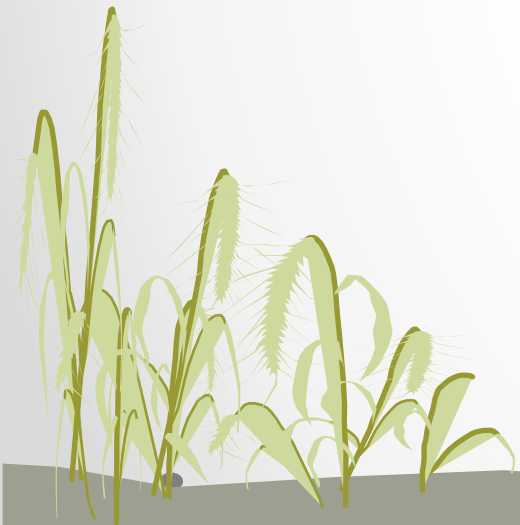


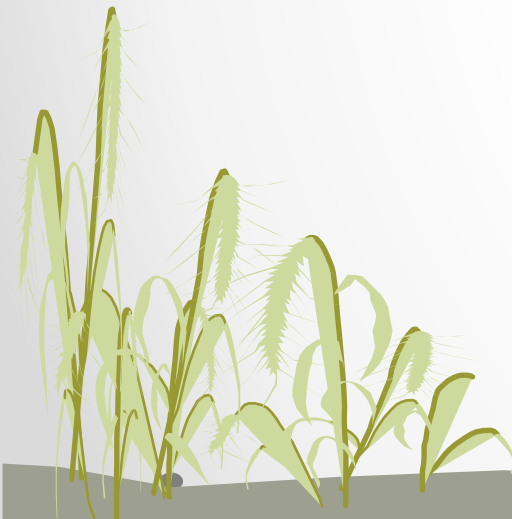
Illinois Invasive Plant Identification

By: Nicole Morris



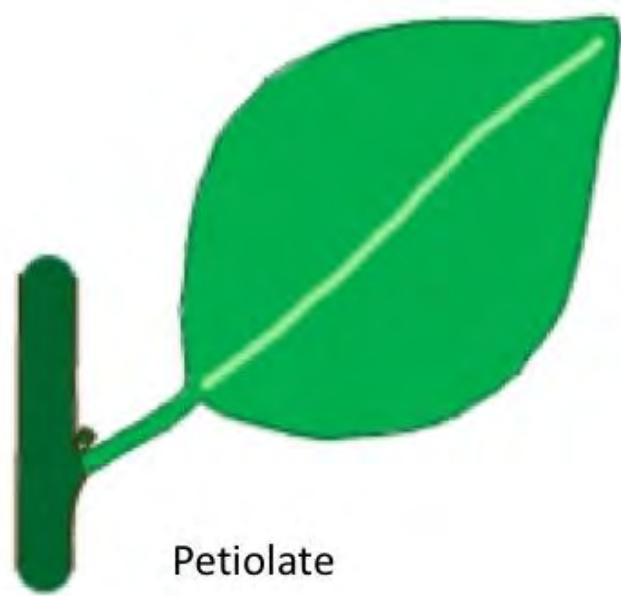
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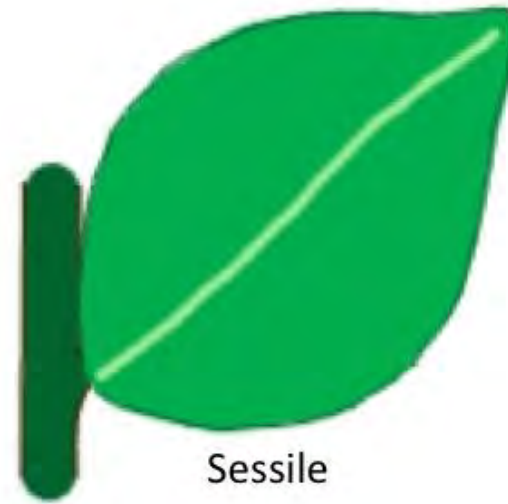


Glossary

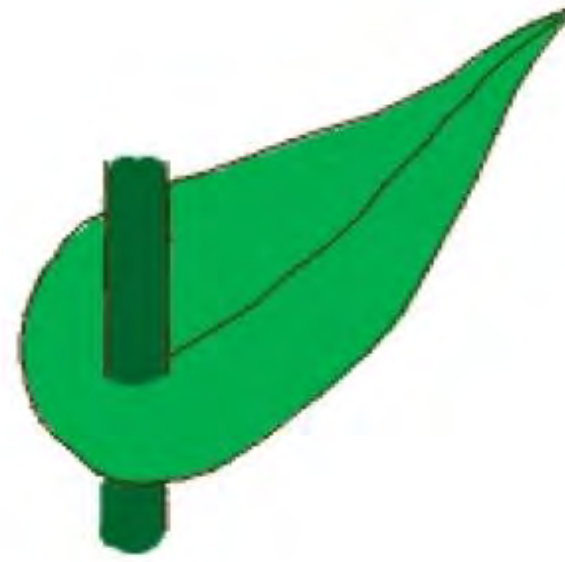
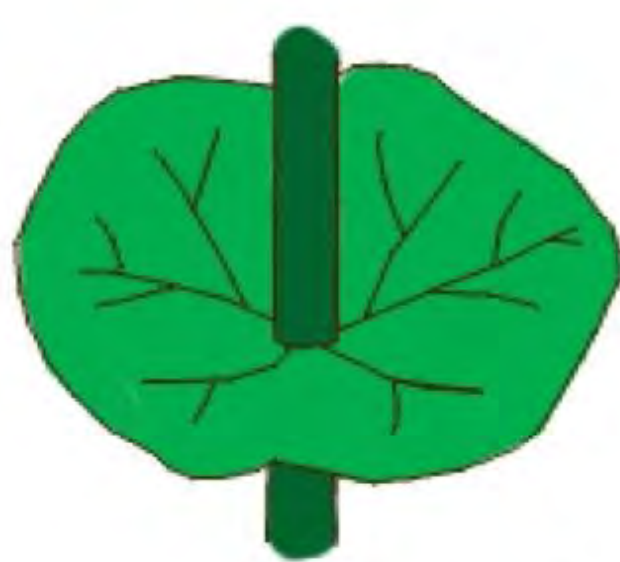
- **Achene:** a small, dry one-seeded fruit that does not open to release the seed
- **Acuminate:** Tapering to a point
- **Apex:** The highest point or vertex of a plant stem or root.
- **Axils:** The upper angle between a leaf stalk or branch and the stem or trunk from which it is growing.
- **Cordate:** Heart-shaped
- **Corollas:** The petals of a flower, typically forming a whorl within the sepals and enclosing the reproductive organs
- **Deciduous:** Shedding its leaves annually
- **Dioecious:** Having the male and female reproductive organs in separate individuals.
- **Glabrous:** free from hair or down; smooth
- **Herbaceous:** plants that have non-woody stems (all annual plants are herbaceous)
- **Inflorescence:** The complete flower head of a plant including stems, stalks, bracts, and flowers.
- **Involucre:** A whorl or rosette of bracts surrounding an inflorescence or at the base of an umbel.
- **Lanceolate:** to have a general shape of a lance; much longer than wide, with the widest part lower than the middle and a pointed apex
- **Lenticels:** One of many raised pores in the stem of a woody plant that allows gas exchange between the atmosphere and the internal tissues.
- **Malodorous:** smelling very unpleasant
- **Oblong:** Elongated rectangle or oval shape
- **Ovate:** Having an oval shaped outline
- **Panicles:** a loose branching cluster of flowers (as in oats)
- **Pedicels:** A small stalk bearing an individual flower
- **Phyllaries:** Are reduced leaf-like structures that form one or more whorls immediately below a flower head.
- **Pubescent:** covered with short soft hair; downy.
- **Rhizomatous:** Producing or possessing or resembling rhizomes
- **Rhizomes:** A continuously growing horizontal underground stem which puts out lateral shoots and adventitious roots at intervals.
- **Stipulate:** Having a small leaflike appendage to a leaf, typically borne in pairs at the base of the leaf stalk.
- **Tubular:** Long, round, and hollow like a tube
- **Umbels:** A flower cluster in which stalks of nearly equal length spring from a common center and form a flat or curved surface, characteristic of the parsley family.



Petiolate



Sessile



Perfoliate leaves

VENATION

SHAPES

ARRANGEMENT

MARGINS

ARRANGEMENT ON THE STEM



pinnate



parallel



palmate



linear



obovate



ovate



pinnately lobed



palmately lobed



reniform



lanceolate



sagittate



simple



palmately compound



pinnately compound



bipinnately compound



entire



crenate



dentate



serrate



lobed



alternate

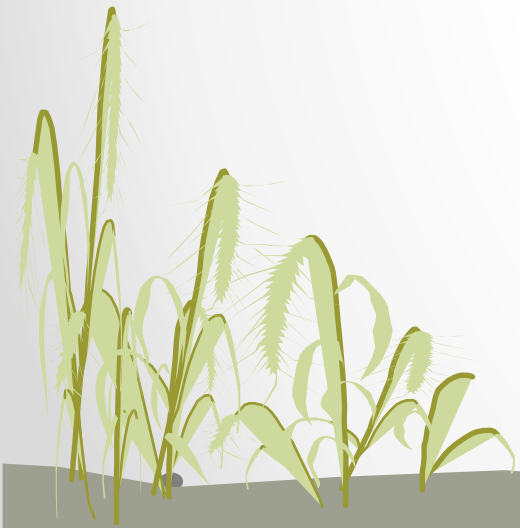


opposite



whorled

Woody Plants



Amur Honeysuckle

- **Scientific Name:** *Lonicera maackii*
- **Appearance:** Woody perennial shrub that can grow up to 16.5 ft. (5 m) in height
- **Foliage:** Oppositely arranged leaves are ovate to lance-ovate in shape, acuminate leaf tips, dark green above, lighter on the lower surface, veins of the leaves are pubescent
- **Stem:** Reddish, ridged, jointed, hollow
- **Bloom:** May to June, flowers paired, tubular, (white aging yellow)
- **Fruit:** Late summer to winter (red to orange-red) spherical berries
- *Midwest noxious weed – forms large stands that prevent native shrubs and herbaceous understory plants from growing*



Tatarian Honeysuckle

- **Scientific Name:** *Lonicera tatarica*
- **Appearance:** A multi-stemmed, upright, woody, deciduous shrub that grows up to 10 ft. tall. The bark is light gray and can often peel in vertical strips.
- **Foliage:** The leaves are opposite, ovate, 1.5-2.5 in. long and blue-green. Often, it is one of the first shrubs to leaf out in the spring.
- **Bloom:** Flowers develop in pairs in the axils of the leaves in May to June. Flowers are deeply 5-lobed, tubular, usually pink to red and rarely white.
- **Fruit:** The abundant paired berries are 0.25 in. in diameter, ripen to an orange to red color and often persist throughout winter.
- *Lonicera tatarica* readily invades open woodlands, old fields, and other disturbed sites.



Morrow's Honeysuckle

- **Scientific Name:** *Lonicera morrowii*
- **Appearance:** a multi-stemmed, upright, deciduous shrub that grows up to 8 ft. tall. The bark is light brown and often pubescent on young stems. Stems are hollow
- **Foliage:** The grayish-green leaves are opposite, round, 2-3 in. long and hairy underneath. Often it is one of the first shrubs to leaf out in the spring.
- **Bloom:** The fragrant paired flowers are tubular, white to cream-colored, 0.75 in. in diameter and develop from May to June.
- **Fruit:** The abundant berries are 0.25 in. in diameter, ripen to orange or red in color, often persist throughout winter and occur on 0.5 in. pedicels.
- *Lonicera morrowii* readily invades open woodlands, old fields, and other disturbed sites.



Sweet Breath of Spring

- **Scientific Name:** *Lonicera fragrantissima*
- **Appearance:** a multi-stemmed, upright, deciduous (evergreen in the South) shrub that grows from 6-10 ft. tall. The stems are solid and continuous, white pith, has stringy, tan bark and are often purple when young.
- **Foliage:** Leaves are opposite, round, 1-3 in. long and wide and usually persist into winter.
- **Bloom:** Flowering occurs in the late winter, when fragrant, tubular, 0.5 in. long, white to red or yellow, thin-petaled flowers develop in pairs in the leaf axils.
- **Fruit:** The abundant berries are 0.3 in. in diameter and ripen to orange or red in the mid-summer and often persist throughout winter.
- *Lonicera fragrantissima* readily invades open woodlands, old fields and other disturbed sites.



Autumn Olive

- **Scientific Name:** *Elaeagnus umbellata* Thunb.
- **Appearance:** Deciduous shrub 3-20 ft. in height, notable by silvery, dotted underside of leaves
- **Foliage:** Alternate, margins are entire and undulate (wavy); leaves are bright green to gray (green above and silver scaly beneath with short petioles)
- **Stem:** Branch may or may not be thorny
- **Bloom:** April to June (small, yellowish tubular flowers abundant & occur in clusters of 5 to 10 near the stems)
- **Fruit:** Ripen from August to November (round, red, juicy drupes-finely dotted with silvery to silvery-brown scales. Each drupe contains one seed)
- **Midwest noxious weed – invades old fields, woodland edges, and other disturbed areas – displaces native species**



Callery (Bradford) Pear

- **Scientific Name:** *Pyrus calleryana*
- **Appearance:** Deciduous tree that can grow up to 60 ft. in height and 2 ft. in diameter; may be thorny
- **Foliage:** Alternate, simple, 2-3 in. long petiolate, & shiny with wavy, slightly toothed margins
- **Bloom:** Flowering occurs early in spring (April to May) before the leaves emerge. Five-petaled white flowers are 1 in. wide, showy, malodorous, and white insect pollinated
- **Fruit:** Round & hard, 0.5 in. in diameter and green to brown color
- **Look-alikes:** Serviceberry, plums, and crabapples
- *Pyrus calleryana produce sterile fruits because they do not self-pollinate. can hybridize and produce fertile fruit.*



Common Buckthorn

- **Scientific Name:** *Rhamnus cathartica*
- **Other species of Buckthorn:** *Rhamnus frangula*, *Rhamnus arguta*, *Rhamnus davurica*, *Rhamnus japonica*, and *Rhamnus utilis*
- **Appearance:** Deciduous shrub or small tree that can grow to 25 ft. in height. The bark is dark gray, and the inner bark is orange (easily seen when the tree is cut). Twigs are usually tipped with a sharp spine.
- **Foliage:** Leaf arrangement is usually sub-opposite and/or alternate arrangements are commonly found. Leaves are dark green, oval, 1.5-3in long, slightly serrate with 3 to 4 pairs of curving veins and a somewhat folded tip.
- **Bloom:** Flowering occurs in the spring, with fragrant, yellow-green, 4-petaled flowers developing in clusters of 2 to 6 near the base of the petioles. Plants are dioecious (male and female flowers occur on separate plants).
- **Fruit:** Appearing in the fall, the small, purple to black fruit are 0.25 in. (0.6 cm) in diameter. The fruit contains 3-4 seeds
- *Rhamnus cathartica* invades forests, prairies, and savannas in the Midwestern United States and can form dense thickets crowding out native shrubs and understory plants. It is difficult to remove and can regenerate after cutting or burning.

Common Buckthorn
(most common)



Glossy leaves with deep, prominent leaf veins. Leaf edged with small teeth

Leaves almost directly across from each other, thorn at tip of twig

Glossy Buckthorn
(wet areas)



Similar to Common Buckthorn, leaves extremely glossy with deep veins and leaf margin is smooth, without teeth



Common Privet

- **Scientific Name:** *Ligustrum vulgare*
- **Appearance:** Deciduous (semi-evergreen) shrub or small tree that grows to 20 ft. in height. Trunks usually occur as multiple stems with many long, leafy branches
- **Foliage:** Leaves are opposite, lanceolate, 1-2.4 in. long and 0.2-0.6 in. wide.
- **Bloom:** Flowering occurs from April to June, when panicles of white to cream flowers develop in terminal and upper axillary clusters. Pollen can cause an allergic reaction in some people.
- **Fruit:** Abundant fruits are spherical, 0.3-0.05 in. long. Fruit begins green and ripens to a dark purple to black color and persists into winter. Birds and wildlife eat the fruit and disperse the seeds. Seed soil viability is about one year. It also colonizes by root sprouts.
- *Ligustrum form dense thickets invading fields, fencerows, roadsides, forest understories, and riparian sites. They can shade out and exclude native understory species, perhaps even reduce tree recruitment.*



Japanese Barberry

- **Scientific Name:** *Berberis thunbergii*
- **Appearance:** Small deciduous shrub from 2-8 ft. tall. The thin, grooved branches have thin, straight spines; very shade-tolerant and can form dense stands which shade out and displace native species. Stem is “highlighter yellow” if you cut it.
- **Foliage:** Leaves are up to 1 in. long and paddle-shaped; small rounded and arranged in clusters above the spines. Typically turn shades of orange, yellow and red in the fall.
- **Bloom:** Pale-yellow flowers occur in drooping clusters of 2-5 and develop in mid-spring to early summer.
- **Fruit:** Oblong berries ripen to a bright red color and are 0.25-0.3 in. long and persist into winter
- *Berberis thunbergii* invades a variety of habitats from shaded woodlands to open fields and wetlands. *Berberis thunbergii* is rapidly spread by birds that eat the berries thus dispersing the seeds



Multiflora Rose

- **Scientific Name:** *Rosa multiflora*
- **Appearance:** Multistemmed, thorny, perennial shrub; up to 15 ft. in height
- **Foliage:** Leaves are pinnately compound with 7-9 leaflets. Leaflets are oblong (1-1.5 in long) with serrated edges. The fringed petioles of *Rosa multiflora* usually distinguish it from most other rose species.
- **Stem:** Green to red arching canes which are round in cross section and have stiff, curved “cat’s claw” thorns.
- **Bloom:** June (small white to light pink, 5-petaled flowers occur abundantly in clusters on the plant in the spring)
- **Fruit:** Fruit are small, red rose hips that remain on the plant throughout the winter. Birds and other wildlife eat the fruit and disperse the seeds
- **Look-alikes:** pasture rose (*Rosa carolina*); swamp rose (*Rosa palustris*); Allegheny blackberry (*Rubus allegheniensis*); flowering raspberry (*Rubus odoratus*). Only multiflora rose has the combination of upright arching stems and fringed stipules.
- *Rosa multiflora forms impenetrable thickets in pastures, fields, and forest edges. It restricts human, livestock, and wildlife movement and displaces native vegetation. During the mid 1900s it was widely planted as a “living fence” for livestock control*



Tree-of-Heaven



- **Scientific Name:** *Ailanthus altissima*
- **Appearance:** Rapidly growing, typically small tree up to 80 ft. in height and 6 ft. in diameter. It has large leaf scars on the twigs. Smooth, pale gray bark
- **Foliage:** Foliage is one of the best identifying characteristics for this species. The leaves are alternate, pinnately compound and 1-4 ft. in length with 10-41 leaflets. Glandular teeth near base of leaf (circled in red). Smooth leaf margins. Scar on trunk when leaves fall off.
- **Bloom:** Species is dioecious, and flowering occurs in early summer when large clusters of yellow/green flowers develop above the foliage. Known to have an offensive odor of “rotting peanut butter” when the stem breaks.
- **Fruit:** Female plants produce tan to reddish, single winged fruit and can be wind or water dispersed.
- **Look-alike:** compound-leaved shrubs and trees like staghorn sumac (*Rhus typhina*), ash (*Fraxinus* sp.), black walnut (*Juglans nigra*), and hickory (*Carya* sp.). Sumac has fuzzy, reddish-brown stems and leaves; ash species have opposite leaves; ash, black walnut, hickory and sumac leaf margins are completely to mostly toothed; black walnuts have large green fruits
- ***Ailanthus altissima* forms dense, clonal thickets which displace native species and can rapidly invade fields, meadows, and harvested forests.**



Princesstree

- **Scientific Name:** *Paulownia tomentosa*
- **Appearance:** is a medium sized tree (50-60 ft. in height and 2 ft. in diameter). Bark is gray-brown and rough, often developing lighter-colored shallow vertical fissures
- **Foliage:** Leaves are large, opposite, broadly oval to heart-shaped (6-12 in. long, 5-9 in. wide) and hairy on both surfaces. Petioles are also hairy and can be sticky when young. Leaves growing off root sprouts have been measured up to 2 ft. in length. Twigs are stout, brown, and speckled with white dots (lenticels). They can be slightly hairy when young. Lateral leaf scars are somewhat round, becoming darker and sunken. The pith is chambered or sometimes hollow.
- **Bloom:** Large flowers (2 in. long) are fragrant and light violet-pink, appearing in showy upright clusters (8-12 in. in length) in early spring (April-May) before leaves emerge. They have tubular corollas, ending in 5 unequal lobes. Flower buds are hairy and linear, becoming round.
- **Fruit:** Fruits (1-2 in. long, 1-1.5 in. wide) are egg-shaped capsules, divided into 4 inner compartments that contain the seeds. Fruits are light green in the summer, becoming dark brown in the winter, and persist in clusters on the tree until the following spring. The capsules split in half during late winter to release up to 2,000 tiny winged, wind-born seeds (0.08-0.12 in.)
- **Look alike:** Commonly be mistaken for the native tree northern catalpa (*Catalpa speciosa*).
- *Paulownia tomentosa is an aggressive tree that invades disturbed natural areas including forests, roadsides, and stream banks. It is native to China and was first introduced into the United States as an ornamental in 1840.*



Sawtooth Oak

- **Scientific Name:** *Quercus acutissima*
- **Appearance:** Large (up to 50ft in height) deciduous tree, invading forests in the eastern United States
- **Foliage:** Leaves are alternate, broadly lance-shaped, (4-7.5in. long and up to 2.5in. wide) dark green, glossy with bristly teeth along the margin.
- **Bloom:** Flowers are small and inconspicuous and bloom in May.
- **Fruit:** Large acorns with spreading, curved scales on the involucre. Trees produce large amounts of acorns.
- *Quercus acutissima* also commonly known as gobbler oak has been found in recent years to escape plantings and establish in nearby forests, potentially displacing native vegetation.

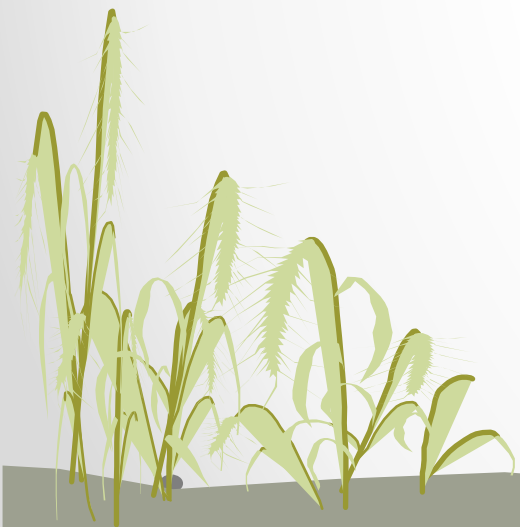


Winged Burning Bush

- **Scientific Name:** *Euonymus alatus*
- **Appearance:** Deciduous shrub (up to 20 ft. in height). Two to four corky ridges often form along the length of young stems, though they may not appear in shaded areas or closed canopies.
- **Foliage:** Leaves are opposite, dark green, (< 2in. long), smooth, rounded and taper at the tips. Leaves turn a bright crimson to purplish color in the fall.
- **Bloom:** Flowers are inconspicuous, are greenish yellow and have four petals. Develop from late April to June and lay flat against the leaves.
- **Fruit:** Appears from September to October and are reddish capsules that split to reveal orange fleshy seeds.
- *Euonymus alatus is native to northeastern Asia and can invade not only a variety of disturbed habitats including forest edges, old fields, and roadsides but also in undisturbed forests. Once established, it can form dense thickets, displacing native vegetation.*



Vines



Black Swallow-Wort

- **Scientific Name:** *Cynanchum louiseae*
- **Appearance:** Herbaceous perennial in the milkweed family. It is a vine with twining stems up to 6 feet long with dark green, glossy foliage.
- **Foliage:** Lance-shaped to heart shaped leaves are opposite with smooth edges. Roots are fleshy with a thickly budded rhizomatous crown just below the soil surface.
- **Bloom:** Flowers are 1/8-inch, purple with a yellow center, star shaped, and born in clusters at leaf axils.
- **Fruit:** Fruit is a typical milkweed-like pod, 2- 2 1/2 inches in length, 3/8 inch in diameter and smooth skinned. When mature, the pods open to release rounded and flattened brown seeds 1/4 inch long with silky filament at the tip.
- *Cynanchum louiseae is native to Europe. Readily invades gardens, old fields, pastures, fence rows, wooded edges, riparian areas and roadsides. It grows in full sun and light shade. It overtakes and suppresses other vegetation, reducing species diversity and wildlife habitat. It can displace common milkweed and reduce habitat for monarchs*



Chinese Yam

- **Scientific Name:** *Dioscorea polystachya*
- **Appearance:** Herbaceous, twining vine that grows to about 16.4 ft. It invades open to shady areas in the Eastern United States.
- **Foliage:** Leaves are alternate proximally but can become opposite as they advance up the vine. They are about 8 in. long, wide, and heart to fiddle shaped (margins three-lobed), with prominent, parallel veins. The petiole base is not clasping. Leaves are usually more rounded when young or on young plants and fiddle shaped farther along the stem and on older plants. The rounded stems are thin and wiry
- **Bloom:** Flowers are small and white. Produced annually.
- **Fruit:** Seeds are winged all around, but the chief means of reproduction are aerial, potato-like tubers (bulbils) located at the leaf axils and underground tubers
- **Look-alikes:** wild yam *Dioscorea villosa*
- *Dioscorea polystachya* can form dense masses of vines that cover and kill native vegetation, including trees, within a variety of moist, disturbed habitats.



Japanese Honeysuckle

- **Scientific Name:** *Lonicera japonica*
- **Appearance:** Woody perennial, evergreen to semi-evergreen vine that can be found either trailing or climbing to over 80 ft. in length. Young stems may be pubescent while older stems are glabrous.
- **Foliage:** Leaves are opposite, pubescent, oval and 1-2.5 in. long. Margins are usually entire but young leaves may be lobed or toothed.
- **Bloom:** Flowering occurs from April to July, when showy, fragrant, tubular, whitish-pink flowers develop in the axils of the leaves. The flowers turn cream-yellow as they age.
- **Fruit:** Small shiny globular fruits turn from green to black as they ripen. Each fruit contains 2-3 small brown to black ovate seeds
- *Lonicera japonica is native to eastern Asia and invades a wide variety of habitats including forest floors, canopies, roadsides, wetlands, and disturbed areas. It can girdle small saplings by twining around them and can form dense mats in the canopies of trees, shading everything below.*



Japanese Hops

- **Scientific Name:** *Humulus japonicus*
- **Appearance:** Annual, climbing or trailing vine that can grow up to 35 feet in a single growing season. Has 5-lobed leaves (usually), downward pointing prickles on the stem and bracts at the base of the petioles.
- **Stem:** Rough texture, feels like sandpaper
- **Foliage:** Leaves are opposite, rough-textured, 2-5 in. long, paired, simple, palmate: 5-9 lobed with toothed margins. Most leaves will have five lobes, but the upper leaves may only have three.
- **Bloom:** Flowers originate in the leaf axils and are green with five petals. Male and female flowers occur on separate plants (dioecious). Female flowers occur in cone-shaped clusters that hang down and the male flowers occur in upright flower stems
- **Fruit:** Fruit is a yellow-brown ovoid achene. The small seeds are distributed by wind and water.
- **Look-alikes:** native common hop (*Humulus lupulus*) looks very much like Japanese hops, but it is usually 3-lobed or unlobed; native bur cucumber (*Sicyos angulatus*) lacks prickles, has tendrils, and the leaves have much less pronounced lobes
- *Humulus japonicus* infest large areas crowding and out competing native vegetation.



Kudzu

- **Scientific Name:** *Pueraria montana*
- **Appearance:** A climbing, deciduous vine capable of reaching lengths of over 100 ft. in a single season. Its fleshy tap roots can reach 7 in. in width and grow to 9 ft. deep. These roots can weigh up to 400 lbs.
- **Foliage:** Leaves are alternate, compound (with three, usually lobed, leaflets), hairy underneath and up to 5.4 in. long.
- **Bloom:** Flowering occurs in midsummer, when 0.5 in. long, purple, fragrant flowers hang, in clusters, in the axils of the leaves.
- **Fruit:** Fruit are brown, hairy, flat, 3 in. long, 0.3 in. wide seed pods. Each pod can contain 3-10 hard seeds
- **Look-alikes:** Wild grape, Wild Cucumber, and Greenbriar. However, these plants have a simple leaf, not a compound leaf comprised of 3 leaflets.
- *Pueraria montana is native to Asia and often grows over, shades out and kills all other vegetation, including trees.*



Oriental Bittersweet

- **Scientific Name:** *Celastrus orbiculatus*
- **Appearance:** A perennial deciduous, climbing, woody vine that can grow to lengths of 60 ft. and up to 4 in. in diameter. The striated bark is brown to dark brown. The smooth glabrous twigs can range from light gray to dark brown in color.
- **Foliage:** Are alternate, elliptical to circular leaves are light green in color and 2-5 in. long.
- **Bloom:** Small, inconspicuous, axillary, greenish-white flowers bloom from May to early June.
- **Fruit:** Small globose fruits are green when young; ripen to yellow; then split to reveal showy, scarlet berries that persist into winter
- **Look-alikes:** Native American bittersweet (*Celastrus scandens*), which produces flowers just at the terminal ends (stem tips) rather than from multiple leaf axils as in the exotic invasive. For this reason, it is important to correctly identify the vine before controls are attempted.
- *Celastrus orbiculatus* is commonly found in old home sites, fields, and road edges. The fast-growing vines can cover, shade and outcompete other vegetation. It can even girdle and kill large trees. It hybridizes with *Celastrus scandens*, potentially leading to loss of genetic identity for the native species.

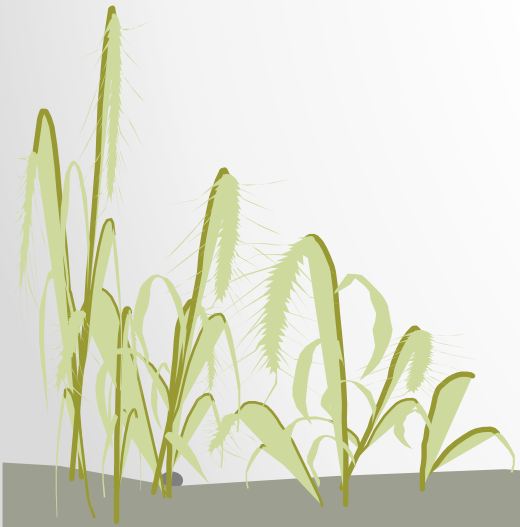


Wintercreeper

- **Scientific Name:** *Euonymus fortunei*
- **Appearance:** Evergreen perennial fast-growing vine
- **Foliage:** Leaves are opposite, glossy, dark green, oval, slightly toothed, with light-colored veins, about 1-2.5 in. long.
- **Bloom:** Flowers are small and greenish with five petals on long branched stalks.
- **Fruit:** Fruits are small round pink-red capsules that split open to expose seeds with red-orange arils.
- **Look-alikes:** Native Partridge berry (*Mitchella repens*) and the invasive Japanese honeysuckle (*Lonicera japonica*) and common periwinkle (*Vinca minor*).
- *Euonymus fortunei* is a vigorous vine that invades forest openings and margins. It grows across the ground, displacing herbaceous plants and seedlings and climbs trees high into the tree canopy by clinging to the bark.



Forbs



Birdsfoot Trefoil

- **Scientific Name:** *Lotus corniculatus*
- **Appearance:** Invasive low-growing, perennial forb with stems that can reach 2 ft. long.
- **Foliage:** Leaves are compound (with 5 oval to linear leaflets), stipulate and alternate. Leaflets (upper 3) are 0.5 in. long and less than 0.13 in. wide; the lower two resemble leaf-like stipules.
- **Bloom:** Flowering occurs from May to August, when yellow, sweet pea-like flowers develop. Flowers develop in clusters of 2-8 on a long peduncle (stalk).
- **Fruit:** Fruits are pods that occur in head-like clusters. Each pod is brown to black, cylindrical, 0.6-1.4 in. long, contains up to 49 seeds and has a persistent style at the apex.
- *Lotus corniculatus is native to Eurasia and North Africa and occurs in pastures, roadsides, wetlands, disturbed grasslands and riparian areas.*



Crown Vetch

- **Scientific Name:** *Securigera varia*
- **Appearance:** A low-growing, herbaceous vine that usually forms thickets up to 3 ft. in height.
- **Foliage:** Leaves are dark green pinnately compound with 9 to 25 pairs of leaflets and a terminal leaflet. Leaflets are 0.75 in. long.
- **Bloom:** Flowering occurs in the summer. The pea-like, fragrant flowers are white to pink to purple and resemble a large clover flower because they are found in long-stalked clusters.
- **Fruit:** Seed pods are segmented, pointed, borne in crown-like clusters. The straw-colored seeds are less than 0.3 in. long, round, flat, and winged.
- *Securigera varia reproduces and spreads rapidly by rhizomes as well as seeds. It forms dense thickets in open, disturbed areas such as fields and roadsides.*



Dame's Rocket

- **Scientific Name:** *Hesperis matronalis*
- **Appearance:** An herbaceous, biennial forb that grows up to 4 ft. (1.2 m) in height.
- **Foliage:** Leaves are alternate, broadly lanceolate and sessile or born on short petioles. Leaves are 2-6 in. long and hairy.
- **Bloom:** Flowers are showy and fragrant. The flowers vary in color from white to purple or pink and develop in the late spring. Flowers develop in clusters on 3 ft. tall stalks.
- **Fruit:** Long slender fruits are 2-4 in. in length and contain a large number of seeds.
- *Hesperis matronalis* invades habitats including open woodlands, prairies, roadsides, ditches, and other disturbed areas where native plants are crowded out. It may be included in native wildflower mix packets. Always check the list of species in wildflower mixes.



Lesser Celandine (Fig Buttercup)

- **Scientific Name:** *Ficaria verna*
- **Appearance:** A short (up to 12 in.), weedy, tuberous rooted, herbaceous perennial that features bright, buttercup-like, yellow flowers
- **Foliage:** Rosettes of glossy, ovate-cordate, fleshy, dark green leaves (to 2 in.). Plants form foliage mounds to 3-4 in. tall.
- **Bloom:** Flowering occurs in March and April, when showy, bright yellow, eight-petaled flowers develop on stalks above the leaves. Flower stems rising to 8-9" tall.
- **Fruit:** The fruit are achenes that are pubescent. It also reproduces with bulblets and tubers.
- **Look-alikes:** may be confused with marsh marigold (*Caltha palustris*). Marsh marigold does not produce tubers or bulblets, nor does it form a continuous carpet of growth. The fig buttercup also resembles celandine (*Chelidonium majus*) and celandine poppy (*Stylophorum diphyllum*), both of which belong to the poppy family and, but they can be distinguished from the invasive buttercup by having flowers with four petals
- *Ficaria verna* invades moist, forested floodplains. It is a spring ephemeral and grows vigorously, creating dense mats that exclude all other vegetation



Garlic Mustard

- **Scientific Name:** *Alliaria petiolata*
- **Appearance:** An herbaceous, biennial forb. First year plants are basal rosettes that remain green through fall and winter. They are one of the earliest plants to begin active green growth in spring and is the only tall, broad-leaved, 4-petaled, white woodland flower blooming in early spring. Plants can be easily recognized by a garlic odor that is present when any part of the plant is crushed.
- **Foliage:** Foliage on first year rosettes is green, heart shaped, 1-6 in. long leaves. Foliage becomes more triangular and strongly toothed as the plant matures
- **Bloom:** Second year plants produce a 1-4 ft. tall flowering stalk. Each flower has four small, white petals in the early spring.
- **Fruit:** Mature seeds are shiny black and produced in erect, slender green pods which turn pale brown when mature.
- **Look-alikes:** White flowered plants such as Cut-leaved toothwort (*Cardamine concatenata*), Sweet cicely (*Osmorhiza claytonia* and *O. longistylis*), and Early saxifrage (*Saxifraga virginica*). Basal leaves resemble Creeping Charlie (*Glechoma hederacea*), Violets (*Viola spp.*), and Kidney-leaf buttercup (*Ranunculus abortivus*).
- *Alliaria petiolata* is an aggressive invader of wooded areas throughout the eastern and middle United States. A high shade tolerance allows this plant to invade high quality, mature woodlands, where it can form dense stands.



Sweet cicely with divided leaves

Garlic mustard with undivided leaves



Violet leaf with shallow teeth and pointed tip



Left: First year garlic mustard leaf, deep veins
Right: Creeping Charlie, rounded leaf margin



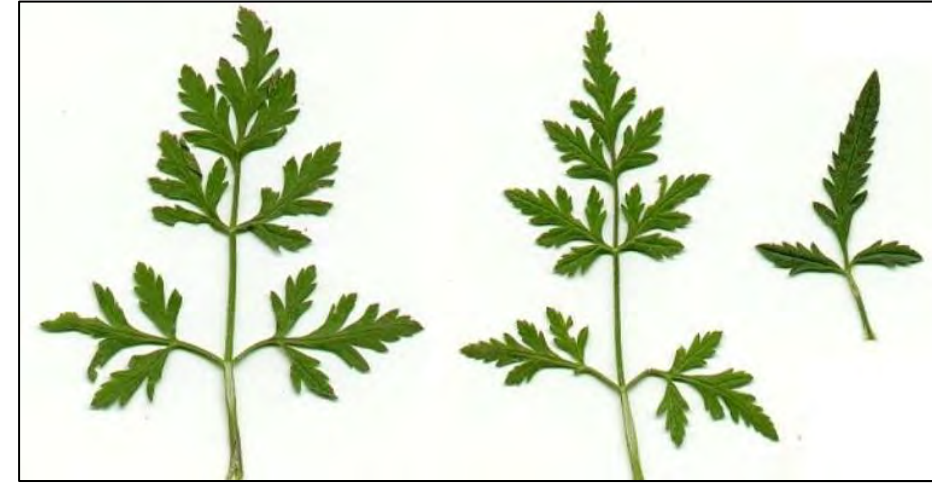
Japanese Chaff Flower

- **Scientific Name:** *Achyranthes japonica*
- **Appearance:** A perennial herb that can grow up to about 6.5 ft. tall. Stems are glabrous or slightly pubescent
- **Foliage:** Ovate-elliptic leaves are opposite and simple. Margins are entire and slightly wavy. The base of the leaf is tapering, and the apex is acute to acuminate.
- **Bloom:** The small flowers have no petals and are clustered tightly on the inflorescence which occur at the ends of the stems and upper branches. They flower in summer.
- **Fruit:** The fruits are elliptic utricles that are held tightly along the stem. Fruits contain a single seed, and each plant produces many seeds. Each fruit has a pair of stiff bracts that can attach to fur or clothing, allowing the seed to be easily spread.
- **Look-alikes:** Commonly mistaken for white vervain and lopseed, which have toothed leaf edges, or pigweeds, which have alternate leaves.
- *Achyranthes japonica* prefers partial sun and moist soils, however, it can survive in shade and dry conditions. It readily invades bottomland forests, wooded riverbanks, roadsides, ditches and field edges.



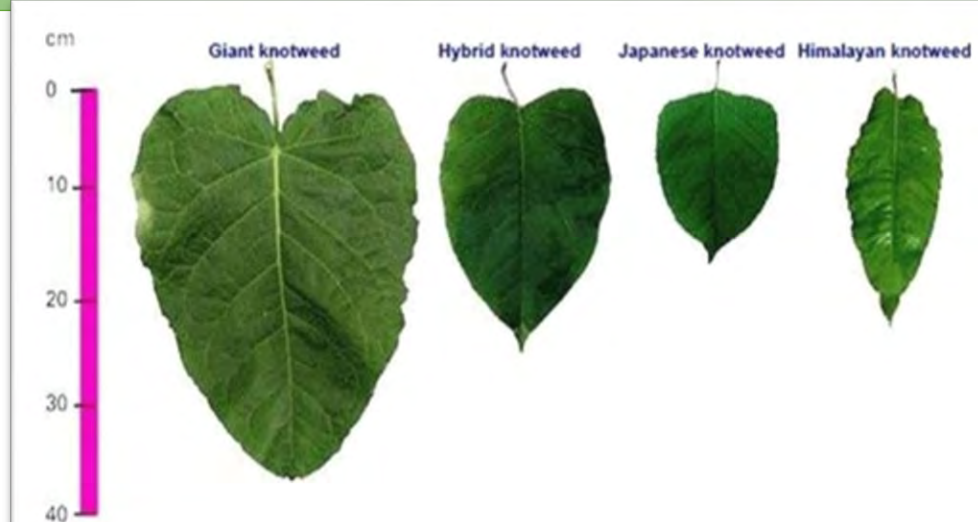
Japanese Hedge Parsley

- **Scientific Name:** *Torilis japonica*
- **Appearance:** A biennial herb that grows 2-4 ft. tall when flowering.
- **Foliage:** First-year rosettes are low, parsley-like and green into fall. The stem leaves are alternate, fern-like, 2-5 in. long and slightly hairy.
- **Bloom:** Flowers are tiny, white, 5-petaled and clustered in small, flat-topped umbels. Flowering occurs from June to September.
- **Fruit:** Fruit are small, cylindrical and covered with hooked hairs that attach to clothing or fur.
- *Torilis japonica* threatens woodlands and savannas. Spreading hedge parsley (*Torilis arvensis*) is very similar and invasive.



Japanese Knotweed

- **Scientific Name:** *Fallopia japonica* var. *compacta*
- **Appearance:** Herbaceous perennial shrub 3-10 ft high (deep root)
- **Foliage:** Simple, alternate, broadly-ovate
- **Stem:** Reddish, ridged, jointed, hollow (persist through winter, resembles bamboo)
- **Bloom:** June-July small, greenish-white flowers develop in long panicles in the axils of the leaves.
- *Invades disturbed areas with high light (roadsides and stream banks) displaces plant life and reduce wildlife habitat.*

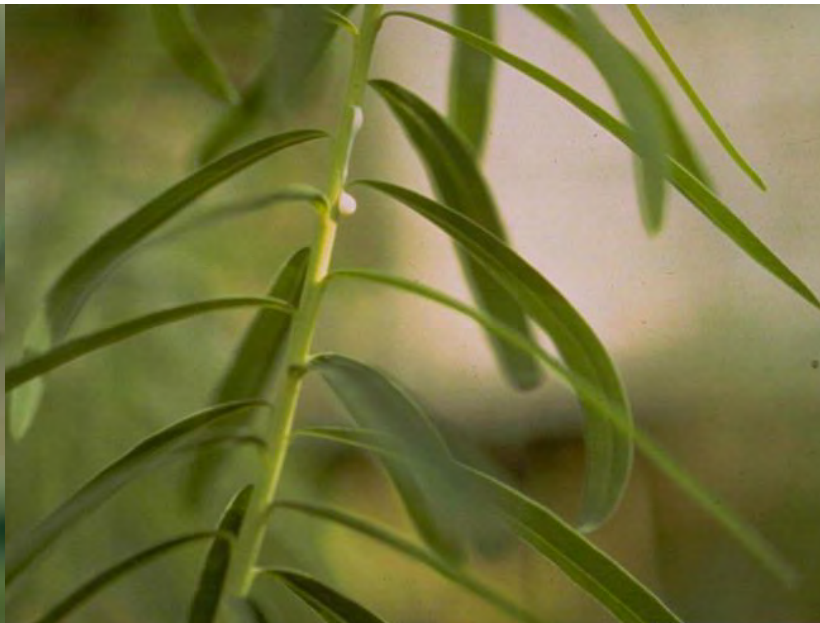


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Leafy Spurge

- **Scientific Name:** *Euphorbia esula*
- **Appearance:** An erect, perennial, herbaceous plant that grows from 2-3.5 ft. tall. The stem is smooth and bluish-green. The plant produces a milky sap if stem is broken, or a leaf is removed.
- **Foliage:** Leaves are lance shaped, smooth and 1-4 in. long. They are arranged alternately along the stem, becoming shorter and more ovate towards the top of the stem.
- **Bloom:** Flowering occurs in June, when yellow flowers develop in clusters at the apex of the plant.
- **Fruit:** Fruits are 3 lobed capsules that explode when mature, propelling brown mottled ovoid seeds up to 15 ft. away.
- *Leafy spurge invades prairies, pastures, and other open areas*



Canada Thistle

- **Scientific Name:** *Cirsium arvense*
- **Appearance:** A rhizomatous perennial grows from 1-5 ft. tall. Roots can grow deep into the ground. Stems do not have conspicuous spines.
- **Foliage:** Leaves are dark green and lanceolate to oblong-lanceolate. They are glabrous above, but their undersides have short, white hairs. They may be pinnatifid and very prickly. Basal leaves are 5-8 in. long. Leaves are usually sessile to slightly clasping. Leaf characteristics are variable across different varieties and subspecies.
- **Bloom:** Blooms from June to August. Both male and female parts on plant. Female flowers are flask-shaped, 0.4-0.6 in. in diameter, and 0.4-0.75 in. tall. Female flowers are fragrant, the male flowers are not. Male flowers are smaller and more globose than the female flowers. Flowers range from purple to pink or white.
- **Fruit:** Fruits are tiny, 0.1 in. long, about 0.04 in. in diameter, with a white to light brown pappus.
- *Cirsium arvense* is most commonly found in agricultural and disturbed sites, or sites that are undergoing restoration. It is shade intolerant and therefore is rarely found within wooded sites, except in clearings.



Musk Thistle

- **Scientific Name:** *Carduus nutans*
- **Appearance:** An herbaceous, biennial plant that grows to 6 ft. tall. The stem has very spiny wings. *Carduus* species may hybridize with each other.
- **Foliage:** Leaves are green and lanceolate to oblong-lanceolate. They are often pinnatifid and are very prickly. Leaves are usually sessile to slightly clasping. Basal leaves are 4-16 in. long. Leaf characteristics are variable across different varieties and subspecies.
- **Bloom:** Showy, solitary, hemispherical, red to purple, disk flowers bloom from June to September. Phyllaries are spine tipped and overlap with several rows.
- **Fruit:** Fruits are small achenes, 1.52 in. long, about 0.04 in. in diameter, including a white to light brown pappus. The seeds have longitudinal dotted stripes.
- **Look-alikes:** Pasture Thistle (*Cirsium discolor*) and Tall Thistle (*Cirsium altissimum*)
- *Carduus nutans* invades a variety of disturbed areas. Pastures are particularly at risk because it is unpalatable to livestock.



Bull Thistle

- **Scientific Name:** *Cirsium vulgare*
- **Appearance:** An annual or biennial, herbaceous plant that has spiny, spreading, winged stems up to 7 ft. tall.
- **Foliage:** Leaves are 3-12 in. long, lance-shaped and very hairy.
- **Bloom:** Flowers develop, at the apex of the plant, from June to September. The purple flower heads are 1.5-2 in. in diameter and 1-2 in. long with narrow, spine-tipped bracts.
- **Fruit:** Fruits have several bristles on the tip and are up to 0.2 in. long.
- **Look-alikes:** Pasture Thistle (*Cirsium discolor*) and Tall Thistle (*Cirsium altissimum*). Unlike the Tall Thistle and Pasture Thistle, the Bull Thistle has leaf undersides that are greener because they are less densely hairy.
- *Cirsium vulgare* can invade almost any type of disturbed area, such as forest clear-cuts, riparian areas and pastures. Plants can form dense thickets, displacing other vegetation. The spiny nature of the plant renders it unpalatable to wildlife and livestock and reduces the forage potential of pastures.



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Purple Loosestrife

- **Scientific Name:** *Lythrum salicaria*
- **Appearance:** A tall, multi-stemmed (30-50 per plant), perennial forb that can grow up to 10 ft. in height.
- **Foliage:** The opposite or whorled leaves are dark-green, lance-shaped, sessile, 1.5-4 in. long and round or heart-shaped at the base.
- **Bloom:** Flowering occurs in July to October, when pink to purplish flowers develop in 4-16 in. long spikes at the tops of the stems. Flowers have 5-7 petals and twice as many stamens as petals.
- **Fruit:** Fruits are capsules that are enclosed in the hairy sepals and contain several reddish-brown seeds.
- *Lythrum salicaria is a serious invader of many types of wetlands, including wet meadows, prairie potholes, river and stream banks, lake shores, tidal and nontidal marshes, and ditches. It can quickly form dense stands that completely dominate the area excluding native vegetation. It can also hybridize with native loosestrife species, potentially depleting the native species gene pool.*



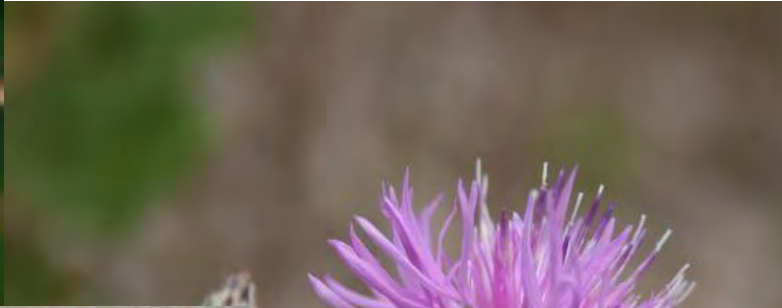
Sericea Lespedeza

- **Scientific Name:** *Lespedeza cuneata*
- **Appearance:** A upright semi-woody forb reaching 3-6 ft. in height with one-to-many slender stems. Stems are often gray green with lines of hairs along the stem.
- **Foliage:** Leaves are thin, alternate, abundant and three-parted. Leaflets have wedge-shaped bases and are 0.5-1 in. long and hairy
- **Bloom:** Flowering occurs from July to September, when small, creamy-white flowers with purple throats develop in clusters of two to four
- **Fruit:** Fruit is a flat ovate to round single-seeded pod 0.12-0.15 in. wide. Pods are clustered in terminal axils, scattered along the stem, and clasped by persistent sepals
- **Look-alikes:** Native Slender Lespedeza (*Lespedeza virginica*) can be hard to distinguish and possesses brighter pink flowers than Sericea Lespedeza.
- *Lespedeza cuneata is an extremely aggressive invader of open areas and out competes native vegetation. Once established, Lespedeza cuneata is very difficult to remove due to the seed bank which may remain viable for decades.*



Spotted Knapweed

- **Scientific Name:** *Centaurea stoebe ssp. Micranthos*
- **Appearance:** An herbaceous biennial or perennial plant that readily invades open areas. Its name is derived from the black margins of the flower bract tips which give the flower heads a spotted look.
- **Foliage:** A basal rosette of deeply lobed leaves is produced the first year. Rosette leaves are deeply lobed, petiolate, and approximately 8 in. long. Flowering stems are 1-4 ft. tall and branched. Stem leaves are alternate and may be slightly lobed or linear. Leaves become smaller and less lobed toward the apex.
- **Bloom:** Small purple to pink flowers bloom in the early summer.
- **Fruit:** Mature seeds are shiny black and produced in erect, slender green pods which turn pale brown when mature. The copious seeds are distributed by the wind and contaminated hay.
- *Centaurea stoebe ssp. micranthos invades a wide variety of habitats including pastures, open forests, prairies, meadows, old fields, and disturbed areas. It displaces native vegetation and reduces the forage potential for wildlife and livestock.*



Common Teasel

- **Scientific Name:** *Dipsacus fullonum*
- **Appearance:** A biennial that grows 4-6 ft in height.
- **Foliage:** Produces a rosette of long, pointed, oblanceolate, dark green basal leaves (to 12" long) in the first year followed by prickly upright flower stems which rise from the basal rosette to 6' tall in the second year.
- **Bloom:** July-to-September bloom stiff, spiny, cone-shaped, thistle-like, terminal flowerheads (to 3-4" tall) adorned with pinkish-white to pale lavender to pinkish purple flowers, each flower being subtended by long spiny bracts. Flowering stems are clad with paired leaves whose united bases form small basins which typically collect rainwater.
- **Fruit:** Fruits are 4-angled achenes
- *Dipsacus fullonum* invades disturbed areas, roadsides, waste areas, pond margins, pastures, grasslands, meadows, and abandoned fields, throughout most of the U.S. plus some parts of Canada.



Poison Hemlock

- **Scientific Name:** *Conium maculatum*
- **Appearance:** A biennial herbaceous plant in the carrot family (*Apiaceae*) that grows 3-8 ft. tall. Stems are stout, hollow, ridged, and purple-spotted. Has a thick, white taproot that may easily be mistaken for wild parsnips. All plant parts are poisonous; however, the seeds contain the highest concentration of poison.
- **Foliage:** Leaves are shiny green, 3-4 times pinnately compound, and clasp the stem at the swollen nodes. Crushed foliage and roots have a disagreeable, parsnip-like odor.
- **Bloom:** Flowers are small, white, and held in umbels about 3 in. across (appearing in early summer).
- **Fruit:** Fruits are ridged and flattened, and each fruit holds two seeds.
- **Look-alikes:** Cow Parsnip, Queen Ann's Lace, and Giant Hogweed
- *Conium maculatum* contains highly poisonous alkaloids toxic to mammals. Human deaths have occurred from harvesting and consuming the roots as wild carrots or parsnips.

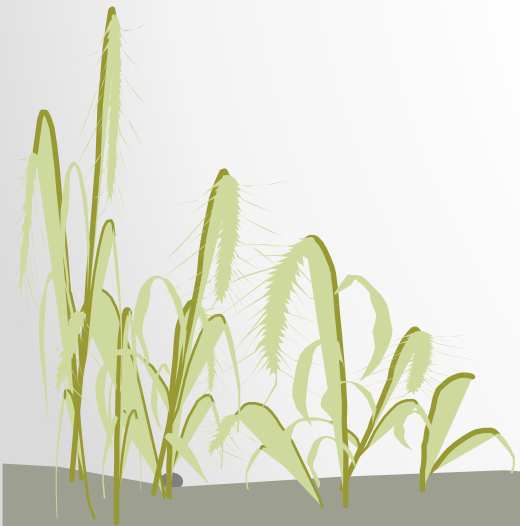


Wild Parsnip

- **Scientific Name:** *Pastinaca sativa*
- **Appearance:** A biennial/perennial herb that looks and smells similar to cultivated parsnip and can grow up to 4 ft. in height.
- **Foliage:** Leaves are alternate, compound and branched with jagged teeth. Leaflets are yellowish-green, shiny, oblong, coarsely-toothed, and diamond-shaped.
- **Bloom:** Flowering occurs from May to June, when hundreds of yellow flowers develop. Flowers are arranged in an umbel.
- **Fruit:** Fruits are dry, smooth, slightly winged and flattened on back. Fruits each contain two seeds, which are dispersed in the fall.
- **Look-alikes:** Poison hemlock, Cow Parsnip, Queen Ann's Lace, Giant Hogweed and water hemlock are close in appearance and are often confused with *Pastinaca sativa*. Poison hemlock has a mouse-like odor while *Pastinaca sativa* has a parsnip-like odor. Water hemlock prefers wet habitats whereas *Pastinaca sativa* prefers dry soils.
- *Pastinaca sativa* is native to Eurasia and occurs in sunny areas with varying degrees of soil moisture. Contact with this plant can cause skin to become photosensitive; exposure to sunlight can cause severe blistering.



Grasses



Common Reed

- **Scientific Name:** *Phragmites australis*
- **Appearance:** A tall, perennial grass that can grow to heights of 15 ft. or more. Broad, pointed leaves arise from thick, vertical stalks
- **Foliage:** Leaves are 6-23.6 in. long, 0.4-2.4 in. wide, flat and glabrous.
- **Bloom:** Flower heads are dense, fluffy, gray or purple in color and 5.9-15.7 in. long. Flowering occurs from July to October.
- **Fruit:** Seeds are brown, light weight, and about 0.3 in. long. In the fall the plant turns brown, and the inflorescences persist throughout the winter
- *Phragmites australis is usually found in dense thickets growing in or near shallow water. These thickets displace native wetlands plants, alter hydrology and block sunlight to the aquatic community.*



Japanese Stiltgrass

- **Scientific Name:** *Microstegium vimineum*
- **Appearance:** A delicate, sprawling, annual grass that is 0.5-3.5 ft. in height. The stems can root at the nodes.
- **Foliage:** Leaves are pale-green, alternate, lance-shaped, 1-3 in. long, asymmetrical with a shiny, off-center midrib. Upper and lower leaf surface is slightly pubescent. A silvery line runs down the center of the blade. Stems usually droop.
- **Bloom:** Flowering begins in September, when delicate flower stalks develop in the axils of the leaves or at the top of the stems.
- **Fruit:** Fruit is produced from late September through early October
- *Microstegium vimineum is most commonly an invader of forested floodplains and is also found in ditches, forest edges, fields, and trails. It is very shade tolerant and can completely displace native vegetation.*



Johnsongrass

- **Scientific Name:** *Sorghum halepense*
- **Appearance:** A tall (up to 8 ft.), rhizomatous, perennial grass that invades open areas throughout the United States.
- **Foliage:** The 2 ft. long, lanceolate leaves are arranged alternately along a stout, hairless, somewhat upward branching stem and have distinct, white midribs.
- **Bloom:** Flowers occur in a loose, spreading, purplish panicle.
- **Fruit:** Fruits are also produced in a panicle. Seeds form in the sessile spikelets.
- *Sorghum halepense is adapted to a wide variety of habitats including open forests, old fields, ditches and wetlands. It spreads aggressively and can form dense colonies which displace native vegetation and restrict tree seedling establishment.*



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