckabatchie on the Talapoosa river which appeared to be unknown. I have, however, no memorandums of them.

5. **Glaber.** Lin.

P. foliis sempervirentibus, cuneato-lanceolatis, coriaceis, glabris, nitidis, superne parce serratis; pedicellis foemineis solitariis, masculis 3—6 floris.

Leaves perennial, cuneate-lanceolate, coriaceous, glabrous, shining, sparingly serrate near the summit; fertile pedicels solitary, sterile 3—6 flowered.


A small shrub, the fertile plants rarely exceeding 3 feet in height, branching, bushy, the sterile 3—5 feet high, virgate, the young branches slightly pubescent. *Leaves* alternate, cuneate-lanceolate, perennial, very glabrous excepting along the midrib, on petioles 5—6 lines long. *Flowers* axillary, the peduncles of the sterile flowers sometimes clustered, each 3—6 flowered. Sterile flowers generally 6-parted and hexandrous, the stamens inserted at
the base of the rotate corolla, between the segments, and bearing the rudiments of a germ. Fertile florets often 7—8 parted, bearing abortive stamens. Style short, thick. Stigma somewhat 3-lobed. Berry black, 6, 7, 8 seeded.

Grows in damp poor soils.
Flowers April—May.

6. CORIACEUS. Pursh.

P. foliis perennantibus, lato ovalibus acutis, apice serratis, superne nitidis, subtus atomiferis; floribus foemineis solitariis, plurumque octo-partitis, masculis subaggregatis 8-andris.

Leaves perennial, broad oval, acute, serrate near the summit, lucid on the upper surface, minutely dotted underneath; fertile florets solitary, generally 8-parted; sterile aggregate octandrous.

Pursh, 1. p. 221.
P. Atomarius, Nutt. 1. p. 213.

A shrub generally 5—6 feet high with virgate branches, (viscid when young, Nutt.) Leaves perennial, somewhat oval but very wide for their length, coriaceous, acutely serrate near the summit, sprinkled frequently on the under surface with minute dark coloured atoms. Flowers very commonly 8-parted and 8-androus. Berry 6, 7, 8 seeded.

Grows in rich high lands; near the margin of swamps, Chatham County, Georgia.
Flowers May.

GLEDITSCHIA. Gen. Pl. 1596.


Hermaphroditi. Calyx 6—8 partitus. Sta-


Hermaphrodite. Calyx 6—8 parted. Stam-
DIOECIA HEXANDRIA. 709

*Stylus* 1.  
*Legumen* compressum, falcatum.

*Legumen* compressum, falcate.

1. **Monosperma.** Walt.

**G. ramis subspinosis; foliolis ovato-oblongis, acutis; leguminibus ovalibus, mucronatis, submonospermis.**


A tree 40—60 feet high, 1—2 in diameter, armed on the trunk and branches with spiny processes, (aculei properly which adhere only to the bark) sometimes simple but very commonly bearing two lateral spines near the summit. *Leaves* equally and compoundly pinnate. *Leaflets* very numerous, small, oval, slightly crenulate, glabrous. *Flowers* small, in small axillary racemes. *Calyx* 6—8 leaved, 3—5 leaves interior, all oval lanceolate, pale green. *Legumen* or pod somewhat oval oblique, compressed, mucronate, 1-seeded, not bearing as in the next species a saccharine pulp.

Grows in the river swamps in the middle districts of Carolina and Georgia. Is not found in the immediate vicinity of the ocean.

*Flowers—*

2. **Triacanthos.**

**G. ramis spinosis; spinis crassis, triplicibus compositis; foliolis ovali oblongis; leguminibus polyspermis.**


A large tree 50—60 feet in height, and 2—3 feet in diameter, armed on the stem and branches with spines which grow generally in clusters and very commonly bear 2 or more lateral spines. *Leaves* equally and abruptly pinnate, leaflets small, oval lanceolate, glabrous, slightly crenulate near the summit. *Flowers* in small axillary racemes, the sterile florets clustered. *Legumen* falcate, 12—14 inches long, mucronate, many seeded, the intervals between the cells of the seed filled with a saccharine pulp.
This tree is thinly scattered through our forests. On the sea islands I believe it occurs more frequently than on the adjacent main land. Its timber is considered durable and would be valued, but the tree is itself so scarce that it does not enter into the arrangements of our farming or manufacturing economy.

Grows in rich light soils.

Flowers May?

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**DIOECIA OCTANDRIA.**

**POPULUS.** Gen. Pl. 1531.

**Masculi.** Amentum cylindraceum. *Calyx* squama lacera. *Corolla* turbinata, obliqua, integra.

**Foeminei.** Amentum cylindraceum. *Calyx* et *Corolla* maris. *Stigma* 4—6 fidum.

**Capsula** 2-locularis. *Semina* plurima, pilis flexuosis obvallata.

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<table>
<thead>
<tr>
<th>Sterile florets.</th>
<th>Fertile Florets.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amentum cylindr.</td>
<td>Amentum cylindr.</td>
</tr>
<tr>
<td><em>Calyx</em> a lacerate scale.</td>
<td><em>Calyx</em> and <em>Corolla</em> as in the sterile.</td>
</tr>
<tr>
<td><em>Corolla</em> turbinate, oblique, entire.</td>
<td><em>Stigma</em> 4—6 cleft.</td>
</tr>
</tbody>
</table>

**Capsule** 2-celled. *Seeds* numerous, surrounded with flexuous hairs.

1. **Grandidentata.** Mich.

**P. foliis subrotundo-ovatis, acutis, inaequaliter sinuato-dentatis, glabris, junioribus vil-**

Leaves ovate, nearly round, acute, unequally and sinuately toothed, glabrous, the
DIOECIA OCTANDRIA.

losis; petiolis superne
younger villous; peti-
compressis.

Mich. arb. for. 3. p. 287.

A tree 40—50 feet high, with smooth bark and branches thinly dispersed. Leaves alternate, nearly circular, with large irregular teeth, and prominent veins, when young tomentose, becoming glabrous with age, on petioles 2—4 inches long. Flowers in small axillary cylindrical aments, shooting out early in the spring with the first buds, very small and inconspicuous. Capsules small, containing many minute seeds surrounded by long cottonlike hairs which causing them to float readily on the air, render them easy of dispersion, and have given to several species in different parts of the United States the common name of Cotton-trees.

Grows in the mountainous districts of Carolina and Georgia. Flowers March.

2. ANGULATA. Aiton.

P. folii ovato-delto-
Leaves ovate-del-
toid, acuminat, obtuse-
toid, acuminate, obtuse-
tly and uncinately
ly and uncinately
toothed, glabrous, when
toothed, glabrous, when
young very large and
cordate; branches an-
gled, slightly winged.


A large tree, growing 50—80 feet in height and 2—3 in diameter; the young branches are all winged and angled by the decurrent petioles or by the junction of different branches, and these vestiges are not effaced for several years. Leaves ovato-delto-toid, acuminate, serrate, glabrous, sometimes slightly cordate, on the young shoots 5—7 inches long, 4—5 wide, on the old trees smaller, on compressed petioles 2—4 inches long. Flowers very small. Seed not as conspicuously villous and white as in some other species.

This is, I believe, the only species of this genus which is found along the sea-coast of Carolina and Georgia. Its leaves are easily agitated by the wind. Its wood is light, brittle, and not durable.

Grows along the margin of rivers. Flowers March.
3. **Heterophylla.** Lin.

| P. foliis subrotundoovalis, obtusis, subauriculatis, serratis, juncoribus tomentosis. | Leaves ovate, nearly round, obtuse, slightly auriculate, serrate, when young tomentose. |


A large tree growing sometimes 60—80 feet in height and 2—3 in diameter. Branches not angled as in the preceding species. Leaves deltoid ovate, serrate at base, slightly cordate, with lobes or auricles that often conceal the insertion of the petiole, when young tomentose. (Sterile florets polyandrous; flowers of the glabrous fertile amert remote, pedicelled. Mich.)

Grows along the margins of rivers. Common in the middle and upper districts of Carolina and Georgia.

Flowers March.

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**Diospyros.**

| **Masculi.** Calyx 4—6 fida. Corolla urceolata 4—6 fida. Stamina 8—16, filaments plerumque biantheriferis. | **Sterile florets.** Calyx 4—6 cleft, Corolla urceolate 4—6 cleft. Stamina 8—16, the filaments frequently bearing 2 anther. |


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1. **Virginiana.** Lin.

| D. foliis ovatis ovalibusque, acuminatis, reticulato-venosis, sub glabris, petiolis pubes- | Leaves ovate and oval, acuminate, reticulately veined, somewhat glabrous, petioles |

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Gen. Pl. 1598.
centibus; gemmis glabrescent; buds glabrous.


A small tree rarely exceeding 30—40 feet in height, or 12—16 inches in diameter, with scattered irregular branches. Leaves alternate, on short petioles, sometimes ovate, more frequently oval lanceolate, acuminate, paler underneath and slightly pubescent along the margin. Flowers solitary, axillary, on short peduncles. Corolla greenish yellow. Calyx of the fertile floret persistent. Berry red, containing 8—12 compressed, hard seeds immersed in a pulp which when fully ripe is well flavoured, and might by cultivation be added to the fruits of the table.

Var. Pubescens.


The leaves of our common persimmon are generally pubescent along the margins, but I have never seen them as much so as represented in the figure of Michaux. I have noticed, however, that this tree in Maryland and Virginia bears fruit much more abundantly than it does along the sea-coast of Carolina and Georgia.

Grows in light rich soils.
Flowers May.

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**DIOECIA ENNEANDRIA.**

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**HYDROCHARIS. Gen. Pl. 1535. Limnobium. Rich.**


**Foeminei.** Spatha monophylla, uniflora.  
Calyx 3-phyllus. Corolla 3-petala. Glandulae 6, inter petala.  
Germen inferum. Styli 6, bifidi. Capsula 6-locularis, polysperma.


1. **Spongiosa.** Bosc.

**H. monoica; foliis natantibus, rotundato-cordatis, subtus reticulatis, basi vesiculosis.**

Monoeious; leaves floating, round, cordate, reticulate underneath, with vesicles at base.


Since I have become acquainted with the different views which have been taken of this plant, I have had no opportunity of examining it in a living state. I shall, therefore, merely insert the notes I took of it many years ago.

**Root** perennial, sarmentose. Leaves from the root, floating, orbicular, cordate, glabrous, 1—2 inches in diameter, with prominent purple veins underneath, and some inflated vesicles near the summit of the stem. Petioles 2—4 inches long. Flowers axillary, monoeious. Sterile florets:—Spathe—leaved, —flowered; leaves membranaceous, hyaline, nerved. Calyx 3-leaved, leaves oval, membranaceous, without nerves, green. Corolla white, 3-petalled, petals as long as the calyx, but narrower, peduncle longer than the sheath, hyaline; filaments generally 12, united at base; the interior ones abortive; anthers attached to the sides of the filaments. Fertile florets:—Spathe one-leaved, one-flowered, peduncle of the flower very short, of the fruit long deflected. Calyx and corolla like those of the sterile floret. Glands 6 very small, setaceous, inserted by pairs between the petals. Germ inferior, ovate, truncate. Styles 6, as long as the corolla, deeply 2-cleft, furrowed on the interior surface. Stigmas simple, spotted. Capsule striate, 6-celled. Seeds numerous, striate, (hirsute. Nuttall.)

Grows in stagnant water.  
Flowers July—September.
MENISPERMUM. Gen. Pl. 1544.


Fertile florets. Calyx and Corolla as in the sterile. Germs 2—4 with the styles slightly 2-cleft at the summit. Drupes resembling berries, reniform nearly round, 1-seeded.


M. foliis peltatis, subglabris, subcordatis, subrotundo - angulatis, angulis obtusiusculis, terminali abrupte aristato, mucronato; race- mis solitariis compositis; petalis 8.

Leaves peltate, somewhat glabrous, slightly cordate, nearly round, angled, the angles obtuse, the terminal abruptly awned, mucronate; racemes solitary compound; petals 8.
De Candolle, reg. veg. 1. p. 540.

Stem climbing over small shrubs, glabrous, when young pubescent. Petioles 1—3 inches long, young leaves pubescent, when old glabrous, all peltate, with the petiole inserted near the margin. Sterile florets racemose, sometimes paniculate, solitary, often shorter than the petiole, shooting out a little above the axil. Calyx 8-leaved. Corolla yellow, 8-petalled, smaller than the calyx. Stamens 18—20. Anthers obtusely 4-angled, 4-furrowed. Fertile florets few, corymbose. De Cand.

Grows from Canada to Carolina. Mich. I have never seen this plant in the low country of Carolina. It probably inhabits our mountains.

Flowers in July. Pursh.

2. Smilacinum.

M. foliis peltatis subglabris, cordato-subrotundis, obtuse angulatis, subtus glaucis, racemis subsimplicibus, petalis 4.

Leaves peltate, somewhat glabrous, cordate, nearly round, obtusely angled, glaucous underneath; racemes generally simple; petals 4.

De Cand. reg. veg. 1. p. 541.


This species only differs from the preceding by its pale glaucous leaves and its petals, which are 4 and not 8. De Cand.

Grows in Carolina in rich moderately dry soils. Flowers June to August.

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DIOECIA MONADELPHIA.

JUNIPERUS. Gen. Pl. 1552.

Corolla 0. Stamina 3.


scale. Corolla 0. Stamina 3.


J. foliis ternis, basi adnatis, junioribus patulis, senioribus appressis, imbricatis. Leaves ternate, united at base, when young expanded, when old appressed, imbricate.


Mich. arb. for. 3. p. 42.

A tree of irregular growth; along the margin of salt-water streams it is generally covered with horizontal branches; in thick woods it grows like the fir, tall and slender; in old fields it extends like the live oak, and in such situations sometimes attains the height of 40 or 50 feet and a diameter of 2—3. Leaves very small, resembling scales, verticillate by threes, on young shoots expanding and very acute, on old branches closely imbricate. Flowers axillary. Ament of sterile florets very small. Berry dry, 1—2 seeded,roughened with the persistent calyx. (Seeds nuciform. Nutt.)

The wood, leaves and berries of this tree have all an aromatic flavour. The wood is light, close grained, reddish purple, and perhaps more durable than any other timber in our country. Those which grow along the sea-coast with their roots partially immersed in salt-water, though smaller in their dimensions, are much more durable than those which inhabit the forests. Often when surrounded and finally destroyed by the encroachments of the salt-water, their bodies remain in the marshes for an indefinite period, the roosting places of vultures and of sea-birds, become incrusted with pulvululent lichens and seem to moulder away like rock rather than decay like a vegetable product.

The timber of the Red Cedar is extensively used by ship carpenters and boat builders, by cabinet makers and turners, and is in many articles of domestic use. The aroma of the wood is so disagreeable to insects that in chests newly made woollens may be preserved for one or two years without receiving any injury from moths.

Grows in almost all soils; very common along the sea-coast of Carolina and Georgia; more rare in the interior country. In the state of Alabama, however, at a distance from the ocean, it sometimes is found covering almost exclusively many acres of land.

Flowers April.
INDEX

TO THE

SECOND VOLUME.
INDEX
OF THE
GENERAE AND SPECIES
CONTAINED IN THIS VOLUME.

The Roman characters indicate the Genera and Species which are retained; the Italic are used for synonyms.

<table>
<thead>
<tr>
<th>ABIES</th>
<th>PAGE</th>
<th>ÆSCHYNYOMENE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>alba</td>
<td>641</td>
<td>hispida</td>
<td>220</td>
</tr>
<tr>
<td>balsamifera</td>
<td>639</td>
<td>platycarpa</td>
<td>222</td>
</tr>
<tr>
<td>canadensis</td>
<td>639</td>
<td>viscidula</td>
<td>220</td>
</tr>
<tr>
<td>denticulata</td>
<td>640</td>
<td>AFZELIA</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACALYPHA</th>
<th>PAGE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>caroliniana</td>
<td>644</td>
<td>cassioides</td>
</tr>
<tr>
<td>virginica</td>
<td>645</td>
<td>ALNUS</td>
</tr>
<tr>
<td>serrulata</td>
<td>646</td>
<td>AMBROSIA</td>
</tr>
<tr>
<td>acanthifolia</td>
<td>405</td>
<td>absinthifolia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACHILLEA</th>
<th>PAGE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>millefolium</td>
<td>406</td>
<td>AMBROSIA</td>
</tr>
<tr>
<td>repens</td>
<td>406</td>
<td>elatior</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACNIDA</th>
<th>PAGE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>cannabina</td>
<td>693</td>
<td>paniculata</td>
</tr>
<tr>
<td>rusocarpa</td>
<td>694</td>
<td>trifida</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACONITUM</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>caroliniana</td>
<td>19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACTÆA</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>fruticosa</td>
<td>14</td>
</tr>
<tr>
<td>herbaea</td>
<td>15</td>
</tr>
<tr>
<td>pubescens</td>
<td>17</td>
</tr>
<tr>
<td>monogyna</td>
<td>16</td>
</tr>
<tr>
<td>pachypoda</td>
<td>15</td>
</tr>
<tr>
<td>palmata</td>
<td>17</td>
</tr>
<tr>
<td>podocarpa</td>
<td>16</td>
</tr>
<tr>
<td>racemosa</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACTINOMERIS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>caroliniana</td>
<td>412</td>
</tr>
<tr>
<td>hepatica</td>
<td>412</td>
</tr>
<tr>
<td>nemorosa</td>
<td>413</td>
</tr>
<tr>
<td>tenella</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADELLA</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>acuminata</td>
<td>675</td>
</tr>
<tr>
<td>porulosa</td>
<td>675</td>
</tr>
<tr>
<td>thalictroides</td>
<td></td>
</tr>
</tbody>
</table>

Q The Roman characters indicate the Genera and Species which are retained; the Italic are used for synonyms.
<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walteri</td>
<td>54</td>
<td>ARTEMISIA</td>
<td>317</td>
</tr>
<tr>
<td>ANONA</td>
<td>54</td>
<td>candata</td>
<td>317</td>
</tr>
<tr>
<td>grandiflora</td>
<td>43</td>
<td>ARUM</td>
<td>317</td>
</tr>
<tr>
<td>obovata</td>
<td>43</td>
<td>dracontium</td>
<td>629</td>
</tr>
<tr>
<td>pygmaea</td>
<td>43</td>
<td>quinatum</td>
<td>629</td>
</tr>
<tr>
<td>triloba</td>
<td>42</td>
<td>sagittifolium</td>
<td>631</td>
</tr>
<tr>
<td>ANTHEMIS</td>
<td>404</td>
<td>sagittifolium</td>
<td>632</td>
</tr>
<tr>
<td>cotula</td>
<td>405</td>
<td>triphyllum</td>
<td>629</td>
</tr>
<tr>
<td>repens</td>
<td>406</td>
<td>virginicum</td>
<td>630</td>
</tr>
<tr>
<td>ANTIRRHINUM canadense</td>
<td>112</td>
<td>walteri</td>
<td>631</td>
</tr>
<tr>
<td>APIOS</td>
<td>239</td>
<td>ASCYRUM</td>
<td>21</td>
</tr>
<tr>
<td>frutescens tuberosa</td>
<td>237</td>
<td>amplexicaule</td>
<td>23</td>
</tr>
<tr>
<td>APOGON humilis</td>
<td>267</td>
<td>crux andraea</td>
<td>22</td>
</tr>
<tr>
<td>AQUILEGIA canadensis</td>
<td>20</td>
<td>hypericoides</td>
<td>22</td>
</tr>
<tr>
<td>ARABIS canadensis</td>
<td>148</td>
<td>multicaule</td>
<td>22</td>
</tr>
<tr>
<td>falcata</td>
<td>148</td>
<td>ASIMINA</td>
<td>41</td>
</tr>
<tr>
<td>ARACHIS aprica</td>
<td>203</td>
<td>acuminatus</td>
<td>355</td>
</tr>
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**VOL. II.**
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<td>coccinea</td>
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</tbody>
</table>
INDEX.

PAGE  
frondosa 431  BORKHAUSIA 251 
nivea 314  caroliniana 251 
pilosa 431  BORYA 674 
BIGNONIA 106  acuminata 675 
capreolata 107  porulosa 675 
crucigera 107  BRACHYSTEMUM 83/ 
radicans 107  muticum 83/ 
BISCUTELLA 139  BORYA 674 
apetala 139  verticillatum 83/ 
BLETIA 500  BUCHEMIA 66 
aphylia 501  peltata 66 
verecunda 501  BRICKELLIA 290 
BOEHMERIA 568  BUENNERA 112 
cylindrica 568  americana 112 
lateriflora 569  
BOLTONIA 398  BUPHTHALMUM 408 
averoides 398  angustifolium 409 
diffusa 400  frutescens 408 
glastifolia 399  helianthoides 407 

CACALIA 309  CARDAMINE 143 
atriplicifolia 310  pennsylvanica 144 
lanceolata 311  rotundifolia 149 
ovata 310  spathulata 143 
suaveolens 328  virginica 444 
CAKILE 137  CARDUVUS 272 
americana 137  spinosissimus 272 
maritima 137  virginianus 272 
CALADIUM 631  CAREX 525 
glanum 631  anceps 547 
sagittifolium 632  acuta 537 
CALAMINTHA 93  bromoides 528 
grandiflora 93  bullata 556 
CALLA 93  buxbaumii 539 
sagittifolia 632  caespitosa 536 
virginica 630  castanea 547 
CALOPOGON 498  cephalophora 526 
pulchellus 499  conoidea 547 
CALTHA 66  crinita 556 
figarioides 66  dasycarpa 541 

C
<table>
<thead>
<tr>
<th><strong>INDEX.</strong></th>
</tr>
</thead>
<tbody>
<tr>
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<td>INDEX.</td>
<td>PAGE</td>
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DALEA 194  villosa 704  
cliffortiana 195  DIOSPYROS 712  
quhnistera 176  pubescens 713  
DELPHINIUM 18  virginiiana 712  
azureum 18  DOLICHOS 231  
carolinianum 18  luteolus 231  
exaltatum 19  DORONICUM 333  
tridactylum 19  acaule 333  
tricorne 18  levifolium 393  
DENTARIA 141  nudicaule 333  
concatenata 142  ramosum 394  
diphylla 142  DRABA 138  
laciniata 142  caroliniana 138  
multifida 142  hispidula 138  
DICLYTRA 177  DRACOCEPHALUM 84  
formosa 177  denticulatum 85  
DIOSCOREA 703  obovatum 86  
paniculata 704  variegatum 84  
quaternata 704  virginianum 84  
quinata 704  
ECLIPTA 402  EPIDENDRUM 506  
brachypoda 404  conopseum 506  
erecta 403  magnolie 566  
procumbens 403  EPIFAGUS  
ELEPHANTOPUS 480  americana 136  
carolinianus 480  ERIGERON 392  
carolinianus 480  ambiguum 395  
nudicaulis 481  bellidifolium 393  
saber 480  camphoratum 321  
tomentosus 481  canadense 397  
ELODEA 33  longifolium 395  
campanulata 33  nervosum 334  
petiolata 34  nudicaule 392  
tubulosa 34  philadelphicum 396  
virginica 33  pulchellum 393  
EPIPACTIS 33  pusillum 398  
convallarioides 495  quercifolium 376  
pubescens 494  strigosum 394  

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The document appears to be a botanical index or classification of plant species, with specific genera and species listed along with their corresponding pages. The names are likely Latin botanical names, which are used in taxonomy to uniquely identify plant species.
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<tr>
<td>cordifolia</td>
<td>714</td>
<td>tubulosum</td>
<td>34</td>
</tr>
<tr>
<td>spongiosa</td>
<td>714</td>
<td>virginicum</td>
<td>32</td>
</tr>
<tr>
<td>HYMENOPAPPUS</td>
<td>312</td>
<td>virginicum</td>
<td>33</td>
</tr>
<tr>
<td>scabiosaeus</td>
<td>313</td>
<td>HYPTIS</td>
<td>77</td>
</tr>
<tr>
<td>HYPOSERIS</td>
<td></td>
<td>capitata</td>
<td>78</td>
</tr>
<tr>
<td>amplexicaulis</td>
<td>266</td>
<td>radiata</td>
<td>78</td>
</tr>
<tr>
<td>angustifolia</td>
<td>266</td>
<td>HYSSOPUS</td>
<td>71</td>
</tr>
<tr>
<td>biflora</td>
<td>266</td>
<td>scrophularifolius</td>
<td>71</td>
</tr>
<tr>
<td>ILEX</td>
<td>PAGE</td>
<td>IRESINE</td>
<td>PAGE</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>angustifolia</td>
<td>679</td>
<td>celosioides</td>
<td>693</td>
</tr>
<tr>
<td>aquifolium</td>
<td>679</td>
<td>IVA</td>
<td>474</td>
</tr>
<tr>
<td>cassena</td>
<td>681</td>
<td>frutescens</td>
<td>474</td>
</tr>
<tr>
<td>cassiniae</td>
<td>680</td>
<td>imbricata</td>
<td>475</td>
</tr>
<tr>
<td>dahoon</td>
<td>680</td>
<td>JATROPHA</td>
<td>649</td>
</tr>
<tr>
<td>decidua</td>
<td>682</td>
<td>stimulosa</td>
<td>649</td>
</tr>
<tr>
<td>ligustrina</td>
<td>680</td>
<td>urens</td>
<td>649</td>
</tr>
<tr>
<td>myrtifolia</td>
<td>681</td>
<td>JUGLANS</td>
<td>621</td>
</tr>
<tr>
<td>opaca</td>
<td>679</td>
<td>amara</td>
<td>626</td>
</tr>
<tr>
<td>prionoides</td>
<td>682</td>
<td>alba</td>
<td>524</td>
</tr>
<tr>
<td>rosmaninifolia</td>
<td>681</td>
<td>cathartica</td>
<td>623</td>
</tr>
<tr>
<td>vomitoria</td>
<td>681</td>
<td>cinerea</td>
<td>622</td>
</tr>
<tr>
<td>ILLICIIUM</td>
<td>35</td>
<td>compressa</td>
<td>625</td>
</tr>
<tr>
<td>parviforum</td>
<td>35</td>
<td>micronata</td>
<td>624</td>
</tr>
<tr>
<td>INDIGOFERA</td>
<td>244</td>
<td>nigra</td>
<td>622</td>
</tr>
<tr>
<td>caroliniana</td>
<td>244</td>
<td>obcordata</td>
<td>627</td>
</tr>
<tr>
<td>INULA</td>
<td>334</td>
<td>porcina</td>
<td>627</td>
</tr>
<tr>
<td>argentea</td>
<td>334</td>
<td>sulcata</td>
<td>624</td>
</tr>
<tr>
<td>graminifolia</td>
<td>334</td>
<td>tomentosa</td>
<td>625</td>
</tr>
<tr>
<td>mariana</td>
<td>336</td>
<td>JUNIPERUS</td>
<td>716</td>
</tr>
<tr>
<td>punctata</td>
<td>339</td>
<td>virginiana</td>
<td>717</td>
</tr>
<tr>
<td>K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KRIGIA</td>
<td>264</td>
<td>KUHNIA</td>
<td>290</td>
</tr>
<tr>
<td>amplexicaulis</td>
<td>266</td>
<td>critonia</td>
<td>291</td>
</tr>
<tr>
<td>caroliniana</td>
<td>265</td>
<td>eupatorioides</td>
<td>291</td>
</tr>
<tr>
<td>dandelion</td>
<td>265</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LACTUCA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caroliniana</td>
<td>252</td>
<td>LATHYRUS</td>
<td>222</td>
</tr>
<tr>
<td>elongata</td>
<td>252</td>
<td>pusillus</td>
<td>223</td>
</tr>
<tr>
<td>graminifolia</td>
<td>252</td>
<td>LEMNA</td>
<td>518</td>
</tr>
<tr>
<td>longifolia</td>
<td>252</td>
<td>minor</td>
<td>518</td>
</tr>
<tr>
<td>sagittifolia</td>
<td>252</td>
<td>polyrhiza</td>
<td>519</td>
</tr>
<tr>
<td>LAMIIUM</td>
<td>73</td>
<td>LEONTODON</td>
<td>250</td>
</tr>
<tr>
<td>amplexicaule</td>
<td>73</td>
<td>taraxacum</td>
<td>250</td>
</tr>
<tr>
<td>LANTANA</td>
<td>102</td>
<td>LEONURUS</td>
<td>76</td>
</tr>
<tr>
<td>camara</td>
<td>102</td>
<td>cardiaca</td>
<td>77</td>
</tr>
<tr>
<td>LEPIDIIUM</td>
<td></td>
<td></td>
<td>140</td>
</tr>
<tr>
<td>INDEX</td>
<td>PAGE</td>
<td>PAGE</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>didymum</td>
<td>139</td>
<td>paniculata</td>
<td>283</td>
</tr>
<tr>
<td>Virginicum</td>
<td>140</td>
<td>pauciflora</td>
<td>282</td>
</tr>
<tr>
<td>LEPTOPODA</td>
<td>445</td>
<td>pilosa</td>
<td>277</td>
</tr>
<tr>
<td>decurrens</td>
<td>446</td>
<td>pycnostachya</td>
<td>273</td>
</tr>
<tr>
<td>helenum</td>
<td>446</td>
<td>resinosa</td>
<td>279</td>
</tr>
<tr>
<td>puberula</td>
<td>445</td>
<td>scariosa</td>
<td>280</td>
</tr>
<tr>
<td>LESPEDEZA</td>
<td>204</td>
<td>secunda</td>
<td>278</td>
</tr>
<tr>
<td>angustifolia</td>
<td>206</td>
<td>spheroides</td>
<td>281</td>
</tr>
<tr>
<td>capitata</td>
<td>206</td>
<td>spicata</td>
<td>273</td>
</tr>
<tr>
<td>frutescens</td>
<td>206</td>
<td>squarroso</td>
<td>282</td>
</tr>
<tr>
<td>hirta</td>
<td>207</td>
<td>squarrulosa</td>
<td>280</td>
</tr>
<tr>
<td>polystachya</td>
<td>207</td>
<td>tenuifolia</td>
<td>275</td>
</tr>
<tr>
<td>procumbens</td>
<td>207</td>
<td>tomentosa</td>
<td>284</td>
</tr>
<tr>
<td>prostrata</td>
<td>208</td>
<td>Walteri</td>
<td>285</td>
</tr>
<tr>
<td>sessiliflora</td>
<td>204</td>
<td>LIPPA</td>
<td></td>
</tr>
<tr>
<td>Stuwei</td>
<td>204</td>
<td>lanceolata</td>
<td>101</td>
</tr>
<tr>
<td>umbellata</td>
<td>206</td>
<td>nodiflora</td>
<td>101</td>
</tr>
<tr>
<td>violacea</td>
<td>205</td>
<td>LIQUIDAMBAR</td>
<td>620</td>
</tr>
<tr>
<td>LIATRIS</td>
<td>272</td>
<td>styraciflua</td>
<td>621</td>
</tr>
<tr>
<td>aspera</td>
<td>276</td>
<td>LILIODENDRON</td>
<td>40</td>
</tr>
<tr>
<td>corymbosu</td>
<td>284</td>
<td>tulipifera</td>
<td>40</td>
</tr>
<tr>
<td>cylindracea</td>
<td>275</td>
<td>LISTERA</td>
<td>494</td>
</tr>
<tr>
<td>elegans</td>
<td>279</td>
<td>convallarioideae</td>
<td>494</td>
</tr>
<tr>
<td>gracilis</td>
<td>278</td>
<td>pubescens</td>
<td>494</td>
</tr>
<tr>
<td>graminifolia</td>
<td>274</td>
<td>LUPINUS</td>
<td>190</td>
</tr>
<tr>
<td>graminifolia</td>
<td>275</td>
<td>diffusus</td>
<td>192</td>
</tr>
<tr>
<td>heterophylla</td>
<td>277</td>
<td>perennis</td>
<td>191</td>
</tr>
<tr>
<td>odoratissma</td>
<td>283</td>
<td>pilosus</td>
<td>191</td>
</tr>
<tr>
<td>odoratissma</td>
<td>284</td>
<td>villosus</td>
<td>191</td>
</tr>
</tbody>
</table>

| MACBRIDEA | 36 | tripetala | 38 |
| pulchra | 86 | MALACHODENDRON |
| MAGNOLIA | 36 | ovatum | 173 |
| acuminata | 37 | MALAXIS | 502 |
| auriculata | 39 | lilifolia | 503 |
| cordata | 38 | ophioglossoides | 503 |
| Fraseri | 39 | unifolia | 503 |
| glauca | 37 | MALOX | 164 |
| grandiflora | 36 | malacoides | 164 |
| macrophylla | 40 | MALVA | 162 |
| pyramidalata | 39 | abutiloides | 164 |
INDEX.

N

NELUMBIUM

luteum 67
pentapetalum 68
reniforme 68

NEOTTIA
cernua 491
tortilis 491

NEPETA
cataria 71

NUPHAR

advena 8

sagittae folia 8

NYMPHÆA

advena 8
alba 7

longifolia 9

lutea 8
celumbo 67
odorata 7
pentapetala 68
reniformis 68
sagittifolia 9

NYSSA

angulissans 686

aquatica 684
<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>biflora</td>
<td>684</td>
<td>multiflora</td>
<td>684</td>
</tr>
<tr>
<td>canalicans</td>
<td>685</td>
<td>sylvestrica</td>
<td>684</td>
</tr>
<tr>
<td>capitata</td>
<td>685</td>
<td>tomentosa</td>
<td>685</td>
</tr>
<tr>
<td>denticulata</td>
<td>686</td>
<td>uniflora</td>
<td>686</td>
</tr>
<tr>
<td>gyn. nididentata</td>
<td>686</td>
<td>sylvestrica</td>
<td>684</td>
</tr>
</tbody>
</table>

**O**

<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBOLARIA</td>
<td>134</td>
<td>ciliaris</td>
<td>483</td>
</tr>
<tr>
<td>Virginica</td>
<td>134</td>
<td>clavellata</td>
<td>486</td>
</tr>
<tr>
<td>OPHRYS</td>
<td></td>
<td>cristata</td>
<td>488</td>
</tr>
<tr>
<td>aestivalis</td>
<td>492</td>
<td>discolor</td>
<td>502</td>
</tr>
<tr>
<td>barbata</td>
<td>499</td>
<td>flava</td>
<td>485</td>
</tr>
<tr>
<td>cernua</td>
<td>492</td>
<td>fuscescens</td>
<td>487</td>
</tr>
<tr>
<td>pubera</td>
<td>494</td>
<td>humilis</td>
<td>487</td>
</tr>
<tr>
<td>trifolia</td>
<td>503</td>
<td>nivea</td>
<td>485</td>
</tr>
<tr>
<td>OPLOTHERCA</td>
<td>155</td>
<td>spectabilis</td>
<td>487</td>
</tr>
<tr>
<td>Floridana</td>
<td>155</td>
<td>tridentata</td>
<td>486</td>
</tr>
<tr>
<td>ORCHIDOCHARPUM</td>
<td></td>
<td>viridis</td>
<td>486</td>
</tr>
<tr>
<td>arietinum</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>grandiflorum</td>
<td>43</td>
<td>OROBANCHE</td>
<td>134</td>
</tr>
<tr>
<td>parriflorum</td>
<td>41</td>
<td>Americana</td>
<td>135</td>
</tr>
<tr>
<td>pygmeum</td>
<td>43</td>
<td>biflora</td>
<td>135</td>
</tr>
<tr>
<td>ORCHIS</td>
<td>482</td>
<td>uniflora</td>
<td>135</td>
</tr>
<tr>
<td>bidentata</td>
<td>488</td>
<td>Virginiana</td>
<td>136</td>
</tr>
<tr>
<td>blephariglottis</td>
<td>483</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**P**

<table>
<thead>
<tr>
<th>Term</th>
<th>Page</th>
<th>Term</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANAX</td>
<td>691</td>
<td>lævigatum</td>
<td>128</td>
</tr>
<tr>
<td>quinquefolium</td>
<td>691</td>
<td>pubescens</td>
<td>129</td>
</tr>
<tr>
<td>trifolium</td>
<td>692</td>
<td>PERDICICUM</td>
<td>460</td>
</tr>
<tr>
<td>PARIETARIA</td>
<td>575</td>
<td>semiflosculare</td>
<td></td>
</tr>
<tr>
<td>Floridana</td>
<td>576</td>
<td>PERSOONIA</td>
<td></td>
</tr>
<tr>
<td>Pennsylvanica</td>
<td>575</td>
<td>angustifolia</td>
<td>316</td>
</tr>
<tr>
<td>PARTHENIUM</td>
<td>468</td>
<td>lanceolata</td>
<td>315</td>
</tr>
<tr>
<td>integrifolium</td>
<td>474</td>
<td>latifolia</td>
<td>316</td>
</tr>
<tr>
<td>PASSIFLORA</td>
<td>153</td>
<td>PETALOSTEMUM</td>
<td>275</td>
</tr>
<tr>
<td>incarnata</td>
<td>153</td>
<td>carneum</td>
<td>176</td>
</tr>
<tr>
<td>lutea</td>
<td>153</td>
<td>corymbosum</td>
<td>176</td>
</tr>
<tr>
<td>PEDICULARIS</td>
<td>123</td>
<td>PHACCA</td>
<td>225</td>
</tr>
<tr>
<td>Canadensis</td>
<td>123</td>
<td>Floridana</td>
<td>222</td>
</tr>
<tr>
<td>PENTSTEMON</td>
<td>128</td>
<td>villosa</td>
<td>225</td>
</tr>
<tr>
<td>dissectum</td>
<td>129</td>
<td>PHASEOLUS</td>
<td>228</td>
</tr>
</tbody>
</table>
INDEX.

paniculatus 228 Balduini 187
perennis 228 corymbosa 186

PHRYMA 95 corymbosa 187
Caroliniensis 100 cruciata 183
leptostachya 96 cymosa 188

PHYLLANTHUS 660 incarnata 185
Caroliniensis 661 lutea 185
oboovatus 661 lutea 186

PINUS 632 paucifolia 180
alba 640 polygama 181
australis 637 pub scens 180
balsamea 639 purpurea 184
Canadensis 639 ramosa 186

PHRYMA 633 sanguinea 184
inops 633 sanguinea 184
mitis 633 senega 182

glabra 640 senega 181

inops 633 setacea 183

mitis 635 verticillata 182

fuscata 634 viridescens 186

POLYMIA 634 Canadensis 471
squarrosa 633 tetragonotheca 407

strobus 638 uvedalia 471

taeda 636

POLYPTERIS 633 variabilis 313

PISTIA 156 integrifolia 314

spathulata 156 POPULUS 710

PLANERA 583 angulata 711

aquatica 584 angulosa 711

ulmifolia 584 argentea 712

PLATANUS 619 grandidentata 710

occidentalis 620 heterophylla 712

POLDOHYLLUM 14 nigrá 711

peltatum 14 POPCelia

PODOSTEMUM 517 grandiflora 48

ceratophyllum 517 pygmea 48

POGONIA 495 triloba 42

divaricata 496 POTAMOGETON

ophioglossoides 495 pinnatum 588

verticillata 497 verticillatum 585

POLYGALA 179 PRASiUM

attenuata 183 incarnatum 85
PRUNELLA
vulgaris 87

Psoralea
canescentia 195
eglandulosa 198

Pterocaulon
virgata 197

Pychnanthemum
pyncnostachyum 324

Quercus
maritima 596
Michauxii 609
Montana 609

Banisteri
myrtifolia 597

Castanea
nana 599

Castesbaei
obtusiloba 506

Cinerea
phellos 599

Coccinea
phellos 594

Discolor
prinoës 611

Elongata
prinus 608

Prinus acuminata 610

Hemisphaerica
prinus monticola 610

Prinus pumila 611

Imbricaria
pumila 594

Ilicifolia
rubra 602

Laevis
rubra 604

Laurifolia
rubra 604

Lyrata
rubra 604

Vol. II.
A. Z.
<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>sempervirens</em></td>
<td>595</td>
</tr>
<tr>
<td><em>sericea</em></td>
<td>594</td>
</tr>
<tr>
<td><em>stellata</em></td>
<td>606</td>
</tr>
<tr>
<td><em>tinctoria</em></td>
<td>601</td>
</tr>
<tr>
<td><em>villosa</em></td>
<td>606</td>
</tr>
<tr>
<td><em>virens</em></td>
<td>595</td>
</tr>
</tbody>
</table>

**RANUNCULUS**

<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>abortivus</em></td>
<td>58</td>
</tr>
<tr>
<td><em>Carolinianus</em></td>
<td>61</td>
</tr>
<tr>
<td><em>ficaria</em></td>
<td>66</td>
</tr>
<tr>
<td><em>flammula</em></td>
<td>57</td>
</tr>
<tr>
<td><em>hederaceus</em></td>
<td>56</td>
</tr>
<tr>
<td><em>hispidus</em></td>
<td>62</td>
</tr>
<tr>
<td><em>muricatus</em></td>
<td>64</td>
</tr>
<tr>
<td><em>nitidus</em></td>
<td>59</td>
</tr>
<tr>
<td><em>oblongifolius</em></td>
<td>58</td>
</tr>
<tr>
<td><em>palmatus</em></td>
<td>61</td>
</tr>
<tr>
<td><em>pantothrix</em></td>
<td>56</td>
</tr>
<tr>
<td><em>Pensylvanicus</em></td>
<td>63</td>
</tr>
<tr>
<td><em>pusillus</em></td>
<td>57</td>
</tr>
<tr>
<td><em>recurvatus</em></td>
<td>63</td>
</tr>
<tr>
<td><em>repens</em></td>
<td>60</td>
</tr>
<tr>
<td><em>sceleratus</em></td>
<td>59</td>
</tr>
<tr>
<td><em>tomentosus</em></td>
<td>64</td>
</tr>
<tr>
<td><em>trachy sperma</em></td>
<td>65</td>
</tr>
</tbody>
</table>

**RUDBECKIA**

<table>
<thead>
<tr>
<th>Latin Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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THE END
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Scirpus Quadrangulatus

Dichromena Leucocephala

Trichophorum Cyperinum
Muhlenbergia Diffusa

Trichodium Perennans

Leersia Lenticularis

Phalaris Americana
Aulacanthus Rufus

Milium Paspalodes

Paspalum Purpurascens

Ceresia Fluitans
Atra Obtusa

Melica Glabra

Dactylis Glomerata

Poa Retracta
Avena Glumosa

Eleusine Indica

Monocera Aromaticae

Chloris Petraeae