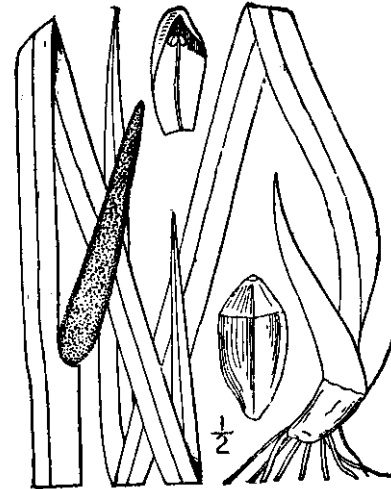
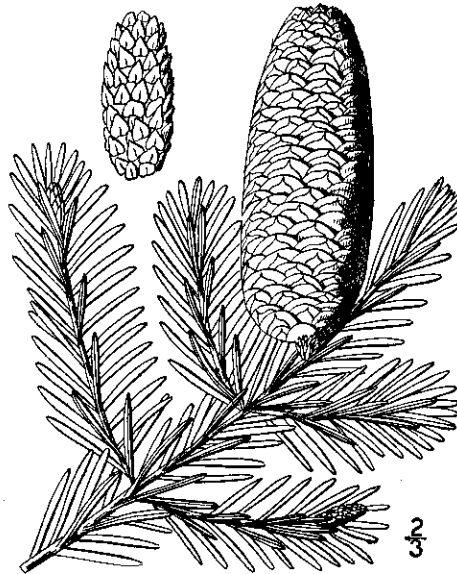


**Abies balsamea (L.) Mill. Balsam Fir.**

*Pinus balsamea* L. Sp. Pl. 1002. 1753.  
*Abies balsamea* Mill. Gard. Dict. Ed. 8, No. 3. 1768.

A slender forest tree attaining a maximum height of about 90° and a trunk diameter of 3°, usually much smaller and on mountain tops and in high arctic regions reduced to a low shrub. Bark smooth, warty with resin "blisters." Leaves fragrant in drying, less than 1" wide, 6"-10" long, obtuse, dark green above, paler beneath or the youngest conspicuously whitened on the lower surface; cones cylindrical, 2'-4' long, 9"-15" thick, upright, arranged in rows on the upper side of the branches, violet or purplish when young; bracts obovate, serrulate, mucronate, shorter than the broad rounded scales.

Newfoundland and Labrador to Hudson Bay and Alberta, south to Massachusetts, Pennsylvania, along the Alleghanies to Virginia and to Iowa and Minnesota. Ascends to 5000 ft. in the Adirondacks. Wood soft and weak, light brown; weight per cubic foot 24 lbs. *Canada balsam* is derived from the resinous exudations of the trunk. Called also Fir-tree, Fir or Blister-pine, American Silver Fir, Single Spruce, Balm of Gilead. May-June.



**Acorus Calamus L. Sweet Flag. Calamus or Flag-root.**

*Acorus Calamus* L. Sp. Pl. 324. 1753.

Leaves linear, erect, 2°-6° tall and 1' wide or less, sharp-pointed and sharp-edged, with a rigid mid-vein running their whole length, 2-ranked, closely sheathing each other and the scape below. Spathe a leaf-like extension of the scape projecting 8'-30' beyond the spadix; spadix spike-like, 2'-3½' long, about ½' in diameter, compactly covered with minute greenish-yellow flowers.

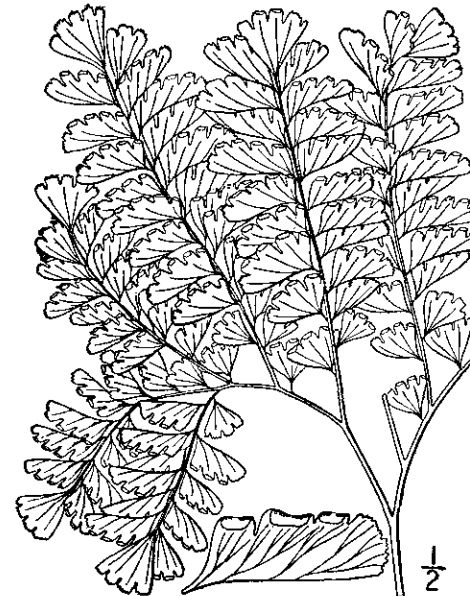
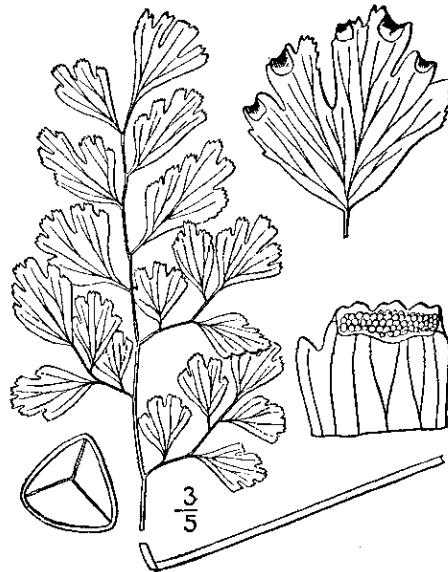
In swamps and along streams, Nova Scotia to Ontario and Minnesota, south to Louisiana and Kansas. Also in Europe and Asia. In our territory fruit is rarely, if ever, formed. The hard ovary is usually found to be imperfect, with 2 or 3 abortive cells and ovules. The plant is propagated by its large rootstocks, which furnish the drug Calamus. Interior of stalk sweet. Myrtle-flag, -sedge or -grass. Sweet-myrtle. Sedge-grass, -cane, -root or -rush. Sea-sedge. Beewort. May-July.

**Adiantum Capillus-Veneris L. Venus-hair Fern.**

*Adiantum Capillus-Veneris* L. Sp. Pl. 1096. 1753.

Rootstock creeping, rather slender, chaffy with light-brown scales. Stipes very slender, black, or nearly so and shining, 3'-12' long; blades ovate-lanceolate in outline, 2-pinnate below, simply pinnate above, membranous, 6'-2° long, 4'-12' wide at the base; pinnules and upper pinnae wedge-obovate or rhomboid, rather long-stalked, glabrous, the upper margin rounded and more or less deeply incised, the sterile lobes crenate or dentate-serrate, the fertile ones with lunate or transversely oblong indusia; main and secondary rachises and stalks of the pinnules black or dark brown.

In ravines, Virginia to Florida, west to Missouri, Utah and California. Also in South Dakota. Ascends to 1300 ft. in Kentucky. Also in tropical America, and in the warmer parts of the Old World. June-Aug. True or black maiden's-hair. Lady's-hair. Dudder-grass.



**Adiantum pedatum L. Maiden-hair or Lock-hair Fern.**

*Adiantum pedatum* L. Sp. Pl. 1095. 1753.

Rootstock slender, creeping, chaffy, rooting along its whole length. Stipes 9'-18' long, dark chestnut-brown, polished and shining, once forked at the summit; blades reniform-orbicular in outline, 8'-18' broad, membranous, the pinnae arising from the outer sides of the two equal branches, somewhat pedately arranged, the larger ones 6'-10' long, 1'-2' wide; pinnules oblong, triangular-oblong, or the terminal one fan-shaped, short-stalked, the lower margin entire and slightly curved, the upper margin cleft or lobed, the lobes bearing the linear-oblong, often short sori.

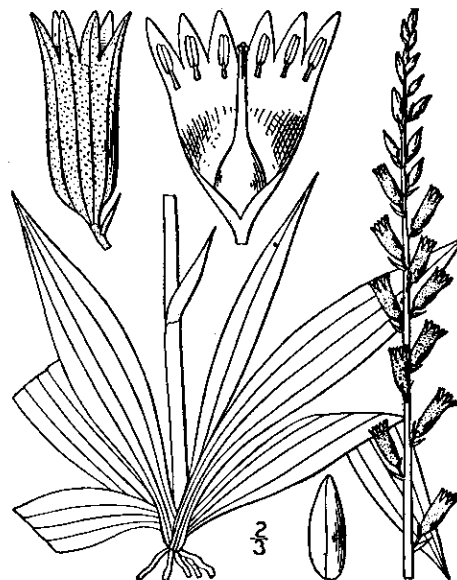
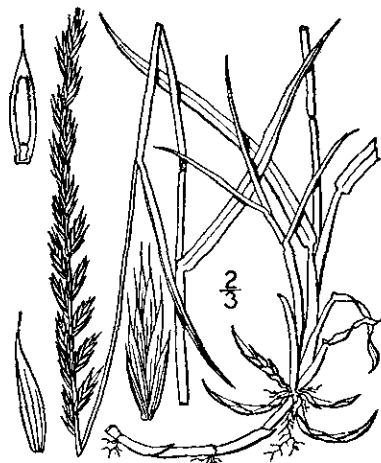
In woods, Nova Scotia and Quebec to Alaska, south to Georgia, Louisiana, Kansas; Rocky Mountains to Utah and California. Ascends to 5000 ft. in Virginia. Also in Asia. July-Sept. Most of the western and northwestern specimens and from the Gaspé region, Quebec, are referable to the var. *aleuticum* Rupr., characterized by its fewer and more strict pinnae and more deeply cleft pinnules and stouter suberect rootstock.

**Agropyron repens (L.) Beauv.** Couch-grass. Quitch-grass.

*Triticum repens* L. Sp. Pl. 86. 1753.  
*Agropyron repens* Beauv. Agrost. 146. 1812.

Culms 1°-4° tall, from a long jointed running root-stock. Sheaths usually shorter than the internodes, smooth and glabrous; ligule very short; blades 3'-12' long, 1"-5" wide, smooth beneath, rough above; spike 2'-8' in length, strict; spikelets 3-7-flowered; empty scales strongly 5-7-nerved, usually acute or awn-pointed, sometimes obtuse; flowering scales smooth and glabrous, acute or short-awned at the apex.

In fields and waste places, almost throughout North America except the extreme north. Naturalized from Europe and often a troublesome weed. Very variable. Native also of Asia. Quitch-, Twitch-, or Witch-grass. Stroll. Quichens. Squitch. Wickens. Shelly. Knot-, Dog-, Shear- or Quack-grass. Blue-joint. Slough- or Pond-grass. False Wheat. Colorado blue-grass. July-Sept.



**Aletris farinosa L.** Star-grass. Ague or Colic-root.

*Aletris farinosa* L. Sp. Pl. 319. 1753.

Roots numerous, tough, scape 1½°-3° tall, slender, terete, striate, bearing several or numerous small distant bract-like leaves. Basal leaves several, lanceolate or linear-lanceolate, acuminate at the apex, narrowed to the base, spreading, pale yellowish green, 2'-6' long, 3"-10" wide; raceme 4'-12' long in flower, or longer in fruit, dense, erect, pedicels 1" long or less; bracts subulate, longer than the pedicels, sometimes 2 to each flower; perianth tubular-oblong, white, or the short lobes yellowish, 3"-4" long, about 1½" thick; style subulate; capsule ovoid, about 2" long, loculicidal above, each of its 3 valves tipped with a subulate portion of the style.

In dry, mostly sandy soil, Maine to Ontario and Minnesota, south to Florida and Arkansas. Ascends to 3500 ft. in Virginia. Ague-grass, Blazing-star, Bitter-grass, Bitter-plant, Crow-corn. Mealy-starwort. Aloe-, Star- or Husk-root. Unicorn-root or -horn. May-July.

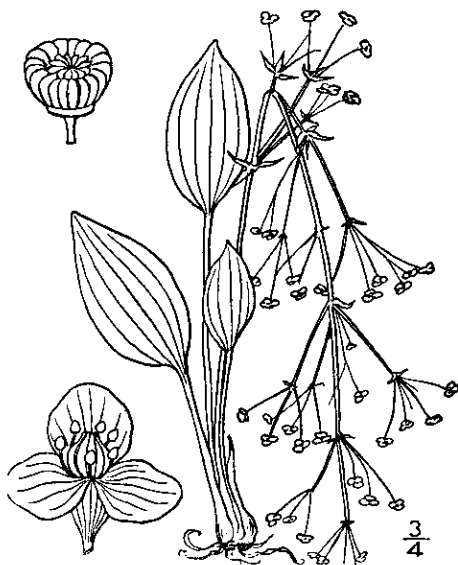
*Aletris aurea* Walt., admitted into our first edition, is not certainly known to grow north of South Carolina. It has been mistaken in New Jersey for yellowish-flowered races of *A. farinosa*.

**Alisma subcordatum Raf.** American Water-plantain.

*Alisma subcordatum* Raf. Med. Repos. N. Y. 5: 362. 1808.  
*Alisma Plantago* Bigel. Fl. Bost. 87. 1814.  
*Alisma Plantago parviflorum* Torr. Fl. N. U. S. 382. 1824.  
*Alisma Plantago americanum* R. & S. Syst. 7: 1598. 1830.

Plants erect; leaves oblong, elliptic, oval or ovate, or sometimes narrower, 1¼-6' long, usually abruptly pointed at the apex, cuneate to truncate, or cordate at the base, the petioles often longer than the blades; scapes ¾°-3° tall, solitary or several together, the branches and pedicels in whorls of 3-10, variable in length, usually slender, sometimes filiform; bracts lanceolate or linear, often acuminate; sepals broadly ovate to suborbicular, obtuse; petals white or pinkish, ½"-1" long; achene-heads 1¾"-2¼" broad, the achenes obliquely obovate, ¾"-1" long, the beak small, ascending.

In shallow water and mud, Massachusetts to Minnesota, Florida and Texas. Differs from the Old World *A. Plantago-aquatica* L., with which it has been united. Great Thrumwort, Mad-dog-weed, Deil's-spoons. June-Sept.

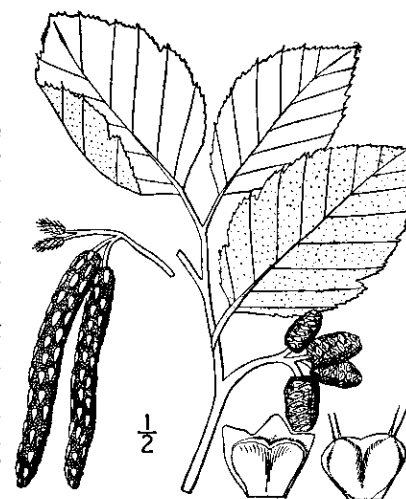


**Alnus incana (L.) Willd.** Spreckled or Hoary Alder.

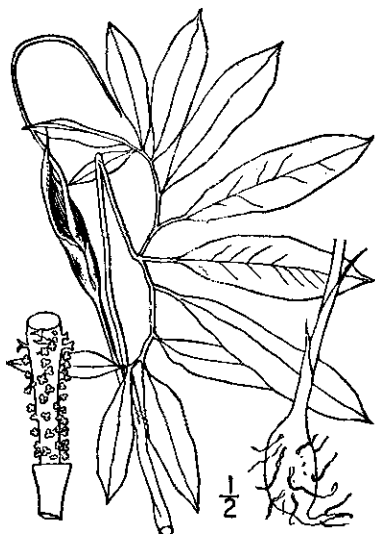
*Betula Alnus* var. *incana* L. Sp. Pl. Ed. 2, 1394. 1763.  
*Alnus incana* Willd. Sp. Pl. 4: 335. 1805.

A shrub, or rarely a small tree, 8°-40° high, the twigs glabrous, the young shoots pubescent. Leaves oval or ovate, acute or sometimes obtuse at the apex, finely serrulate or dentate, with the teeth serrulate, obtuse or some of them acute at the base, dark green above, pale or glaucous and pubescent, at least on the veins beneath, 2'-5' long, 1½'-4' wide, the veins prominent on the lower surface; stipules oblong-lanceolate, deciduous; petioles 4'-12" long; aments unfolding much before the leaves, the staminate 1½'-3' long, the pistillate ovoid, about ½' long and 3"-5" in diameter in fruit, their bracts 5-toothed; nut orbicular, coriaceous-margined.

In wet soil, Newfoundland to Saskatchewan, New York, Pennsylvania and Nebraska. Also in Europe and Asia. Wood soft, light brown; weight per cubic foot 28 lbs. Black or tag-alder. April-May.



**Arisaema Dracontium (L.) Schott. Green Dragon. Dragon-root.**



*Arum Dracontium* L. Sp. Pl. 964. 1753.  
*Arisaema Dracontium* Schott, Melet. 1: 17. 1832.

Corms clustered. Leaves usually solitary, 8'-4' long, pedately divided into 5-17 segments, much longer than the scape; segments obovate or oblong, 3'-10' long, 9''-4' wide, abruptly acute at the apex, narrowed to a sessile or nearly sessile base, entire or the lateral ones somewhat lobed; scape sheathed by membranous scales at the base; spathe greenish or whitish, narrowly convolute, acuminate, 1'-2' long, enwrapping the spadix, the upper part of which tapers into a slender appendage exerted 1'-7' beyond its apex; inflorescence of the staminate plant nearly as long as the tubular part of the spathe; in the monoecious plant the pistillate flowers are borne on the lower part of the spadix; ovary turbinate, with 6-8 bottle-shaped ovules; stigmas depressed; berries reddish-orange in large ovoid heads.

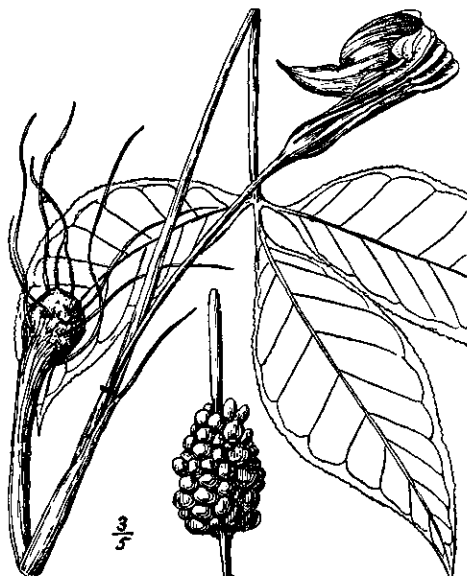
Mostly in wet woods and along streams, but sometimes in dry soil, Maine to Ontario and Minnesota, south to Florida, Kansas and Texas. May-June.

**Arisaema Stewardsonii Britton.**  
Stewardson Brown's Indian Turnip.

*Arisaema Stewardsonii* Britton, Man. Ed. 2, 1057. 1905.

Leaves 2, or 1 in the case of small plants, 1'-2½' high, 3-foliolate, the segments lanceolate to ovate-lanceolate, erose-crenulate, shining, acuminate at the apex, narrowed at the base, 1½'-8' long, 1'-3' wide, sessile or nearly so; spadix 1½'-2' long, the upper portion cylindrical; spathe green or striped, the lower portion fluted, the apex rather long-acuminate; berries shining, 4''-5'' in diameter, forming an ovoid head over 1' in diameter.

In wet woods, often among sphagnum, mountains of Pennsylvania and New Jersey. Reported from New England. June-Aug.



**Arisaema pusillum (Peck) Nash.**  
Peck's Jack-in-the-pulpit.

*Arisaema triphyllum pusillum* Peck, Rep. N. Y. State Mus. 51: 297. 1898.

*Arisaema pusillum* Nash; Britton, Man. 229. 1901.

Leaves 2 or sometimes 1, erect, mostly 8'-15' high, 3-foliolate, the segments elliptic, ovate or ovate-lanceolate, entire, mostly dull, acuminate, or sometimes merely acute at the apex, narrowed at the base, 2'-5' long, ¾'-1¾' wide, sessile or nearly so; spadix 1'-2' long, the upper portion cylindrical; spathe deep brown to black, the lower portion even, the apex short-acuminate; berries shining, 2''-2½'' in diameter, forming an ovoid head less than 1' in diameter.

In bogs, New York to Georgia and Kentucky. May-July.



**Aplectrum hyemale (Muhl.) Torr.**  
Adam-and-Eve. Putty-root.

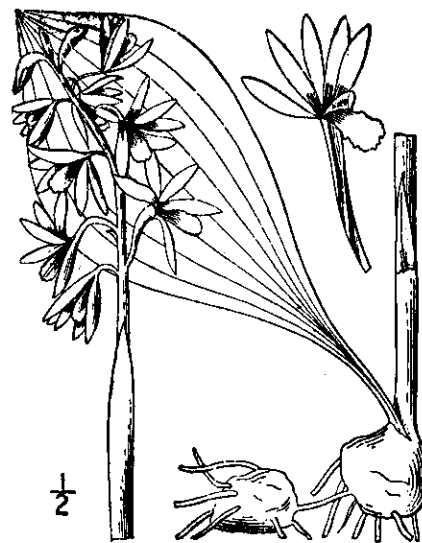
*Arethusa spicata* Walt, Fl. Car. 222. 1788.  
*Cymbidium hyemale* Muhl.; Willd. Sp. Pl. 4: 107. 1805.

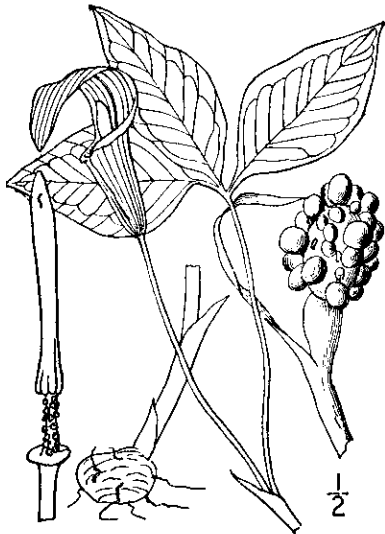
*Aplectrum hyemale* Torr. Compend. 322. 1826.  
*Aplectrum spicatum* B.S.P. Prel. Cat. N. Y. 51. 1888.  
Not *Arethusa spicata* Walt.

*A. Shortii* Rydb. in Britton, Man. 305. 1901.

Scape glabrous, 1'-2' high, bearing about 3 scales. Leaf arising from the corm, at the side of the scape, elliptic or ovate, 4'-6' long, ½'-3' wide, usually lasting over winter; raceme 2'-4' long, loosely several-flowered; flowers dull yellowish brown mixed with purple, about 1' long, short-pedicelled; sepals and petals linear-lanceolate, about ½' long; lip shorter than the petals, obtuse, somewhat 3-lobed and undulate; column slightly curved, shorter than the lip; capsule oblong-ovoid, angled, about 10'' long.

In woods and swamps, Ontario to Saskatchewan and Oregon, south to Georgia, Missouri and California. Several old corms usually remain attached to the latest one. May-June.





**Arisaema triphyllum** (L.) Torr. Jack-in-the-pulpit. Indian Turnip.

*Arum triphyllum* L. Sp. Pl. 965. 1753.  
*Arisaema atrorubens* Blume, Rumphia 1: 97. 1835.  
*Arisaema triphyllum* Torr. Fl. N. Y. 2: 239. 1843.

Leaves 1 or 2, nearly erect, 10'-3° high, usually exceeding the scape, 3-foliolate, the segments ovate, entire, or sometimes lobed, acute rounded or narrowed at the base, 3'-7' long, 1½'-3½' wide, sessile or very short-stalked; flowers commonly dioecious, yellow, borne on the basal part of the spadix; spadix 2'-3' long, its naked summit blunt, colored; spathe green, and purple-striped, curving in a broad flap over the top of the spadix, acuminate; filaments very short and thick; ovaries crowded; ovules 5 or 6; berries smooth, shining, about 5' in diameter, forming a dense ovoid head 1'-3' long.

In moist woods and thickets, Nova Scotia to Florida, Ontario, Minnesota, Kansas and Louisiana. Ascends to 5000 ft. in North Carolina. April-June. Fruit ripe June-July. The acrid bulb made edible by boiling. Three-leaved Indian turnip; Marsh. Pepper or Wild turnip. Bog-onion. Brown-dragon. Wake-robin. Starchwort.



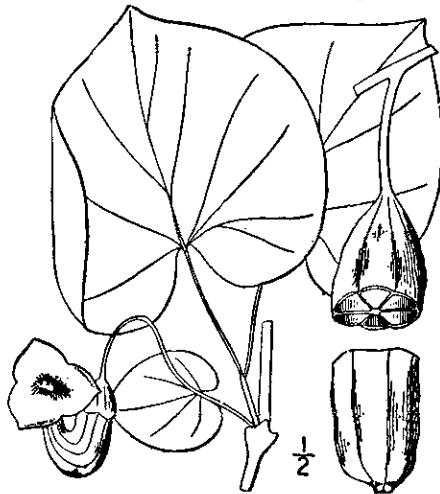
**Aristolochia Clematidis** L. Birthwort.

*Aristolochia Clematidis* L. Sp. Pl. 962. 1753.

Herbaceous, perennial; stem erect, glabrous, zigzag, striate, 1°-2° tall. Leaves dark green, reniform, subacute or obtuse at the apex, glabrous or their margins minutely spinulose-ciliate, strongly reticulate-veined, 2'-5' wide; petioles shorter than the blades; flowers fascicled in the axils, 1'-1½' long; tube of the calyx yellowish green, straight, enlarged around the ovary, the 6 lobes appendaged; anthers equidistant.

Roadsides and thickets, New York to Maryland. Escaped from cultivation. Native of southern Europe. Summer. Upright birthwort.

**Aristolochia macrophylla** Lam. Dutchman's Pipe.



*Aristolochia macrophylla* Lam. Encycl. 1: 255. 1783.  
*Aristolochia Siphon* L'Her. Stirp. Nov. 13. 1784.

A twining vine, the stem sometimes 1' in diameter and 30° long, the branches very slender, terete, green, glabrous. Leaves thin, broadly reniform or suborbicular, densely pubescent beneath when young, glabrous or nearly so and 6'-15' broad when mature; petioles slender, 1'-4' long; peduncles solitary or 2 or 3 together in the axils, about as long as the petioles, each with a suborbicular clasping bract at about the middle ½'-1' in diameter; calyx-tube strongly curved, 1' or more long, inflated above the ovary, contracted at the throat, yellowish-green, veiny, the limb flat, spreading, purple-brown, somewhat 3-lobed; anthers contiguous in pairs under the 3 lobes of the stigma; capsule oblong-cylindric, strongly parallel-nerved, 2'-3' long, 8"-10" in diameter.

In rich woods, southern Pennsylvania to Minnesota, Georgia, Tennessee and Kansas. Ascends to 4500 ft. in Virginia. May-June. Fruit ripe Sept. Pipe-vine. Wild ginger. Big sarsaparilla.

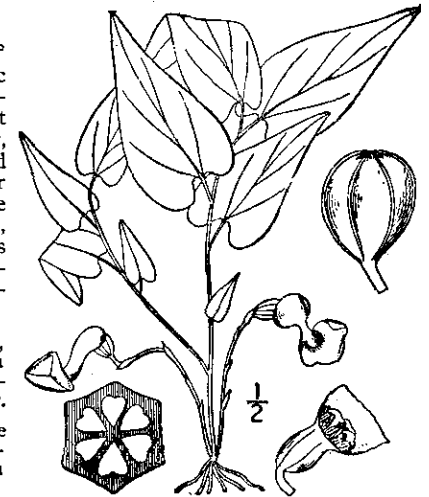
**Aristolochia Serpentaria** L. Virginia Snakeroot. Serpentry.

*Aristolochia Serpentaria* L. Sp. Pl. 961. 1753.

A perennial pubescent nearly erect herb, 10'-3° tall, with short rootstocks and fibrous aromatic roots. Leaves ovate, ovate-lanceolate or oblong-lanceolate, thin, green on both sides, acuminate at the apex, cordate or hastate at the base, 1½'-5' long, ½'-2' wide; petioles ½'-1' long; lowest leaves reduced to scales; flowers solitary and terminal, on slender basal scaly branches; tube of the calyx curved like the letter S, enlarged at the ovary and at its throat, the limb short, spreading, slightly 3-lobed; anthers contiguous in pairs; stigma 3-lobed; capsule subglobose, ridged, about ½' in diameter. Flowers sometimes cleistogamous.

In dry woods, Connecticut and New York to Michigan, Florida, Louisiana and Missouri. Ascends to 2500 ft. in Virginia. June-July. Fruit ripe Sept. Sangrei snake-weed. Sangree-root. Black snakeroot. Pellican-flower.

*Aristolochia hastata* Nutt. (*A. Nashii* Kearney, of the southern states), with narrowly lanceolate or linear, sagittate or hastate leaves, is reported to range as far north as Virginia.

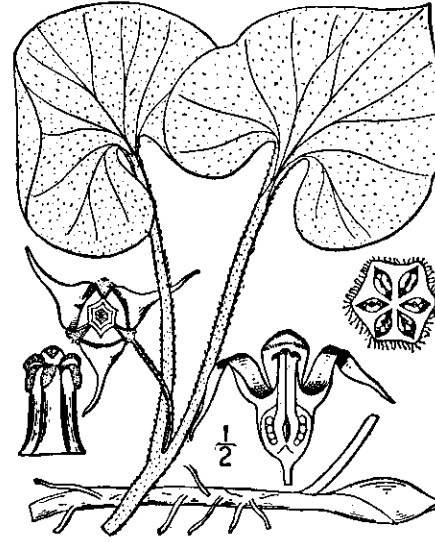
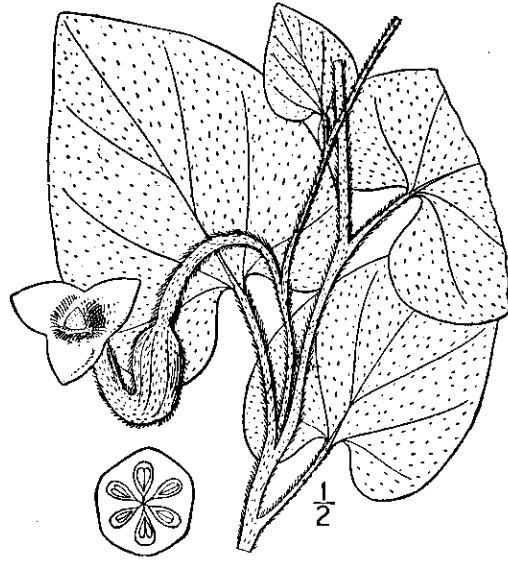


**Aristolochia tomentosa** Sims.  
Woolly Pipe-vine.

*A. tomentosa* Sims, Bot. Mag. pl. 1369. 1811.

A twining vine, similar to the preceding, but the twigs, petioles, leaves and peduncles persistently tomentose. Leaves sub-orbicular or broadly ovate, obtuse or rounded at the apex, 3'-6' broad when mature; petioles rather stout, 1'-3' long; peduncles axillary, mostly solitary, slender, bractless; calyx densely tomentose, the tube sharply curved, yellowish-green, about 1½' long, its throat nearly closed, the limb becoming reflexed, wrinkled, dark purple, 3-lobed; anthers contiguous in pairs beneath the 3 spreading lobes of the stigma; capsule oblong-cylindric.

In woods, Missouri and southern Illinois to North Carolina, Kansas, Arkansas, Alabama and Florida. May-June.



**Asarum canadense** L. Wild or Indian  
Ginger.

*Asarum canadense* L. Sp. Pl. 442. 1753.

Finely pubescent, petioles rather slender, 6'-12' long. Leaves commonly 2 to each plant, reniform, thin, short-pointed at the apex, 4'-7' broad, dark green, not mottled, the basal sinus deep and open; flower slender-peduncled from between the bases of the petioles, 1' broad or more when expanded, brownish purple; calyx ovoid, its tube completely adnate to the ovary, its lobes inflexed in the bud, ovate-lanceolate, acute or long-acuminate, spreading, a little longer than the tube; filaments longer than the anthers; stigmas radiating; capsule 6"-8" in diameter.

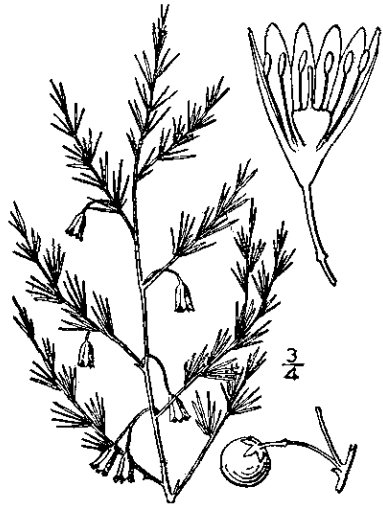
In rich woods, New Brunswick to Manitoba, south to North Carolina, Missouri and Kansas. Ascends to 3000 ft. in Virginia. Called also Canada snakeroot. April-May. Rootstocks with the flavor of ginger. False coltsfoot. Colic-root. Heart-, Vermont or southern snakeroot. Asarabacca.

**Asparagus officinalis** L. Asparagus.

*Asparagus officinalis* L. Sp. Pl. 313. 1753.

Rootstock much branched. Young stems succulent, edible, stout, later branching, and becoming 3°-7° tall, the filiform branchlets 3"-9" long, less than ¼" thick, mostly clustered in the axils of minute scales. Flowers mostly solitary at the nodes, green, drooping on filiform jointed peduncles; perianth campanulate, about 3" long, the segments linear, obtuse; stamens shorter than the perianth; berry red, about 4" in diameter.

Escaped from cultivation and naturalized, especially along salt marshes, New Brunswick to Virginia, and locally in waste places in the interior. Native of Europe. Sparage. Sparrow-grass. May-June, or flowering also in the autumn.



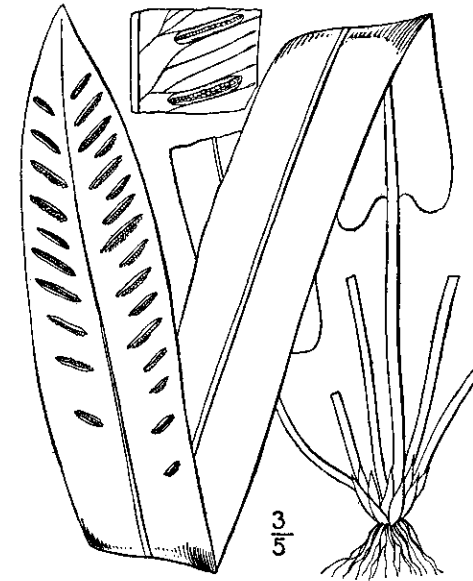
**Asplenium scolopendrium** (L.) Newm.  
Hart's-tongue.

*Asplenium Scolopendrium* L. Sp. Pl. 1079. 1753.  
*Scolopendrium vulgare* J. E. Smith, Mem. Acad.

Turin 5: 421. 1793.  
*Phyllitis Scolopendrium* Newm. Hist. Ferns, ed. 2: 10. 1844.  
*Scolopendrium Scolopendrium* Karst. Deutsch. Fl. 278. 1880-83.

Rootstock short, erect or ascending, chaffy with light brown scales, the leaves in a spreading crown. Stipes 2'-6' long, deciduously fibrillose-chaffy; blades simple, linear-ligulate, 7'-18' long, 1'-2½' broad, bright green, firm, cordate or auricled at the base, entire or lightly sinuate, usually repand; veins once or twice dichotomous near the midrib, free; pairs of sori distinct, 2"-8" long, the indusia whitish at first, soon thrust back and wholly concealed by the heavy lines of dark brown sporanges.

Shaded limestone cliffs and depressions, in central New York, near Woodstock, N. B., in Bruce and Grey Counties, Ontario, and near south Pittsburg, Tennessee. Very rare. Eurasia. Widely different forms are cultivated in Europe. Snake-fern, Sea-weed fern.



**Avena fátua L. Wild Oat.**

*Avena fatua* L. Sp. Pl. 80. 1753.

Culm 1°-4° tall, erect, simple, stout, smooth and glabrous. Sheaths smooth, or scabrous at the summit, sometimes sparingly hirsute, the lower often overlapping; ligule 1"-2" long; blades 3'-8' long, 1"-4" wide; panicle open, 4'-12' in length, the branches ascending; spikelets 2-4-flowered, drooping; outer scales ¾-1' in length, smooth, enclosing the flowering scales; flowering scales 6"-9" long, with a ring of stiff brown hairs at the base, pubescent with long rigid brown hairs, bearing a long bent and twisted awn.

In fields and waste places, Ontario and Ohio (according to Hitchcock) and westward to Missouri; abundant on the Pacific Coast. Naturalized from Europe or Asia. Haver-corn. Poor Oat. Hever. Drake. July-Sept.



**Avena satíva L. Oats.**

*Avena sativa* L. Sp. Pl. 79. 1753.

A glabrous annual. Culms up to 3° tall; blades flat, up to 1° long and ½' wide, acuminate; panicle 4'-9' long, its branches ascending; spikelets, exclusive of the awns, 8"-12" long, the empty scales broad, acute, the flowering scales glabrous, awnless, or with an imperfect awn which is rarely a little spiral at the base.

Persisting in old fields and as a weed along roadsides and waste places. A native of Europe and Asia.



**Betula alleghanénsis Britton. Southern Yellow Birch.**

*B. alleghanensis* Britton, Bull. Torr. Club 31: 166. 1904.

Similar to *Betula lenta* and to *Betula lutea*, the bark either close and fissured, or peeling off in thin layers on young trunks and branches. Leaves ovate or ovate-oblong, usually acuminate at the apex, cordate or rounded at the base, 5' long or less, sharply and rather coarsely toothed, hairy when young, glabrous when old, except on the veins beneath; staminate aments clustered; ripe pistillate aments oblong-cylindric, short-stalked or sessile, about 1' long, their bracts nearly or quite as wide as long, more or less pubescent, 3-lobed to about the middle, the margins ciliate; nut narrowly oblong to obovate, broader than its wings.

Woodlands, Massachusetts to Quebec, Michigan and Georgia. May.



**Betula lénta L. Cherry, Black or Sweet Birch.**

*Betula lenta* L. Sp. Pl. 983. 1753.

A large forest tree, sometimes 80° high, with dark brown close smooth bark, becoming furrowed, not separating in layers; foliage aromatic; twigs smooth, warty, young leaves silky. Mature leaves ovate or ovate-oblong, acute or acuminate, the base cordate or rounded, sharply serrulate, bright green, and shining above, dull green and pubescent on the veins beneath, 2½-4' long, 1'-2' wide; petioles 3"-6" long; staminate aments clustered, 2½-4' long; pistillate aments sessile, dense, oblong, about 1' long and ½' in diameter in fruit, nearly erect; bracts glabrous or minutely puberulent, not ciliate, appressed, about 2" long, nearly equally 3-lobed, the lateral lobes somewhat divergent; nut oblong, broader than its wings.

New England to western Ontario, Florida and Tennessee. Wood hard, strong, dark brown; weight per cubic foot 47 lbs. The aromatic oil of the branches and foliage (same as oil of wintergreen) is distilled in quantities and is an important article of commerce. Tree much resembles the cherry. A hybrid with *B. pumila* is *B. Jackii* Schneider. Spice-, river- or mahogany-birch. Mountain-mahogany. April-May.



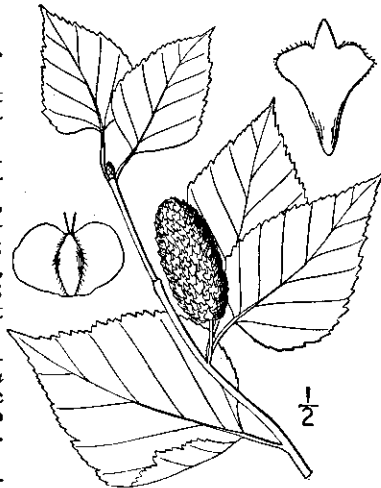
**Betula papyrifera** Marsh. Paper or Canoe Birch.

*Betula papyrifera* Marsh. Arb. Am. 19. 1785.  
*Betula papyracea* Ait. Hort. Kew. 3: 337. 1789.  
*Betula papyrifera minor* Tuckerm. Am. Journ. Sci. 45: 31. 1843.

A large forest tree with maximum height of about 80° and trunk diameter of 3°, or on mountains reduced to a low shrub; bark, except of the young wood, peeling in thin layers. Leaves ovate, acute or acuminate, dentate and denticulate, subcordate, truncate or obtuse at the base, dark green and glabrous above, glandular and pubescent on the veins beneath, slender-petioled, 1½-4½' long, 1-3' wide; petioles ½-1½' long; staminate aments 2-4' long; pistillate aments cylindrical, slender-peduncled, 1-2' long, ¼-½' in diameter in fruit; fruiting bracts 2"-3" long, puberulent or ciliate; nut narrower than its wings.

Newfoundland to Alaska, Pennsylvania, Michigan, Nebraska and Washington. Similar to the Old World *B. alba* L. Wood hard, strong, reddish-brown; weight per cubic foot 37 lbs. The chalky-white outer bark interesting to tourists. Silver-, bolean- or white-birch. Spool-wood. April-May.

*Betula cordifolia* Regel, differs in having distinctly cordate leaves, but scarcely otherwise.

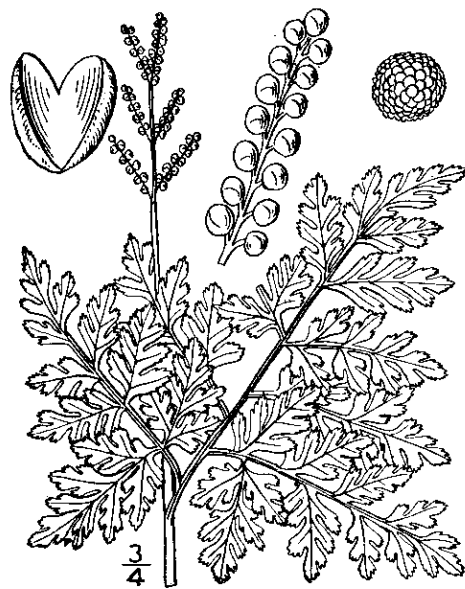


**Boehmeria cylindrica** (L.) Sw. False Nettle.

*Urtica cylindrica* L. Sp. Pl. 984. 1753.  
*Urtica capitata* L. Sp. Pl. 985. 1753.  
*Boehmeria cylindrica* Sw. Prodr. 34. 1788.  
*Boehmeria cylindrica scabra* Porter, Bull. Torr. Club 16: 21. 1889.  
*Boehmeria scabra* Small, Fl. SE. U. S. 358. 1903.

A perennial rough pubescent or nearly smooth and glabrous erect branching herb, 1°-3° tall. Stem stiff; leaves ovate, ovate-oblong or ovate-lanceolate, thin, petioled, opposite, or some alternate, coarsely dentate, 1-3' long, ½-1½' wide; petioles shorter than the blades; stipules lanceolate-subulate, distinct; flowers dioecious or androgynous; staminate spikes usually interrupted, the pistillate mostly continuous, ¼-1½' long, often with small leaves at the top; achene ovate-oval, acute, rather less than 1" long.

In moist soil, Quebec and Ontario to Minnesota, Florida, Kansas and Texas. Bermuda and other West Indies. Consists of numerous races. July-Sept.



**Botrychium virginianum** (L.) Sw. Virginia Grape-fern.

*Osmunda virginiana* L. Sp. Pl. 1064. 1753.  
*Botrychium virginianum* Sw. Schrad. Journ. Bot. 1800: 111. 1801.  
*B. gracile* Pursh, Fl. Am. Sept. 656. 1814.

Leaves 4'-2½° long, the common stalk slender, nearly all above ground, comprising one-half to two-thirds the length of the plant; bud pilose, both the sporophyl and sterile blade wholly bent down. Sterile blade nearly or quite sessile, spreading, membranous, deltoid, 2'-16" broad, nearly as long, ternate, the short-stalked primary divisions 1-2-pinnate, the numerous segments 1-2-pinnatifid, the ultimate segments oblong, toothed at the apex; sporophyl long-stalked, 2-3-pinnate.

In rich woods, Labrador to British Columbia, Washington, Arizona, and the Gulf states. Mexico, Europe and Asia. June-July. Rattlesnake-fern, Hemlock-leaved-moonwort.

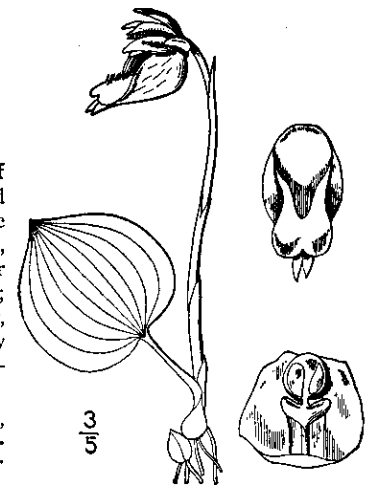
**Calypso bulbosa** (L.) Oakes

Calypso.

*Cypripedium bulbosum* L. Sp. Pl. 951. 1753.  
*Calypso borealis* Salisb. Par. Lond. pl. 89. 1807.  
*Calypso bulbosa* Oakes, Cat. Vermont Fl. 28. 1842.  
*Cytherea bulbosa* House, Bull. Torr. Club 32: 382. 1905.

Bulb 5" in diameter or less. Scape 3'-6' high; leaf round-ovate, 1'-1½' long, nearly as wide, obtusely pointed at the apex, rounded or subcordate at the base, the petiole 1'-2' long; flowers variegated, purple, pink and yellow, the peduncle jointed; petals and sepals linear, erect or spreading, 5"-7" long, with 3 longitudinal purple lines; lip large, saccate, 2-divided below, spreading or drooping, with a patch of yellow woolly hairs; column erect, broadly ovate, shorter than the petals; capsule about ½' long, many-nerved.

Labrador to Alaska, south to Maine, Michigan, California, and in the Rocky Mountains to Arizona. Also in Europe. Flower somewhat resembling that of a small *Cypripedium*. May-June.



**Cannabis sativa L. Hemp. Red-root.**



*Cannabis sativa* L. Sp. Pl. 1027. 1753.

An annual branching herb, 3°-10° tall, the inner fibrous bark very tough, the branches nearly erect. Leaves divided to the base, the segments lanceolate or linear-lanceolate, acuminate at both ends, sharply and coarsely serrate, 3'-6' long, ¼'-1' wide; staminate panicles narrow, loose, peduncled, 3'-5' long; pedicels filiform, bracteolate, 1''-3'' long; pistillate spikes erect, leafy-bracted, 1' long or less in fruit; achene crustaceous, ovoid-oblong, about 2'' high.

In waste places, New Brunswick to Ontario and Minnesota, south to North Carolina, Tennessee and Kansas. Widely distributed in all temperate regions through cultivation, and occasionally a troublesome weed. Native of Europe and Asia. July-Sept. Gallow-grass. Neckweed.

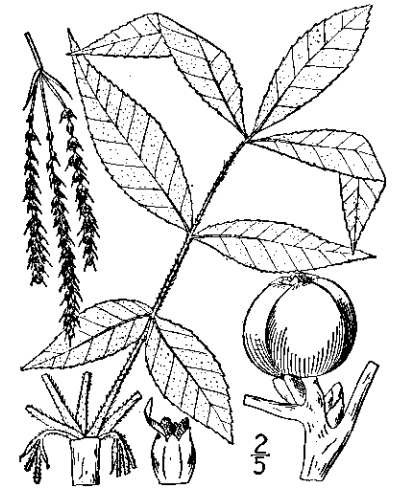
**Carya alba (L.) Nutt. ex Ell.**

**White-heart Hickory. Mocker-nut.**

*Juglans alba* L. Sp. Pl. 997. 1753.  
*Juglans tomentosa* Lam. Encycl. 4: 504. 1797.  
*Carya tomentosa* Nutt. Gen. 2: 221. 1818.  
*Hicoria alba* Britton, Bull. Torr. Club 15: 283. 1888.

A large tree, maximum height 100°, and trunk diameter 3½°, the foliage and twigs persistently tomentose-pubescent, fragrant when crushed, the bark rough and close; bud-scales very large, imbricated; leaflets 7-9, oblong-lanceolate or the upper oblanceolate or obovate, sessile, long-acuminate, narrowed or rounded and somewhat inequilateral at the base; staminate aments peduncled in 3's, tomentose; bract of the staminate calyx linear, much longer than the lateral lobes; fruit globose or oblong-globose, 1½'-3½' long; husk thick, freely splitting to the base; nut grayish-white, angled, pointed at the summit, little compressed, thick-shelled, 4-celled at the base; seed sweet.

In rich soil, eastern Massachusetts to southern Ontario, Illinois and Nebraska, south to Florida and Texas. Ascends to 3500 ft, in Virginia. Wood very hard and tough, dark brown; weight per cubic foot 51 lbs. Fragrant or hard-bark hickory. King-nut. Bull-nut. White-bark, black or red hickory. May-June. Fruit ripe Oct.-Nov.



**Carya ovata (P. Mill.) K. Koch Shag-bark. Shell-bark Hickory.**

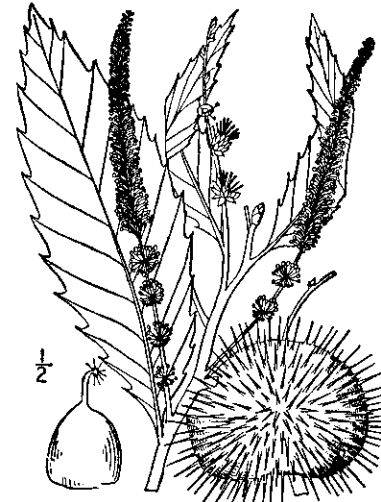


*Juglans ovata* Mill. Gard. Dict. Ed. 8, No. 6. 1768.  
*Carya alba* Nutt. Gen. 2: 221. 1818. Not *Juglans alba* L.  
*Hicoria ovata* Britton, Bull. Torr. Club 15: 283. 1888.

A large tree, sometimes 120° high, with a trunk diameter of 4°; bark shaggy in narrow plates; young twigs and leaves puberulent, becoming glabrous. Leaflets 5, or sometimes 7, oblong, oblong-lanceolate or the upper obovate, acuminate at the apex, narrowed to the sessile base, 4'-6' long, those of young plants much larger, bud-scales 8-10, imbricated, the inner becoming very large and tardily deciduous; staminate aments in 3's, on slender peduncles at the bases of shoots of the season; bract of the staminate calyx linear, longer than the lateral lobes; fruit subglobose, 1½'-2½' long; husk thick, soon splitting into 4 valves; nut white, somewhat compressed, 4-celled at the base, 2-celled (rarely 3-celled) above, pointed, angled, thin-shelled; seed sweet.

In rich soil, Quebec to southern Ontario and Minnesota, south to Florida, Kansas and Texas. Wood strong and tough, light brown; weight per cubic foot 52 lbs. Walnut. Sweet or white walnut. King-nut. Upland or white hickory. Red-heart hickory. May. Fruit ripe Sept.-Nov.

**Castanea dentata (Marsh.) Borkh. American Chestnut.**



*Fagus Castanea dentata* Marsh. Arb. Am. 46. 1785.  
*Castanea dentata* Borkh. Handb. Forsth. 1: 741. 1800.  
*C. vesca* var. *americana* Michx. Fl. Bor. Am. 2: 193. 1803.

A large forest tree, with gray bark rough in longitudinal plates, reaching a maximum height of about 100° and a trunk diameter of 14°; lower branches spreading. Leaves oblong-lanceolate, glabrous, firm, acuminate at the apex, narrowed or rounded at the base, coarsely serrate, with very sharp-pointed ascending teeth, rather dark green above, lighter beneath, 5'-12' long, 1½'-3' wide; petioles stout, ½'-1' long; staminate aments erect, numerous, borne solitary in the upper axils, 6'-12' long, 4'-5'' in diameter; burs 1½'-4' in diameter, solitary or 2-4 together, enclosing 1-5 nuts; nuts puberulent, dark brown, plano-convex or angled on the face, or when solitary ovoid.

In rich soil, Maine and Ontario to Michigan, Georgia and Arkansas. Wood coarse-grained, durable, brown; weight per cubic foot 28 lbs. Involucre sometimes suppressed and the nuts naked. June-July. Nuts ripe Sept.-Oct. Sardin nut. Prickly bur.



**Chamaelirium luteum** (L.) A. Gray.  
Blazing-star.

*Veratrum luteum* L. Sp. Pl. 1044. 1753.  
*Chamaelirium carolinianum* Willd. Mag. Nat. Fr. Berl. 2: 19. 1808.  
*Chamaelirium luteum* A. Gray, Man. 503. 1848.  
*C. obovate* Small, Torreya 1: 108. 1901.

Staminate plant 1½-2½° tall, the pistillate often taller, sometimes 4° high. Basal leaves 2'-8' long, ½'-1½' wide, mostly obtuse, tapering into a long petiole; stem leaves lanceolate, the or upper linear, acute or acuminate, sessile or the lower short-petioled; staminate raceme nodding or finally erect, 3'-9' long, pedicels spreading, 1"-2" long; pistillate raceme erect; flowers nearly 3" broad; capsule oblong or somewhat obovoid, 4"-7" long, 2"-3" in diameter.

In moist meadows and thickets, Massachusetts to southern Ontario and Michigan, south to Florida and Arkansas. Called also Devil's bit, unicorn-root or -horn, drooping starwort. False unicorn-plant. May-July.



**Commelina communis** L. Asiatic Day-flower.

*Commelina communis* L. Sp. Pl. 40. 1753.  
*Commelina Willdenovii* Kunth, Enum. 4: 37. 1843.

Glabrous or nearly so, stems ascending or decumbent, rather slender, sometimes rooting at the nodes, 1°-3° long. Leaves lanceolate or oblong-lanceolate, 3'-5' long, 1'-1½' wide, acuminate at the apex, narrowed or rounded at the base, smooth; sheath white-membranous with green veins, sometimes ciliate, 8"-12" long; spathes few, peduncled, their 2 bracts acute or acuminate, nearly 1' long, glabrous or sometimes pubescent, distinct; flowers deep blue, ½' or more broad; ventral cells of the ovary 2-ovuled, the dorsal 1-ovuled; capsule 2-celled, each cell 2-seeded; seeds compressed, dark brown, roughened.

Southern New York to Pennsylvania, Georgia and Kentucky, and reported from farther north. Adventive or naturalized from Asia. July-Oct.

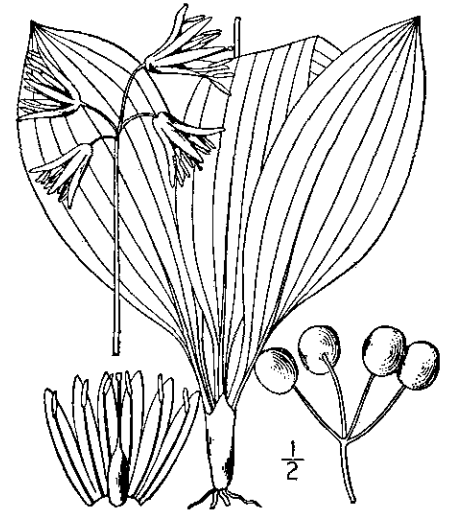


**Clintonia borealis** (Ait.) Raf. Yellow Clintonia.

*Dracaena borealis* Ait. Hort. Kew 1: 454. 1789.  
*Clintonia borealis* Raf. Atl. Journ. 120. 1832.

Scape 6'-15' high, pubescent above or nearly glabrous. Leaves 2-5, usually 3, oval, oblong or obovate, thin, shorter than the scape, 1½'-3½' wide, ciliate, short-acuminate or cuspidate; umbel 3-6-flowered; flowers drooping, greenish yellow, 8"-10" long; pedicels 3"-15" long, slender, pubescent, erect or ascending in fruit; perianth-segments obtuse or acutish; stamens about as long as the perianth; ovary 2-celled; ovules numerous, in 2 rows in each cavity, style slender, somewhat thickened above, about equalling the stamens; berry oval, blue, several-seeded, about 4" in diameter.

In moist woods and thickets, Newfoundland to Ontario and Manitoba, south to North Carolina and Wisconsin. Ascends to 4500 ft. in Virginia. A flower is occasionally borne on the scape below the umbel, and rarely a small leaf. Clinton's-lily. Heal-all. Wild lily-of-the-valley. Bear- or cow-tongue. Northern lily. Dogberry. Wild corn. May-June.

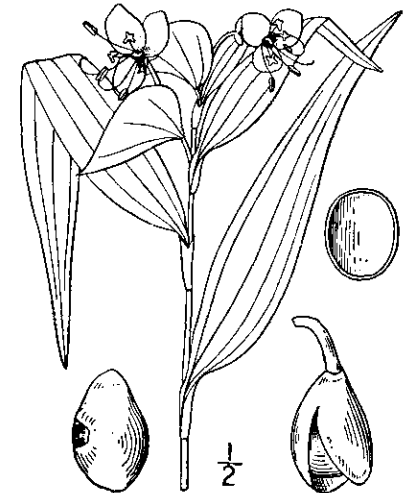


**Commelina virginica** L. Virginia Day-flower.

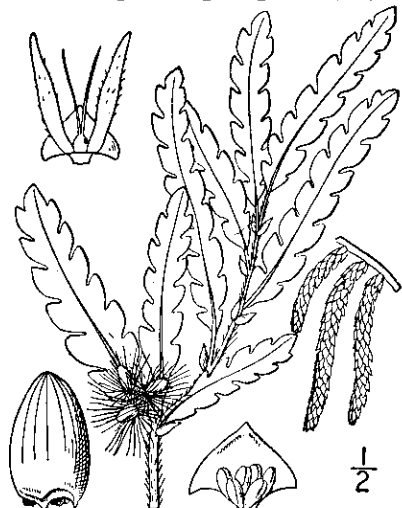
*Commelina virginica* L. Sp. Pl. Ed. 2, 61. 1762.

Similar to *Commelina communis*, somewhat pubescent or glabrous, the stems diffusely branched, rather stouter, 1½°-3° high. Leaves lanceolate or linear-lanceolate, 3'-5' long, 5"-12" wide, acuminate at the apex; sheaths inflated, often pubescent, the orifice sometimes fringed; spathes several, usually peduncled, the 2 bracts acute or acuminate, 8"-12" long, distinct; flowers 1' broad or less, showy; capsule 3-celled, each cell 1-seeded, the dorsal one indehiscent and roughened.

In moist soil, southern New York to Illinois and Michigan, south to Florida, Kansas, Texas and through tropical America to Paraguay. June-Sept.



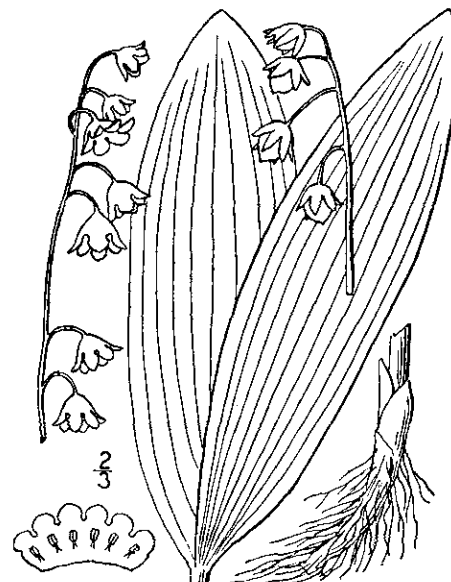
**Comptonia peregrina (L.) Coulter.** Sweet Fern. Fern-gale.



*Liquidambar peregrina* L. Sp. Pl. 999. 1753.  
*Myrica asplenifolia* L. Sp. Pl. 1024. 1753.  
*Liquidambar asplenifolia* L. Sp. Pl. Ed. 2, 1418. 1763.  
*C. asplenifolia* Gaertn. Fr. & Sem. 2: 58. 1791.  
*C. peregrina* Coulter, Mem. Torr. Club 5: 127. 1894.

A shrub, 1°-3° tall, the branches erect or spreading. Leaves linear-oblong or linear-lanceolate in outline, short-petioled, obtuse or subacute at the apex, deeply pinnatifid into numerous oblique rounded entire or sparingly dentate lobes, 3'-6' long, ¼'-½' wide, fragrant when crushed, the sinuses very narrow; stipules semi-cordate, mostly deciduous; staminate aments clustered at the ends of the branches, 1' or less long, their bracts reniform, acute; pistillate aments bur-like in fruit, the subulate bractlets longer than the light brown, shining, striate, obtuse nut.

In dry soil, especially on hill-sides, Nova Scotia to Saskatchewan, south to North Carolina, Indiana and Michigan. Ascends to 2000 ft. in Virginia. Meadow- or shrubby-fern. Sweet-bush or -ferry. Fern- or spleenwort-bush. Canada sweet-gale. April-May.



**Convallaria majalis L.** Lily-of-the-valley.

*Convallaria majalis* L. Sp. Pl. 314. 1753.  
*Convallaria majuscula* Greene, Rep. Nov. Spec. 5: 46. 1907.

Stem 4'-9' high. Leaves oblong, or oval, appearing nearly basal, acute at both ends, 5'-12' long, 1'-2½' wide; basal scales large, 1'-4' long, one of them subtending an erect angled scape shorter than the leaves; raceme 1'-3½' long, loosely several-flowered; pedicels filiform, recurved, 3''-6'' long, exceeding or sometimes shorter than the lanceolate bracts; perianth 3''-4'' long, its lobes 1'' long or less; filaments shorter than the anthers; berry about 3'' in diameter.

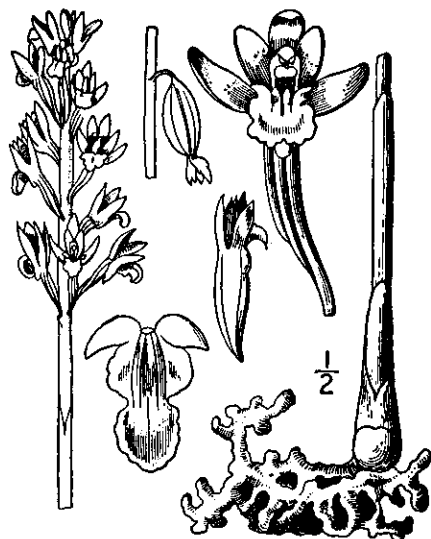
On the higher mountains of Virginia, North Carolina and South Carolina. Common in cultivation. Consists of several slightly differing races. May blossoms. Wood-lily. Conval-lily. May-lily. May-June.

**Corallorrhiza maculata Raf.** Large Coral-root.

*C. maculata* Raf. Am. Month. Mag. 2: 119. 1817.  
*Corallorrhiza multiflora* Nutt. Journ. Acad. Phila. 3: 138. pl. 7. 1823.

Scape 8'-20' high, purplish, clothed with several appressed scales. Raceme 2'-8' long, 10-30-flowered; flowers mainly brownish purple, short-pedicelled; sepals and petals somewhat connivent at the base, linear-lanceolate, about 3'' long; lip white, spotted and lined with crimson, oval or ovate in outline, deeply 3-lobed, crenulate, bearing two narrow lamellae, the middle lobe broader than the lateral ones, its apex curved; spur manifest, yellowish; capsule ovoid or oblong, 5''-8'' long, drooping.

In woods, Nova Scotia to British Columbia, south to Florida, Missouri, New Mexico and California. A race with yellow scapes and flowers occurs occasionally. Dragon's-claws. July-Sept.



**Corallorrhiza odontorrhiza (Willd.) Nutt.** Small or Late Coral-root.

*Cymbidium odontorrhizon* Willd. Sp. Pl. 4: 110. 1805.  
*Corallorrhiza odontorrhiza* Nutt. Gen. 2: 197. 1818.

Scape slender, purplish, 6'-15' high. Raceme 2'-4' long, 6-20-flowered; flowers mainly purplish; sepals and petals lanceolate, 2'' long or less, marked with purple lines; lip about as long as the petals, broadly oval or obovate, entire or denticulate, narrowed at the base, not notched, whitish, spotted with purple; spur, a small sac adnate to the top of the ovary; wings of the column very narrow.

In woods, Maine to Ontario, Michigan, Florida and Missouri. Ascends to 3000 ft. in North Carolina. Turkey-claw. Dragon's-claw. Crawley-root. July-Sept.



**Corallorrhiza striata** Lindl.

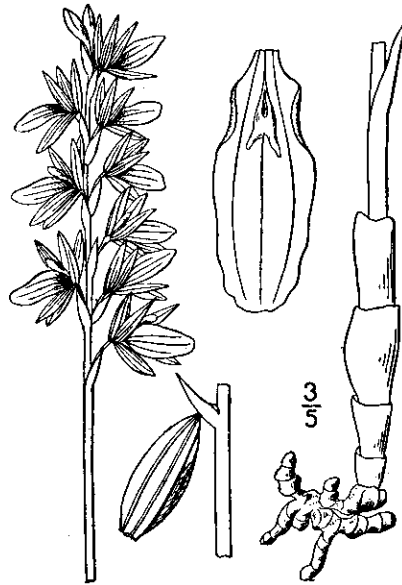
Striped Coralroot.

*C. striata* Lindl. Gen. & Sp. Orch. 534. 1840.

*Corallorrhiza Macraei* A. Gray, Man. Ed. 2, 453. 1856.

Scape stout, purplish, 8'-20' high. Raceme 2'-6' long, 10-25-flowered. Flowers dark purple; sepals and petals narrowly elliptic, striped with deeper purple lines, 6"-7" long, spreading; lip oval or obovate, striate-veined, entire or a little undulate, somewhat narrowed at the base, about as long as the petals, bearing two short lamellae; spur none, but the perianth has a gibbous saccate base; capsule ellipsoid, reflexed, 8"-10" long.

In woods, Ontario and northern New York to Michigan, Oregon and California. July.

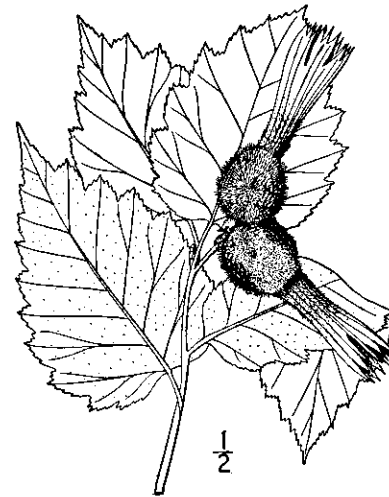


**Corylus rostrata** Ait. Beaked Hazelnut.

*Corylus rostrata* Ait. Hort. Kew. 3: 364. 1789.

A shrub, similar to the preceding species, but the foliage usually less pubescent. Leaves ovate or narrowly oval, acuminate at the apex, cordate or obtuse at the base, incised-serrate and serrulate, glabrous, or with some scattered appressed hairs above, sparingly pubescent at least on the veins beneath, 2½'-4' long, 1'-2½' wide; petioles 2"-4" long; involucre bractlets bristly hairy, united to the summit and prolonged into a tubular beak about twice the length of the nut, lacinate at the summit; nut ovoid, scarcely compressed, striate, 5"-7" high.

In thickets, Nova Scotia to British Columbia, south to Georgia, Tennessee, Kansas and Oregon. April-May. Fruit ripe Aug.-Sept.



**Cypripedium acaule** Ait.

Moccasin Flower. Stemless Ladies'-slipper.

*Cypripedium acaule* Ait. Hort. Kew. 3: 303. 1789. *Fissipes acaulis* Small, Fl. SE. U. S. 311. 1903.

Scape 6'-15' high, rather stout. Leaves 2, basal, elliptic, 6'-8' long, 2'-3' wide, thick; occasionally a smaller leaf is borne on the scape; sepals greenish purple, spreading, 1½'-2' long, lanceolate, the 2 lateral ones united; petals narrower and somewhat longer than the sepals; lip often over 2' long, somewhat obovoid, folded inwardly above, pink with darker veins or sometimes white, the upper part of its interior surface crested with long white hairs; sterile stamen triangular, acuminate, keeled inside.

In sandy or rocky woods, Newfoundland to Manitoba, south to North Carolina, Tennessee and Minnesota. Ascends to 4500 ft. in Virginia. The hairs on the lower part of the bract and on the base of the ovary are often tipped with scarlet glands. Flower fragrant. Pink or purple ladies'-slipper. Nerve-root. Noah's-ark. Camel's-foot. Squirrel's-shoes. Two-lips. Indian-moccasin. Old-goose. May-June.

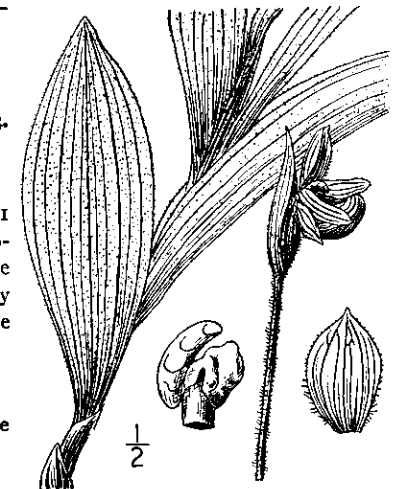


**Cypripedium passerinum** Richards. Northern Ladies'-slipper.

*Cypripedium passerinum* Richards, App. Frank. Journ. 34. 1823.

Stem villous-pubescent, leafy, 6'-10' high, bearing 1 or 2 flowers at the top. Leaves oblong to elliptic-lanceolate, acute; sepals and petals shorter than the lip, the upper sepal broad, nearly orbicular, yellowish; lip nearly spherical, magenta, deeper magenta within toward the base.

Woods and along streams, Ontario to Alberta and the Yukon Territory. Summer.



*Cypripedium pubescens* Willd.,

Yellow or Downy Ladies'-slipper.

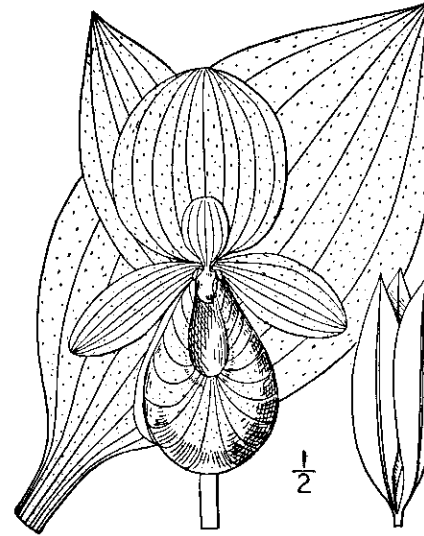


*C. parviflorum* Salisb. Trans. Linn. Soc. 1: 77. 1791.

*C. pubescens* Willd. Sp. Pl. 4: 143. 1805.

Stems leafy, 1°-2½° high. Leaves oval or elliptic, 2'-6' long, 1½'-3' wide, acute or acuminate; sepals ovate-lanceolate, usually longer than the lip, yellowish or greenish, striped with purple; petals narrower, usually twisted; lip much inflated, 8'-2' long, pale yellow with purple lines; its interior with a tuft of white jointed hairs at the top; sterile stamen triangular; stigma thick, somewhat triangular, incurved.

In woods and thickets, Nova Scotia to Ontario and Minnesota, Alabama and Nebraska. Ascends to 4000 ft. in Virginia. Consists of several races, differing mainly in the size of the flowers. Whip-poor-will's shoe. Yellows. Slipper-root. Indian shoe. Yellow moccasin-flower. Noah's-ark. Ducks. American valerian. May-July.



*Cypripedium reginae* Walt. Showy Ladies'-slipper.

?*C. hirsutum* Mill. Gard. Dict. Ed. 8, no. 3. 1768.  
*Cypripedium reginae* Walt. Fl. Car. 222. 1788.  
*Cypripedium album* Ait. Hort. Kew. 3: 303. 1789.  
*Cypripedium spectabile* Salisb. Trans. Linn. Soc. 1: 78. 1791.

Stem stout, villous-hirsute, 1°-2½° high, leafy to the top. Leaves elliptic, acute, 3'-7' long, 1'-4' wide, flowers 1-3; sepals round-ovate, white, not longer than the lip, the lateral ones united for their whole length; petals somewhat narrower than the sepals, white; lip much inflated, 1'-2' long, white, variegated with crimson and white stripes; stamens cordate-ovate.

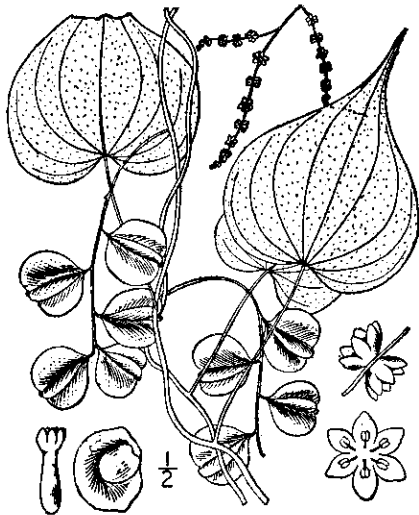
In swamps and woods, Newfoundland to Ontario, Minnesota and Georgia. Nerve-root. Ducks. Whip-poor-will's-shoe. June-Sept.

*Dioscorea villosa* L. Wild Yam-root. Colic-root.

*Dioscorea villosa* L. Sp. Pl. 1033. 1753.

Rootstock slender or stout, simple or branched, horizontal, woody, ¼-½ thick. Stem 6°-15° long, twining or rarely suberect; leaves ovate, entire, slender-petioled, alternate or the lower opposite or in 4's, acuminate at the apex, cordate at the base, 2'-6' long, 1'-4' wide, 9-13-nerved, thin, green and glabrous or nearly so above, pale and pubescent or sometimes glabrous beneath; petioles often longer than the blades; flowers greenish yellow, nearly sessile, the staminate 1"-1½" broad in drooping panicles 3'-6' long, the pistillate about 3" long in drooping spicate racemes; capsules membranous, yellowish green, 7"-12" long, strongly 3-winged, with 2 or sometimes only 1 thin-winged seed in each cavity.

In moist thickets, Rhode Island to Ontario, Minnesota, Kansas, Florida and Texas. Rheumatism-root. June-July. Fruit ripe Sept., persistent on the vines into the winter. Consists of several races, by some regarded as distinct species, differing in the amount of pubescence and in the rootstock. The plant identified as *D. paniculata* Michx., corresponds closely with the Linnaean type.



*Dryopteris Filix-más* (L.) Schott. Male Fern.

*Polypodium Filix-mas* L. Sp. Pl. 1090. 1753.  
*Aspidium Filix-mas* Sw. Schrad. Journ. Bot. 1800²: 38. 1801.

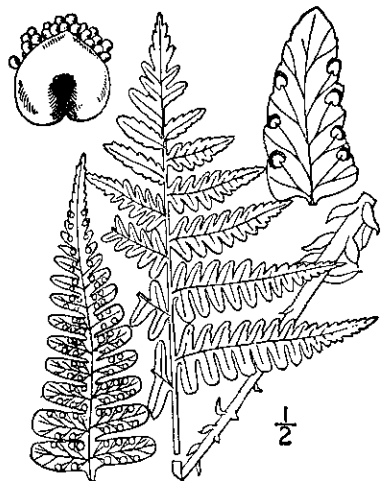
*Dryopteris Filix-mas* Schott, Gen. Fil. 1834.

Rootstock stout, woody, ascending or erect, chaffy. Leaves up to 4° high, in an erect crown; stipes 4'-10' long, densely chaffy below; blades nearly evergreen, 1°-3° long, 6'-11' broad, broadly oblong-lanceolate, acuminate, narrowed at the base, nearly or quite 2-pinnate; pinnae narrowly deltoid-lanceolate to oblong-lanceolate, acuminate; segments adnate, oblong, obtuse and biserrate, or partially adnate, ovate-oblong, acutish and deeply incised; sori numerous, large, nearer the midvein than the margin; indusia orbicular-reniform, glabrous.

In rocky woods, Newfoundland and Labrador to Alaska, south to Vermont, northern Michigan, South Dakota, Arizona and California. Aug. Also in Greenland. Numerous related forms of wide distribution are referred to this species; the type is European. The rootstock of this and the preceding species furnish the drug Filix-mas used as a vermifuge. Basket-fern. Male shield-fern. Shield-roots. Bear's-paw-roots. Sweet or knotty brake.



**Dryopteris marginàlis (L.) A. Gray. Evergreen Wood-fern.**



*Polypodium marginale* L. Sp. Pl. 1091. 1753.  
*Aspidium marginale* Sw. Syn. Fil. 50. 1806.  
*Dryopteris marginalis* A. Gray, Man. 632. 1848.

Rootstock stout, woody, ascending, densely covered with bright brown shining scales, the leaves borne in a crown. Stipes 4'-10' long, chaffy below; blades ovate-oblong or ovate-lanceolate, chartaceo-coriaceous, 6'-2½° long, nearly or quite 2-pinnate, acuminate, usually a little narrowed at the base; pinnae numerous, sessile or nearly so, glabrous, 2'-5' long, the lowermost unequally deltoid-lanceolate, those above lanceolate to broadly oblong-lanceolate, acuminate; segments oblong or lanceolate, obtuse or subacute, subfalcate or falcate, subentire, crenate or pinnately lobed, partially adnate or the lowermost distinct; sori distant, close to the margin; indusia orbicular-reniform, glabrous.

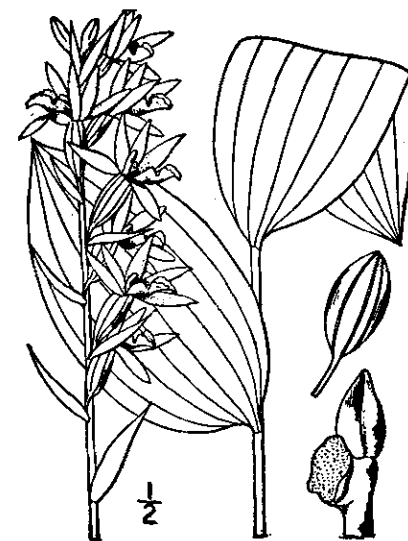
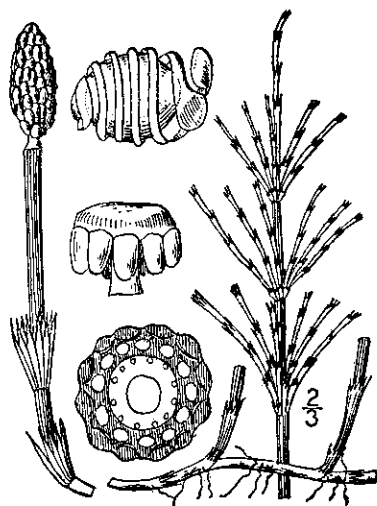
In rocky woods and on banks Nova Scotia to British Columbia, south to Georgia, Alabama, Arkansas, Kansas and Oklahoma. Ascends to 5000 ft. in Virginia. Leaves evergreen. July-Aug. Marginal Shield-fern.

**Equisetum arvése L. Field Horsetail.**

*Equisetum arvense* L. Sp. Pl. 1061. 1753.

Stems annual, provided with scattered stomata, the fertile appearing in early spring before the sterile. Fertile stems 4'-10' high, not branched, soon withering, light brown, their loose scarios sheaths mostly distant, whitish, ending in about 12 brown acuminate teeth; sterile stems green, rather slender, 2'-2° high, 6-19-furrowed, with numerous long mostly simple verticillate 4-angled or rarely 3-angled solid branches, the sheaths of the branches 4-toothed, the stomata in 2 rows in the furrows.

In sandy soil, especially along roadsides and railways, Newfoundland and Greenland to Alaska, south to Virginia and California. Also in Europe and Asia. Ascends to at least 2500 ft. in Virginia. An occasional form in which the sterile stem bears a terminal spike is known as var. *serotinum*. Sterile stems sometimes very short and with long prostrate or ascending branches. Called also Corn-field Horsetail; Bottlebrush, Horse- or Snake-pipes; Cat's-tail. May.



**Epipactis helleborine (L.) Crantz**

Helleborine. Bastard Hellebore.

*Serapias Helleborine* L. Sp. Pl. 949. 1753.  
*Serapias viridiflora* Hoffm. Deutsch. Fl. 2: 182. 1804.  
*Epipactis latifolia* var. *viridiflora* Irm. Linnaea 16: 451. 1842.

*Epipactis viridiflora* Reichb. Fl. Exc. 134. 1830.

Stem 1°-2° high, glabrous below, pubescent above. Leaves ovate or lanceolate, obtuse or acute, 1½-3' long, 9"-1½' wide; flowers greenish yellow to purple; pedicels 2"-3" long; sepals 4"-5" long, lanceolate; petals narrower; lip expanded into a slightly undulate apex, tapering to a point; bracts lanceolate, longer than the flowers.

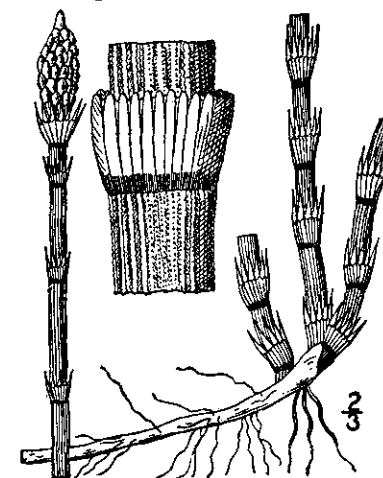
Quebec and Ontario to Massachusetts and Pennsylvania. Local; probably introduced. Widely distributed in Europe. July-Aug.

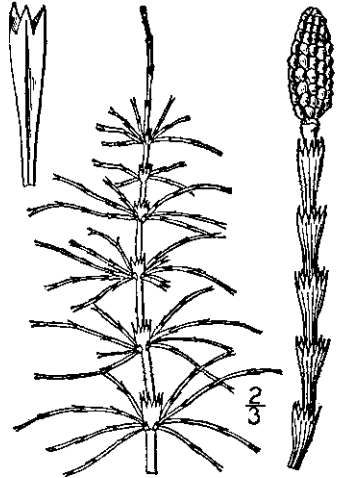
**Equisetum hyemàle L. Common Scouring-rush.**

*Equisetum hyemale* L. Sp. Pl. 1062. 1753.

Stems slender, rather stiff, evergreen, 2°-4° high, with the stomata arranged in regular rows, rough, 8-34-furrowed, the ridges with two indistinct lines of tubercles, the central cavity large, from one-half to two-thirds the diameter; sheaths rather long, cylindric, marked with one or two black girdles, their ridges obscurely 4-carinate; teeth brown, membranous, soon deciduous; spikes pointed; stem rarely producing branches which are usually short and occasionally fertile; forms are sometimes found with longer sterile branches.

In wet places and on banks, especially along rivers and lakes, throughout nearly the whole of North America, Europe and Asia. The rough stems of this and related species are used for scouring floors. The species consists of numerous races. Called also Horse-pipe, Mare's-tail, Shave-grass, Shave-weed, Pewter-wort, Rough Horsetail, Dutch-rush, Gun-bright. May-June.





**Equisetum pratense Ehrh. Thicket or Meadow Horsetail.**

*Equisetum pratense* Ehrh. Hanov. Mag. 9: 138. 1784.

Stems annual, 8'-16' high, with scattered stomata, the fertile appearing in spring before the sterile, branched when old, only its apex withering, the two becoming similar in age; stems rough, 8-20-ridged with narrow furrows and cylindric or cup-shaped sheaths; branches straight, rather short, simple, densely whorled, 3-angled or rarely 4-5-angled, solid; sheaths of the stem with about 11 short ovate-lanceolate teeth, those of the branches 3-toothed; rootstocks solid, acutely angled.

In sandy places, Nova Scotia and Rupert River to Minnesota, and Alaska, south to New Jersey, Iowa and Colorado. Also in Europe and Asia. July-Sept.

**Fagus grandifolia Ehrh. American Beech.**

*Fagus americana latifolia* Muench. Hausv. 5: 162. 1770.  
*Fagus grandifolia* Ehrh. Beytr. Naturk. 3: 22. 1788.  
*Fagus ferruginea* Ait. Hort. Kew. 3: 362. 1789.  
*Fagus americana* Sweet, Hort. Brit. 370. 1826.  
*F. grandifolia caroliniana* Fernald & Rehder, Rhodora 9: 114. 1907.

A large forest tree, with maximum height of about 120', and a trunk diameter of 4½', the lower branches spreading. Leaves ovate, ovate-oblong or oblong-obovate, firm, acuminate at the apex, obtuse, subcordate or narrowed at the base, 2'-4½' long, 1'-3' wide, densely silky when young, glabrous or somewhat pubescent when mature, green on both sides, not shining, rather coarsely serrate; petioles 2"-6" long; heads of staminate flowers 6"-9" in diameter, hanging on peduncles 1'-3' long; bur 6"-10" high, densely tomentose, its soft, long or short prickles recurved or spreading; nut brown; seed sweet.

In rich soil, Nova Scotia to Ontario, Minnesota, Missouri, Florida and Texas. Wood hard, strong, tough, close-grained; color light or dark red; weight 43 lbs. per cubic foot. April-May. Nuts ripe Sept.-Oct. Leaves of seedlings and young shoots are sometimes pinnatifid. Red or white beech.



**Erythronium americanum Ker. Yellow Adder's-tongue.**

*Erythronium americanum* Ker, Bot. Mag. pl. 1113. 1 Je. 1808.  
*Erythronium angustatum* Raf. Med. Rep. (II.) 5: 354. 20 Jl. 1808.  
*Erythronium bracteatum* Bigel.; Beck, Bot. N. & Mid. States 365. 1833.

Corm ovoid, 6"-10" high, producing offshoots from its base. Stem ½'-1' long; leaves oblong or oblong-lanceolate, 3'-8' long, ½'-2' wide, acute or short-acuminate at the apex, flat, usually mottled with brown, but sometimes green all over, narrowed into clasping petioles; peduncle about as long as the leaves, rarely bearing a bract; flower yellow, or rarely purplish tinged; perianth-segments oblong, 10"-2' long, 3'-4" wide, recurved, dotted within, the 3 inner auricled at the base; style club-shaped, with 3 very short stigmatic ridges; capsule obovoid, contracted into a short stipe, 6"-10" high; seeds curved, rounded on the back, about 1½" long, pointed at both ends.

In moist woods and thickets, Nova Scotia to Ontario and Minnesota, south to Florida, Nebraska and Arkansas. Ascends to 5500 ft. in Virginia. Yellow- or Trout-lily. Trout-flower. Yellow-bells. Yellow snowdrop. Rattlesnake- or Dog's-tooth violet. Lamb's- or Deer's-tongue. Scrofula-root. Snake-root. March-May.

**Goodyera pubescens**

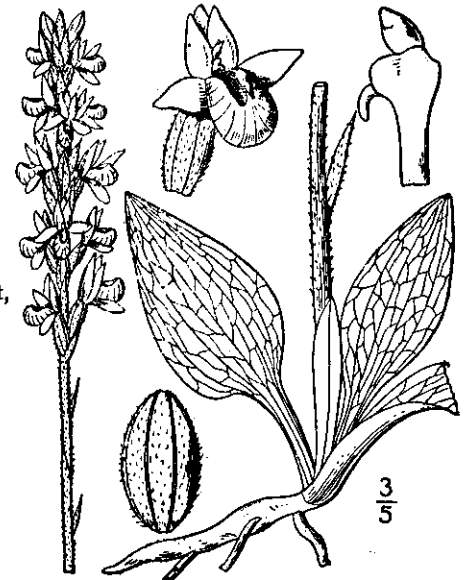
(Willd.) R. Br. ex Ait. f.

**Downy Rattlesnake Plantain. Network.**

*Neottia pubescens* Willd. Sp. Pl. 4: 76. 1805.  
*Goodyera pubescens* R. Br. in Ait. Hort. Kew. Ed. 2, 5: 198. 1813.  
*Peramium pubescens* MacM. Met. Minn. 172. 1892.  
*Epipactis pubescens* A. A. Eaton, Proc. Biol. Soc. Wash. 21: 65. 1908.

Scape 6'-20' high, densely glandular-pubescent, bearing 5-10 lanceolate scales. Leaves 1'-2' long, 8"-1' wide, strongly white-reticulated, oval or ovate; spike not 1-sided; flowers greenish white; perianth 2½"-3" long; lateral sepals ovate; galea ovate, its short tip usually not recurved; lip strongly saccate with a short broad obtuse recurved or spreading tip.

In dry woods, Maine to Ontario and Minnesota, south to Florida and Tennessee. Ascends to 4000 ft. in North Carolina. Adder's-violet. Net-leaf or spotted-plantain. Rattlesnake-leaf. Rattlesnake- or scrofula-weed. Ratsbane. July-Aug.



*Goodyera repens* (L.) R. Br. ex Ait. f.  
Lesser Rattlesnake Plantain.

*Goodyera repens* var. *ophioides* Fernald, Rhodora 1: 6. 1899.  
*P. ophioides* Rydb. in Britton, Man. 302. 1901.  
*Epipactis repens ophioides* A. A. Eaton, Proc. Biol. Soc. Wash. 21: 65. 1908.

Scape 5'-10' high, glandular-pubescent, bearing several small scales. Leaves ovate, the blade 6"-15" long, 4"-8" wide, somewhat reticulated or blotched with white, tapering into a sheathing petiole; spike short, 1-sided; flowers greenish white; perianth 1½"-2" long; galea concave, ovate, with a short spreading or slightly recurved tip; lip saccate, with a narrow recurved or spreading apex; column very short; anther 2-celled; pollinia not prolonged into a caudicle.

In woods, Newfoundland to Yukon, South Carolina, Michigan and Colorado. Ascends to 5000 ft. in Virginia. Creeping-root plant. White-plantain. Squirrel-ear. *P. repens* (L.) Salisb. is restricted to Europe and Asia. July-Aug.



*Goodyera tessellata* Lodd.  
Loddiges' Rattlesnake Plantain.

*Goodyera tessellata* Lodd. Bot. Cab. 10: pl. 952. 1824.

*Epipactis tessellata* A. A. Eaton, Proc. Biol. Soc. Wash. 21: 66. 1908.

*P. tessellatum* Heller, Cat. N. A. Pl. Ed. 2, 4. 1900.

Scape 6'-12' high, glandular-pubescent, scaly. Leaves ovate, oblong-ovate or ovate-lanceolate, the blade 10"-20" long, 4"-11" wide, bright green, more or less conspicuously marked with white, usually abruptly narrowed into the sheathing petiole; spike 1½'-5' long, loosely spiral; flowers whitish, larger than those of *P. ophioides*; perianth 2"-2½" long; galea broad, the tip recurved; lip slightly saccate at the base, the long tip somewhat recurved; column short.

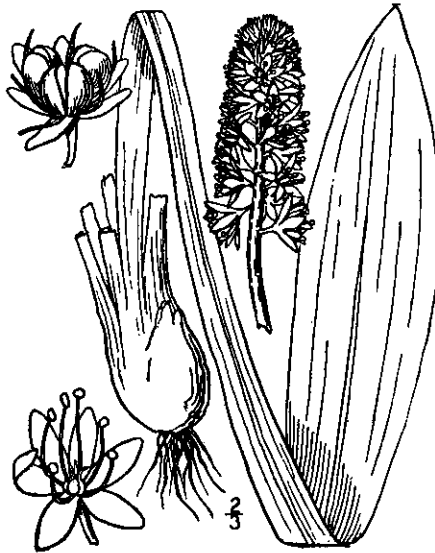
Mostly in coniferous woods, Newfoundland to Ontario, Pennsylvania and Michigan. July-Sept.

*Helonias bullata* L. Swamp Pink.

*Helonias bullata* L. Sp. Pl. 342. 1753.

Leaves several or numerous, dark green, thin, clustered at the base of the scape, 6'-15' long, ½'-2' wide, pointed or blunt, finely parallel-nerved. Scape stout, bracted below, the bracts lanceolate, acute or acuminate, membranous; raceme dense, 1'-3' long in flower, becoming 4'-7' long in fruit; perianth-segments about 3" long, equalling or rather longer than the stout pedicels; capsules about 3" long, the valves papery; seeds 1½"-2" long.

In bogs northern New Jersey, southern New York and eastern Pennsylvania to North Carolina. Local. The scape sometimes bears a few leaves at its base. April-May. Stud-flower. Not definitely known to grow wild in Pennsylvania at the present time.



*Hierochloë odorata* (L.) Scribn. Holy Grass. Seneca-grass. Fig. 408.

*Holcus odoratus* L. Sp. Pl. 1048. 1753.

*Hierochloa borealis* R. & S. Syst. 2: 513. 1817.

*Hierochloa odorata* Wahl. Fl. Ups. 32. 1820.

*Savastana odorata* Scribn. Mem. Torr. Club, 5: 34. 1894.

Glabrous, culms 1°-2° tall, erect, simple, smooth. Sheaths smooth; ligule 1"-2" long; lower blades elongated, 4'-8' long, 1"-3" wide, scabrous, the upper ones ½'-2' long; panicle 2'-4' long, its branches 1'-2' long, usually spreading, naked below; spikelets yellowish-brown and purple, 2'-3" long; first and second scales about equal, glabrous; third and fourth villous and strongly ciliate, entire, awn-pointed, the fifth smaller than the others, villous at the apex.

Labrador and Newfoundland to Alaska, south to New Jersey, Iowa and Colorado. Also in northern Europe and Asia. June-July. This and other sweet-scented grasses are strewn before the churches in northern Europe, whence the name Holy-grass. Also known as Vanilla-grass.



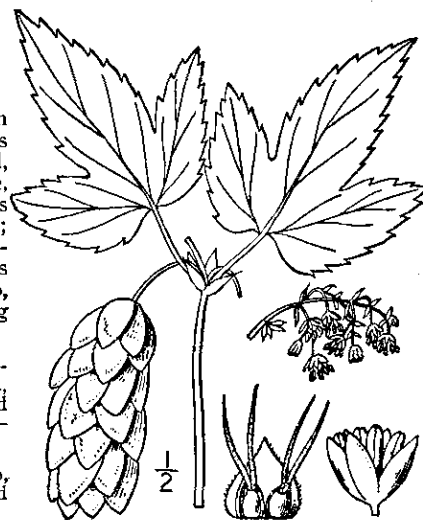
## Humulus Lupulus L. Hop.

*Humulus Lupulus* L. Sp. Pl. 1028. 1753.

A dextrorsely twining or prostrate vine, often 25' long, very rough with stiff reflexed hairs. Leaves orbicular or ovate in outline, slender-petioled, deeply 3-7-cleft or some of the upper ones ovate, acute and merely serrate; petioles  $\frac{1}{2}$ '-3' long; stipules reflexed, ovate or lanceolate, acuminate, 4"-12" long; panicles of staminate flowers 2'-5' long; ripe pistillate clusters (hops) 1'-2 $\frac{1}{2}$ ' long; fruiting bracts broadly ovate, concave, thin, glabrous or nearly so, obtuse, much longer than the achenes; fruiting calyx and achene strongly resinous-aromatic.

In thickets and on river banks, Nova Scotia to Manitoba, south to southern New York, Pennsylvania, Georgia, Kansas, Arizona and New Mexico. Extensively escaped from cultivation. Native also of Europe and Asia. July-Aug. Fruit ripe Sept.-Oct.

*Humulus japonicus* Sieb. & Zucc., the Japanese hop, with deltoid acuminate, not resinous, bracts, has escaped from cultivation from Connecticut to New Jersey.



## Iris germanica L. Fleur-de-lis.

*Iris germanica* L. Sp. Pl. 38. 1753.

Rootstock thick. Stems stout, usually branched and several-flowered, 2°-3° tall, bearing several leaves. Leaves glaucous, 8"-2' wide, the basal ones mostly shorter than the stem; bracts scarious; flowers nearly sessile in the bracts, large and very showy, deep violet-blue veined with yellow and brown or sometimes white; outer perianth-segments broadly obovate, 3'-4' long, their claws strongly crested; inner perianth-segments narrower, arching.

Escaped from gardens to roadsides in Massachusetts and Virginia. Native of Europe. May-June.

*Iris Duerfackii* Buckley, Am. Journ. Sci. 45: 176, described from specimens collected at St. Louis, Mo., but doubtless cultivated, appears to be *I. aphylla* L., a native of central Europe.



## Iris missouriensis Nutt. Western Blue-flag.

*I. missouriensis* Nutt. Journ. Acad. Phila. 7: 58. 1834.

Rootstock stout. Stem rather slender, usually simple, terete, 6'-2° tall, 1-2-flowered; leaves mostly basal, green, sometimes purplish below, shorter than or about equalling the stem, 2"-4" wide; flowers pale blue and variegated, pedicelled; pedicels slender,  $\frac{1}{2}$ '-2' long, usually shorter than the scarious bracts; perianth-segments glabrous, crestless, the outer ones 2'-2 $\frac{1}{2}$ ' long, the inner somewhat shorter, the tube 3"-4" long above the ovary; capsule oblong, 1'-1 $\frac{1}{2}$ ' long, about  $\frac{1}{2}$ ' in diameter, obtusely 6-angled, faintly veined.

In wet soil, South Dakota to Montana, Idaho and Nevada, south to Colorado and Arizona. May-July.

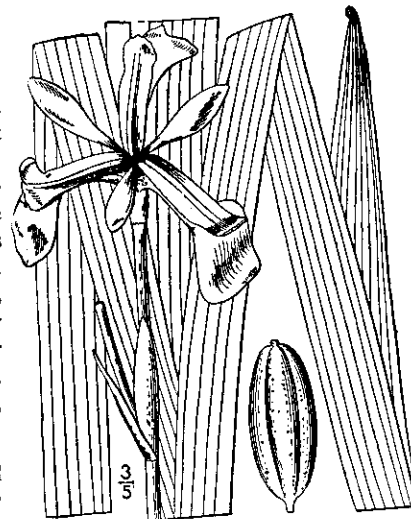
## Iris versicolor L. Larger Blue-flag. Poison- or Water-flag.

*Iris versicolor* L. Sp. Pl. 39. 1753.

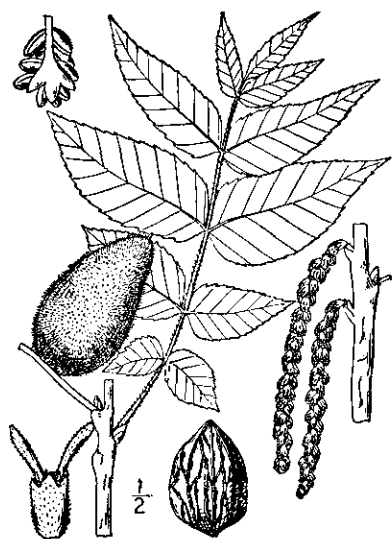
*Iris virginica* L. Sp. Pl. 39. 1753.

Rootstock horizontal, thick, fleshy, covered with the fibrous roots. Stems terete or nearly so, straight or flexuous, 2°-3° tall, often branched above, leafy; leaves erect, shorter than the stem, somewhat glaucous, 6"-12" wide; bracts commonly longer than the pedicels, the lower one sometimes foliaceous; flowers several, violet-blue, variegated with yellow, green and white; perianth-segments glabrous, crestless, the outer ones spatulate, 2'-3' long, longer and wider than the inner; perianth-tube dilated upward, shorter than the ovary; capsule oblong, obscurely 3-lobed, about 1 $\frac{1}{2}$ ' long and 8" in diameter; seeds 2"-3" broad, in 2 rows in each cell, the raphe indistinct.

In marshes, thickets and wet meadows, Newfoundland to Manitoba, south to Florida and Arkansas. Snake-, Liver- or Flag-lily. May-July.





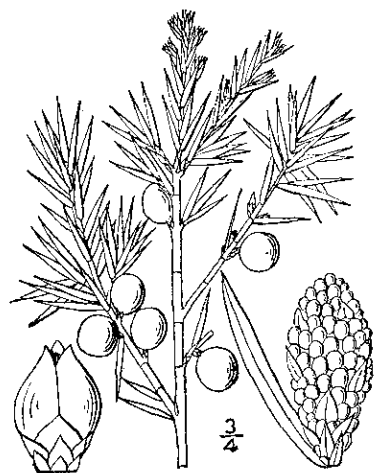


**Juglans cinerea L.** Butternut. White or Lemon Walnut. Oil-nut.

*Juglans cinerea* L. Sp. Pl. Ed. 2, 1415. 1763.

A forest tree, resembling the Black Walnut, but smaller, rarely over 100' high and 3' in trunk diameter, the bark gray, smoother, the twigs, petioles and leaflets viscid-pubescent, at least when young. Leaflets 11-19, oblong-lanceolate, acuminate at the apex, scarcely inequilateral, obtuse, rounded or truncate at the base, serrate with low teeth; drupes racemed, oblong, densely viscid-pubescent, 2'-3' long and about one-half as thick, pointed; nut 4-ribbed, deeply sculptured, and with sharp longitudinal ridges, firmly adherent to the husk, 2-celled at the base.

In rich or rocky woods. New Brunswick and Ontario to North Dakota, south to Delaware, in the Alleghenies to Georgia, and to Mississippi, Arkansas and Kansas. Ascends to 2500 ft. in Virginia. Wood soft, rather weak, light brown; weight per cubic foot 25 lbs. April-May. Fruit ripe Oct.-Nov.



**Juniperus communis L.** Juniper.

*Juniperus communis* L. Sp. Pl. 1040. 1753.

A low tree or erect shrub, sometimes attaining a height of 30' and a trunk diameter of 12', usually smaller, the branches spreading or drooping, the bark shreddy. Leaves all subulate, rigid, spreading, or some of the lower reflexed, mostly straight, prickly pointed, verticillate in 3's, often with smaller ones fasciated in their axils, 5"-10" long, less than 1" wide, channeled and commonly whitened on the upper surface; aments axillary; berry-like cones sessile or very nearly so, dark blue, 3"-4" in diameter.

On dry hills, Massachusetts to Alaska, south to New Jersey, North Carolina, Michigan, western Nebraska and in the Rocky Mountains to New Mexico. Ascends to 900 ft. in Pennsylvania. Also in Europe and Asia. The fruit, called Melmot berries, is used for flavoring gin. Called also Horse Savin, Hackmatack, Aiten. April-May. Fruit ripe Oct.

**Juglans nigra L.** Black Walnut.

*Juglans nigra* L. Sp. Pl. 997. 1753.

A large forest tree with rough brown bark, maximum height about 150', trunk diameter 8', the twigs of the season and petioles puberulent, the older twigs glabrous or very nearly so. Leaflets 13-23, ovate-lanceolate, more or less inequilateral, acuminate at the apex, rounded or subcordate at the base, serrate with low teeth, glabrous or very nearly so above, pubescent beneath, 3'-5' long, 1'-2' wide; staminate aments solitary in the axils of leaf-scars of the preceding season, 3'-5' long; drupes usually solitary or 2 together, globose or a little longer than thick, 1 1/2'-3' in diameter, glabrous but papillose, not viscid; nut corrugated, slightly compressed, 4-celled at the base and apex.

In rich woods, Massachusetts to southern Ontario and Minnesota, south to Florida and Texas. Wood strong, hard, rich brown; weight per cubic foot 38 lbs. April-May. Fruit ripe Oct.-Nov.

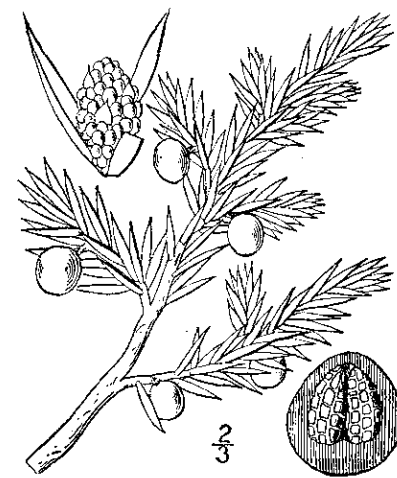


**Juniperus sibirica Burgsd.** Low Juniper. Fairy Circles.

*Juniperus sibirica* Burgsd. Anleit. 2: 124. 1787.  
*Juniperus nana* Willd. Sp. Pl. 4: 854. 1806.  
*J. communis depressa* Pursh. Fl. Am. Sept. 646. 1814.  
*Juniperus communis* var. *alpina* Gaud. Fl. Helv. 6: 301. 1830.

A depressed or trailing rigid shrub, seldom over 18' high, forming circular patches often 10' in diameter. Leaves similar to those of the preceding species, but stouter, similarly channeled and often whitened above, appressed-ascending, rather rigid, spiny tipped, 4"-6" long, mostly incurved, densely clothing the twigs, verticillate in 3's; aments axillary; berry-like cones blue, 4"-5" in diameter.

In dry, open places, Labrador to British Columbia, south to Massachusetts, New York, Michigan and in the Rocky Mountains to Colorado and Utah. Also in Europe and Asia. Although the characteristic growth in a depressed circular patch gives a very different aspect from the true Juniper, the plant may, perhaps, be better regarded as a race of *J. communis* L. April-May.

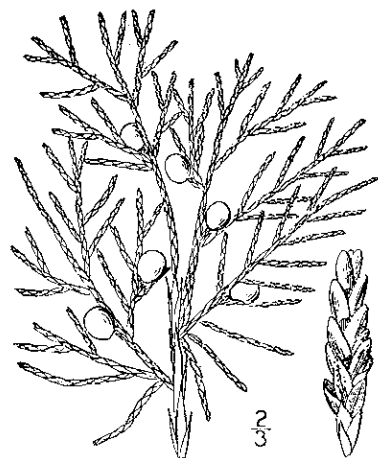


*Juniperus virginiana* L. Red Cedar. Savin.

*Juniperus virginiana* L. Sp. Pl. 1039. 1753.

A tree, reaching a maximum height of about 100° and a trunk diameter of 5°, conic when young, but the branches spreading in age so that the outline becomes nearly cylindrical. Leaves mostly opposite, all those of young plants and commonly some of those on the older twigs of older trees subulate, spiny-tipped, 2"-4" long, those of the mature foliage scale-like, acute or sub-acute, closely appressed and imbricated, 4-ranked, causing the twigs to appear quadrangular; aments terminal; berry-like cones light blue, glaucous, about 3" in diameter, borne on straight peduncle-like branchlets of less than their own length, 1-2-seeded, maturing the first season.

In dry soil, Nova Scotia to western Ontario and South Dakota, south to Florida and Texas. Wood soft, not strong, straight-grained, compact, odorless, red, the sapwood white; weight per cubic foot 31 lbs.; used in large quantities in the manufacture of lead pencils. April-May. Fruit ripe Sept.-Oct. Called also Red Savin or Juniper; Juniper-bush, Carolina Cedar, Pencil-wood.



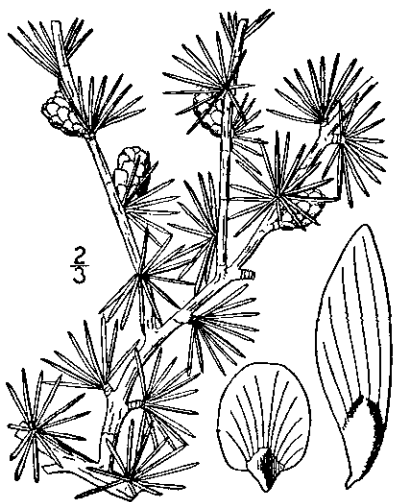
*Juniperus scopulorum* Sargent, the Rocky Mountain Red Cedar, which differs from *J. virginiana* mainly in maturing its fruit during the second season, has been reported from Nebraska.

*Larix laricina* (Du Roi) Koch. American Larch. Tamarack.

*Pinus laricina* Du Roi, Obs. Bot. 49. 1771.  
*Pinus pendula* Ait. Hort. Kew. 3: 369. 1789.  
*Larix americana* Michx. Fl. Bor. Am. 2: 203. 1803.  
*Larix laricina* Koch, Dendrol. 2: Part 2, 263. 1873.

A slender tree, attaining a maximum height of about 100° and a trunk diameter of 3°, the branches spreading, the bark close or at length slightly scaly. Leaves pale green, numerous in the fascicles, 5"-12" long, about 1/4" wide, deciduous in late autumn; fascicles borne on short lateral branchlets about 2" long; cones short-peduncled at the ends of similar branchlets, ovoid, obtuse, 6"-8" long, composed of about 12 suborbicular thin scales, their margins entire or slightly lacerate.

In swampy woods and about margins of lakes, Newfoundland to the Northwest Territory, south to New Jersey, Pennsylvania, Indiana and Minnesota. Wood hard, strong, very durable, resinous, light brown; weight per cubic ft. 39 lbs. Called also Hackmatack, Hackmak, Black or Red Larch, Juniper Cypress. March-April.



*Laportea canadensis* (L.)

Wood or Canada Nettle.

*Urtica divaricata* L. Sp. Pl. 985. 1753.  
*Urtica canadensis* L. Sp. Pl. 985. 1753.  
*Laportea canadensis* Gaud. in Freyc. Voy. Bot. 498. 1826.  
*U. divaricatum* Kuntze, Rev. Gen. Pl. 635. 1891.

Stem rather stout, erect or ascending, 1 1/2°-4° tall. Leaves thin, ovate, long-petioled, acuminate or acute at the apex, sharply serrate, 3-nerved and pinnately veined, glabrous or with some stinging hairs, 3'-7' long, 2'-5' wide; petioles very slender, 1 1/2'-5' long; stipule solitary, small, lanceolate, 2-cleft, commonly deciduous; flower-clusters large and loose, often longer than the petioles, the lower staminate, the upper pistillate, divergent, 2'-6' broad in fruit; ultimate branches of the fruiting clusters flat, cuneate, emarginate; achene twice as long as the calyx, glabrous, 1 1/2" long.

In rich woods, Nova Scotia to Ontario and North Dakota, south to Florida and Kansas. Ascends to 3000 ft. in the Adirondacks. July-Aug. Albany-hemp.

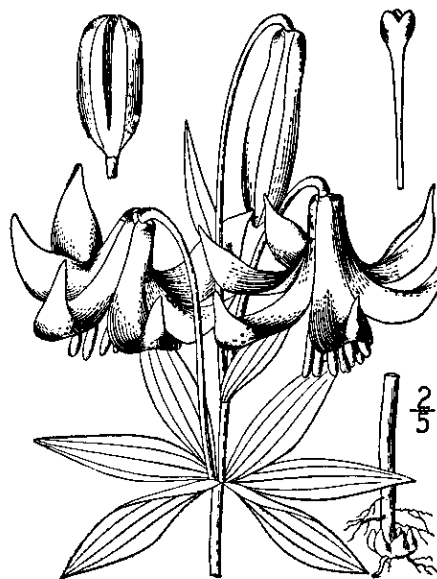


*Lilium canadense* L. Wild Yellow Lily. Canada or Nodding Lily.

*Lilium canadense* L. Sp. Pl. 303. 1753.

Bulbs subglobose, 1'-2' in diameter, borne on a stout rootstock, composed of numerous thick white scales. Stem 2°-5° tall, slender or stout; leaves lanceolate or oblong-lanceolate, verticillate in 4's-10's or some of them alternate, acuminate, 2'-6' long, 3"-15' wide, finely roughened on the margins and on the veins beneath; flowers 1-16, nodding on long peduncles; peduncles sometimes bearing a small leaf-like bract; perianth-segments 2'-3' long, yellow or red, usually thickly spotted below, recurved or spreading, not clawed; capsule oblong, erect, 1 1/2'-2' long.

In swamps, meadows and fields, Nova Scotia to Ontario, Minnesota, Georgia, Alabama, Missouri and Nebraska. Ascends to 6000 ft. in North Carolina. Red-flowered races with slightly spreading perianth-segments resemble the following species, and races with strongly recurved segments, *L. superbum*. Field- or meadow-lily. June-July.

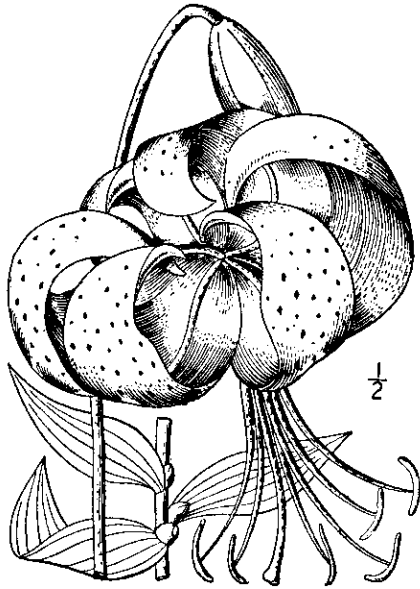


**Lilium tigrinum** Andr. Tiger Lily.

*Lilium tigrinum* Andr. Bot. Rep. 9: errata. 1809.

Bulb solitary, globose, about 1½' in diameter, composed of numerous oblong-lanceolate, appressed scales. Stem stout, purple or nearly black, white-pubescent above, 2°-5° tall, leafy nearly to the base; leaves lanceolate, all alternate, glabrous or slightly pubescent, 4'-6' long, 5"-10" wide, the upper bearing blackish bulblets, of 3 or 4 scales, in their axils, which sometimes emit roots while attached to the plant; flowers 5-25, orange-red, nodding, 3'-4½' long; perianth-segments lanceolate, papillose, recurved, purple-spotted.

Escaped from gardens, Maine, Massachusetts and eastern Pennsylvania. Native of China and Japan. Summer.



**Lycopodium clavatum** L. Running-pine.  
Club-moss.

*Lycopodium clavatum* L. Sp. Pl. 1101. 1753.

Main stems prostrate, extensively creeping (3°-9°) along the ground, branching horizontally, with numerous very leafy ascending pinnately branched aerial stems; leaves crowded, many-ranked, linear, bristle-tipped, entire or denticulate, those of the main stems strongly denticulate; peduncles stout, 2½'-4½' long, channeled, with slender whorled or scattered denticulate bristle-tipped bracts, simple or several times forked near the summit; spikes linear-cylindric, the sporophylls deltoid-ovate, acuminate, or bristle-tipped, the margins scarious, erose.

In woods, Labrador to Alaska, south to North Carolina, Michigan and Washington. Also in Europe, Asia and tropical America. The spores of this species, and those of *L. complanatum*, furnish the inflammable power known as Lycopodium powder or vegetable sulphur, used in stage effects. Aug.-Oct. Called also running-moss. Fox-tail. Buck's-horn. Buck's-grass. Staghorn-moss. Snake-moss. Wolf's-claws. Ground-pine. Toad's-tail. Lamb's-tails. Creeping-bur. Creeping Jennie. Coral-evergreen.



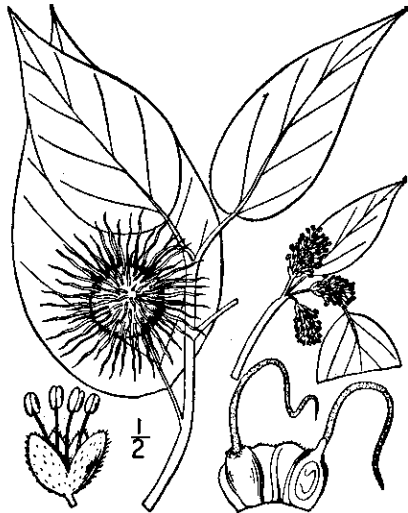
**Maclura pomifera** (Raf.) Schneid.

Osage or Wild Orange.

*T. pomiferum* Raf. Am. Month. Mag. 2: 118. 1817.  
*Maclura aurantiaca* Nutt. Gen. 2: 234. 1818.  
*Maclura pomifera* Schneider, Handb. Laubh. 1: 806. 1906.

A tree with ridged brown bark, and spreading branches; maximum height about 60°, and trunk diameter 2½°; foliage puberulent when young, glabrous when mature. Leaves ovate, ovate-lanceolate or ovate-oblong, glossy, entire, 3'-6' long, apex acuminate, base obtuse, truncate or subcordate; petioles ½'-2' long; axillary spines straight, sometimes 3' long; staminate racemes ½'-1' long, usually numerous; flowers about 1" broad; head of pistillate flowers peduncled, pendulous, about 1' in diameter, ripening into a hard yellowish tubercled syncarp 2'-6' in diameter.

In rich soil, Missouri and Kansas to Texas. Wood hard, very strong, dense, durable; color bright orange; weight per cubic foot 48 lbs. Much planted for hedges and occasionally spontaneous in the East. May-June. Fruit ripe Oct.-Nov. Bow- or yellow-wood. Hedge-plant. Osage. Osage-apple.



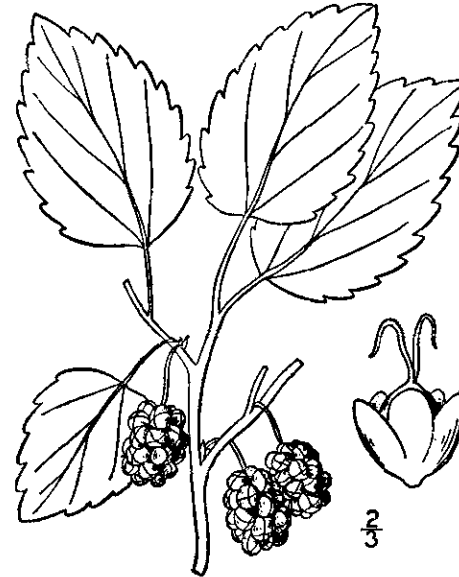
**Morus álba** L. White Mulberry.

*Morus alba* L. Sp. Pl. 986. 1753.

A small tree, sometimes 40° high and with a trunk 3° in diameter, the bark light gray, rough, the branches spreading. Leaves ovate, thin, smooth, glabrous and somewhat shining on both sides, acute or abruptly acuminate at the apex, rounded, truncate or cordate at the base, varying from serrate to variously lobed, 2'-6' long; petioles slender, shorter than the blades; staminate spikes slender, drooping, about 1' long; pistillate spikes oblong or subglobose, drooping, 5"-7" long, 3" in diameter and white or pinkish when mature, not as succulent as those of the preceding species.

Sparingly escaped from cultivation, Maine and Ontario to Florida. Introduced from the Old World for feeding silkworms. May. Fruit ripe July-Aug.

*Morus nigra* L., the black-mulberry of Europe, with smooth leaves and black fruit, has escaped from cultivation in the southeastern states and has been recorded from as far north as New York.

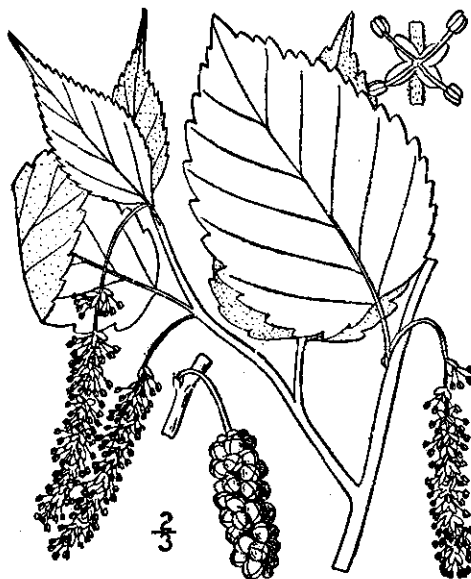


**Morus rubra L.** Red Mulberry.

*Morus rubra* L. Sp. Pl. 986. 1753.

A tree, attaining a maximum height of about 65° and a trunk diameter of 7°, the bark brown and rough. Leaves ovate or nearly orbicular in outline, scabrous above, persistently pubescent beneath, or when young almost tomentose, acuminate at the apex, rounded, truncate or cordate at the base, serrate-dentate or 3-7-lobed, 3-5' long; petioles slender, 7"-18" long; staminate spikes drooping, 1½-3' long; pistillate spikes spreading or pendulous in fruit, 1'-1½' long, 4"-5" in diameter when mature, slender-peduncled, dark purple-red, delicious.

In rich soil, Vermont and Ontario to Michigan and South Dakota, south to Florida and Texas. Wood soft, weak, compact, durable; color light yellow; weight per cubic foot 37 lbs. April-May. Fruit ripe in June-July.



**Myrica carolinensis (Mill.).** Small Waxberry. Bayberry.

*Myrica carolinensis* Mill. Gard. Dict. Ed. 8, no. 3. 1768.

A shrub, 2°-8° high, with smooth gray bark, the twigs glabrous or often pubescent. Leaves oblanceolate or obovate, glabrous above, often pubescent beneath, resinous, 2'-4' long, 6"-18" wide, serrate with a few low teeth above the middle, or entire, obtuse or sometimes acute at the apex, narrowed at the base, short-petioled; staminate aments cylindric or oblong, 3"-9" long; pistillate aments short, oblong; ripe drupes separated, globose, bluish white, very waxy, 1"-1½" in diameter, long-persistent, the bracts and bractlets deciduous.

In dry or moist sandy soil, Nova Scotia to Florida and Louisiana and on the shores of Lake Erie. Occurs also in bogs in northern New Jersey and Pennsylvania. April-May. The fruit was much used as a source of wax by the early settlers of the eastern United States, and is still utilized along the coast of New England.



**Myrica cerifera L.** Wax-myrtle.

*Myrica cerifera* L. Sp. Pl. 1024. 1753.

A slender tree, or a shrub, maximum height about 40°, trunk diameter 1½°, the bark gray, nearly smooth. Leaves narrow, oblong or oblanceolate, mostly acute at the apex, entire or sparingly dentate, narrowed or somewhat cuneate at the base, fragrant when crushed, short-petioled, dark green above, paler and sometimes pubescent beneath; golden-resinous, 1'-3' long, 3"-9" wide, unfolding with or before the aments; staminate aments cylindric; pistillate aments short, oblong; ripe drupes separated, globose, bluish-white, waxy, less than 1" in diameter, tipped with the minute base of the style, long-persistent, the bracts and bractlets deciduous.

In sandy swamps or wet woods, southern New Jersey to Florida and Texas, north to Arkansas. Also in the West Indies. March-April. Leaves mostly persistent through the winter. Wood light, brown; weight per cubic foot 35 lbs. Waxberry. Tallow-bayberry. Candleberry. Tallow-shrub. Sweet oak. Candleberry-myrtle.



**Myrica Gale L.** Sweet Gale.

*Myrica Gale* L. Sp. Pl. 1024. 1753.

A shrub, usually strictly dioecious, the twigs dark brown. Leaves oblanceolate, obtuse and dentate at the apex, narrowed to a cuneate entire base, short-petioled, dark green and glabrous above, pale and puberulent or glabrous beneath, 1'-2½' long, 5"-10" wide, unfolding after the aments; staminate aments linear-oblong, 6"-10" long, crowded; pistillate aments ovoid-oblong, obtuse, about 4" long and 2" in diameter in fruit, their bracts imbricated; drupe resinous-waxy, not longer than the 2 ovate persistent bractlets, which clasp it and are adnate to its base.

In swamps and along ponds and streams, Newfoundland to Alaska, southern New York, Virginia, Michigan and Washington. Also in Europe and Asia. Ascends to 3000 ft. in the Adirondacks. Fern or scotch-gale. Sweet willow. Bay-bush. Meadow-fern. Golden osier. Moor-, bog-, Dutch- or Burton-myrtle. April-May.

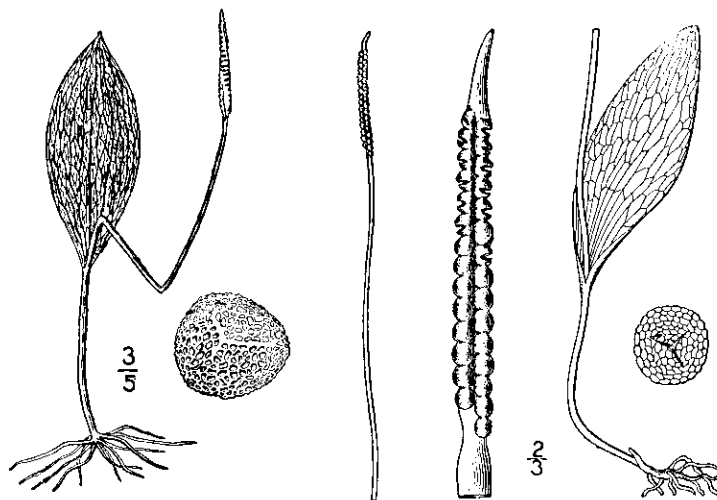


**Ophioglossum Engelmánni Prantl.** Engelmann's  
Adder's-tongue.

*Ophioglossum Engelmanni* Prantl, Ber. Deuts. Bot. Ges. 1: 351. 1883.

Rootstock cylindric, with long brown roots; leaves commonly 2-5, mostly fertile, 3'-9' long, the common stalk often mostly below the ground and usually sheathed by the more or less persistent bases of old leaves; sterile blade elliptic or rarely ovate, 1'-3½' long, ½'-2' broad, sessile, usually acute, apiculate, with wide oblique areoles containing numerous anastomosing or free veins; sporophyl 6''-12'' long borne on a stalk 1'-4' long, apiculate; sporanges 12-27 pairs.

In damp, sterile places or on rocks in cedar woods, mainly in the Central States, from Indiana and Virginia to Louisiana, Texas and Arizona. April-Oct.

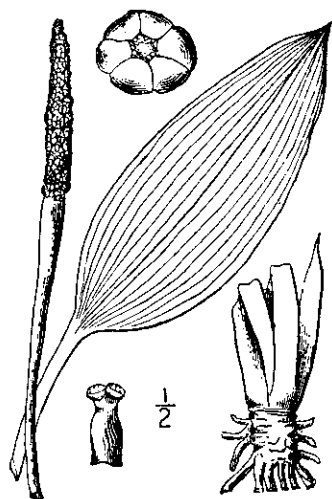


**Ophioglossum vulgatum L.**  
Adder's-tongue.

*Ophioglossum vulgatum* L. Sp. Pl. 1062. 1753.

Rootstock short, oblique or erect; leaves usually solitary, 3'-16' long, the common stalk usually one-half or more above ground and constituting one-third to two-thirds the length of the plant; sterile blade lanceolate, oblanceolate or spatulate, elliptical, oblong or ovate, 1'-5' long, ½'-2' broad, sessile, obtuse or acutish, the middle areoles long and narrow, the outer ones shorter and hexagonal, with included veins; sporophyl ¾'-2' long, borne on a stalk 4'-10' long, solitary, apiculate from the prolongation of the axis.

In moist meadows and boggy thickets, Prince Edward Island to Ontario, south to Florida. Also in Europe and Asia. The genus is also called Adder's-fern or -spear, Snake's-tongue. Serpent's-tongue. May-Aug.

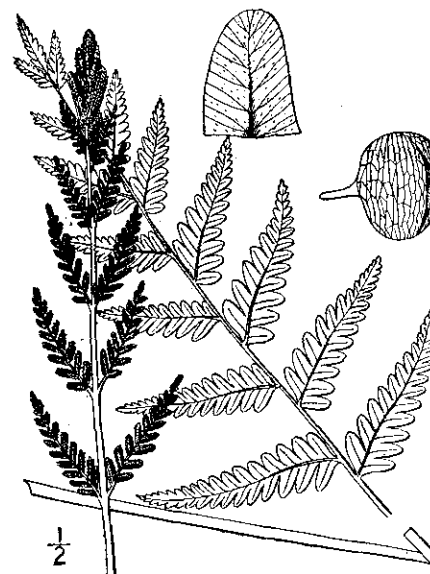


**Orontium aquaticum L.** Golden-club. Floating  
Arum.

*Orontium aquaticum* L. Sp. Pl. 324. 1753.

Leaves ascending or floating, depending on the depth of water, deep dull green above, pale beneath, the blade 5'-12' long, 2'-5' wide, entire, acute or cuspidate at the apex, narrowed at the base into a petiole 4'-20' long. Scape 6'-24' long, flattened near the spadix; spadix 1'-2' long, 3''-4'' in diameter, frequently attenuate at the summit, much thickened in fruit; spathe bract-like, 2'-4' long, 2-keeled on the back; usually falling away early; utricle depressed, roughened on top with 9 or 10 tubercles.

In swamps and ponds, Massachusetts to central Pennsylvania, south to Florida and Louisiana, mostly near the coast. Ascends to 2000 ft. on the Pocono plateau of Pennsylvania. Water-dock. Tawkin. April-May.



**Osmunda cinnamomea L.**  
Cinnamon-fern.

*Osmunda cinnamomea* L. Sp. Pl. 1066. 1753.

Rootstock very large, widely creeping, bearing a circular cluster of sterile leaves with one or more fertile ones within. Stipes 1° or more long, clothed with ferruginous tomentum when young, glabrous with age. Sterile blades 1°-5° long, oblong-lanceolate, deeply bipinnatifid, the pinnae linear-lanceolate, deeply pinnatifid into oblong obtuse segments, the margins usually entire. Fertile blade contracted, bipinnate, soon withering; sporanges cinnamon-colored.

In wet woods, swamps and low grounds, Newfoundland to Minnesota, the Gulf states and New Mexico. Also in Mexico, Brazil, the West Indies and eastern Asia. Forms occur with leaves variously intermediate between the fertile and sterile. May-June. Bread-root. Fiddle-heads. Swamp-brake.

**Osmunda regalis** L. Royal Fern.

*Osmunda regalis* L. Sp. Pl. 1065. 1753.

Rootstock stout, bearing a cluster of several long-stalked leaves, 2°-6° high, the apical pinnae fertile, contracted, forming an upright terminal panicle, the pinnules linear-cylindric, greenish before maturity, dark brown and withering with age. Sterile pinnae 6'-12' long, 2'-4' wide, the pinnules oblong-ovate or lanceolate-oblong, sessile or slightly stalked, glabrous, finely serrulate, especially near the apex and occasionally crenate toward the truncate, oblique, or even cordate, base.

In low woods, swamps and marshes, Newfoundland to Florida, west to Mississippi, Nebraska and Saskatchewan. Also in Tropical America, Europe and Africa. May-July. Called also Royal Osmond. Bracken, Buckhorn-brake. King's-, flowering-, water-, tree-, snake- or ditch-fern. Bog-onion, Herb Christopher, Hartshorn-bush.



**Ostrya virginiana** (Mill.) Willd. Hop-hornbeam. Iron-wood.

*Carpinus virginiana* Mill Gard. Dict. Ed. 8. 1768.  
*Ostrya virginica* Willd. Sp. Pl. 4: 469. 1805.

A tree, with a maximum height of about 50°, trunk diameter of 2°, twigs of the season pubescent. Leaves ovate or oblong-ovate, the apex acuminate, the base rounded or inequilateral, sharply and doubly serrate, sparingly pubescent and green above, pubescent or tomentose beneath, 2½'-4' long, 1'-1½' wide; petioles rarely more than 2" long; staminate aments 1½'-3' long, their bracts triangular-ovate, acuminate; anther-sacs villous at the summit; bractlet of each fertile flower forming a sac 6"-8" long and 4"-5" in diameter in fruit, acute, cuspidate, pubescent, villous near and at the base with bristly hairs, parallel-veined and finely reticulated; nut 2½" long, compressed, shining; ripe fertile aments erect or spreading, 1½'-2½' long, resembling hops.

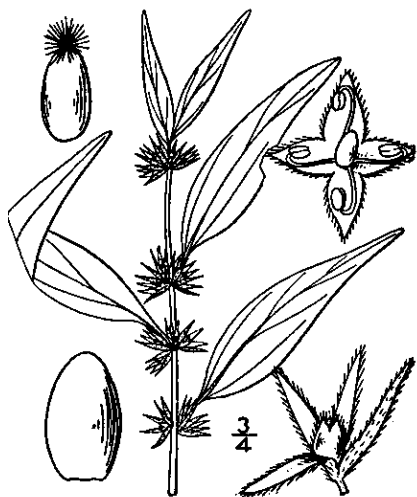


**Parietaria pennsylvanica** Muhl. Pennsylvania Pellitory. Fig. 1563.

*P. pennsylvanica* Muhl.; Willd. Sp. Pl. 4: 955. 1806.

Annual, pubescent, stem weak, simple or sparingly branched, ascending or reclining, very slender, 4'-15' long. Leaves lanceolate or oblong-lanceolate, membranous, dotted, acuminate at the apex, narrowed at the base, 3-nerved and with 1-3 pairs of weaker veins above, slender-petioled, 1'-3' long, ¼'-½' wide; petioles ¼'-1' long, almost filiform; flowers glomerate in all except the lowest axils, the clusters shorter than the petioles; bracts of the involucre linear, 2-3 times as long as the flowers; style almost none; achene about ½" long.

On dry rocks and banks, Maine to Ontario, British Columbia, Nevada, Tennessee and Mexico. June-Aug. Hammerwort.



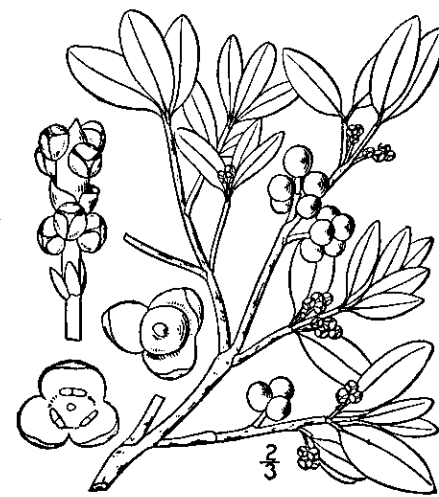
**Phoradendron flavescens** (Pursh) Nutt. American Mistletoe.

*Viscum flavescens* Pursh, Fl. Am. Sept. 114. 1814.

*P. flavescens* Nutt.; A. Gray, Man. Ed. 2, 383. 1856.

A branching glabrous or slightly pubescent shrub, the twigs rather stout, terete, brittle at the base. Leaves oblong or obovate, rounded at the apex, narrowed into short petioles, 3-5-nerved, entire, 1'-2' long, 5"-10" wide, dark green, coriaceous; petioles 1"-4" long; spikes solitary, or 2 or 3 together in the axils, linear, shorter than the leaves; berry globose, white, about 2" in diameter.

Parasitic on deciduous leaved trees, notably on the tupelo and red maple, central New Jersey to Ohio, Indiana and Missouri, south to Florida, Texas and New Mexico. May-July.

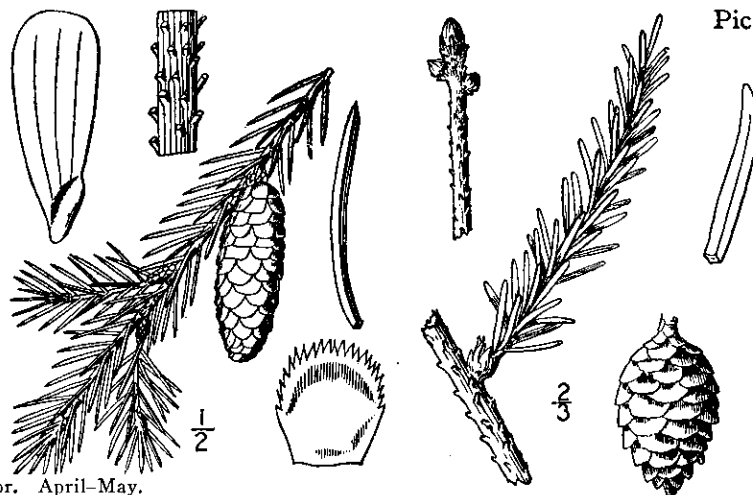


**Picea canadensis** (Mill.) B.S.P. White or Pine Spruce.

*Abies canadensis* Mill. Gard. Dict. Ed. 8, No. 4. 1768.  
*Pinus alba* Ait. Hort. Kew. 3: 371. 1789.  
*Picea alba* Link, Linnaea, 15: 519. 1841.  
*Picea canadensis* B.S.P. Prel. Cat. N. Y. 71. 1888.

A slender tree, attaining a maximum height of about 110° and a trunk diameter of 3°, but usually much smaller. Twigs and sterigmata glabrous, pale and glaucous; leaves light green, slender, 6"-8" long, very acute; cones cylindric or oblong-cylindric, pale, 1½'-2' long, 6"-8" thick before the scales open; scales almost membranaceous, their margins usually quite entire; bracts incised.

Newfoundland to Hudson Bay and Alaska, south to Maine, northern New York, Michigan and South Dakota. Wood soft, weak, light yellow; weight per cubic foot 25 lbs. Called also Cat Pine or Spruce; and Single, Black or Skunk-spruce. Sometimes with a skunk-like odor. April-May.



**Picea mariana** (Mill.) B.S.P. Black Spruce.

*Abies mariana* Mill. Gard. Dict. Ed. 8, No. 5. 1768.  
*Pinus nigra* Ait. Hort. Kew. 3: 370. 1789.  
*Abies nigra* Desf. Hist. Arb. 2: 580. 1809.  
*Picea nigra* Link, Linnaea, 15: 520. 1841.  
*Picea mariana* B.S.P. Prel. Cat. N. Y. 71. 1888.  
*Picea brevifolia* Peck, Spruces of the Adirondacks 13. 1897.

A slender tree, sometimes 90° high, the trunk reaching a diameter of 2°-3°, the branches spreading, the bark only slightly roughened. Twigs pubescent; sterigmata pubescent; leaves thickly covering the twigs, deep green, glaucous stout, straight or curved, rarely more than ½' long, obtuse or merely mucronate at the apex; cones oval or ovoid, 1'-1½' long, persistent on the twigs for two or more seasons, their scales with entire or erose margins.

Newfoundland to Hudson Bay and the Northwest Territory, south to New Jersey, along the higher Alleghanies to North Carolina and to Michigan and Minnesota. Wood soft, weak, pale red or nearly white; weight per cubic foot 28 lbs. Called also Yew or Spruce Pine; He Balsam; Spruce Gum-tree; Juniper; and Blue, Double, White and Cat Spruce.

**Pilea pumila** (L.) A. Gray. Clearweed.  
 Richweed. Coolweed.

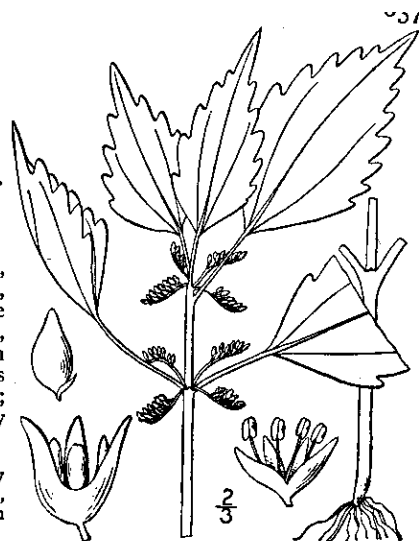
*Urtica pumila* L. Sp. Pl. 984. 1753.

*Adicea pumila* Raf.; Torr. Fl. N. Y. 2: 223. As synonym. 1843.

*Pilea pumila* A. Gray, Man. 437. 1848.

Annual, stems pellucid, erect, usually branched, glabrous, succulent, 6'-2° high. Leaves membranous, ovate, slender-petioled, acuminate or acute at the apex, rounded or narrowed at the base, 3-nerved, coarsely dentate, 1'-5" long, sparingly pubescent with scattered hairs; petioles often as long as the blades and much longer than the pistillate flower-clusters; sepals of the pistillate flowers lanceolate, nearly equal; achene ovate, acute, ½" long.

In swampy, shaded situations, often on old logs, New Brunswick to western Ontario and Minnesota, Florida, Louisiana, Nebraska and Kansas. Ascends to 3000 ft. in Virginia. Also in Japan. July-Sept. Stingless-nettle.

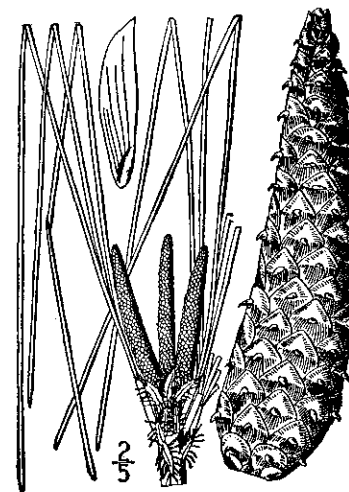


**Pinus palustris** Mill. Long-leaved Pine. Georgia Pine.

*Pinus palustris* Mill. Gard. Dict. Ed. 8, No. 14. 1768.  
*Pinus australis* Michx. f. Hist. Arb. Am. 1: 64. pl. 6. 1810.

A large tree, sometimes attaining a height of 120° and a trunk diameter of 5°, the bark nearly smooth. Leaves in 3's, slender, dark green, clustered at the ends of the branches, much elongated, 8'-16' long, with 2 fibrovascular bundles; sheaths 1'-1½' long; buds long; staminate aments rose-purple, 2'-3½' long, very conspicuous; cones terminal, spreading or erect, conic-cylindric, 6'-10' long, 2'-3' thick before the scales open; scales thickened at the apex, which is provided with a transverse ridge bearing a short central recurved prickle.

In sandy, mostly dry soil, often forming extensive forests, southern Virginia to Alabama, Florida and Texas, mostly near the coast. Wood hard, strong, compact, light red or orange; weight per cubic foot 44 lbs. This tree is the chief source of our turpentine, tar, rosin, and their derivatives. Also known as Southern, Yellow, Hard or Pitch Pine; Fat, Heart, Turpentine-pine; Virginia, Florida, Texas Yellow and Long-straw pine; Pine-broom and White Rosin-tree. March-April.

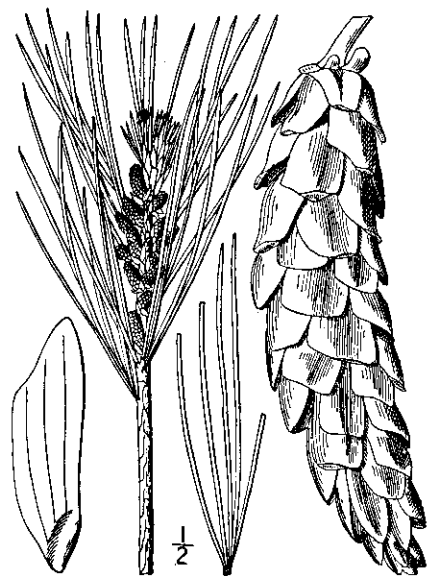


**Pinus Stròbus L.** White Pine. Weymouth Pine.

*Pinus Strobus* L. Sp. Pl. 1001. 1753.

A large forest tree, reaching a maximum height of over 225° and a trunk diameter of 10½°, the bark nearly smooth except when old, the branches horizontal, verticillate. Leaves 5 in a sheath, very slender, pale green and glaucous, 3'-5' long, with a single fibro-vascular bundle, the dorsal side devoid of stomata; sheath loose, deciduous; ovule-bearing aments terminal, peduncled; cones subterminal, drooping, cylindrical, often slightly curved, 4'-6' long, about 1' thick when the scales are closed, resinous; scales but slightly thickened at the apex, obtuse and rounded or nearly truncate, without a terminal spine or prickle.

In woods, often forming dense forests. Newfoundland to Manitoba, south to Delaware, along the Alleghanies to Georgia and to Illinois and Iowa. Ascends to 4300 ft. in North Carolina and to 2500 ft. in the Adirondacks. Wood light brown or nearly white, soft, compact, one of the most valuable of timbers; weight per cubic foot, 24 lbs. June. Called also Soft, Deal, Northern or Sorce-pine.



**Polygonatum biflorum var. commutatum**  
(J.A. & J.H. Schultes) Morong  
Smooth Solomon's Seal.

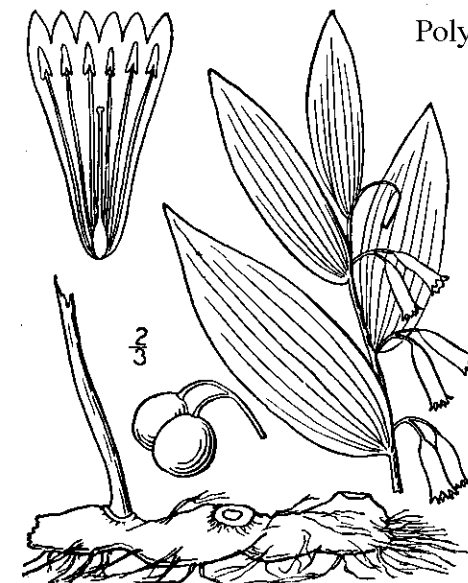
*Convallaria commutata* R. & S. Syst. 7: 1671. 1830.

*Polygonatum commutatum* Dietr.; Otto & Dietr. Gartenz. 3: 223. 1835.

*Polygonatum giganteum* Dietr.; Otto & Dietr. Gartenz. 3: 222. 1835.

*Salomonia commutata* Britton, Man. 273. 1901.

Glabrous throughout, stem stout or slender, 1°-8° high. Leaves lanceolate, oval or ovate, 1½'-6' long, ¾'-4' wide, rather darker green above than beneath, acute, acuminate or blunt at the apex, narrowed, rounded or somewhat clasping at the base, the upper often narrower than the lower; peduncles 1-8-flowered, glabrous; perianth 6'-10' long, 1½''-2'' thick; filaments somewhat flattened, smooth, adnate to the perianth for half its length or more; berry 4''-6'' in diameter.



In moist woods and along streams, rarely in dry soil, Rhode Island to New Hampshire, Ontario and Manitoba, south to Georgia, Louisiana, Utah, New Mexico and Arizona. Sealwort. Giant Solomon's-seal. May-July.

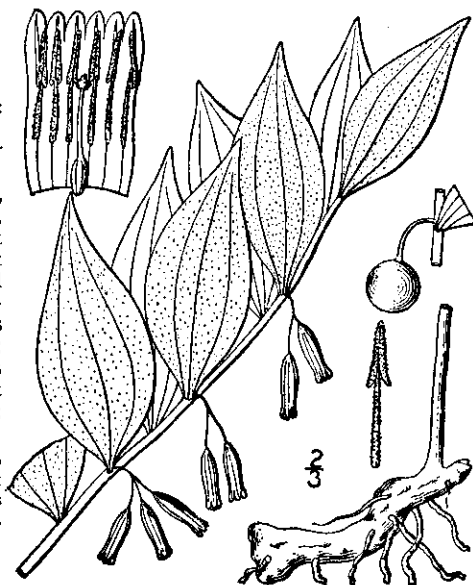
**Polygonatum biflorum (Walt.) Ell.**  
Hairy Solomon's Seal.

*Convallaria biflora* Walt. Fl. Car. 122. 1788.  
*Polygonatum biflorum* Ell. Bot. S. C. & Ga. 1: 393. 1817.

*Salomonia biflora* Farwell, Rep. Com. Parks Detroit 11: 53. 1900.

Stem slender, glabrous, often zigzag above, 8'-3° high. Leaves lanceolate, oval to ovate, 2'-4' long, ½'-2' wide, acute or acuminate at the apex, narrowed or sometimes obtuse at the base, pubescent especially on the veins and pale beneath, glabrous above, the upper commonly narrower than the lower; peduncles 1-4-flowered (often 2-flowered), glabrous; perianth 4''-6'' long, about 1½'' thick, filaments filiform, adnate to the perianth for about three-fourths its length, papillose-roughened; berry 3''-4'' in diameter.

In woods and thickets, New Brunswick to Ontario and Michigan, south to Florida, West Virginia and Tennessee. Recorded from Kansas and Texas. Sealwort. Dwarf Solomon's-seal. Conquer-john. April-July.



**Polygonum amphibium L.**

Water Persicaria. Willow-weed.

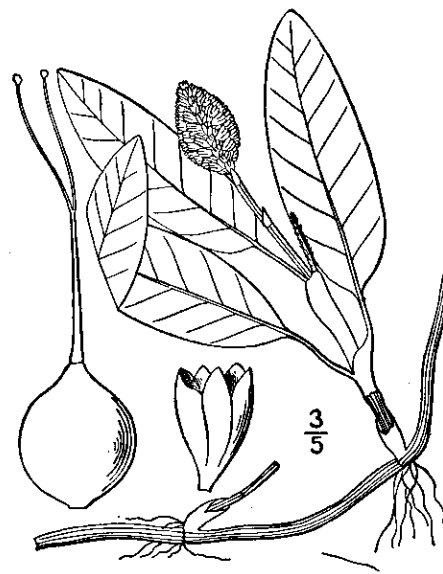
*Polygonum amphibium* L. Sp. Pl. 361. 1753.

*Persicaria amphibia* S. F. Gray, Nat. Am. Brit. Pl. 2: 268. 1821.

*Polygonum Hartwrightii* A. Gray, Proc. Am. Acad. 8: 294. 1870.

Aquatic, perennial, glabrous or pubescent; stem floating or submersed, simple or sparingly branched, 4'-20° long. Leaves oblong, elliptic or elliptic-lanceolate or narrowly lanceolate, 1½'-4' long, petioled, obtuse or subacute at the apex, slightly inequilateral, rounded or narrowed at the base, sometimes ciliate; ocreae cylindrical, those of the branches often longer than the internodes, their limbs sometimes spreading, usually glabrous; raceme terminal, usually solitary, ½'-1' long, dense, erect, oblong or ovoid; calyx rose-color, 5-parted; stamens 5, exserted; style 2-cleft, exserted; achene orbicular-oblong, 1½'' long, biconvex, black, smooth and shining, or granular.

In ponds and lakes, Quebec to Alaska, New Jersey, Kentucky, Colorado and California. Europe. Ascends to 2000 ft. in the Adirondacks. Ground-willow. Willow-grass. Red shanks. Heartsease. July-Aug.



Several species, reducible to this and the following, have been described by Dr. E. L. Greene (Leaflets 1: 26-45).



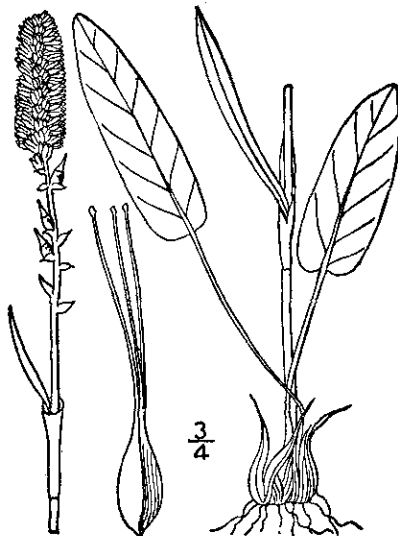
*Polygonum bistorta* L. Alpine Bistort. Serpent-grass.

*Polygonum viviparum* L. Sp. Pl. 360. 1753.

*Bistorta vivipara* S. F. Gray, Nat. Arr. Brit. Pl. 2: 268. 1821.

Perennial, mostly glabrous and somewhat glaucous; stems solitary or clustered, erect, simple, slender, 2'-10' tall. Basal leaves oblong or lanceolate, 1'-8' long, rather acute at the apex, cordate or subcordate at the base, long-petioled; stem leaves narrowly lanceolate or linear, 1'-3' long, the lower petioled, the upper sessile, their margins often revolute; ocreae long, clasping below, open above; raceme solitary, terminal, narrow, rather dense, bearing a number of dark colored bulblets about its base; calyx 5-parted, pale rose-color or white; stamens 8, exserted; style 3-parted, its branches exserted; achene oblong, 3-angled.

Greenland and Labrador to Alaska, south to the high summits of the mountains of New England, in the Rocky Mountains to Colorado and to Washington. Also in arctic and alpine Europe and Asia. June-Aug.

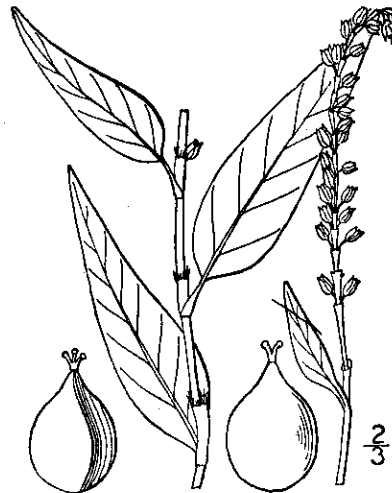


*Polygonum hydropiper* L. Smart-weed. Water Pepper.

*Polygonum Hydropiper* L. Sp. Pl. 361. 1753.  
*Persicaria Hydropiper* Opiz, Seznam 72. 1852.

Annual, glabrous, stem erect, simple or branched, red or reddish, sometimes green, 8'-24' tall. Leaves lanceolate or oblong-lanceolate, 1'-4' long, short-petioled, acute or acuminate at the apex, undulate or slightly crisped, punctate, ciliate, very acrid; ocreae cylindric, fringed with short bristles, sometimes slightly pubescent, usually swollen at the base by the development of several flowers within; racemes panicle, 1'-3' long, narrow, drooping, interrupted; calyx green, 3-5-parted (usually 4-parted) conspicuously punctate; stamens 4 or sometimes 6; style short, 2-3-parted; achene lenticular or 3-angled, broadly oblong or ovoid, slightly gibbous, 1 1/2"-1 3/4" long, granular, dull.

In moist waste places, almost throughout North America. Naturalized from Europe in our area, perhaps indigenous in the far Northwest. Biting-persicaria or knotweed. Bite-tongue. Snake- or sickle-weed. Pepper-plant. Red-shanks. Red-knees. July-Sept.



*Polygonum hydropiperoides* Michx.

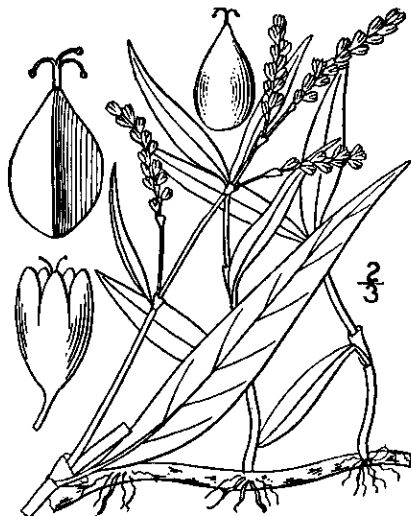
Southwestern Persicaria.

*Polygonum persicarioides* H.B.K. Nov. Gen. 2: 179. 1817.

*Persicaria persicarioides* Small, Fl. SE. U. S. 378. 1903.

Perennial, glabrous or minutely pubescent; stem erect, decumbent or creeping, simple or branched, 1°-3° long. Leaves lanceolate or linear-lanceolate, acuminate at both ends, punctate, short-petioled or sessile, 1 1/2'-10' long; ocreae cylindric, glabrous or sparingly strigillose, fringed with short bristles; spicate racemes more or less paniced, erect, 1'-3' long, narrowly oblong or linear, loosely-flowered; calyx rose-color tinged with green, 5-parted to below the middle; stamens 8 or fewer, included; style 2-3-parted to near the base; achene lenticular and biconvex, or 3-angled, more or less gibbous, 1" long, ovoid or broadly oblong, short-pointed, black, minutely granular, but shining.

Nebraska to Mexico; widely distributed in tropical America. June-Sept.



*Polygonum pensylvanicum* L.

Pennsylvania Persicaria.

*Polygonum pensylvanicum* L. Sp. Pl. 362. 1753.  
*Persicaria pensylvanica* Small, Fl. SE. U. S. 377. 1903.

Annual, glabrous below; stem erect, simple or branched, 1°-3° tall, the upper parts, the peduncles and pedicels glandular. Leaves lanceolate, acuminate at the apex, petioled, ciliate, 2'-11' long, the upper sometimes glandular beneath; ocreae cylindric, thin, naked, glabrous; racemes paniced, erect, thick, oblong or cylindric, dense, 1'-2' long; calyx dark pink or rose-color, 5-parted; stamens 8 or fewer, style 2-cleft to about the middle; achene orbicular or mostly broader than high, 1 1/2" long, short-pointed, lenticular, smooth, shining.

In moist soil, Nova Scotia to Ontario, Minnesota, Florida and Texas. Ascends to 2000 ft. in Virginia. July-Sept.

*Persicaria omifassa* (Greene) Small, differing by an ovoid achene and copiously glandular peduncles, recently found in western Kansas, was first discovered in Colorado.



**Polygonum persicaria L.**

Lady's Thumb. Heartweed.

*Polygonum Persicaria* L. Sp. Pl. 361. 1753.  
*Persicaria Persicaria* Small, Fl. SE. U. S. 378. 1903.

Annual, glabrous or puberulent; stem erect or ascending, simple or much branched,  $\frac{1}{2}$ -2' high. Leaves lanceolate or linear-lanceolate, 1'-6' long, short-petioled or nearly sessile, acuminate at both ends, conspicuously punctate, usually with a dark triangular or lunar blotch near the centre, their margins entire or slightly eroded, often ciliate; ocreae cylindrical, nearly glabrous, fringed with short bristles; racemes solitary or paniced,  $\frac{1}{2}$ -2' long, ovoid or oblong, dense, erect; calyx pink or dark purple; stamens mostly 6; style 2-3-parted to below the middle; achene broadly ovate and lenticular, often gibbous or 3-angled, 1"-1 $\frac{1}{4}$ " long, smooth and shining.

In waste places, throughout North America, except the extreme north. Naturalized from Europe. Often an abundant weed. Common persicary. Spotted-knotweed. Red- or pink-weed. Heartsease. Peachwort. Willow-weed. Red-shanks. Lover's-pride. Black-heart. June-Oct.

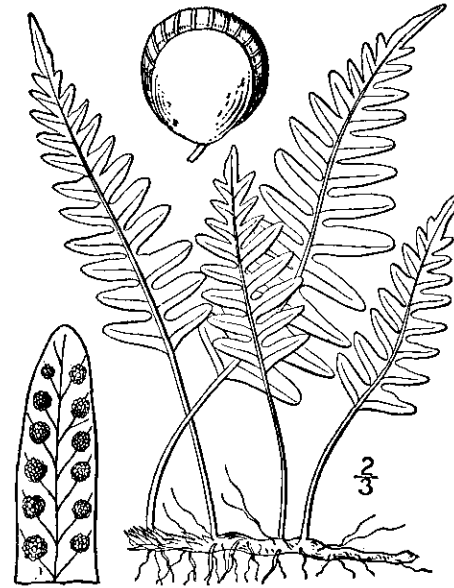


**Polypodium vulgare L.** Common or Golden Polypody.

*Polypodium vulgare* L. Sp. Pl. 1085. 1753.

Rootstock slender, widely creeping, densely covered with cinnamon-colored scales. Stipes light colored, glabrous, 2'-6' long; blades ovate-oblong or narrowly oblong, subcoriaceous or chartaceous, evergreen, glabrous, 3'-10' long, 1'-3' wide, cut nearly to the rachis into entire or slightly toothed, obtuse or subacute, linear or linear-oblong segments; sori large, about midway between the midrib and margins of the segments, upon the anterior branch of the mostly 1-3-forked veins.

On rocks or rocky banks, occasionally on trees, Labrador and Newfoundland to Manitoba and Keewatin, south to Georgia, Alabama and Missouri. Ascends to 5600 ft. in Virginia. The blade varies much in cutting, and numerous forms have been described. One of these, the var. *cambricum*, is notable for its broad pinatifid segments. Male polypody, golden locks, golden maiden's-hair. Adder's-, moss-, wood-, male-, sweet-fern; Rock- or Stone-brake.

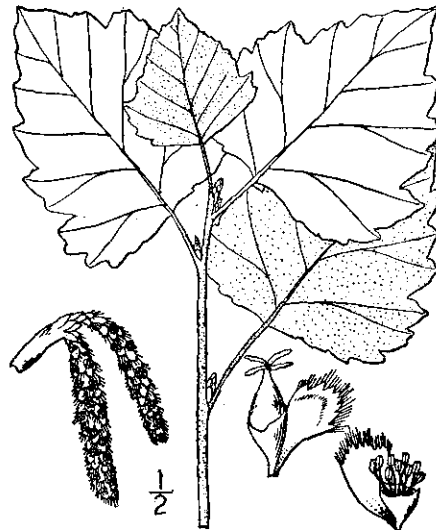


**Populus álba L.** Abele. White or Silver-leaf Poplar. Aspen.

*Populus alba* L. Sp. Pl. 1034. 1753.

A large tree, with smooth light gray bark, attaining a maximum height of about 120' and a trunk diameter of 6'. Young foliage densely white-tomentose, the leaves becoming glabrate and dark green above, persistently tomentose beneath, broadly ovate or nearly orbicular in outline, apex acute, base truncate or subcordate, 3-5-lobed or irregularly dentate, 2 $\frac{1}{2}$ -4' long; petioles nearly terete, shorter than the blade; staminate aments 1'-2' long.

In yards and along roadsides, springing up from suckers of older trees. New Brunswick to Ontario and Virginia. Native of Europe and Asia. Wood soft, nearly white; weight 38 lbs. per cubic foot. Abel or rattler-tree. White or great aspen. Dutch beech. White-bark. March-May.



**Populus angustifolia James.** Narrow-leaved Cottonwood.

*Populus angustifolia* James, Long's Exp. 1: 497. 1823.  
*Populus balsamifera* var. *angustifolia* S. Wats. Bot. King's Exp. 327. 1871.

A slender tree, maximum height about 65', trunk diameter 2'; crown narrowly pyramidal, branches ascending, foliage glabrous. Twigs terete, gray; leaves lanceolate, ovate-lanceolate or ovate, spreading, drying brownish, gradually acuminate or acute at the apex or some of them obtuse, narrowed, rounded or rarely subcordate at the base, 2'-4 $\frac{1}{2}$ ' long,  $\frac{1}{2}$ '-1 $\frac{1}{2}$ ' wide, finely crenulate from base to apex; petioles plano-convex, not flattened laterally;  $\frac{1}{4}$ '- $\frac{1}{2}$ ' long; lateral veins 8-15 on each side of the blade; staminate aments oblong-cylindric, 1'-2 $\frac{1}{2}$ ' long; lobes of the stigmas broad; capsules ovoid, short-pedicelled.

In moist soil, especially along streams, Assiniboia to South Dakota, Nebraska, New Mexico, and Chihuahua. Wood soft, weak, brown, compact; weight per cubic foot 24 lbs. Black or willow-cottonwood. April-May.



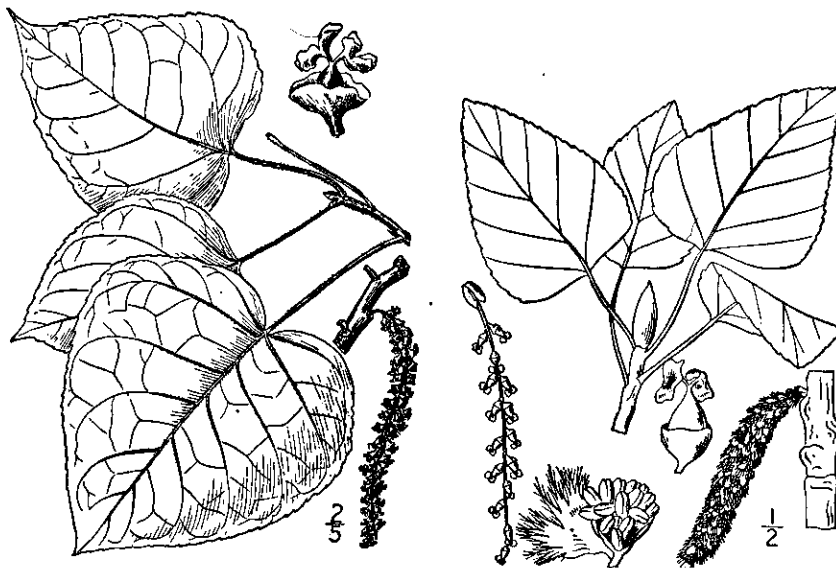
*Populus balsamifera* ssp. *balsamifera* L.

Balm of Giliad.

*P. candicans* Ait. Hort. Kew. 3: 406. 1789.  
*P. balsamifera* var. *candicans* A. Gray, Man. Ed. 2, 419. 1856.

A large tree, sometimes nearly 100° high, with a trunk up to 6½° in diameter, the old bark gray, ridged, the young twigs slightly pubescent, the buds resinous, pointed. Leaves broadly ovate, 2½'-6' long, cordate to narrowed at the base, acute at the apex, dark green above, pale beneath, crenulate, pubescent when young, and somewhat so on the veins beneath when mature, the petioles terete, pubescent or ciliate; aments 6' long or less, their bracts lacerate; capsules narrowly ovoid, acute, short-pedicelled, 3"-4" long.

Roadsides and along streams, Newfoundland to Virginia, Michigan, South Dakota and Alaska; in the east mostly or wholly escaped from cultivation. Wood soft, weak, brown; weight per cubic foot about 24 lbs. April-May.



*Populus balsamifera* L. Tacamahac.  
 Balsam or Carolina Poplar. Fig.

*Populus balsamifera* L. Sp. Pl. 1034. 1753.

A large tree, with nearly smooth gray bark, reaching a maximum height of about 80° and a trunk diameter of 7°, the branches stout, spreading, the large buds very resinous, the foliage glabrous. Leaves broadly ovate, dark green and shining above, pale beneath, acute or acuminate at the apex, rounded or subcordate at the base, crenulate, 3'-5' long, petioles terete; aments and bracts somewhat pubescent; stamens 18-30; lobes of the stigmas broad; capsules ovoid, short-pedicelled.

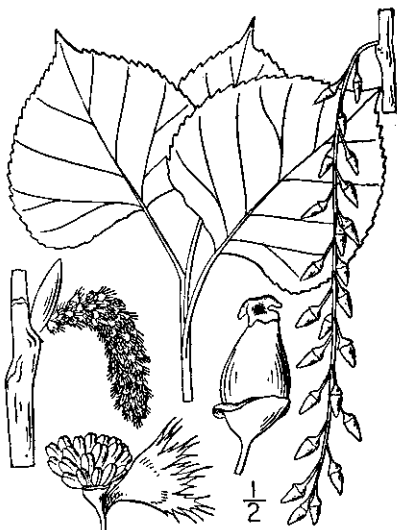
In moist or dry soil, especially along streams and lakes, Newfoundland to Hudson Bay and Alaska, south to Connecticut, New York, Michigan, South Dakota and Oregon. Wood soft, weak, brown, compact; weight per cubic foot 23 lbs. Ontario or rough-bark poplar. April.

*Populus deltoides* Marsh. Cottonwood.  
 Necklace Poplar.

*Populus deltoides* Marsh, Arb. Am. 106. 1785.  
*Populus carolinensis* Moench, Verz. Pl. 81. 1785.  
*Populus monilifera* Ait. Hort. Kew. 3: 406. 1789.  
*Populus angulata* Ait. Hort. Kew. 3: 407. 1789.

A large tree, the greatest of the poplars, attaining a maximum height of 150° and a trunk diameter of 7½°, the bark grayish-green somewhat rough when old. Foliage glabrous; leaves broadly deltoid-ovate, abruptly acuminate at the apex, crenulate, truncate at the base, 4'-7' long; petiole flattened laterally, stout, about as long as the blade; bracts glabrous, deeply fimbriate; staminate aments drooping, 3'-5' long, 5"-6" in diameter; pistillate aments loosely flowered, becoming 6'-10' long in fruit; capsules ovoid, acute, 4"-5" long, 2-4-valved, shorter than or equalling their pedicels.

In moist soil, especially along streams and lakes, Quebec to Manitoba, south to Connecticut, Florida and Tennessee. Wood soft, weak, dark brown; weight per cubic foot 24 lbs. April-May. Carolina poplar. Water- or river-poplar. Berry-bearing, or black Italian poplar. Big or yellow cottonwood. Cotton-tree. Alamo. The species consists of several races.



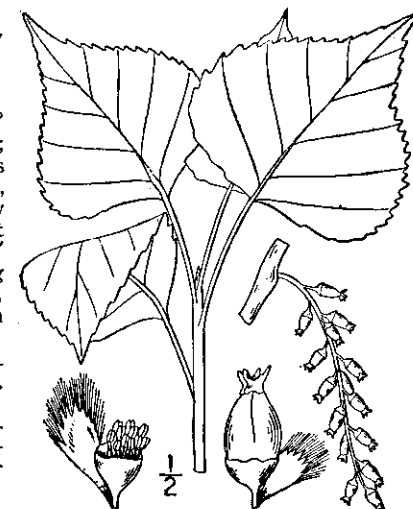
*Populus nigra* L. Black Poplar. Willow  
 Poplar. Fig.

*Populus nigra* L. Sp. Pl. 1034. 1753.

A large tree, sometimes 100° tall and the trunk 4° in diameter, usually much smaller. Twigs terete; young foliage somewhat pubescent, the mature leaves firm, nearly or quite glabrous; petioles slender, flattened laterally; leaves broadly deltoid, abruptly acuminate at the apex, broadly cuneate or obtuse at the base, crenate, 2'-4' long; staminate aments 1'-2' long; stamens about 20; pistillate aments 2'-5' long in fruit, spreading; capsules oblong, very obtuse, borne on pedicels of much less than their own length.

Valleys of the Hudson and Delaware Rivers, naturalized from Europe. Cat-foot poplar. Devil's-fingers. Old English poplar. April-May.

The Lombardy poplar (*Populus itálica* Moench (*Populus dilatata* Ait.)), commonly planted for ornament, occasionally spreads by sending up shoots from its subterranean parts. Poplar-pine.

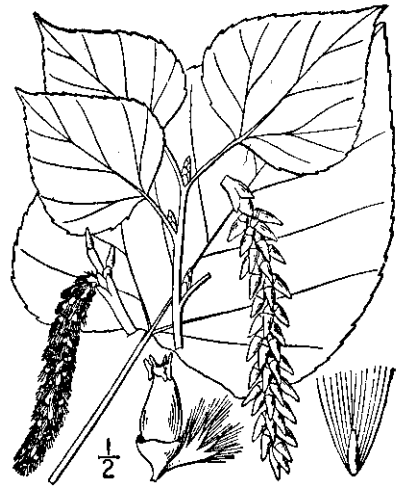


**Populus tremuloides Michx.** American Aspen. Quiver-leaf.

*Populus tremuloides* Michx. Fl. Bor. Am. 2: 243. 1803.

A slender tree, with smooth, light green bark, reaching a maximum height of about 100° and a trunk diameter of 3°, the young foliage glabrous, excepting the ciliate margins of the leaves. Petioles very slender, flattened laterally, causing the leaves to quiver in the slightest breeze; leaves broadly ovate or orbicular, short-acuminate at the apex, finely crenulate all around, truncate, rounded or subcordate at base, 1'-2½' broad, or those of very young plants much larger; bracts silky, deeply 3-5-cleft into linear lobes; aments drooping, the staminate 1½'-2½' long, 3''-4'' in diameter, the pistillate longer, dense; stigmas lobes linear; capsule like that of the preceding species, but somewhat smaller.

In dry or moist soil, Newfoundland to Hudson Bay and Alaska, New Jersey, Pennsylvania, Kentucky, Nebraska, in the Rocky Mountains to Mexico and to Lower California. Ascends to 3000 ft. in the Adirondacks. American, trembling or white poplar. Quaking or mountain asp. Wood soft, weak, light brown; weight per cubic foot 25 lbs. March-May.



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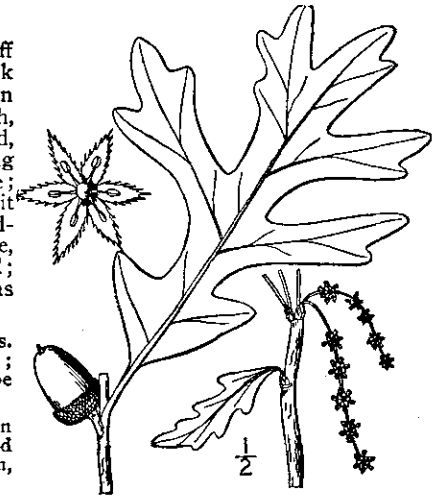
**Quercus álba L.** White Oak.

*Quercus álba* L. Sp. Pl. 996. 1753.

A forest tree, with light gray bark scaling off in thin plates; maximum height about 150°, trunk diameter up to 8°. Leaves obovate in outline, green above, pale and more or less glaucous beneath, pubescent when young, nearly glabrous when old, thin, pinnatifid into 3-9 oblong obtuse ascending toothed or entire lobes, 4'-7' long, 2'-4½' wide; petioles about ½' long; styles short, erect; fruit maturing the first season, peduncled; cup depressed-hemispheric, 7''-10'' broad, its bracts thick, obtuse, woolly or at length glabrate, closely appressed; acorn ovoid-oblong, 1' high or less, 3-4 times as high as the cup.

Maine to Ontario, Minnesota, Florida and Texas. Wood hard, strong, tough, close-grained; color brown; weight per cubic foot 46 lbs. May-June. Acorns ripe Sept.-Oct.

Hybrids with *Q. macrocarpa* have been observed in Illinois; with *Q. stellata*, from Illinois to Virginia and South Carolina, and with *Q. prinus*, near Washington, D. C. and New York. Stave-oak.



**Quercus rùbra L.** Red Oak.

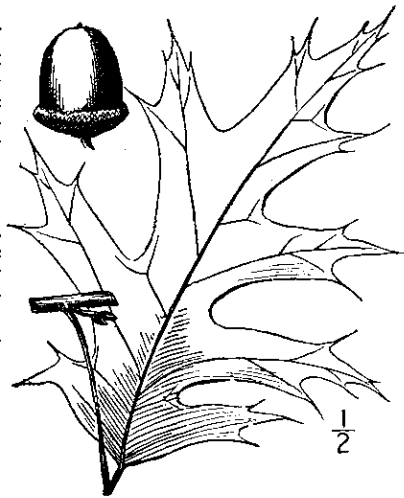
*Quercus rubra* L. Sp. Pl. 996. 1753.

A large forest tree, with a maximum height of about 140°, and a trunk diameter of 7°, the bark dark gray, slightly roughened. Leaves oval or somewhat obovate in outline, deciduous, when mature glabrous, or pubescent in the axils of the veins beneath, 4'-8' long, 3'-6' wide, dull green above, paler beneath, sinuses rounded, lobes triangular-lanceolate, tapering from a broad base to an acuminate apex, 1-4-toothed or entire, teeth and apices tipped with filiform bristles; petioles 1½'-3' long; styles slender, spreading; fruit maturing the second autumn, sessile or nearly so; cup saucer-shaped, its base flat or slightly convex, 8''-12'' broad, bracts ovate or ovate-lanceolate, obtuse or the upper acute, appressed; acorn ovoid, about 1' long, 2-4 times as long as the cup.

Nova Scotia to Ontario and Minnesota, south to Florida and Kansas. Wood hard, strong, coarse-grained; color light reddish-brown; weight per cubic foot 41 lbs. May-June. Acorns ripe Oct.-Nov. Champion, Black or Spanish oak.

*Quercus rùbra runcinata* A. DC. with leaf-lobes nearly entire and acorn ½' high, from near St. Louis, is perhaps a hybrid with *Q. triloba* Michx.

*Quercus Catésbaei* Michx., a tree of the southeastern states, differs from all related species by having the inner scales of the deep cup of the acorn inflexed. It has been observed northward to southern Virginia.

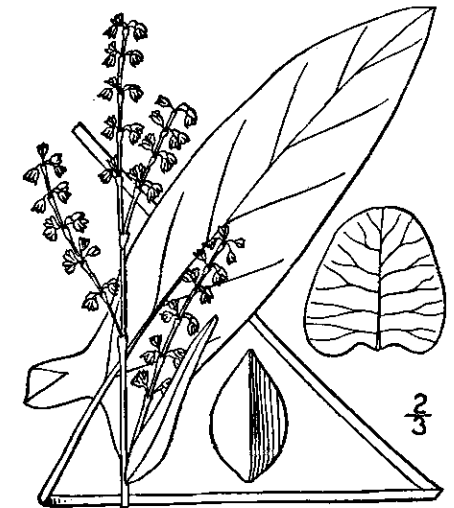


**Rumex Acetòsa L.** Green Sorrel.  
Sour or Sharp Dock.

*Rumex Acetosa* L. Sp. Pl. 337. 1753.

Perennial, glabrous, dioecious; stem erect, simple, grooved, 1°-3° tall. Leaves oblong-hastate or ovate-sagittate, 1'-5' long, acute at the apex, crisped or erose on the margins, the basal few, long-petioled, the upper subsessile, the acute auricles entire or 1-toothed and more or less reflexed; ocreae lacerate; racemes nearly erect, crowded, at length interrupted; calyx green, 1'' long, pedicelled, winged in fruit; pedicels equalling or shorter than the wings, jointed near the middle; wings broadly ovate or orbicular, cordate, 2''-2½'' long; achene rather more than 1'' long, pointed, smooth, shining, blackish, invested by the calyx-wings.

Labrador to Alaska. Naturalized from Europe in Vermont, New York and Pennsylvania. Native also of Asia. Summer. Sour-grass. Green sauce. Meadow, English or cock-sorrel. Red shank.



**Rumex Acetosella L.** Field, Wood, Red or Sheep Sorrel.

*Rumex Acetosella* L. Sp. Pl. 338. 1753.

Annual or perennial, glabrous, dioecious, stem slender, erect or nearly so, simple or branched, the rootstock woody, horizontal or creeping. Leaves narrowly hastate, 1'-4' long, obtuse or acute at the apex, usually widest above the middle, petioled, the basal auricles entire or 1-2-toothed, or the uppermost leaves nearly linear and not auricled, all papillose; ocreae silvery, 2-parted, soon lacerate; flowers in erect panicle racemes; racemes interrupted; calyx green,  $\frac{1}{2}$ " long, pedicelled; stamens exserted; achene less than 1" long, very granular, exceeding the persistent calyx, its angles not margined.

In dry fields and on hillsides throughout North America except the extreme north. In large part naturalized from Europe. Sometimes a troublesome weed. Foliage very acid. Native also of Asia. Ascends to 6000 ft. in North Carolina. May-Sept. Sour-dock. Sour-grass or -leek. Mountain- or gentleman's-sorrel. Horse-, cow- or toad-sorrel. Red weed.



**Rumex crispus L.** Curled or Narrow Dock.

*Rumex crispus* L. Sp. Pl. 335. 1753.  
? *Rumex elongatus* Guss. Pl. Rar. Neap. 150. 1826.

Perennial, glabrous, dark green; stem rather slender, erect, simple or branched above, grooved, 1°-3 $\frac{1}{2}$ ° tall. Leaves crisped and wavy-margined, the lower oblong or oblong-lanceolate, 6'-12' long, long-petioled, the upper narrowly oblong or lanceolate, 3'-6' long, short-petioled, all cordate or obtuse at the base, more or less papillose; panicle rather open; racemes simple or compound, by the elongation of the pedicels apparently continuous in fruit; flowers rather loosely whorled; calyx dark green; fruiting pedicels  $1\frac{1}{2}$ -2 times as long as the calyx-wings, jointed near the base; wings cordate,  $1\frac{1}{2}$ "-2" long, truncate or notched at base, erose-dentate, or nearly entire, each bearing a tubercle; achene 1" long, dark brown, shining.

In fields and waste places nearly throughout the United States and southern British America. Often a troublesome weed. Sour or yellow dock. Also in the West Indies and Mexico. Naturalized from Europe. Native also of Asia. Hybridizes with *R. obtusifolius* L. June-Aug.



**Sagittaria cuneata** Sheldon. Arum-leaved Arrow-head.

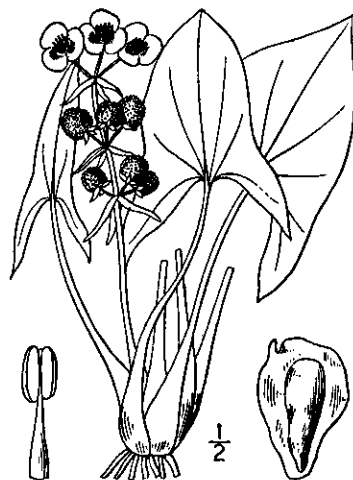
*Sagittaria cuneata* Sheldon, Bull. Torrey Club 20: 283. 1893.

*Sagittaria arifolia* Nutt.; J. G. Smith, Rep. Mo. Bot. Gard. 6: 32. 1894.

*Sagittaria arifolia stricta* J. G. Smith, Rep. Mo. Bot. Gard. 6: 34. 1894.

Glabrous or nearly so, terrestrial or submerged, scape weak, ascending or floating,  $\frac{3}{8}$ "-2" long. Leaves sagittate, linear-lanceolate to ovate, 1 $\frac{1}{4}$ "-6 $\frac{1}{2}$ " long, acute or acuminate, long-petioled; phyllodia, when present, of two kinds, the one petiole-like and about as long as the leaves, the other lanceolate and clustered at the base of the plant; bracts lanceolate or linear-lanceolate, or rarely ovate-lanceolate; flowers 6"-12" broad; achene cuneate-obovate, 1"-1 $\frac{1}{4}$ " long, the beak minute, erect over the ventral wing.

In mud or water, Nova Scotia and Maine to Quebec, British Columbia, Connecticut, Kansas, New Mexico and California. July-Sept. In the first edition both figures 196 and 197 and the descriptions apply to this species.



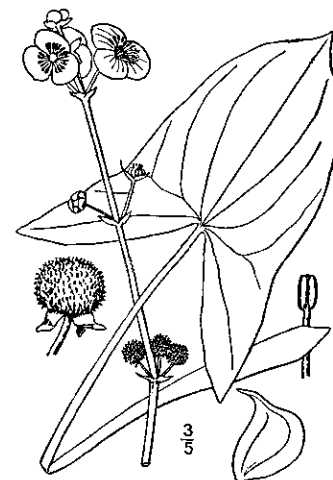
**Sagittaria latifolia** Willd. Broad-leaved Arrow-head.

*Sagittaria latifolia* Willd. Sp. Pl. 4: 409. 1806.

*Sagittaria variabilis* Engelm. in A. Gray, Man. 461. 1848.

Monoecious or sometimes dioecious, glabrous or nearly so, scape stout or slender, 4'-4° tall, simple or branched. Leaves exceeding variable in form and size, sometimes linear-lanceolate and acuminate at the apex, sometimes wider than long and obtuse; basal lobes from  $\frac{1}{4}$  to  $\frac{1}{2}$  as long as the blade; bracts acute, acuminate or obtuse, the upper ones sometimes united; flowers 1'-1 $\frac{1}{2}$ ' wide; filaments slender, glabrous; achene 1"-2" long, broadly winged on both margins, its sides even or 1-ribbed, the beak about one-third its length, horizontal or nearly so.

In shallow water, throughout North America, except the extreme north, extending to Mexico. Variable. July-Sept.



**Salix álba** L. White or Common Willow. Huntingdon or European Willow.

*Salix alba* L. Sp. Pl. 1021. 1753.  
*Salix vitellina* L. Sp. Pl. Ed. 2, 1442. 1763.

A large tree, sometimes 90° tall and a trunk diameter of 8°; bark gray, rough; twigs brittle at the base. Leaves lanceolate or oblong-lanceolate, acute or acuminate, narrowed at the base, serrulate, silky-pubescent on both sides when young, less so and pale or glaucous beneath when mature, 2'-4½' long, 4'-8" wide; stipules ovate-lanceolate, deciduous; petioles 2"-4" long, glandless or sparingly glandular; aments on short lateral leafy branches; stamens 2; filaments distinct, pubescent at the base; pistillate aments linear-cylindric, 1½'-2½' long; stigmas nearly sessile; capsule ovoid, acute, glabrous, short-pedicelled or sessile.

In moist soil, especially along streams, Nova Scotia to Ontario, North Carolina and Iowa, escaped from cultivation. Native of Europe. Composed of several races, with twigs green to yellow. Duck-willow. April-May.



**Salix frágilis** L. Crack Willow. Brittle or Snap Willow.

*Salix fragilis* L. Sp. Pl. 1017. 1753.

A tall, slender tree, with roughish gray bark, attaining a maximum height of about 80° and a trunk diameter of 7°, twigs reddish green, very brittle at the base. Leaves lanceolate, long-acuminate, narrowed at the base, sharply serrulate, glabrous on both sides, rather dark green above, paler beneath, 3'-6" long, ½'-1" wide; glandular at the base of the blade; petioles 3'-8" long, glandular above; stipules semicordate, fugacious; staminate aments 1'-2' long; stamens 2, or sometimes 3-4; filaments pubescent below, distinct; pistillate aments 3'-5' long in fruit, rather loose; stigmas nearly sessile; capsule long-conic, glabrous, 2½'-3" long, short-pedicelled.

Escaped from cultivation, Newfoundland to New Jersey and Kentucky. Native of Europe. Hybridizes with *Salix alba*. The twigs break away and grow into new plants. Stag's-head, red-wood or varnished willow. April-May.



**Salix nígra** Marsh. Black or Swamp Willow.

*Salix nigra* Marsh. Arb. Am. 139. 1785.

*Salix falcata* Pursh, Fl. Am. Sept. 2: 614. 1814.

*S. nigra falcata* Torr. Fl. N. Y. 2: 209. 1843.

A tree, with rough flaky dark brown bark, attaining a maximum height of about 120° and a trunk diameter of 3°. Leaves narrowly lanceolate, acute or acuminate at the apex, narrowed at the base, often falcate, short-petioled, serrulate, somewhat pubescent when young, glabrous and green above, somewhat paler, and sometimes pubescent on the veins beneath when mature, 2½'-5' long, 2"-9" wide; stipules various, persistent or deciduous; aments expanding with the leaves, on short lateral branches, the staminate 1'-2' long, the pistillate 1½'-3' long and spreading in fruit; stamens 3-7, distinct, their filaments pubescent below; bracts deciduous; stigmas nearly sessile; capsule ovoid, acute, glabrous, about twice as long as its pedicel.

Along streams and lakes, New Brunswick to western Ontario, North Dakota, Florida and Texas. Hybridizes with *S. alba*. Wood soft, weak, light brown; weight per cubic foot 28 lbs. Scythe-leaved or pussy-willow. April-May.

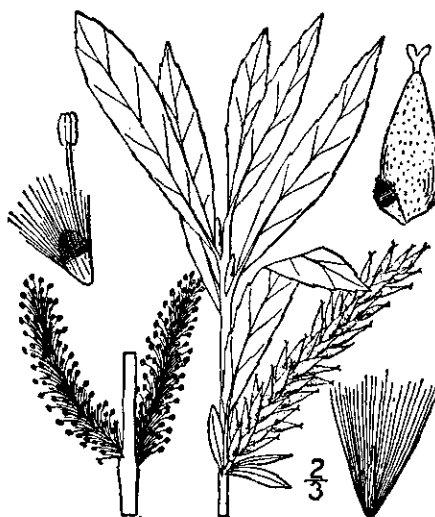


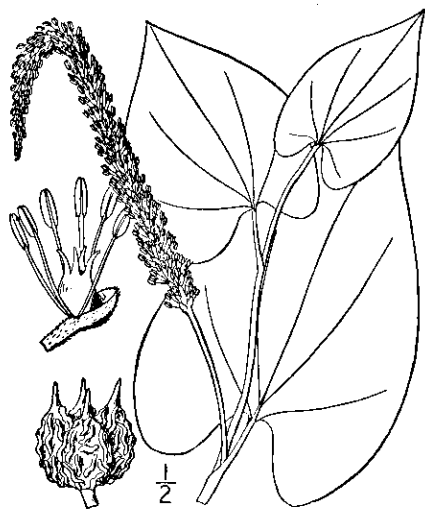
**Salix purpúrea** L. Purple Willow.

*Salix purpurea* L. Sp. Pl. 1017. 1753.

A slender shrub or small tree, with purplish flexible twigs, maximum height about 12°; branches often trailing; bark smooth and very bitter. Leaves oblanceolate or spatulate, acute, serrulate, narrowed at the base, short-petioled, glabrous, green above, paler and somewhat glaucous beneath, 1½'-3' long, 2½'-4" wide, some of them commonly subopposite; stipules minute; petioles 1"-2" long, not glandular; aments appearing before the leaves, dense, leafy at the base, the staminate about 1' long, the pistillate 1'-2' long, sessile or nearly so; stamens 2; filaments and sometimes also the anthers united, pubescent; bracts purple, persistent; stigmas very nearly sessile; capsules ovoid-conic, obtuse, tomentose, 2½" long.

Sparingly escaped from cultivation in the Atlantic States, Ontario and Ohio. Native of Europe. Also called bitter-, rose or whipcord-willow. April-May.





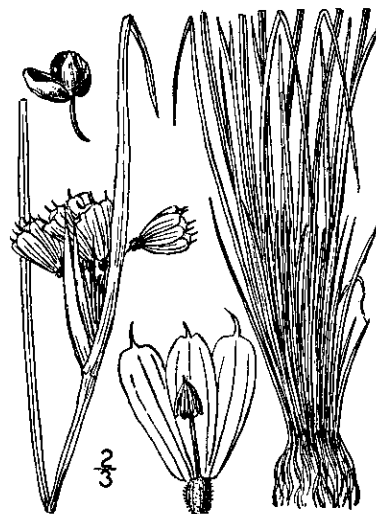
**Saururus cernuus L.** Lizard's-tail.

*Saururus cernuus* L. Sp. Pl. 341. 1753.

Somewhat pubescent when young, becoming glabrous; stem rather slender, erect, sparingly branched, 2°-5° high. Leaves ovate, thin, palmately 5-9-ribbed and with a pair of strong ribs above, which run nearly to the apex, dark green, entire, deeply cordate at the base, acuminate, 3'-6' long, 2'-3½' wide; petioles stout, shorter than the blades, striate; spikes few, very dense, longer than their peduncles, 4'-6' long, the apex drooping in flower; flowers fragrant; stamens white, spreading, about 2" long; fruit slightly fleshy, 1½" in diameter, strongly wrinkled when dry.

In swamps and shallow water, Rhode Island to Florida, west to southern Ontario, Minnesota and Texas. Swamp-lily. Breast-weed. June-Aug.

**Sisyrinchium albidum Raf.** White Blue-eyed Grass.



*S. albidum* Raf. Atl. Journ. 17. 1832.  
*S. versicolor* Bicknell, Bull. Torr. Club 26: 606. 1899.

Green and glaucous, the spathes often purplish, 2° high or less. Leaves half the height of the stems or longer, ½"-2" wide, very acute, mostly smooth-edged; stems usually broadly winged, the edges serrulate to smooth; spathes sessile in a close terminal pair, the prominent outer bract 1'-3' long, its edges free to the base; inner bracts acuminate, often ciliate on the keel, much shorter than the outer; flowers white to pale blue; 4"-6" long; capsules pale, depressed-subglobose, 1'-1½" high, on erect-spreading pedicels usually shorter than the inner bracts; seeds globose, ½" or less in diameter, umbilicate, distinctly pitted.

Grassy places, Ontario to Wisconsin, Ohio, North Carolina, Arkansas and Mississippi. Also in Connecticut and in southern New York, apparently introduced. April-June.

*Sisyrinchium flaviflorum* Bicknell, is a little known, yellow flowered species from Missouri, perhaps *S. campestre* with yellow flowers, as suggested by Mr. B. F. Bush, the collector.

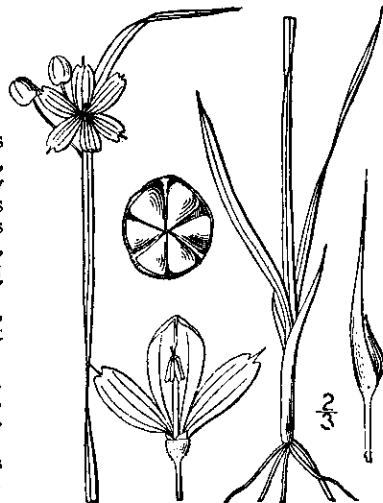
**Sisyrinchium angustifolium Mill.** Pointed Blue-eyed Grass.

*S. angustifolium* Mill. Gard. Dict. Ed. 8. 1768  
*S. montanum* Greene, Pittonia 4: 33. 1899.

Stiff and erect, pale and glaucous, 4'-2° high. Leaves half the height of the stem or longer, ½"-2" wide, acute, the edges minutely serrulate; stem simple or rarely branched, winged, the edges minutely serrulate; spathes green or slightly purplish, the outer bract rarely less than twice the length of the inner one, 2½' long or less, obscurely hyaline-margined, united-clasping at base; inner bract attenuate; flowers deep violet-blue, 5"-6" long; capsules broadly oval to globose, 2"-3" high, dull brown to whitish, often purplish-tinged, on erect pedicels usually shorter than the inner bract.

Fields and hillsides, Newfoundland to Saskatchewan, British Columbia, Virginia, Nebraska, Colorado and Utah. Blue-eyed Mary. Star-eyed grass. Grass-flower. Pigroot. Blue-grass. May-July.

*Sisyrinchium septentrionale* Bicknell, a diminutive species with large capsules, enters our northwestern limits in North Dakota.



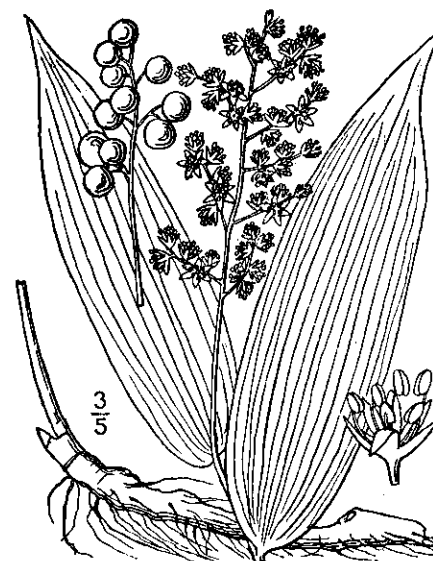
**Smilacina racemosa (L.) Desf.** Wild or False Spiknard.

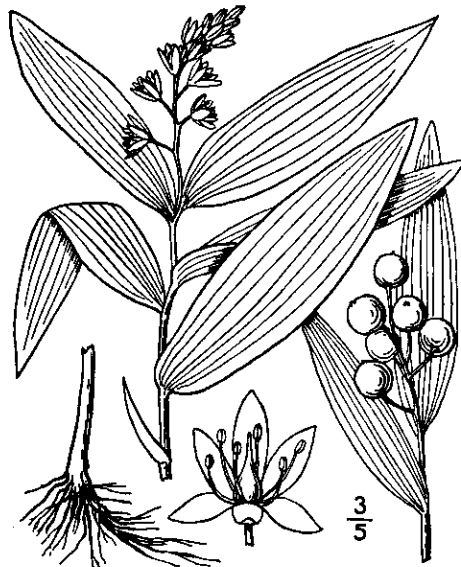
*Convallaria racemosa* L. Sp. Pl. 315. 1753.  
*Smilacina racemosa* Desf. Ann. Mus. Paris 9: 51. 1807.  
*V. racemosa* Morong, Mem. Torr. Club 5: 114. 1894.

Rootstock rather thick, fleshy. Stem somewhat angled, slender or stout, erect or ascending, leafy, finely pubescent above, or nearly glabrous, sometimes zigzag, 1°-3° high. Leaves oblong-lanceolate or oval, sessile or the lower short-petioled, 3'-6' long, 1-3' wide, acuminate, finely pubescent beneath and sometimes also above, their margins minutely ciliate; panicle densely many-flowered, 1'-4' long, peduncled; pedicels shorter than the flowers, or equalling them; flowers about 2" broad; perianth-segments oblong, equalling the ovary; berry red, aromatic, speckled with purple, 2"-3" in diameter.

In moist woods and thickets, Nova Scotia to British Columbia, south to Georgia, Missouri and Arizona. Ascends to 2500 ft. in Virginia. Job's-tears. Golden-seal. Small or Zigzag Solomon's-seal. May-July.

*Vagnera amplexicaulis* (Nutt.) Greene, of western North America, distinguished from this by its clasping leaves and longer style, may occur in western Nebraska.





*Smilacina stellata* (L.) Desf.

Star-flowered Solomon's Seal.

*Convallaria stellata* L. Sp. Pl. 316. 1753.  
*Smilacina stellata* Desf. Ann. Mus. Paris 9: 52. 1807.  
*Vagnera stellata* Morong, Mem. Torr. Club 5: 114. 1894.

Rootstock stout, fleshy. Stem rather stout, erect, glabrous, 8'-20' tall, straight or somewhat zigzag, leafy. Leaves oblong-lanceolate or lanceolate, sessile and somewhat clasping, minutely pubescent beneath, 2'-5' long, 1/2'-1 1/2' wide, acute, acuminate, or blunt at the apex, flat or somewhat concave; raceme sessile or short-peduncled, 1'-2' long, several-flowered; pedicels 1''-4'' long, usually shorter than the flowers; perianth-segments oblong, obtuse, longer than the stamens; style about as long as the ovary; berry green with 6 black stripes or black, 3''-5'' in diameter.

In moist soil, Newfoundland to British Columbia, south to Virginia, Kentucky, Kansas and California. Also in northern Europe. False Solomon's-seal. May-June.

California. Also in northern Europe. False Solomon's-seal. May-June.

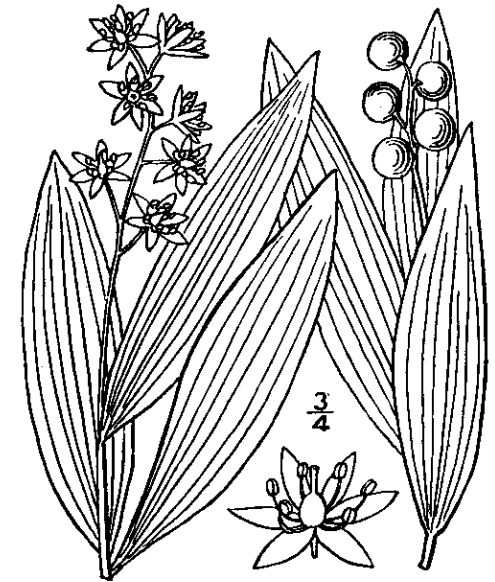
*Smilacina trifolia* (L.) Desf.

Three-leaved Solomon's Seal.

*Convallaria trifolia* L. Sp. Pl. 316. 1753.  
*Smilacina trifolia* Desf. Ann. Mus. Paris 9: 52. 1807.  
*Vagnera trifolia* Morong, Mem. Torr. Club 5: 114. 1894.

Glabrous, rootstock slender. Stem slender, erect, 2'-15' high, 2-4-leaved (usually 3-leaved); leaves oval, oblong or oblong-lanceolate, sessile, sheathing, 2'-5' long, 1/2'-2' wide, acute or acuminate at the apex, narrowed at the base; raceme few-flowered, peduncled, 1'-2' long; perianth-segments oblong or oblong-lanceolate, obtuse, finally somewhat reflexed, longer than the stamens; style about as long as the ovary; berry dark red, 2 1/2''-3'' in diameter.

In bogs and wet woods, Newfoundland to British Columbia, south to Connecticut, New Jersey, Pennsylvania and Michigan. Also in northern Asia. May-June.



*Smilax Bona-nox* L. Bristly Greenbrier.

*Smilax Bona-nox* L. Sp. Pl. 1030. 1753.  
*Smilax hastata* Willd. Sp. Pl. 4: 782. 1806.  
*Smilax tamnoides* A. Gray, Man. 485. 1848. Not L.

Rootstocks bearing large tubers, stem terete or slightly angled, the branches often 4-angled. Prickles scattered or numerous, stout or needle-like, often wanting on the branches; petioles 3''-6'' long, often prickly; leaves thick, ovate or commonly deltoid-hastate, sometimes narrowed at the middle, glabrous, green and usually shining on both sides, often spiny on the margins and on the veins beneath, acute or abruptly cuspidate at the apex, obtuse, truncate or cordate at the base, 5-9-nerved, 1 1/2'-4 1/2' long, 8''-3' wide; peduncles slender, flattened, 7''-15'' long; umbels 15-45-flowered; pedicels 2''-4'' long; stigmas 1-3; berries 8-20 in the umbels, 2''-3'' in diameter, mostly 1-seeded, ripening the first year.

In thickets, New Jersey(?); Virginia to Kentucky, Kansas, Florida, Texas and Mexico. Fiddle-shaped greenbrier. April-July. Erroneously recorded from Massachusetts.

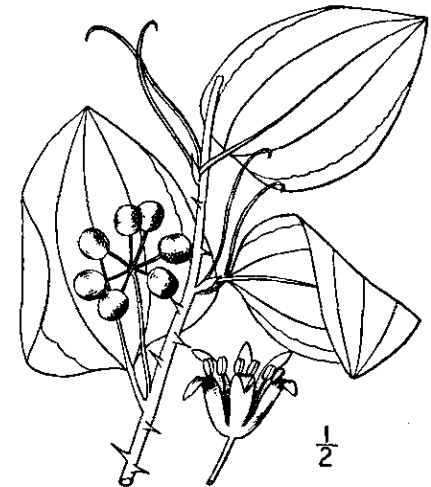


*Smilax glauca* Walt. Glaucous-leaved Greenbrier.

*Smilax glauca* Walt. Fl. Car. 245. 1788.  
*S. spinulosum* J. E. Smith; Torr. Fl. N. Y. 2: 303. 1843.

Rootstock deep, knotted and tuberous. Stem terete; branches and twigs angled, armed with rather stout numerous or scattered prickles, or sometimes unarmed; petioles 3''-6'' long, tendril-bearing; leaves ovate, acute or cuspidate at the apex, sometimes cordate at the base, entire, glaucous beneath and sometimes also above, mostly 5-nerved, 1 1/2'-6' long, 1/2'-5' wide; peduncles flattened 6''-16'' long; umbels 6-12-flowered; pedicels 2''-4'' long; berries bluish black, ripening the first year, about 3'' in diameter, 2-3-seeded.

In dry sandy soil, eastern Massachusetts to Florida, Ohio, Kansas and Texas. Sarsaparilla. May-June.





**Smilax herbacea L.** Carrion-flower.  
Jacob's Ladder.

*Smilax herbacea* L. Sp. Pl. 1030. 1753.  
*S. pulverulenta* Michx. Fl. Bor. Am. 2: 238. 1803.  
*Coprosmanthus herbaceus* Kunth, Enum. 5: 264. 1850.

Tubers short, thick, scarred, numerous. Stem herbaceous, glabrous, terete or obtusely angled, unarmed, commonly much branched. Petioles 4"-3½" long; tendrils numerous; leaves ovate, rounded or lanceolate, acute, acuminate or cuspidate at the apex, obtuse or cordate at the base, thin, frequently downy beneath, 7-9-nerved, 1½"-3" long, 1"-3½" wide, the margins entire or denticulate; peduncles 4'-9" long, usually 6-10 times as long as the petioles, flattened; umbels 15-80-flowered; pedicels 3"-8" long; flowers carrion-scented when open; stamens sometimes 5 or 7; filaments 2-3 times as long as the anthers; berries bluish black, 2-4-seeded, 3"-4" in diameter.

In woods and thickets, New Brunswick to Ontario, Manitoba, Florida, Louisiana, Nebraska and Oklahoma. April-June.

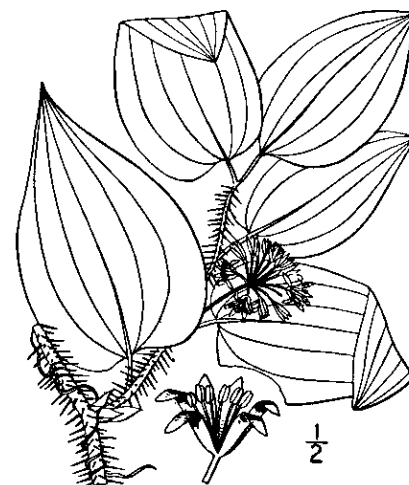


**Smilax hispida Muhl.** Hispid Greenbrier.  
Bristly Sarsaparilla.

*Smilax hispida* Muhl.; Torr. Fl. N. Y. 2: 302. 1843.

Glabrous, stem terete below, and commonly thickly hispid with numerous slender straight prickles, the branches more or less angled; petioles 4"-9" long, tendril-bearing, rarely denticulate; leaves thin, green on both sides, ovate, abruptly acute and cuspidate at the apex, obtuse or subcordate at the base, 7-nerved, or the older ones sometimes with an additional pair of faint nerves, 2'-5" long, 1'-5" wide, the margins usually denticulate; peduncles flattened, 9"-2" long; umbels 10-26-flowered; pedicels slender, 2"-3" long; filaments a little longer than the anthers; berries bluish black, about 3" in diameter, maturing the first year.

In thickets, Connecticut to Ontario, Minnesota, Nebraska, North Carolina and Texas. May-July.



**Smilax pseudochina L.** Halberd-  
leaved Smilax.

*S. tamnifolia* Michx. Fl. Bor. Am. 2: 238. 1803.  
*Coprosmanthus tamnifolius* Kunth, Enum. 5: 267. 1850.

Glabrous, herbaceous; stem and branches terete or obtusely angled, unarmed. Petioles ½"-1½" long, the sheath tendril-bearing, very short or none; leaves coriaceous, mostly ovate-hastate, with broad obtuse lobes at the base, slightly narrowed at about the middle, acute, obtuse or acuminate at the apex, truncate or subcordate at the base, entire, green on both sides, 1¼'-3' long, ½'-2" wide, 5-7-nerved; peduncles 1-3 from the same axil, 1'-4" long, usually much longer than the leaves, often flattening in drying; umbels 10-30-flowered; pedicels 2"-3" long; segments of the staminate flowers slightly pubescent; filaments 1-2 times as long as the anthers; berries black, 2"-3" in diameter, 1-3-seeded.

In dry soil, Long Island to New Jersey, Pennsylvania, South Carolina and Tennessee. May-July.

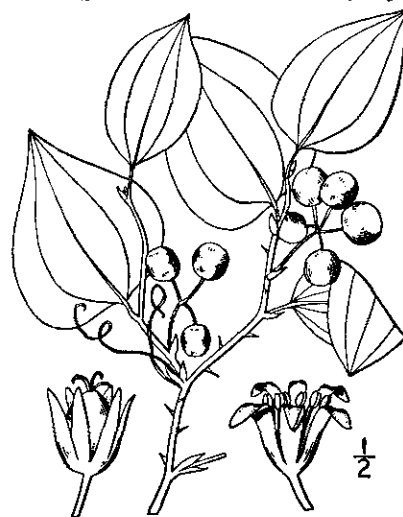


**Smilax rotundifolia L.** Greenbrier. Catbrier. Horsebrier.

*Smilax rotundifolia* L. Sp. Pl. 1030. 1753.  
*Smilax caduca* L. Sp. Pl. 1030. 1753.  
*Smilax quadrangularis* Willd. Sp. Pl. 4: 775. 1806.

Rootstocks long, sparingly tuberous. Stem woody, terete, the branches and young shoots often 4-angled, glabrous; prickles scattered, stout, straight or a little curved, sometimes none; petioles 3"-6" long; leaves thick and shining when mature, thin when young, ovate, nearly orbicular, or lanceolate, acute or acuminate at the apex, obtuse or cordate at the base, entire or the margins erose-denticulate, 5-nerved, 2'-6' long, 10"-6" wide; peduncles flattened 3"-1' long; umbels 6-25-flowered; pedicels 1"-4" long; perianth-segments pubescent at the tip; filaments 2-3 times as long as the anthers; berries black, 1-3-seeded, about 3" in diameter, maturing the first year.

In woods and thickets, Nova Scotia to Minnesota, south to Florida and Texas. Biscuit-leaves. Wait-a-bit. Nigger-head. Bamboo-brier. Devil's-hop-vine. Bread-and-butter. Hungry-vine. April-June.

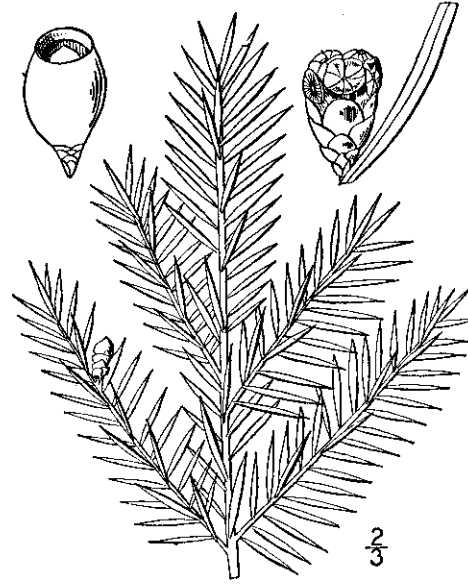
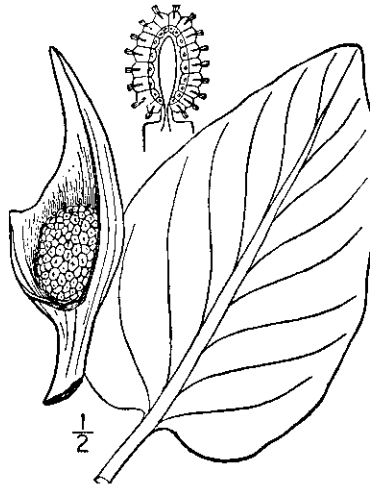


**Symplocarpus foetidus** (L.) Raf. Skunk Cabbage.

*Dracontium foetidum* L. Sp. Pl. 967. 1753.  
*Spathyema foetida* Raf. Med. Rep. (II.) 5: 352. 1808.  
*Symplocarpus foetidus* Nutt. Gen. 1: 106. 1818.

Leaves numerous, in large crowns, 1°-3° long, often 1° wide, strongly nerved, abruptly acute at the apex, thin, entire, their petioles deeply channeled. Root-stock thick, descending, terminating in whorls of fleshy fibers; spathe preceding the leaves, erect, 3'-6' high, 1'-3' in diameter at the base, convolute, firm; purple-brown to greenish yellow, often mottled, its short scape usually subterranean, spadix about 1' in diameter in flower, greatly enlarging and sometimes 6' in diameter in fruit; mature seeds 4'-6" long.

In swamps and wet soil, Nova Scotia to Ontario and Minnesota, North Carolina and Iowa. Feb.-April. Skunk-weed. Meadow, Swamp- or Clumpfoot-cabbage. Pole-cat weed. Polk-weed. Collard. Fruit ripe Aug.-Sept.



**Taxus canadensis** Marsh. American Yew. Ground-hemlock.

*Taxus baccata* var. *minor* Michx. Fl. Bor. Am. 2: 245. 1803.  
*Taxus canadensis* Marsh. Arb. Am. 151. 1785.  
*Taxus minor* Britton, Mem. Torr. Club, 5: 19. 1893.

A low straggling shrub, seldom over 5° high. Leaves dark green on both sides, narrowly linear, mucronate at the apex, narrowed at the base, 6"-10" long, nearly 1" wide, persistent on the twigs in drying; the staminate aments globose, 1" long, usually numerous; ovules usually few; fruit red and pulpy, resinous, oblong, nearly 3" high, the top of the seed not covered by the fleshy integument.

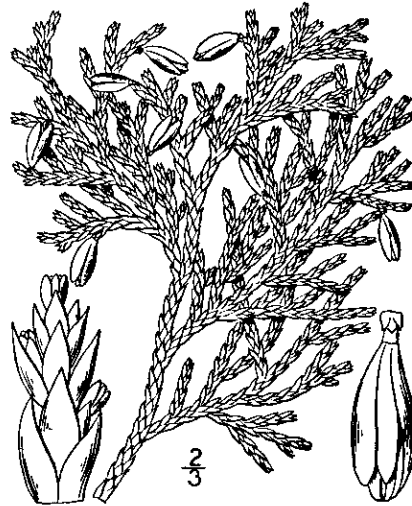
In woods, Newfoundland to Manitoba, south to New Jersey, in the Alleghanies to Virginia, and to Minnesota and Iowa. Ascends to 2500 ft. in the Adirondacks. April-May. Called also Dwarf Yew, Shin-wood, Creeping Hemlock. Very different from the European Yew, *T. baccata*, in habit, the latter becoming a large forest tree, as does the Oregon Yew, *T. brevifolia*.

**Thuja occidentalis** L. White Cedar. Arbor Vitae.

*Thuja occidentalis* L. Sp. Pl. 1002. 1753.

A conical tree, reaching a height of about 70° and a trunk diameter of 5°, the old bark deciduous in ragged strips. Scale-like leaves of the ultimate branchlets nearly orbicular, obtuse, 1"-1½" broad, the two lateral rows keeled, the two other rows flat, causing the twigs to appear much flattened; leaves of the older twigs narrower and longer, acute or acuminate; cones 4"-6" long, their scales obtuse; seeds broadly winged.

In wet soil and along the banks of streams, forming almost impenetrable forests northward, New Brunswick to James' Bay and Manitoba, south to New Jersey, along the Alleghanies to North Carolina, Tennessee and to Illinois and Minnesota. Ascends to 3500 ft. in the Adirondacks. Wood soft, brittle, weak, coarse-grained, light brown; weight per cubic foot 20 lbs. Called also False White and Feather-leaf Cedar. May-June.



**Tradescantia occidentalis** (Britton) Smyth. Western Spiderwort.

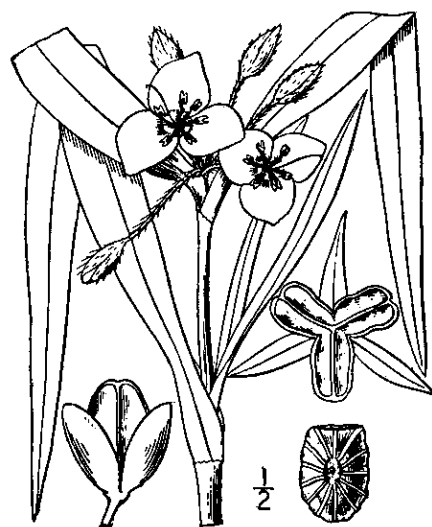
*T. virginiana occidentalis* Britton; Britt. & Brown, Ill. Fl. 377. 1896.

*T. occidentalis* Smyth, Trans. Kans. Acad. Sci. 16: 163. 1899.

Mostly glabrous to the inflorescence, bright green. Stems solitary, erect, 1°-2½° tall, simple; leaves linear, 8'-12' long, involutely folded, curved; sheaths 5"-20" long, conspicuously ribbed, rarely with a few cilia; bracts of the involucre 2, linear, slightly unequal; pedicels rather slender, 5'-10" long; sepals oblong or elliptic, apparently lanceolate by the involute edges, 4"-5" long, glandular-pilose; petals blue or reddish, almost 5" long, orbicular-ovate; capsules obovoid or oblong, 2½"-3" long, puberulent at the apex; seeds 1½" long, pitted and ridged.

On sand-hills, Iowa to Texas, South Dakota and Colorado. June-Aug.





**Tradescantia virginiana** L. Spiderwort. Trinity.

*Tradescantia virginiana* L. Sp. Pl. 288. 1753.

Glabrous or slightly pubescent, succulent, glaucous or green, stems stout, 8'-3° tall. Leaves more or less channeled, or in some forms nearly flat, linear or linear-lanceolate, long-acuminate, often more than 1° long, 4''-1' wide; bracts foliaceous, commonly rather wider and shorter than the leaves; umbels solitary and terminal or rarely 2-4, loosely several-many-flowered; pedicels glabrous or pubescent, slender; flowers blue or purplish, rarely white, 1'-2' broad, very showy; sepals oblong or oblong-lanceolate, acute or obtuse, glabrous or pubescent, 4''-10'' long, much longer than the capsule.

In rich soil, mostly in woods and thickets, southern New York to Ohio and South Dakota, south to Virginia, Kentucky and Arkansas. Escaped from cultivation farther north. Ascends to 4000 ft. in Virginia. Spider-lily. May-Aug.

**Trillium grandiflorum** (Michx.) Salisb.

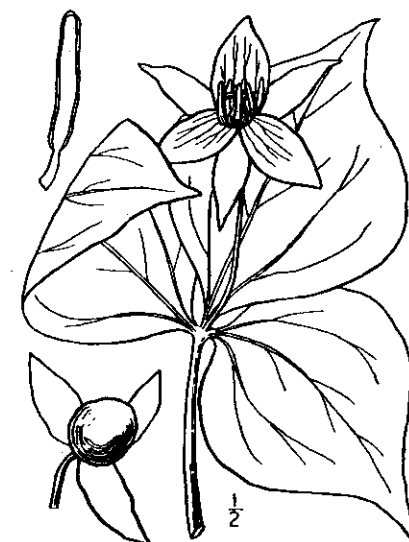
Large-flowered Wake-robin.

*Trillium rhomboideum* var. *grandiflorum* Michx. Fl. Bor. Am. 1: 216. 1803.

*Trillium grandiflorum* Salisb. Par. Lond. 1: pl. 1. 1805.

Stems usually stout, 8'-18' high. Leaves broadly rhombic-ovate or rhombic-oval, 2½'-6' long, acuminate at the apex, narrowed to the sessile or nearly sessile base; peduncle erect or somewhat inclined, 1½'-3' long; sepals lanceolate or oblong-lanceolate, acuminate but sometimes bluntish, 1'-2' long, spreading; petals erect-spreading, oblanceolate; obovate or rarely ovate-oblong, obtuse or cuspidate, strongly veined, white or pink, thin, longer than the sepals; anthers about ½' long, longer than the filaments; styles slender, 3''-4'' long, ascending or erect; berry globose, black, slightly 6-lobed, 8''-12'' in diameter.

In woods, Quebec to Ontario and Minnesota, south to North Carolina and Missouri. Reported from farther south. Ascends to 5000 ft. in Virginia. White lilies. Bath-flower. Trinity-lily. May-June.



**Trillium erectum** L. Ill-scented Wake-robin. Birth-root.

*Trillium erectum* L. Sp. Pl. 340. 1753.

Stem stout, 8'-16' high. Leaves very broadly rhombic, 3'-7' long, often as wide or wider, sessile, acuminate at the apex, narrowed at the base; peduncle 1½'-4' long, erect, or nearly so; sepals lanceolate, acuminate, spreading, ½'-1½' long; petals lanceolate or ovate, acute or acutish, spreading, equalling the sepals or a little longer, dark purple, pink, greenish or white; anthers longer than the filaments, sometimes twice as long, exceeding the stigmas; ovary purple; styles short, spreading or recurved; berry ovoid, somewhat 6-lobed, reddish, 8''-12'' long.

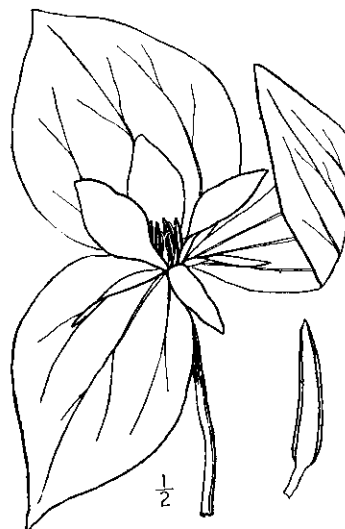
In woods, Nova Scotia to Ontario, south to North Carolina and Tennessee. Flowers unpleasantly scented. Indian balm. Red or purple trillium, or wake-robin. Bath-, Beth- or Squaw-flower. Beth- or bumble-bee-root. Lamb's-quarters. Nosebleed. Daffy-down-dilly. Red benjamin. Shamrock. True-love. Orange-blossom. April-June.

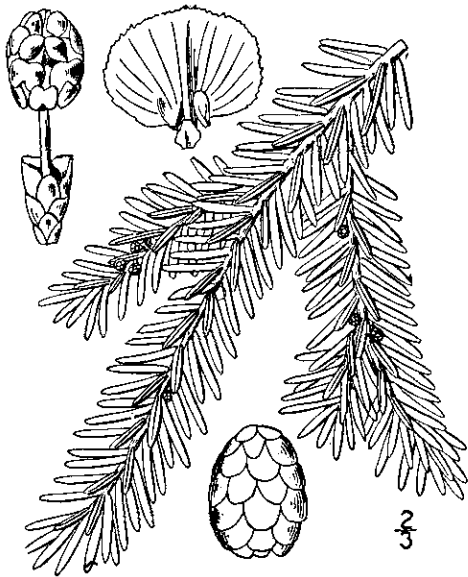
**Trillium sessile** L. Sessile-flowered Wake-robin.

*Trillium sessile* L. Sp. Pl. 340. 1753.

Stem 4'-12' tall. Leaves ovate, oval or nearly orbicular, sessile, acute or obtuse and cuspidate at the apex, 1½'-6' long, often blotched; flower sessile, erect; sepals lanceolate, acute or obtuse, spreading, ½'-2' long, petals lanceolate, acute or obtuse, somewhat longer than the sepals, erect-spreading, purple or green; anthers 3''-7'' long, longer than filament, the connective prolonged beyond the sacs; berry globose, 6-angled, about ½' in diameter.

In moist woods and thickets, Pennsylvania to Ohio and Minnesota, south to Florida, Mississippi and Arkansas. Flowers pleasantly odorous. Three-leaved nightshade. April-May.





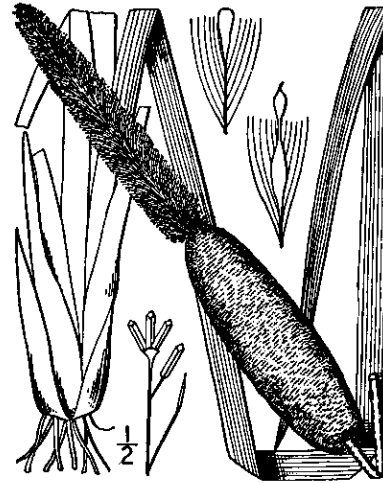
**Tsuga canadensis** (L.) Carr. Hemlock.

*Pinus canadensis* L. Sp. Pl. Ed. 2, 1421. 1763.  
*Abies canadensis* Michx. Fl. Bor. Am. 2: 206. 1803.

*Tsuga canadensis* Carr. Trait. Conif. 189. 1855.

A tall forest tree, sometimes 110° high, the trunk reaching 4° in diameter, the lower branches somewhat drooping, the old bark flaky in scales. Foliage dense; leaves obtuse, flat, 6"-9" long, less than 1" wide, dark green above, pale beneath, the petiole less than one-half as long as the width of the blade; cones oblong, obtuse, as long as or slightly longer than the leaves, their scales suborbicular, obtuse, minutely lacerate or entire, not widely spreading at maturity.

Nova Scotia to Minnesota, south to Delaware, along the Alleghanies to Alabama and to Michigan and Wisconsin. Ascends to 2000 ft. in the Adirondacks. One of the most ornamental of evergreens when young. Wood soft, weak, brittle, coarse-grained, light brown or nearly white; weight per cubic foot 26 lbs. Bark much used in tanning. April-May. Called also Spruce Pine, Hemlock Spruce.

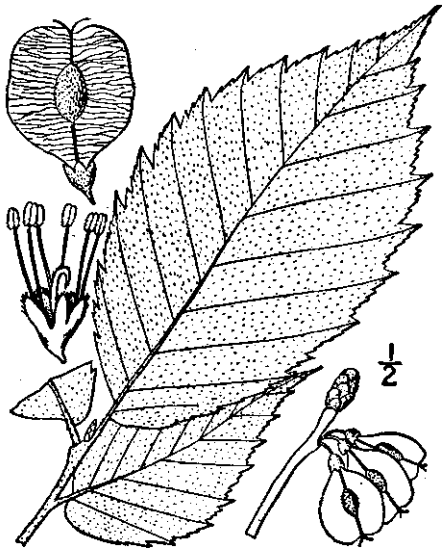


**Typha latifolia** L. Broad-leaved Cat-tail.

*Typha latifolia* L. Sp. Pl. 971. 1753.

Stems stout, 4°-8° high. Leaves 3"-12" broad; spikes dark brown or black, the staminate and pistillate portions usually contiguous, each 3'-12' long and often 1' or more in diameter, the pistillate without bractlets; stigmas rhomboid or spatulate; pollen-grains in 4's; pedicels of the mature pistillate flowers 1"-1½" long.

In marshes, throughout North America except the extreme north. Ascends to 1600 ft. in the Adirondacks and to 2200 ft. in Virginia. Also in Europe and Asia. June-July. Fruit, Aug.-Sept. Called also Great-Reed-mace, Cat-o'-nine-tail, Marsh Beetle, Marsh Pestle, Cat-tail Flag, Flax-tail, Blackamoor, Black-cap, Bull-segg, Bubrush, Water-torch, Candlewick.



**Ulmus rubra** Muhl. Slippery, Red or Moose Elm.

*Ulmus pubescens* Walt. Fl. Car. 111. 1788.?

*Ulmus fulva* Michx. Fl. Bor. Am. 1: 172. 1803.

A tree, with rough gray fragrant bark, maximum height about 70°, and trunk diameter 2½°; twigs rough-pubescent; branches not corky-winged; bud-scales densely brown-tomentose. Leaves ovate, oval or obovate, very rough with short papillae above, pubescent beneath, sharply doubly serrate, acuminate at the apex, obtuse, inequilateral and commonly cordate at the base, 4'-8' long, 2'-2½' wide; flowers fascicled; pedicels 2'-3' long, spreading, jointed near the base; calyx-lobes lanceolate, subacute; samara oval-orbicular, 6"-9" long, pubescent over the seed, otherwise glabrous, the margins not ciliate, retuse.

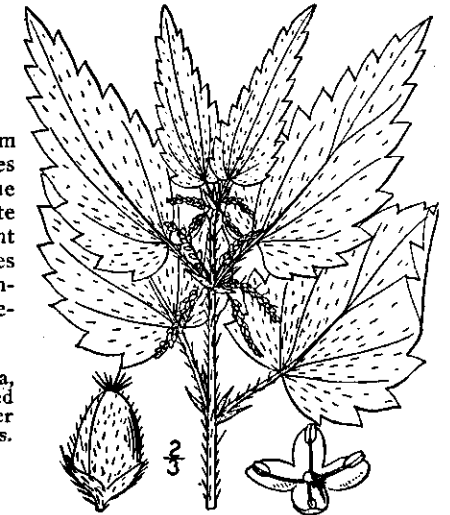
In woods, on hills and along streams, Quebec to North Dakota, Florida and Texas. Wood hard, strong, compact, durable; color dark reddish-brown; weight per cubic foot 43 lbs. Foliage and mucilaginous inner bark very fragrant in drying. March-April. Indian or sweet elm. Rock-elm.

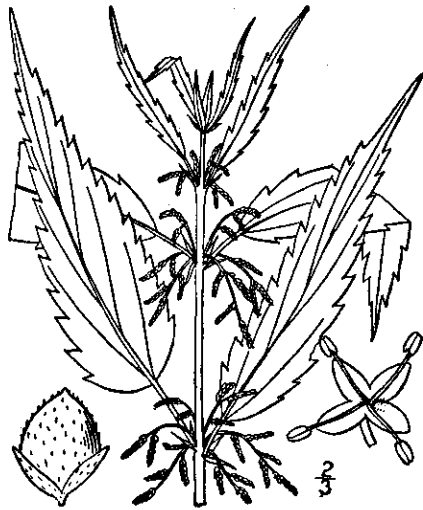
**Urtica dioica** L. Stinging or Great Nettle.

*Urtica dioica* L. Sp. Pl. 984. 1753.

Perennial, densely beset with stinging hairs, stem rather stout, 2°-4° tall, puberulent above. Leaves thin, ovate, long-petioled, acute or acuminate at the apex, cordate at the base, sharply or incisely serrate with triangular or lanceolate acute teeth, pubescent beneath, 3-5-nerved, 3'-5' long, 1'-3' wide; petioles slender, much shorter than the blades; stipules lanceolate; flower-clusters large, compound, cymose-paniculate; flowers dioecious or androgynous.

In waste places, Newfoundland to Ontario, Minnesota, South Carolina, Missouri and Colorado. Naturalized from Europe. Native also of Asia. Plant lower, stouter and much more stinging than the following species. July-Sept.





**Urtica gracilis** Ait. Slender or Tall  
Wild Nettle.

*Urtica gracilis* Ait. Hort. Kew. 3: 341. 1789.

Perennial, sparingly armed with stinging hairs, stem usually slender, erect, simple or with few erect branches, 2°-7° tall. Leaves lanceolate or ovate-lanceolate, slender-petioled, long-acuminate at the apex, narrowed or sometimes rounded at the base (rarely subcordate), sharply serrate, 3-5-nerved, sparingly pubescent, 3'-6' long, 1'-1½' wide; petioles shorter than the blades, usually bristly; stipules lanceolate; flower-clusters compound, smaller than those of the preceding species, but commonly longer than the petioles; flowers dioecious or androgynous.

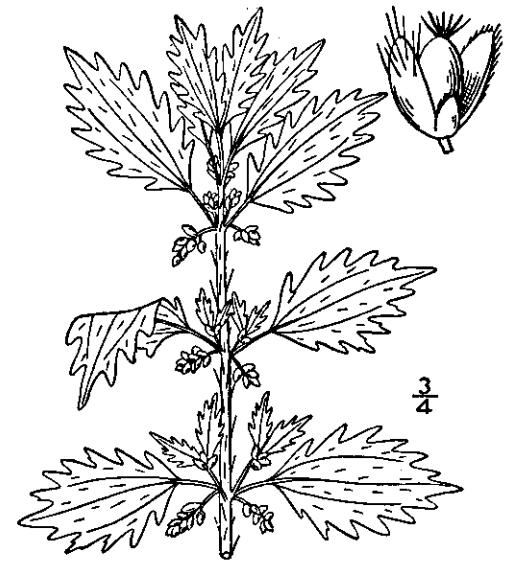
In dry soil, Newfoundland to British Columbia, south to North Carolina, Louisiana and Colorado. Races with ovate-lanceolate, coarsely serrate, cordate leaves have been referred to *Urtica Lyallii* S. Wats. June-Oct.

**Urtica ùrens** L. Small or Dwarf  
Nettle.

*Urtica urens* L. Sp. Pl. 984. 1753.

Annual, stem rather stout, 6'-18' high, ascending or erect, it and its slender branches stinging-bristly. Leaves thin, glabrous or very nearly so, elliptic, oval or ovate in outline, deeply incised or sometimes doubly serrate, with acute, ascending or spreading teeth, 3-5-nerved, obtuse at both ends, or acutish, 1'-3' long, slender-petioled; petioles often as long as the blades; stipules short; flower-clusters oblong, rather dense, mostly shorter than the petioles; flowers androgynous.

In waste places, Newfoundland to Manitoba, northern New York, New Jersey and Florida. Also on the Pacific Coast and in Bermuda, Naturalized from Europe. May-Sept. Burning or stinging nettle.

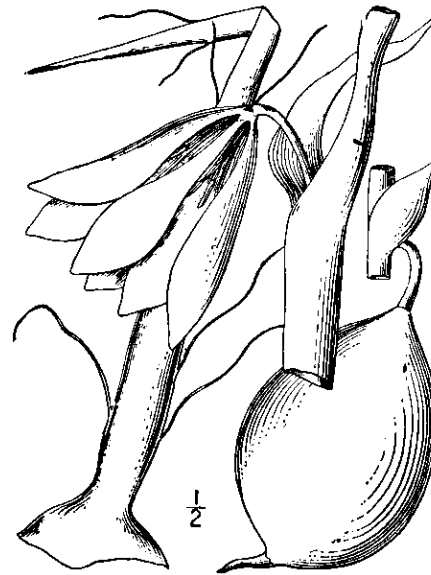


**Veratrum víride** Ait. American White  
Hellebore. Indian Poke. Poke-root.

*Veratrum viride* Ait. Hort. Kew. 3: 422. 1789.

Rootstock erect, 2'-3' long, 1'-2' thick, with numerous fibrous-fleshy roots. Stem stout, 2°-8° tall, very leafy; leaves acute, the lower broadly oval or elliptic, 6'-12' long, 3'-6' wide, short-petioled or sessile, sheathing, the upper successively narrower, those of the inflorescence small; panicle 8'-2° long, densely many-flowered, its lower branches spreading or somewhat drooping; pedicels 1"-3" long, mostly shorter than the bracts; flowers yellowish green, 8"-12" broad; perianth-segments oblong or oblanceolate, ciliate-serrulate, twice as long as the stamens; ovary glabrous; capsule 10"-12" long, 4"-6" thick, many-seeded; seed 4"-5" long.

In swamps and wet woods, New Brunswick and Quebec to Ontario, south to Georgia, Tennessee and Minnesota. Ascends to 4000 ft. in the Adirondacks. Big Swamp or False hellebore. Duck-retten. Earth-gall. Devil's-bite. Bear-corn. Poor Annie. Itch-weed. Tickle-weed. May-July.



**Yucca baccata** Torr. Spanish Bayonet  
or Dagger.

*Yucca baccata* Torr. Bot. Mex. Bound. Surv. 221. 1859.

Caudex very short, or sometimes 2°-8° tall, covered with the reflexed dead leaves. Leaves 1½'-3' long, 1'-2' wide with a much wider base, acuminate, with a stout brown point, concave, the marginal fibers 2'-5' long; panicle peduncled; pedicels stout, 8"-20" long; flowers 4'-5' broad; perianth-segments 2½'-3½' long, 8"-12" wide; style slender, as long as the ovary, or shorter; fruit oval, dark purple, fleshy, indurated, edible, drooping, 2'-3' long, 1½'-2' in diameter, with a 6-grooved beak of one-half its length or less; seeds 3"-8" long, 1"-1½" thick.

Western Kansas (?), southern Colorado to Texas, California and Mexico. Hosh-kawn. April-June. Fruit ripe Sept.-Oct.

**Yucca glauca** Nutt. Bear-grass. Soap-weed.

*Yucca glauca* Nutt. Fraser's Cat. 1813.  
*Yucca angustifolia* Pursh, Fl. Am. Sept. 227. 1814.

Caudex very short, the leaves all basal, narrowly linear, smooth, very stiff, sharp-pointed, 1°-3° long, 3"-6" wide, with a broader base, concave, at least when dry, the marginal fibers filiform, usually numerous; scape short; flowers greenish-white, 1½'-3' broad, racemose or in a little-branched panicle 1°-6° long; perianth-segments ovate, 1'-1½' long; style short, green; stigmas shorter than the ovary; pedicels stout, erect and 1'-1½' long in fruit; capsule oblong, 2'-3' long, about 1' thick, 6-sided; seeds very flat, about ½' broad.

In dry soil, Iowa and South Dakota to Montana, south to Missouri, Texas and Arizona. Adam's-needle. Palmillo. May-June.

*Yucca arkansana* Trelease, with grass-like flexible leaves, growing from Arkansas to Texas, may occur in southern Missouri.

