

\* \* Flowers larger (2-3" long), on solitary pedicels in a simple few-flowered raceme; stamens included; ovules not collateral; rootstock rather slender.

2. *S. stellata*, Desf. Plant (1° high or less) nearly glabrous, or the 7-12 oblong-lanceolate leaves minutely downy beneath when young, slightly clasping; raceme sessile or nearly so; berries blackish. — Moist banks, Lab. to N. J., west to E. Kan., Minn., and westward. (Eu.)

3. *S. trifolia*, Desf. Glabrous, dwarf (2-6' high); leaves 3 (sometimes 2 or 4), oblong, tapering to a sheathing base; raceme peduncled; berries red. — Cold bogs, Lab. to N. Eng., west to Mich. and Min. (Sib.)

#### 14. MAIÁNTHEMUM, Wigg.

Perianth 4-parted, with as many stamens. Ovary 2-celled; stigma 2-lobed. Otherwise as in Smilacina. — Flowers solitary or fascicled, in a simple raceme upon a low 2-3-leaved stem. Leaves ovate- to lanceolate-cordate. (Name from *Maius*, May, and *άνθεμον*, a flower.)

1. *M. Canadense*, Desf. Pubescent or glabrous (3-5' high); leaves lanceolate to ovate, cordate at base with a very narrow sinus, sessile or very shortly petioled; perianth-segments 1" long. (Smilacina bifolia, var. *Canadensis*, Gray.) — Moist woods, Lab. to N. C., west to Minn. and Iowa. May.

#### 15. STREPTOPUS, Michx. TWISTED-STALK.

Perianth recurved-spreading from a bell-shaped base, deciduous; the 6 distinct sepals lanceolate, acute, the 3 inner keeled. Anthers arrow-shaped, extrorse, fixed near the base to the short flattened filaments, tapering above to a slender entire or 2-cleft point. Ovary with many ovules in each cell; style and sometimes the stigmas one. Berry red, roundish-ovoid, many-seeded. — Herbs, with rather stout stems from a creeping rootstock, forking and divergent branches, ovate and taper-pointed rounded-clasping membranaceous leaves, and small (extra-) axillary flowers, either solitary or in pairs, on slender thread-like peduncles, which are abruptly bent or contorted near the middle (whence the name, from *στρεπτός*, twisted, and *πούς*, foot or stalk).

1. *S. amplexifolius*, DC. Stem 2-3° high, glabrous; leaves very smooth, glaucous underneath, strongly clasping; flower greenish-white (4-6" long) on a long abruptly bent peduncle; anthers tapering to a slender entire point; stigma entire, truncate. — Cold moist woods, N. Eng. to N. Minn., south to Ohio, Penn., and in the mountains to N. C. June. (Eu.)

2. *S. roseus*, Michx. Lower leaves green both sides, finely ciliate, and the branches sparingly beset with short bristly hairs; flower rose-purple (3-4" long), more than half the length of the slightly bent peduncle; anthers 2-horned; stigma 3-cleft. — Cold damp woods, N. Eng. to N. Minn., and south in the mountains to Ga. May.

#### 16. DÍSPORUM, Salisb.

Perianth narrowly bell-shaped, the 6 sepals lanceolate or linear, deciduous. Filaments thread-like, much longer than the linear-oblong blunt anthers, which are fixed by a point above the base and extrorse. Ovary with 2 ovules (in our species) suspended from the summit of each cell; style one; stigmas

short, recurved-spreading, or sometimes united into one! Berry ovoid or oblong, pointed, 3-6-seeded, red. — Downy low herbs, with creeping rootstocks, erect stems sparingly branched above, with closely sessile ovate thin and transversely veined leaves, and greenish-yellow drooping flowers, on slender terminal peduncles, solitary or few in an umbel. (Name from *δῖς*, double, and *σπόα*, seed, in allusion to the 2 ovules in each cell.)

1. *D. lanuginosum*, Benth. & Hook. Leaves ovate-oblong, taper-pointed, rounded or slightly heart-shaped at base, closely sessile, downy beneath; flowers solitary or in pairs; sepals linear-lanceolate, taper-pointed ( $\frac{1}{4}$ " long), soon spreading, twice the length of the stamens, greenish; style smooth; stigmas 3. (*Prosartes lanuginosa*, Don.) — Rich woods, western N. Y. to Va. and Ga., west to Ky. and Tenn. May.

#### 17. CLINTONIA, Raf.

Perianth of 6 separate sepals, bell-shaped, lily-like, deciduous; the 6 stamens inserted at their base. Filaments long and thread-like; anthers linear or oblong, extrorsely fixed by a point above the base, the cells opening down the margins. Ovary ovoid-oblong, 2-3-celled; style long; stigmas 2 or 3, or in ours united into one. Berry few-many-seeded. — Short-stemmed perennials, with slender creeping rootstocks, bearing a naked peduncle sheathed at the base by the stalks of 2-4 large oblong or oval ciliate leaves; flowers rather large, umbelled, rarely single. (Dedicated to *De Witt Clinton*.)

1. *C. borealis*, Raf. Scape and leaves 5-8' long; umbel 3-6-flowered; perianth greenish-yellow, somewhat downy outside (3-4" long); berry ovoid, blue; ovules 20 or more. — Cold moist woods, Lab. to N. C., west to Minn.

2. *C. umbellata*, Torr. Flowers half the size of the last, white, speckled with green or purplish dots; umbel many-flowered; berry globular, black; ovules 2 in each cell. — Rich woods, in the Alleghanies from N. Y. to Ga.

#### 18. UVULÀRIA, L. BELLWORT.

Perianth narrowly bell-shaped, lily-like, deciduous; the 6 distinct sepals spatulate-lanceolate, acuminate, obtusely gibbous at base, with a deep honey-bearing groove within bordered on each side by a callus-like ridge. Stamens much shorter, barely adherent to their base; anthers linear, much longer than the filaments, adnate and extrorse, but the long narrow cells opening laterally. Style deeply 3-cleft; the divisions stigmatic along the inner side. Capsule truncate, coriaceous, 3-lobed, loculicidal at the summit. Seeds few in each cell, obovoid, with a thin white aril. — Stems rather low, terete, from a short rootstock with fleshy roots, naked or scaly at base, forking above, bearing oblong perfoliate flat and membranaceous leaves with smooth margins, and yellowish drooping flowers, in spring, solitary on terminal peduncles. (Name "from the flowers hanging like the uvula, or palate.")

1. *U. perfoliata*, L. Glaucous throughout,  $\frac{1}{4}$ -1 $\frac{1}{2}$ " high, with 1-3 leaves below the fork; leaves glabrous, oblong- to ovate-lanceolate, acute; perianth-segments granular-pubescent within (8-16" long); stamens shorter than the styles; tip of the connective acuminate; cells of the capsule with 2 dorsal ridges and 2-beaked at the apex. — Rich woods, N. Eng. to the Dakotas, and southward.



2. *U. grandiflora*, Smith. Yellowish-green, not glaucous; stem naked or with a single leaf below the fork; leaves whitish-pubescent beneath, usually somewhat acuminate; perianth-segments smooth within or nearly so (12-18" long); stamens exceeding the styles, obtusely tipped; capsule obtusely lobed (*U. flava*, Smith.)—Rich woods, Canada to Ga., west to Minn. and Mo.

### 19. OAKESIA, Watson.

Flowers resembling those of *Uvularia*, but the segments obtuse or acutish, carinately gibbous and without ridges within. Capsule membranous, elliptical, acutish at each end or shortly stipitate, triquetrous and acutely winged, very tardily dehiscent. Seeds globose, with a very tumid spongy rhapshe.—Stem acutely angled, from a slender creeping rootstock, with sessile clasping leaves scabrous on the margin, and 1 or 2 flowers terminal on slender peduncles but soon appearing opposite to the leaves by the growth of the branches. (Dedicated to William Oakes.)

1. *O. sessilifolia*, Watson. Leaves lance-oblong, acute at each end, pale, glaucous beneath, sessile or partly clasping; sepals 7-12" long; anthers obtuse; capsule short-stipitate, 6-10" long. (*Uvularia sessilifolia*, L.)—Low woods, N. Brunswick to Fla., west to Minn., Neb. and Ark.

2. *O. puberula*, Watson. Slightly puberulent; leaves bright green both sides and shining, oval, mostly rounded at base, with rougher edges; styles separate to near the base, not exceeding the acute anthers; capsule not stipitate, 10-12" long. (*Uvularia puberula*, Michx.)—Mountains, Va. to S. C.

### 20. ERYTHRONIUM, L. DOG'S-TOOTH VIOLET.

Perianth lily-like, of 6 distinct lanceolate sepals, recurved or spreading above, deciduous, the 3 inner usually with a callous tooth on each side of the erect base, and a groove in the middle. Filaments 6, awl-shaped; anthers oblong-linear, continuing erect. Style elongated. Capsule obovate, contracted at base, 3-valved, loculicidal. Seeds rather numerous, ovoid, with a loose membranaceous tip.—Nearly stemless herbs, with two smooth and shining flat leaves tapering into petioles and sheathing the base of the commonly one-flowered scape, rising from a deep solid-scaly bulb. Flowers rather large, nodding, in spring. (The Greek name for the purple-flowered European species, from *ἐρυθρός*, red.)

1. *E. americanum*, Ker. (YELLOW ADDER'S-TONGUE.) Scape 6-5' high; leaves elliptical-lanceolate, pale green, mottled with purplish and whitish and commonly minutely dotted; perianth light yellow, often spotted near the base (10-20" long); style club-shaped; stigmas united.—Rich ground, N. Brunswick to Fla., west to Minn. and Ark.

2. *E. albidum*, Nutt. (WHITE DOG'S-TOOTH VIOLET.) Leaves elliptical-lanceolate, less or not at all spotted; perianth pinkish-white; inner divisions toothless; style more slender except at the apex, bearing 3 short spreading stigmas.—Rich ground, N. Y. to N. J., west to Minn. and Kan.

3. *E. propullans*, Gray. Offshoot arising from the stem, near the middle; leaves smaller and more acuminate; flowers bright rose-color, yellowish at base (6" long); style slender; stigmas united.—In rich soil, Minn. and Ont.

### 21. LILIUM, L. LILY.

Perianth funnel-form or bell-shaped, colored, of 6 distinct sepals, spreading or recurved above, with a honey-bearing furrow at the base, deciduous; the 6 stamens somewhat adhering to their bases. Anthers linear, extrorsely attached near the middle to the tapering apex of the long filament, which is at first included, at length versatile; the cells dehiscent by a lateral or slightly introrse line. Style elongated, somewhat club-shaped; stigma 3-lobed. Capsule oblong, containing numerous flat and horizontal (depressed) soft-coated seeds densely packed in 2 rows in each cell. Bulbs scaly, producing simple stems, with numerous alternate-scattered or whorled narrow sessile leaves, and from one to several large and showy flowers; in summer. (The classical Latin name, from the Greek *λῆλιον*.)

\* Flowers erect, the sepals narrowed below into claws; bulbs not rhizomatous.

1. *L. Philadelphicum*, L. (WILD ORANGE-RED LILY. WOOD LILY.) Stem 2-3° high; leaves linear-lanceolate, whorled or scattered; flowers (2-4' long) 1-3, open-bell-shaped, reddish-orange spotted with purplish inside; the lanceolate sepals not recurved at the summit; bulb of thick fleshy jointed scales.—Dry or sandy ground, N. Eng. to N. C., west to Minn. and Mo.

2. *L. Catesbæi*, Walt. (SOUTHERN RED LILY.) Leaves linear-lanceolate, scattered; flower solitary, open-bell-shaped, the long-clawed sepals wavy on the margin and recurved at the summit, scarlet, spotted with dark purple and yellow inside; bulb-scales thin, narrow and leaf-bearing.—Pine-barrens, N. C. to Fla., west to Ky. and Mo.

\*\* Flowers nodding, the sepals sessile; bulbs rhizomatous.

3. *L. superbum*, L. (TURK'S-CAP LILY.) Stem 3-7° high; lower leaves whorled, lanceolate, pointed, 3-nerved, smooth; flowers (3' long) often many (3-20 or 40) in a pyramidal raceme; sepals strongly revolute, bright orange, with numerous dark purple spots inside.—Rich low grounds, N. Brunswick to Ga., west to Minn. and Mo.

4. *L. Canadense*, L. (WILD YELLOW LILY.) Stem 2-7° high; leaves remotely whorled, lanceolate, strongly 3-nerved, the margins and nerves rough; flowers few (2-3' long), long-peduncled, oblong-bell-shaped, the sepals recurved-spreading above, yellow or orange, usually spotted with brown.—Moist meadows and bogs, N. Brunswick to Ga., west to Minn. and Mo.

5. *L. Grayi*, Watson. Stems 2-3° high; leaves in whorls of 4-8, lanceolate, acute or slightly acuminate, smooth; flowers 1 or 2, nearly horizontal, the sepals (1½-2½' long) but little spreading above the rather broad base, rather abruptly acute, deep reddish orange, thickly spotted within.—Peaks of Otter, Va., and southward in the mountains to N. C.

*L. tigrinum*, Ker. (TIGER LILY.) Tall, pubescent above; leaves scattered, narrowly lanceolate, dark green, 5-7-nerved, the upper axils bulbiferous; flowers large, resembling those of *L. superbum*.—An escape from gardens. (Adv. from E. Asia.)

### 22. MEDEOLA, Gronov. INDIAN CUCUMBER-ROOT.

Perianth recurved, the 3 sepals and 3 petals oblong and alike (pale greenish-yellow), deciduous. Stamens 6; anthers shorter than the slender filaments, oblong, extrorsely attached above the base, but the line of dehiscence of the



closely contiguous parallel cells lateral or slightly introrse. Stigmas, or styles, stigmatic down the upper side, recurved-diverging from the globose ovary, long and thread-form, deciduous. Berry globose (dark purple), 3-celled, few-seeded. — A perennial herb, with a simple slender stem (1–3° high, clothed with flocculent and deciduous wool), rising from a horizontal and tuberous white rootstock (which has the taste of cucumber), bearing near the middle a whorl of 5–9 obovate-lanceolate and pointed, sessile, lightly parallel-ribbed and netted-veiny, thin leaves; also another of 3 (rarely 4 or 5) much smaller ovate ones at the top, subtending a sessile umbel of small recurved flowers. (Named after the sorceress *Medea*, for its supposed great medicinal virtues.)

1. *M. Virginiana*, L. — Rich damp woods, N. Eng. to Minn., Ind., and southward. June.

### 23. TRILLIUM, L. WAKE ROBIN. BIRTHROOT.

Sepals 3, lanceolate, spreading, herbaceous, persistent. Petals 3, larger, withering in age. Stamens 6; anthers linear, on short filaments, adnate, usually introrse; the cells opening down the margins. Stigmas sessile, awl-shaped or slender, spreading or recurved above, persistent, stigmatic down the inner side. Ovary 3–6-angled. Berry ovate, usually 6-angled or -winged, 3-celled (purple or red). Seeds ovate, horizontal, several in each cell. — Low perennial herbs, with a stout and simple stem rising from a short and præ-morse tuber-like rootstock, naked, bearing at the summit a whorl of 3 ample, commonly broadly ovate, more or less ribbed but netted-veined leaves, and a terminal large flower; in spring. (Name from *tripulum*, triple; all the parts being in threes.) — Monstrosities are not rare with the calyx and sometimes petals changed to leaves, or the parts of the flower increased in number.

\* Ovary and fruit 6-angled and more or less winged.

+ Flower sessile; the very broad connective produced beyond the anther-cells.

1. *T. sessile*, L. Leaves sessile, ovate or rhomboidal, acute, often blotched or spotted; sepals spreading; sessile petals erect-spreading, narrowly lanceolate or oblanceolate, dark and dull purple, varying to greenish; fruit globose, 6" long. — Moist woods, Penn. to Fla., west to Minn. and Ark.

2. *T. recurvatum*, Beck. Leaves contracted at the base into a petiole, ovate, oblong, or obovate; sepals reflexed; petals pointed, the base narrowed into a claw, oblong-lanceolate to -ovate, dark purple; fruit ovate, strongly winged above, 9" long. — Rich woods, Ohio and Ind. to Minn. and Ark.

+ Flower pedicelled; connective narrow, not produced; leaves subsessile.

+ Pedicel longer than the flower; filament shorter than the anther.

3. *T. erectum*, L. Leaves very broadly rhombic (2½–6' wide), shortly acuminate; pedicel (1–3' long) usually more or less inclined or declinate; petals ovate to lanceolate (9–18" long), brown-purple or often white or greenish or pinkish; stamens equalling or exceeding the stout distinct spreading or recurved stigmas; fruit ovate, 1' long, reddish. — Rich woods, N. Scotia to N. C., west to Minn. and Mo. Flowers ill-scented.

4. *T. grandiflorum*, Salisb. Leaves less broadly rhombic-ovate (1½–4' wide); pedicel erect or ascending; petals oblanceolate, often broadly so (1½–2½' long), white turning rose-color or marked with green; stamens with stout

filaments (persistently green about the fruit) and anthers, exceeding the very slender erect or suberect and somewhat coherent stigmas; fruit globose, ½–1' long. — Rich woods, Vt. to N. C., west to Minn. and Mo.

+ Pedicel short, recurved or strongly declinate; filaments slender, about equalling the anther.

5. *T. cernuum*, L. Leaves very broadly rhombic-ovate (2–4' broad); petals white or pink, ovate to oblong-lanceolate (6–12" long), wavy, recurved-spreading; stamens with short anthers, shorter than the stout recurved distinct stigmas; fruit ovate. — Moist woods, N. Eng. to Minn., south to Ga. and Mo.

\* Ovary and fruit 3-lobed or angled, not winged; filaments slender, about equalling the anthers; pedicel erect or inclined; leaves petiolate.

6. *T. nivale*, Riddell. (DWARF WHITE T.) Small (2–4' high); leaves oval or ovate, obtuse (1–2' long); petals oblong, obtuse (6–15" long), white, scarcely wavy, spreading from an erect base, equalling the peduncle; styles long and slender; fruit depressed globose, with 3 rounded lobes, 3–4" long. — Rich woods, W. Penn. and Ky. to Minn. and Iowa.

7. *T. erythrocarpum*, Michx. (PAINTED T.) Leaves ovate, taper-pointed; petals ovate or oval-lanceolate, pointed, wavy, widely spreading, white painted with purple stripes at the base, shorter than the peduncle; fruit broad-ovate, obtuse, 7–9" long. — Cold damp woods and bogs, N. Brunswick to Ga., west to Wisc. and Mo.

### 24. HELONIAS, L.

Flowers perfect. Perianth of 6 spatulate-oblong purple sepals, persistent, several-nerved, glandless, turning green, shorter than the thread-like filaments. Anthers 2-celled, roundish-oval, blue, extrorse. Styles revolute, stigmatic down the inner side, deciduous. Capsule obcordately 3-lobed, loculicidally 3-valved; the valves divergently 2-lobed. Seeds many in each cell, linear, with a tapering appendage at both ends. — A smooth perennial, with many oblong-spatulate or oblanceolate evergreen flat leaves, from a tuberous rootstock, producing in early spring a stout hollow sparsely bracteate scape (1–2° high), sheathed with broad bracts at the base, and terminated by a simple and short dense raceme. Bracts obsolete; pedicels shorter than the flowers. (Name probably from ἑλος, a swamp, the place of growth.)

1. *H. bullata*, L. — Wet places, Penn. and N. J. to Va.; rare and local.

### 25. CHAMÆLIRIUM, Willd. DEVIL'S-BIT.

Flowers dioecious. Perianth of 6 spatulate-linear (white) spreading 1-nerved sepals, withering-persistent. Filaments and (white) anthers, as in *Helonias*; fertile flowers with rudimentary stamens. Styles linear-club-shaped, stigmatic along the inner side. Capsule ovoid-oblong, not lobed, of a thin texture, loculicidally 3-valved from the apex, many-seeded. Seeds linear-oblong, winged at each end. — Smooth herb, with a wand-like stem from a (bitter) thick and abrupt tuberous rootstock, terminated by a long wand-like spiked raceme (4–12' long) of small bractless flowers; fertile plant more leafy than the staminate. Leaves flat, lanceolate, the lowest spatulate, tapering into a



petiole. (Name formed of *χαμαί*, on the ground, and *λείριον*, lily, the genus having been founded on a dwarf undeveloped specimen.)

1. *C. Carolinianum*, Willd. (BLAZING-STAR.) Stem 1-4° high. (*C. luteum*, Gray.) — Low grounds, N. Eng. to Ga., west to Neb. and Ark. June.

## 26. XEROPHYLLUM, Michx.

Flowers perfect. Perianth widely spreading; sepals petal-like (white), oval, distinct, without glands or claws, 5-7-nerved, at length withering, about the length of the awl-shaped filaments. Anthers 2-celled, short, extrorse. Styles thread-like, stigmatic down the inner side, persistent. Capsule globular, 3-lobed, obtuse (small), loculicidal; the valves bearing the partitions. Seeds 2 in each cell, collateral, 3-angled, not margined. — Herb with the stem simple, 1-4° high, from a thick tuberous rootstock, bearing a simple dense bracteate raceme of showy flowers, and thickly beset with needle-shaped leaves, the upper reduced to bristle-like bracts; those from the root very many in a dense tuft, reclined, a foot long or more, 1" wide below, rough on the margin, remarkably dry and rigid. (Name from *ξηρός*, arid, and *φύλλον*, leaf.)

1. *X. setifolium*, Michx. Stem 1-4° high. (*X. asphodeloides*, Nutt.) — Pine-barrens, N. J. to Ga. June.

## 27. TOFIELDIA, Hudson. FALSE ASPHODEL.

Flowers perfect, usually with a little 3-bracted involucre underneath. Perianth more or less spreading, persistent; the sepals (white or greenish) concave, oblong or obovate, without claws, 3-nerved. Filaments awl-shaped; anthers short, innate or somewhat introrse, 2-celled. Styles awl-shaped; stigmas terminal. Capsule 3-angular, 3-partible or septicidal; cells many-seeded. Seeds oblong, horizontal. — Slender perennials, mostly tufted, with short or creeping rhizomes, and simple stems leafy only at the base, bearing small flowers in a close raceme or spike. Leaves 2-ranked, equitant, linear, grass-like. (Named for Mr. Tofield, an English botanist of the last century.)

\* *Glabrous; pedicels solitary, in a short raceme or head; seeds not appendaged.*

1. *T. palustris*, Hudson. Scape leafless or nearly so (2-6' high), slender, bearing a globular or oblong head or short raceme of whitish flowers, leaves tufted,  $\frac{1}{2}$ -1 $\frac{1}{2}$ ' long. — L. Superior, and northward. (Eu.)

\* \* *Stem and inflorescence pubescent; pedicels fascicled in threes; seeds caudate*

2. *T. glutinosa*, Willd. Stem (6-16' high) and pedicels very glutinous with dark glands; leaves broadly linear, short; perianth not becoming rigid; capsule thin; seeds with a contorted tail at each end. — Moist grounds, Maine to Minn., and northward; also south in the Alleghanies. June.

3. *T. pubens*, Ait. Stem (1-3° high) and pedicels roughened with minute glands; leaves longer and narrower; perianth rigid about the firm capsule; seeds with a short white appendage at each end. — Pine-barrens, N. J. to Fla. and Ala. July.

## 28. NARTHÉCIUM, Moehring. BOG-ASPHODEL.

Sepals 6, linear-lanceolate, yellowish, persistent. Filaments 6, woolly; anthers linear, introrse. Capsule cylindrical-oblong, attenuate upward and bearing

the slightly lobed sessile stigma, loculicidal, many-seeded. Seeds ascending, appendaged at each end with a long bristle-form tail. — Rootstock creeping, bearing linear equitant leaves, and a simple stem or scape, terminated by a simple dense bracteate raceme; pedicels bearing a linear bractlet. (Name an anagram of *Anthericum*, from *ἀνθήρικος*, supposed to have been the Asphodel.)

1. *N. Americanum*, Ker. Stem 1° high or more; leaves 1" wide, 7-9-nerved; raceme dense (1-2' long); perianth-segments narrowly linear (2-2 $\frac{1}{4}$ " long), scarcely exceeding the stamens. (*N. ossifragum*, var. *Americanum*, Gray.) — Sandy bogs, pine-barrens of N. J. June, July.

## 29. MELANTHIUM, Linn

Flowers monœciously polygamous. Perianth of 6 separate and free widely spreading somewhat heart-shaped or oblong and halberd-shaped or oblanceolate sepals, raised on slender claws, cream-colored or greenish, the base marked with 2 approximate or confluent glands, or glandless, turning greenish brown and persistent. Filaments shorter than the sepals, adhering to their claws often to near the summit, persistent. Anthers heart-shaped or kidney-shaped, confluent 1-celled, shield-shaped after opening, extrorse. Styles 3, awl-shaped, diverging, tipped with simple stigmas. Capsule ovoid-conical, 3-lobed, of 3 inflated membranaceous carpels united in the axis, separating when ripe, and splitting down the inner edge, several-seeded. Seeds flat, broadly winged. — Stems tall and leafy, from a thick rootstock, roughish-downy above, as well as the open and ample pyramidal panicle (composed chiefly of simple racemes), the terminal part mostly fertile. Leaves linear to oblanceolate or oval, not plaited. (Name composed of *μέλας*, black, and *άνθος*, flower, from the darker color which the persistent perianth assumes after blossoming.)

\* *Sepals with a conspicuous double-gland at the summit of the claw.*

1. *M. Virginicum*, L. (BUNCH-FLOWER.) Stem 3-5° high, leafy, rather slender; leaves linear (4-10" wide); sepals flat, ovate to oblong or slightly hastate (2 $\frac{1}{2}$ -4" long); capsule 6" long; seeds 10 in each cell, 2-3" long. — Wet meadows, N. Eng. to N. C., west to Minn. and Tex.

2. *M. latifolium*, Desrouss. Leaves more oblanceolate, often 2' broad; sepals undulate (2-3" long), the very narrow claw nearly equalling the orbicular or ovate blade; capsule 6-8" long; styles more slender; seeds 4-8 in each cell, 3-4" long. (*M. racemosum*, Michx.) — W. Conn. to S. C.

\* \* *Sepals oblanceolate, without glands.*

3. *M. parviflorum*, Watson. Stem rather slender (2-5° high), sparingly leafy, naked above; leaves oval to oblanceolate (2-4' wide), on long petioles; sepals 2-3" long, oblanceolate or spatulate, those of the sterile flowers on claws; stamens very short; capsule 6" long; seeds 4-6 in each cell, 4" long. (*Veratrum parviflorum*, Michx.) — In the Alleghanies, Va. to S. C.

## 30. VERÀTRUM, Tourn. FALSE HELLEBORE.

Flowers monœciously polygamous. Perianth of 6 spreading and separate obovate-oblong (greenish or brownish) sepals, more or less contracted at the base (but not clawed), nearly free from the ovary, not gland-bearing. Filaments free from the sepals and shorter than they, recurving. Anthers, pistils,



fruit, etc., nearly as in *Melanthium*. — Somewhat pubescent perennials, with simple stems from a thickened base producing coarse fibrous roots (very poisonous), 3-ranked, plaited and strongly veined leaves, and racemed-panicled dull or dingy flowers; in summer. (Name from *vere*, truly, and *ater*, black.)

1. *V. viride*, Ait. (AMERICAN WHITE HELLEBORE. INDIAN POKE.) Stem stout, very leafy to the top (2–7° high); leaves broadly oval, pointed, sheath-clasping; panicle pyramidal, the dense spike-like racemes spreading; perianth yellowish-green, moderately spreading, the segments ciliate-serrulate; ovary glabrous; capsule many-seeded. — Swamps and low grounds, common.

2. *V. Woodii*, Robbins. Stem slender, sparingly leafy (2–5° high); leaves oblanceolate, only the lowest sheathing; panicle very narrow; perianth greenish-purple, with entire segments; ovary tomentose, soon glabrate; capsule few-seeded. — Woods and hilly barrens, S. Ind. to Mo.

### 31. STENÁNTHIUM, Gray.

Flowers polygamous. Perianth spreading; the sepals narrowly lanceolate, tapering to a point from the broader base, where they are united and coherent with the base of the ovary, not gland-bearing, persistent, much longer than the short stamens. Anthers, capsules, etc., nearly as in *Veratrum*. Seeds nearly wingless. — Smooth, with a wand-like leafy stem from a bulbous base, long and grass-like conduplicate-keeled leaves, and numerous small flowers in compound racemes, forming a long terminal panicle; in summer. (Name composed of *στενός*, narrow, and *άνθος*, flower, from the slender sepals and panicles.)

1. *S. angustifolium*, Gray. Stem leafy (3–4° high), very slender; leaves 2–3" broad; panicle elongated, nearly simple, very open, with slender flexuous branches; flowers nearly sessile or the fertile on short pedicels; sepals linear-lanceolate (white), 2–3" long; capsule strongly reflexed, narrowly oblong-ovate, with spreading beaks. — In the Alleghanies from Va. to S. C.

2. *S. robustum*, Watson. Resembling the last; stem stout, leafy, erect (3–5° high); leaves 4–10" broad; panicle or raceme often 2° long, frequently compound with numerous slender branches; sepals (white or green) 3–4" long; capsule erect, ovate, with recurved beaks. — Penn. to S. C., Ohio and Tenn.

### 32. ZYGADÈNUS, Michx.

Flowers perfect or polygamous. Perianth withering-persistent, spreading; the petal-like oblong or ovate sepals 1–2-glandular near the more or less narrowed but not unguiculate base, which is either free, or united and coherent with the base of the ovary. Stamens free from the sepals and about their length. Anthers, styles, and capsule nearly as in *Melanthium*. Seeds angled, rarely at all margined. — Very smooth and somewhat glaucous perennials, with simple stems from creeping rootstocks or coated bulbs, linear leaves, and rather large panicled greenish-white flowers; in summer. (Name composed of *ζυγός*, a yoke, and *άδην*, a gland, the glands being sometimes in pairs.)

\* Glands on the perianth conspicuous.

← Rootstock creeping; glands 2, orbicular, above the broad claw.

1. *Z. glaberrimus*, Michx. Stems 1–3° high; leaves grass-like, channelled, conspicuously nerved, elongated, tapering to a point; panicle pyramidal,

many-flowered; flowers perfect; sepals nearly free ( $\frac{1}{2}$ " long), ovate, becoming lance-ovate, with a short claw. — Grassy low grounds, Va. to Fla. and Ala.

← ← Root bulbous; glands covering the base of the sepals.

2. *Z. elegans*, Pursh. Stem 1–3° high; leaves flat, carinate; raceme simple or sparingly branched and few-flowered; bracts ovate-lanceolate; base of the perianth coherent with the base of the ovary, the thin ovate or obovate sepals marked with a large obcordate gland, the inner abruptly contracted to a broad claw. (*Z. glaucus*, Nutt.) — N. Eng. to N. Ill., Minn., and westward.

3. *Z. Nuttallii*, Gray. Like the last; raceme rather densely flowered, with narrow bracts; perianth free; sepals with an ill-defined gland at base, not at all clawed; seeds larger (3" long). — Kan. to Tex. and Col.

\*\* Glands of the perianth obscure; perianth small, rotate; bulb somewhat fibrous.

4. *Z. leimanthoides*, Gray. Stem 1–4° high, slender; leaves narrowly linear; flowers small ( $\frac{1}{4}$ " in diameter) and numerous, in a few crowded panicled racemes; only a yellowish spot on the contracted base of the divisions of the free perianth. — Low grounds, pine-barrens of N. J., to Ga.

### 33. AMIÁNTHIUM, Gray. FLY-POISON.

Flowers perfect. Perianth widely spreading; the distinct and free petal-like (white) sepals oval or obovate, without claws or glands, persistent. Filaments capillary, equalling or exceeding the perianth. Anthers, capsules, etc., nearly as in *Melanthium*. Styles thread-like. Seeds wingless, oblong or linear, with a loose coat, 1–4 in each cell. — Glabrous, with simple stems from a bulbous base or coated bulb, scape-like, few-leaved, terminated by a simple dense raceme of hand-some flowers, turning greenish with age. Leaves linear, keeled, grass-like. (From *άμλαντος*, unspotted, and *άνθος*, flower; a name formed with more regard to euphony than to good construction, alluding to the glandless perianth.)

1. *A. muscætoxicum*, Gray. (FLY-POISON.) Leaves broadly linear, elongated, obtuse ( $\frac{1}{2}$ –1" wide); raceme simple; capsule abruptly 3-horned; seeds oblong, with a fleshy red coat. — Open woods, N. J. to Fla., west to Ky. and Ark. June, July.

### ORDER 117. PONTEDERIACEÆ. (PICKEREL-WEED FAMILY.)

Aquatic herbs, with perfect more or less irregular flowers from a spathe; the petal-like 6-merous perianth free from the 3-celled ovary; the 3 or 6 mostly unequal or dissimilar stamens inserted in its throat. — Perianth with the 6 divisions colored alike, imbricated in 2 rows in the bud, the whole together sometimes revolute-coiled after flowering, then withering away, or the base thickened-persistent and enclosing the fruit. Anthers introrse. Ovules anatropous. Style 1; stigma 3-lobed or 6-toothed. Fruit a perfectly or incompletely 3-celled many-seeded capsule, or a 1-celled 1-seeded utricle. Embryo slender, in floury albumen.

1. *Pontederia*. Spike many-flowered. Perianth 2-lipped, its fleshy persistent base enclosing the 1-seeded utricle. Stamens 6.

2. *Heteranthera*. Spathe 1–few-flowered. Perianth salver-shaped. Stamens 3. Capsule many-seeded.