Invasive Species Field Identification Guide

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This collection of identification cards is provided as part of a collaborative project between the U.S. Geological Survey and Mississippi State University's Geosystems Research Institute.

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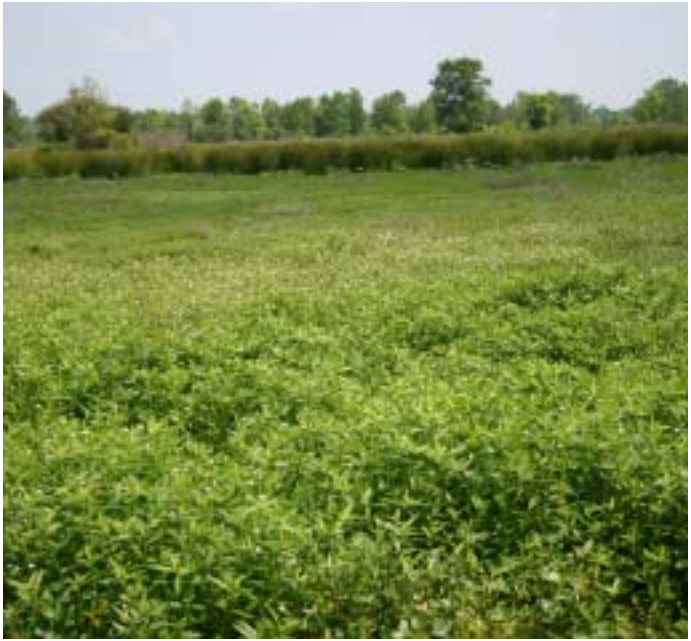
Compiled and produced by Mississippi State University.
Contributing Authors and Editors:
Gary Ervin, Victor Maddox, John Madsen, Nancy Madsen,
John Byrd, Debbie McBride, Bethany Stroud

The invasive species highlighted in this field guide
are categorized according to the
PRIMARY HABITAT for each species.
Below is a color key for your convenience.

Habitat	Color Key
Managed Forests	
Pasture	
Row Crop	
Rights of Way	
Wild Land	
Aquatic	

Dr. John D. Madsen
MSU Geosystems Research Institute
Box 9652 · Mississippi State · MS 39762-9652
Ph: 662-325-2428 Email: jmadsen@gri.msstate.edu
www.gri.msstate.edu/ipams

Alligatorweed



Alligatorweed

[*Alternanthera philoxeroides* (Mart.) Griseb.]

DESCRIPTION

Alligatorweed is an emergent herbaceous perennial plant, forming dense stands up to 3 feet tall. The stems vary in color, are approximately ¼ inch thick, and often hollow, particular in the floating mat stage. The stem nodes are ½ inch thick, and hollow. Stems will root from the nodes, and in standing water the stems will float on the surface, forming a dense mat, with upright branches. Leaves are opposite, without a petiole, and the orientation of the leaves will shift 90˚ from one node to the next. Leaves are entire, elliptical in shape, and approximately 4 inches long. The leaf base forms a sheath around the stem at the node. An inflorescence may be formed, one per node, with at least one node separating flowering nodes. The flower stalk is ½ - 3 inches long, and the flower spike is a collection of numerous flowers forming a roundish cluster. The flower itself has no petals, but has five white or colorless sepals, which are ¼ inch long. One seed is produced per flower. Flowering will occur throughout the growing season.

HABITAT

Alligatorweed can grow on damp soil into shallow standing water. Once a floating mat is formed, water depth is no longer a limiting factor. While alligatorweed can invade into upland sites, it prefers saturated soil to shallow water habitats.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Amur Honeysuckle

Amur Honeysuckle

[*Lonicera maackii* (Rupr.) Herder]

DESCRIPTION

Amur honeysuckle is a large shrub reaching around 12 feet tall and 6 feet wide. Bark is generally tan in color. Leaf arrangement is opposite with simple leaves that are egg-shaped to broadly elliptical and covered in fine hairs, 2 to 3 inches long and ½ to 1 ½ inches wide.

Flowers are produced in April to early June, white fading to cream in color, 1 inch long, and born in pairs at the stem joint. Fruit are red berries, which vary in size, but generally are around ¼ inch diameter in clusters with one or more seeds. Fruit ripen in October, but may persist until February or March.

HABITAT

Amur honeysuckle is a problem in fence rows, abandoned pastures, fields, roadsides, forest, roadside margins, and open woodlands. It can tolerate a wide range of light and moisture conditions and form dense thickets in forest, replacing the surrounding native vegetation. Although these thickets may provide habitat and some food for certain wildlife, they are a difficult barrier for human activity. Seeds can be spread by birds over some distance to new sites.

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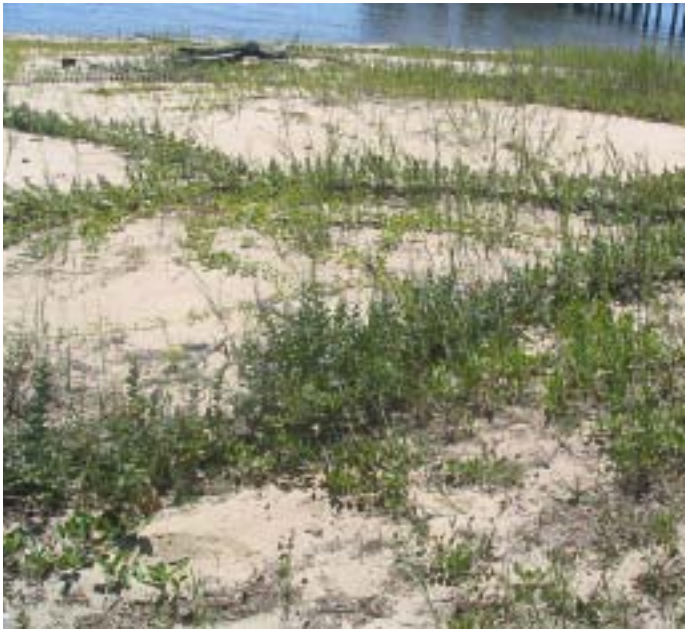
Beach Vitex



Beach Vitex

(*Vitex rotundifolia* L.f.)

DESCRIPTION

Beach vitex can reach 1 to 2 feet high and typically grows to 12 feet in diameter, but runners can grow to infinite lengths with reports of up to 60 feet long. Stems root along their length forming a mat on the sand. Leaf arrangement is opposite. Leaves are simple, rounded, and gray-green in color with dense, grayish-white hairs on the lower surface. Leaves are 2 inches long by 1.5 inch wide.

Flowers are blue-purple, fragrant, 1 inch across, and in short clusters out of the joint where the leaf meets the stem. Fruit are round, ¼ inch wide, and purplish-black when ripe.

HABITAT

Currently, beach vitex blankets a number of oceanfront dunes in the Carolinas. Because of its invasive nature, beach vitex crowds out native dune plants such as sea oats (***Uniola latifolia*** L.), American beachgrass (***Ammophila breviligulata*** Fern.) and seaside panicum (***Panicum hemitomon*** Schult.). In addition to threatening natural sand dune plant communities, beach vitex degrades endangered loggerhead sea turtle (***Caretta caretta*** L.) nesting habitat as well as habitat for the federally threatened plant, seabeach amaranth (***Amaranthus pumilus*** Raf.).

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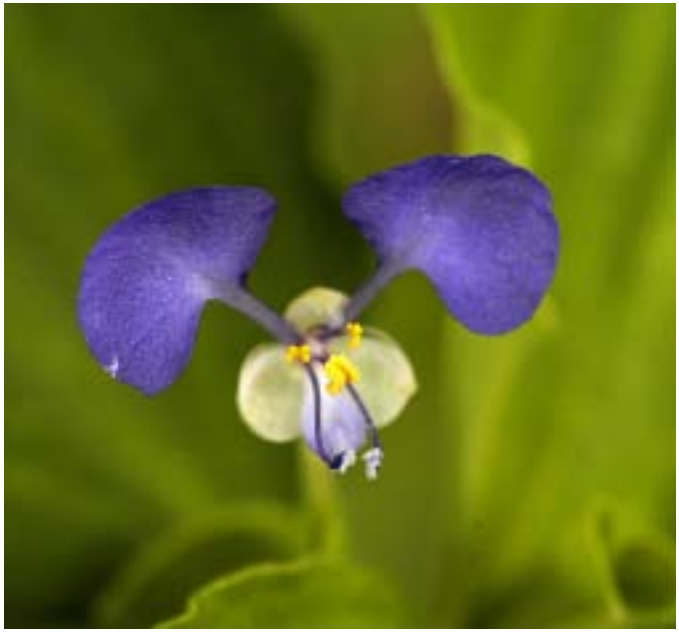
Benghal Dayflower



Benghal Dayflower

[*Commelina benghalensis* (L.) Small]

DESCRIPTION

Benghal dayflower is a terrestrial annual or perennial herb with simple, alternate leaves, about 2 inches long and nearly as wide. Leaves and stems have short hairs and leaf sheaths and stem margins have longer red hairs. Stems often root at the nodes and purple-blue aerial flowers may grow where the leaf joins the stems. Underground creeping stems produce subterranean flowers. Cuttings survive on the soil surface for several weeks or months and form leaves when moisture is available. Both aerial and subterranean flowers can produce seeds. Aerial seeds are small with five seeds per capsule, while subterranean seeds are large with three seeds per capsule. Plants, flowers, seeds and chromosome number can be variable. A single plant can produce roughly 1600 seeds. Fresh, aerial seeds have an impermeable seed coat, causing dormancy that is broken by abrasion or thermal stress. Seasonal germination can occur over a long time.

HABITAT

Benghal dayflower occurs in both wet and dry lands, but grows best in moist, highly fertile soils. It is tolerant to Roundup® and is particularly troublesome in Roundup Ready® cropping systems in the United States. Vulnerable crops include cotton, soybeans, peanuts, and, to a lesser extent, corn. It is a weed in natural areas, roadsides, waste places, wet pasturelands and gardens and along dikes, irrigation ditch banks and field borders.

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Black Mimosa

Black Mimosa

(*Mimosa pigra* L.)

DESCRIPTION

Black mimosa is a sprawling shrub reaching 20 feet tall with hairy stems bearing spines curving backward approximately 0.3 inches long. Leaves are alternate, bipinnately compound, and have straight, vertical prickles at each junction. Each leaf has 5-12 pairs of pinnae and each pinna has 24 to 31 pairs of leaflets which are about 0.3 inches long.

Flowering occurs all year in Florida, but cooler MidSouth winters may affect flowering. Black mimosa flowers are small, about 0.5 inches in diameter, in spherical heads like 'lollipops.' Heads are stalked and bear about 100 mauve to pink flowers. Each head produces seven pods of segmented, flat pod fruit, which are about 3 inches long and 0.5 inch wide and have brown bristles. Each fruit has 9 to 24 segments, each breaking free and containing one seed. Seed can be set within 5 weeks after flowering. Seeds apparently germinate best on damp, not dry or saturated soil. Germination can occur year-round in warmer climates, although some seeds do not germinate and remain viable in the seed bank for long periods of time.

HABITAT

Black mimosa grows best in wetlands but it may also grow on drier sites. The presence of spines and prickles may implicate it as a potential pest in pastures and other habitats. Black mimosa forms dense thickets, replacing the surrounding native vegetation. Although these thickets may provide habitat for certain wildlife, they are a difficult barrier for human and animal activity.

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Bushkiller

Bushkiller

[*Cayratia japonica* (Thunb.) Gagnep.]

DESCRIPTION

Bushkiller is a high-climbing vine with tendrils, similar to grapes. Vines can be somewhat fleshy. Roots are also fleshy and can produce many adventitious shoots especially when cut or disturbed. Leaves are compound with five leaflets and alternate leaf arrangement. Leaves vary in size, but tend to be around 5 inches long and slightly less in width. Leaflets are smooth and shiny with serrate leaf margins.

The small salmon- or orange-colored flowers are orange and born in flat-topped bunches. Despite an abundance of potential pollinators, bushkiller is apparently sterile. Normally bushkiller would produce a 2-4- seeded berry. Since flowers are bisexual, the reason for sterility is not clear.

HABITAT

Vines can climb trees and other structures by tendrils, becoming quite large in the absence of severe cold weather. The weight of the fleshy vines can break tree branches. Foliage can be dense and block out sunlight from plants it grows on. It can also compete for other resources, such as water. It is not clear what ecological communities or plant species are at the greatest risk due to bushkiller in the United States. However, it has shown aggression where escaped and could be a serious invader at least in the southern United States. In the northern parts of the Mid-South, plants may freeze to the ground and re-grow from underground roots in the spring.

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Chinese Privet

Chinese Privet

(*Ligustrum sinese* Lour.)

DESCRIPTION

Chinese privet is an evergreen shrub up to 30 feet tall. It tends to be multiple stemmed, with densely foliated branches. Stems are opposite or whorled, often projecting at right angles. The bark tends to be brownish gray with light colored pores, then gray green with short, rusty or grayish hairs with age. Leaves (0.8-1.6 inches long, 0.4-1.2 inches wide) are opposite on the stems and ovate to elliptic, with a rounded tip and smooth margins. Blades generally are lustrous green above and pale green with a hairy midvein beneath.

Chinese privet flowers April to June, with terminal and sub-terminal clusters of fragrant white, four-lobed flowers in dense clusters at branch ends. Fruit grow July to March in dense clusters of one- to four-seeded fleshy fruits (0.2-0.3 inches long, 0.2 inches wide), light green in summer and dark purple to black in fall and winter.

Privets grow readily from seed, or from root and stump sprouts. These species escape cultivation by movement of seed, transported by wildlife, especially birds. Despite a low germination rate (5%-25%), the privets disperse very effectively and grow in abundance in disturbed areas such as field and forest edges and urban environments.

HABITAT

Chinese privet is found in bottomland forests and along fencerows, fields, and rights-of-way. It may occur as single plants or in thickets with little to no understory present. Chinese privet colonizes via seed dispersal by birds and other animals, after which it spreads quickly by root sprouting.

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Chinese Tallowtree

Chinese Tallowtree

[*Triadica sebifera* (L.) Small]

DESCRIPTION

Chinese tallowtree generally grows to between 30 and 40 feet tall, but can reach over 50 feet. In the southeastern United States it is deciduous. Leaves are simple, alternate and smooth. The foliage is bright green in summer, often turning fiery red in the fall.

Chinese tallowtree is a monoecious tree, with drooping, yellow tassels of insect pollinated flowers in the spring followed by white fruit in the fall. The white fruit can persist throughout the winter and are thought to be poisonous. Seed production can be heavy, averaging around 100,000 per tree. Seedlings have tremendous vigor.

HABITAT

Chinese tallowtree is an early successional species, and often emerges to dominate forested areas and utility rights of way following clearing. It can reduce the number and variety of native species in a location to alter the ecosystem structure and function. It has converted areas in southern Texas from herbaceous coastal prairies into closed canopy forest within 10 years. Trees can be injured by early hard freezes. Aside from temperature, Chinese tallowtree can tolerate a wide range of environmental conditions from saline to fresh water flooding, shade or full sun, acid to alkaline soils, and wet to droughty soils.

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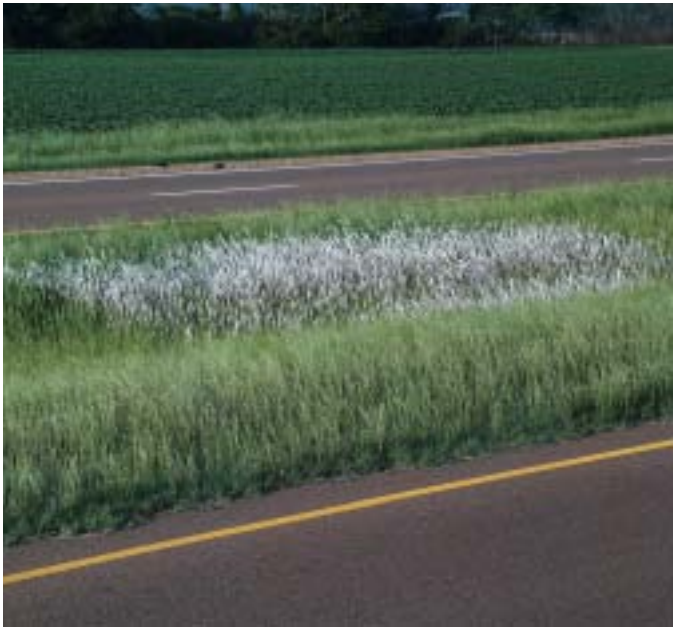
Cogongrass



Cogongrass

[*Imperata cylindrica* (L.) Beauv.]

DESCRIPTION

Cogongrass produces numerous upright smooth stem 6 to 47 inches tall, which form loose or densely compacted stands. Because of the dense stems and rooting system, cogongrass usually chokes out existing vegetation. One unique characteristic for identification is that the midrib of the leaf is off-set closer to one leaf margin than the other. Another unusual characteristic of cogongrass is its flowering pattern. It normally flowers at the beginning of the growing season (March to May), although flowering may also occur following frost, fire, mowing, tillage, or other disturbances or throughout the year in central and south Florida.

Most native grasses that resemble cogongrass will flower at the end of the growing season. Flowers typically occur at the top of the stem, and have silvery or whitish silky hairs attached to the seed, so it looks like a feathery plume. Silver beardgrass [*Bothriochloa laguroides* (DC.) Herter] is one grass that looks like cogongrass, but is smaller, forms clumps rather than dense stands, and flowers in the fall. Each cogongrass plant can produce up to 3,000 seeds per season through cross-pollination. Seedlings begin to produce rhizomes about 4 weeks after emergence.

HABITAT

In the MidSouth and other southern states, cogongrass usually occurs in non-cultivated sites, including pastures, orchards, fallow fields, forests, parks, and natural areas, and highway, electrical utility, pipeline, and railroad rights of way. Soil type preference is sandy soils with low nutrient levels, although cogongrass will inhabit more fertile sites.

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English Ivy

English Ivy

(*Hedera helix* L.)

DESCRIPTION

English ivy is a woody evergreen trailing or climbing vine. Vines may reach 90 feet when climbing, but ground plants are 6 to 8 inches. Trailing plants typically root at the nodes although climbing plants attach by root-like holdfasts. Stems are smooth with simple, alternate, leaves which may have star-shaped hairs on the leaf stem and lower leaf surface. Juvenile leaves are 1.5 to 4 inches long and have three to five lobes. Leaves are dark green above, often with whitish veins, and lighter below. Adult leaves are egg-shaped to diamond-shaped, entire, and rounded to wedge-shaped at base.

Flowers are perfect and born from June to October on adult vines. Flowers have fine hairs in terminal, globose, umbels. Sepals are obscure; petals are thick, greenish yellow, and 1/16 to 1/8 inch long. The fruit is a berry-like, black drupe, ¼ inch across. Fruit contain 2 - 5 seeds, maturing from April - May. Fruits may be poisonous. Seeds are viable, just less than ¼ inch long, and apparently only viable when extracted from the fruit.

HABITAT

English ivy is a problem in fence rows, forest, disturbed areas, waste places, and open woodlands. It can form a dense groundcover, replacing the surrounding native vegetation. English ivy is hardy at least from Zone 4 to 9.

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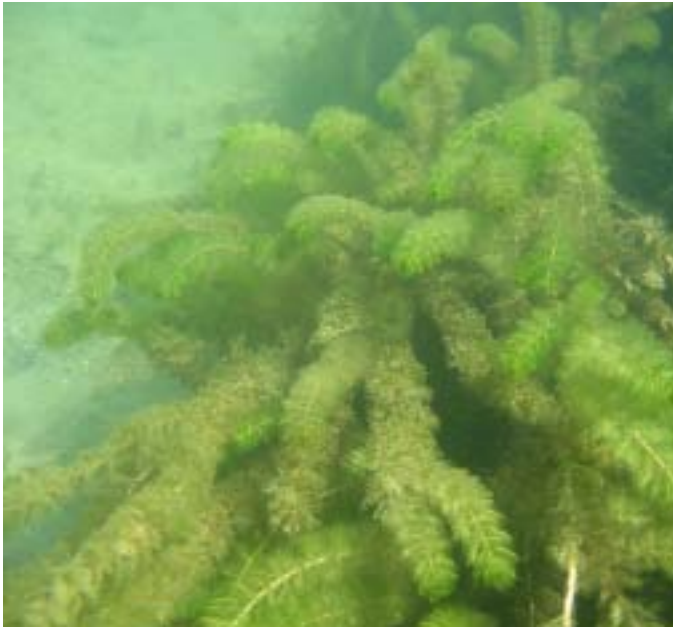
Eurasian Watermilfoil



Eurasian Watermilfoil

(*Myriophyllum spicatum* L.)

DESCRIPTION

Eurasian watermilfoil grows completely under water, but forms a canopy of leaves and branches very close to the surface. The perennial plant's green shoots are present throughout the year; the root crown allows overwintering. Eurasian watermilfoil grows in water depths from 1 to 15 feet, but grows in even deeper water if very clear. Eurasian watermilfoil forms a dense root crown, from which numerous shoots grow towards the surface. The species has many pinnately compound leaves with 14 to 24 pairs of thin tubular leaflets. These leaves grow in groups of four whorled at each node of the stem, though some variation can occur.

The plant forms a short inflorescence, or flowering spike, above the water's surface, composed of pollen-forming flowers on top and seed-producing flowers below, which are wind pollinated. Stems and apical tips of Eurasian watermilfoil tend to be reddish, but this color varies. Since Eurasian watermilfoil looks like some of the native *Myriophyllum* species, it is easy to confuse the identification.

HABITAT

Eurasian watermilfoil grows in a range of aquatic habitats, including rivers, reservoirs, natural lakes, freshwater and brackish estuaries. It tolerates environments ranging from soft water, low alkalinity systems to hard water lakes, and trophic, oligotrophic and eutrophic states. Growth can vary across its range from being winter dormant in northern lakes to dormant in both winter and mid-summer in the south.

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Shaggy-Soldier

Shaggy-Soldier (Hairy Galinsoga)

(*Galinsoga quadriradiata* Cav.)

DESCRIPTION

Galinsoga quadriradiata produces an straight stem, 4-32 inches tall, highly branched and covered by coarse hairs. The dark green leaves (2.5 inches long, 1.5 inches wide) are arranged oppositely on the stem, are not divided, and usually are broadest at the base and taper toward the tip. The leaf margin is coarsely toothed, and both surfaces of the leaf are coarsely hairy. The small-flower galinsoga, *G. parviflora*, also non-native, is paler green, has shorter hairs throughout, and has bracts around flower head with a broader, rounded apex.

Flower heads are less than 0.4in wide and include 4 or 5 white, 3-toothed ray florets - "petals" around the head - and many yellow disk florets, central portion of the head. The fruit is an achene, a dry, one-seeded fruit, 0.06in long, with a tuft—pappus—of white hairs at its end. In addition to the hairy pappus for wind dispersal, achenes are covered with short stiff hairs that cling to animal fur. Dispersal by human activities, such as movement of soil or plants are very important for this species.

HABITAT

Hairy galinsoga is adapted to warm climates and heavy, nitrogen-rich, clayey soils. In much of its introduced range, it can be found in gardens, greenhouses, agricultural lands, roadsides, railways, and other disturbed areas - in association with any form of human development. It is widely regarded as a common weed even in its native range in Central and South America.

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Garlic Mustard

Garlic Mustard

[*Alliaria petiolata* (Bieb.) Cavara & Grande]

DESCRIPTION

Garlic mustard is a cool-season biennial from a taproot. It is often found in small to large colonies. Typically basal rosettes are produced the first year followed by one or more 2-4 foot flower stalks in the spring. Plants die after seed production, but remain standing and dispersing seed through the summer. Plants generally have a strong garlic odor when crushed. Stems are erect and slightly ridged, with or without hairs. Leaves are alternately arranged on the stem. The early basal leaves tend to be kidney shaped, but later major leaves are heart-shaped to triangular, 1-3.6 inches long and wide. Leaf margins are shallow to coarsely wavy toothed. Leaf tips are often elongated. Petioles are 0.4-3 inches on stems, but reduced upward. Flowers are clustered at the stem apex, white with four petals. They appear from May to June. Fruit are 4-sided, erect to ascending, thin pods 1-5 inches long and 0.06 inches wide. Fruiting plants gradually tan in color. As they mature, the pods may explode, expelling numerous tiny black seeds up to 10 feet from the parent plant. Seed release can occur throughout the summer.

HABITAT

Garlic mustard is a problem in pastures, fence rows, prairies, forest, roadsides, disturbed areas, and open woodlands. Garlic mustard exhibits shade tolerance and can form dense stands in woodland understory suppressing other vegetation through competition and allelopathy.

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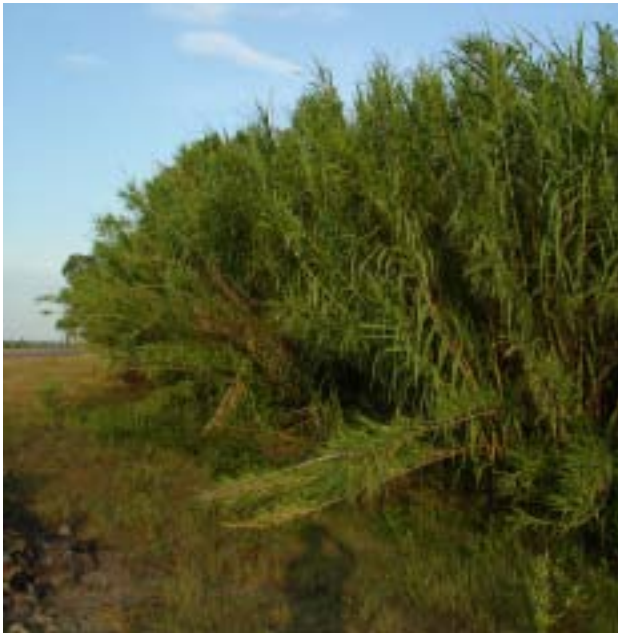
Giant Reed



Giant Reed

(*Arundo donax* L.)

DESCRIPTION

Giant reed stems resemble corn (maize) to some degree, but this plant tends to form distinct clumps to 20 feet tall that may spread to 60 feet or more in diameter over time. It usually produces grayish-green hairless stems, with long lance-shaped leaf blades (18-30 inches long by 1-4 inches wide at base). Leaves grow alternately along the stems and droop at the ends. The dead and dried aboveground parts typically remain standing throughout winter and spring. Rapid growth following vegetative fragmentation permits this species to quickly invade new areas and form pure stands at the expense of native species. Giant reed may also spread by movement of stem parts in cut or fill soil, or by road shoulder grading.

Giant reed flowers during late summer. At the end of the stems, it produces straight, dense plumes of flowers, with the clusters to 39 inches long. The flowers are hairy and greenish, whitish, or purplish. The dense terminal plumes may be present from October to March, but fertile seeds are unknown from this species in the U.S.

HABITAT

Giant reed occurs largely in disturbed upland habitats, as scattered dense clumps along roadsides and forest margins, often thought to migrate from old home plantings by displaced underground horizontal stem fragments. Giant reed can become established in moist places such as ditches, streams, and riverbanks, but it tends to grow best in well drained, moist soils. It is broadly tolerant of soil conditions, including high salinity, and heavy clays to loose sands.

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Giant Salvinia

Giant Salvinia

(*Salvinia molesta* Mitchell)

DESCRIPTION

Giant salvinia (Kariba-weed) is a rootless, free floating fern identifiable by its broadly rounded green fronds. Pairs of these emergent fronds are produced at each node of a horizontal stem that floats just beneath the water surface. The upper surfaces of the emergent fronds display a prominent midrib that is covered with stiff white leaf hairs that help the fronds float. The leaf hairs of giant salvinia differentiate this species of *Salvinia* from others such as common salvinia (*Salvinia minima*) and eared watermoss (*Salvinia auriculata*) by forming cage-like or egg beater shaped hairs. Giant salvinia also produces a hairless, brown submersed leaf that is often mistaken for roots. Similarly, long stalks extend beneath the water surface where sterile spore-producing bodies—sporocarps—grow directly off the stalks. Giant salvinia sporocarps are uniquely egg-shaped and occur in straight chains among the submersed leaves. Although mature plants can produce a great number of sporocarps the sporangial sacs are most often void of spores. Giant salvinia can produce reproductive structures; however the primary means of growth is vegetative. Giant salvinia is a fern and, as such, forms neither flowers nor fruits.

HABITAT

Giant salvinia can inhabit calm waters of lakes, ponds, wetlands, and rivers. The most common habitats include disturbed habitats such as flood canals, rice paddies, artificial lakes, and hydroelectric facilities. Giant salvinia will best thrive in warm-temperate to tropical areas, but cannot tolerate saline or dry environments.

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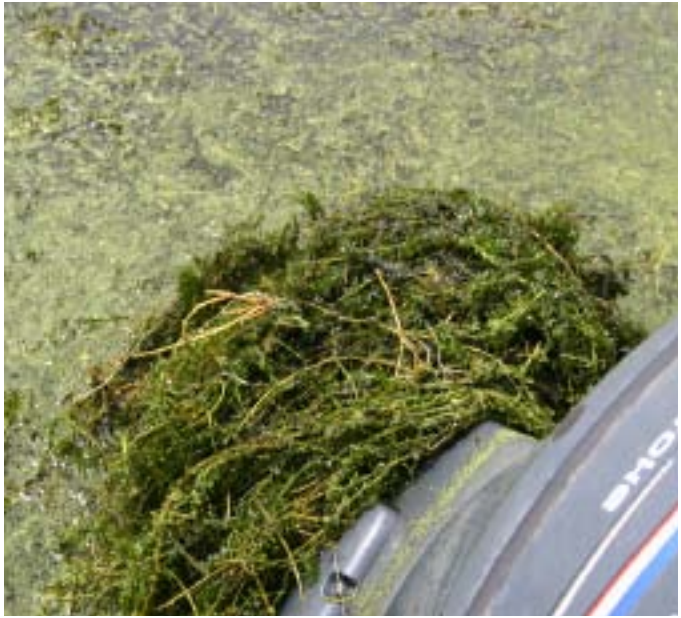
Hydrilla



Hydrilla

[*Hydrilla verticillata* (L.f.) Royle]

DESCRIPTION

Hydrilla, or water thyme, is a completely submersed plant with erect stems rooted on the bottom of water. Its lance-shaped leaves are about 0.1 inch wide and 0.25- 1.0 inch long arranged in whorls. Hydrilla has small teeth on the leaf margins, and small spines on the leaf midrib. It reproduces vegetatively through turions and tubers, although stem fragments may also develop into new plants. The tuber is an enlargement part in the terminal node of the rhizome growing underground the sediment. Its color is white to black 0.2-0.6 inch long. The turion is a dormant spiny green bud, 0.1-0.5 inch long, that arise from the leaf axils or branches. Hydrilla is the only species in this family found in the U.S. that forms tubers and axillary turions. Flowers contain three sepals and three petals that arise from the spathe. It floats in the surface promoting pollen transport by the wind. The dioecious biotype does not produce viable seeds.

HABITAT

Freshwater ecosystems such as lakes and rivers are susceptible to hydrilla colonization. Hydrilla grows in waters with different chemical composition, including slightly brackish water, a wide range of pH, and trophic states from oligotrophic to eutrophic lakes. Low light intensity and depth encourage hyrdilla growth. Hydrilla often grows to a depth of 15', but may grow in even deeper water if water is very clear.

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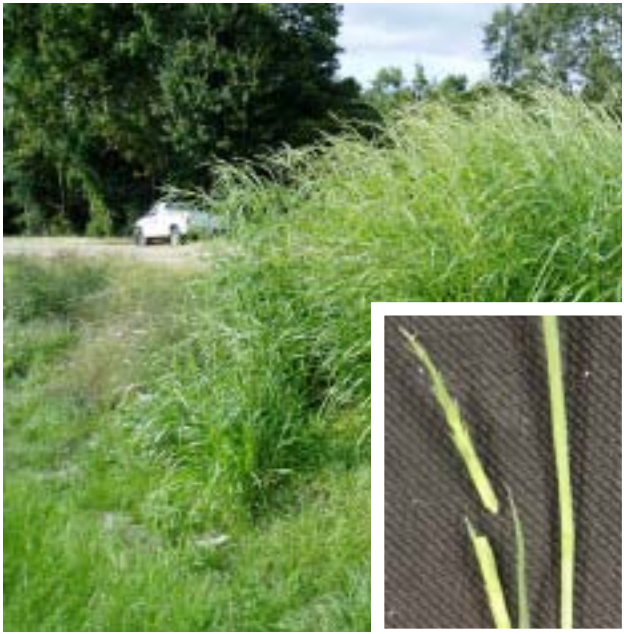
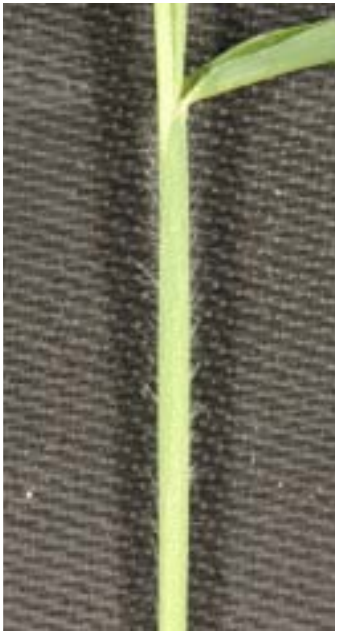
Itchgrass





Itchgrass

[*Rottboellia cochinchinensis* (Lour.) W. D. Clayton]

DESCRIPTION

Some texts indicate potentially four species of ***Rottboellia*** L.f., but through recent taxonomic revision that number is probably closer to 2 or 3. Itchgrass can reach 10 feet or more in height and tillers profusely. Itchgrass has short stiff hairs on the sheaths, especially near the collar, which can puncture or irritate skin when handled; hence the name 'itchgrass'. Leaves are flat, around 1 inch wide tapering to a point, and have short hairs on the leaf surface.

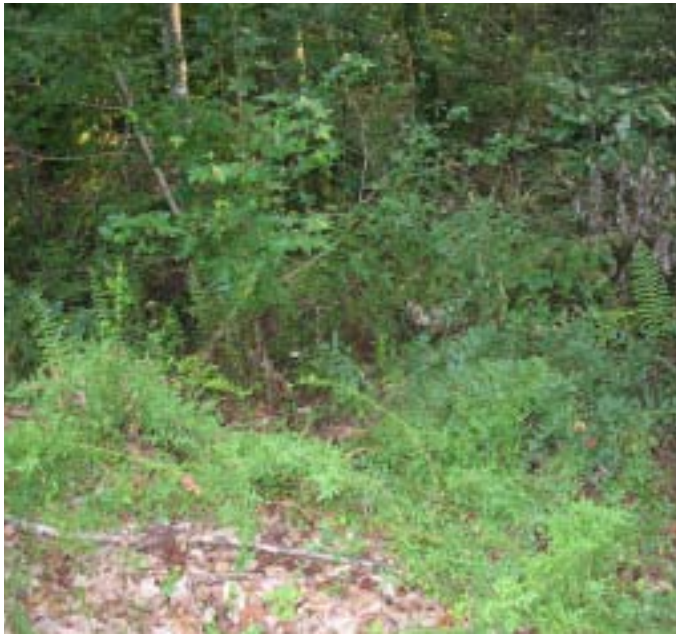
The inflorescence is a raceme approximately 4 inches long with spikelets in pairs and no awns. One of each spikelet is stalked and sterile, the other is sessile and fertile. Each is attached to a thickened axis. The fertile, sessile spikelet is oblong and around ¼-inch in length. Plant growth is extremely rapid under good conditions with seed production initiated 6 to 7 weeks after emergence. Seed production continues throughout the growing season. Seeds break off as they mature, but require a 5 to 6 month after-ripening period for germination to occur. Seed retains viability in the soil for up to 4 years.

HABITAT

Itchgrass is a problem in row crops, especially grass crops, pastures and roadsides. The spread of itchgrass along roadsides indicates dissemination may be associated with highway right of way vegetation management practices, such as mowing.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Japanese Climbing Fern



Japanese Climbing Fern

[*Lygodium japonicum* (Thunb.) Sw.]

DESCRIPTION

The 'vine' of Japanese climbing fern is actually a frond with a twining rachis. Stems remain underground, but send up long vine-like indeterminate fronds with a twining rachis reaching 90 feet under favorable growing conditions. The fronds have numerous compound pinnae. Pinnae are triangular in outline, 4 to 8 inches long and about as wide. Each pinnule on the pinnae is pinnate to lobed and stalked often with dissected (pinnatifid) terminal lobes. Pinnules are pubescent below and margins are variously dentate.

Fertile pinnules contracted in shape, with two rows of sporangia on the margins, enrolled to partially cover the sporangia which produce spores.

HABITAT

Japanese climbing fern grows primarily on edges, along woodland edges, in thickets, and along fence rows. It also can be found in mature forests, thriving in tree gaps created by natural or artificial disturbance and persisting in partially shaded areas.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Japanese Honeysuckle

Japanese Honeysuckle

(*Lonicera japonica* Thunb.)

DESCRIPTION

Japanese honeysuckle is readily identified during winter by its persistent green foliage. This species produces a slender woody vine of up to 2 inches diameter. Mature stems typically are lighter shades of brown and bark becomes flaky as the plant ages. Vines up to 80 feet long may climb or spread along the ground. They can form dense cover over existing vegetation, which ultimately may be choked out by the honeysuckle canopies.

Leaves and branches are arranged oppositely on the main stem. Leaves (1.5-2.5 inches long, 0.5-1.5 inches wide) are ovate to elliptic with rounded bases and tips that may be blunt-pointed to round. Margins of mature leaves usually are unlobed, but young leaves and those in shade often are lobed. Both surfaces of the leaf and the young stems will produce some degree of pubescence; the leaf undersurface usually appears whitish.

Japanese honeysuckle flowers April to August, or later in our region. Pairs of white to pale yellow, five-lobed, highly fragrant flowers are produced in leaf axils. Fruit and seeds typically are produced during summer and may remain on the plants into the following spring. The fruit are spherical and green to a glossy black, with two to three seeds each.

HABITAT

Japanese honeysuckle grows primarily on edges, along woodland edges, in thickets, and along fence rows. It also can be found in mature forests, thriving in tree gaps created by natural or artificial disturbance and persisting in partially shaded areas.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Johnsongrass

Johnsongrass

[*Sorghum halapense* (L.) Pers.]

DESCRIPTION

Johnsongrass is a rhizomatous perennial, forming dense stands. Stems grow up to 6 feet tall. Stem nodes have fair hairs that lie flat, but internodes are smooth. Leaf blades are up to 25 inches long and just over an inch wide. The blades have fine soft hairs on the upper surface at the base while sheath margins are smooth or ciliate, having a fringe of stiff hairs. Ligules are membranous, usually ciliate, about 0.1 inches long. The inflorescence is a branched flower cluster with stalked flowers about 25 inches long and about 8 inches wide from May to October. The rachis and ascending branches are rough and the raceme joints have fine hairs. Spikelets are less than ¼ inch long with short hairy flower stems. Glumes—outer bracts of the grass spikelets—are hairy on fertile ones and smooth or hairy on staminate ones, both less than ¼ inches long. Sterile and fertile lemmas, or lower bracts, are ciliate and slightly shorter. The bristle-like appendage on fertile lemmas may or may not be present, twisted at a sharp angle and 0.25 to 0.75 inches long when present. There are no upper bracts on the floret. The grain is small, less than an inch, generally reddish and oblong to ellipsoid.

HABITAT

Johnsongrass is a problem in pastures, fields, prairies, roadsides and waste places. It can form dense stands, replacing the surrounding native vegetation. Although it can be utilized as a forage crop, caution should be taken because of potential cyanide poisoning. On roadsides, its height can obstruct visibility. It is tolerant of a wide range of terrestrial conditions, but generally does not tolerate deep shade.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Kudzu

Kudzu

[*Pueraria montana* (Lour.) Merr.]

DESCRIPTION

Kudzu is a perennial, woody, trailing to high-climbing, twining vine reaching around 80 feet. Trailing stems may root in soil. Kudzu grows large tuberous roots. Stems are covered with stiff, rust-colored hairs when young, but turn brown, woody, and smooth as they mature. Stems grow to 10 inches in diameter. Large leaves are alternate and tri-foliolately compound with 2-8 inches lobed leaflets covered with golden hairs. Leaf-supporting stems are 6-12 inches long with a swollen base and deciduous, ovate-lanceolate leafy outgrowths.

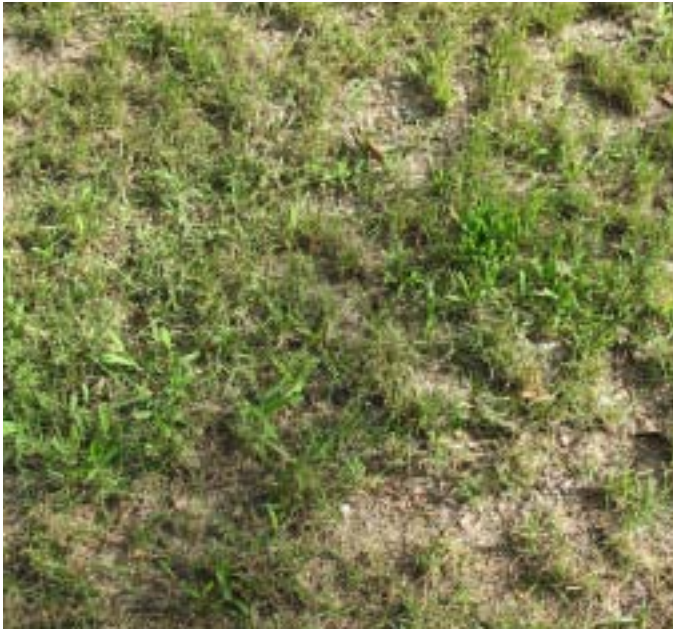
Kudzu flowers from September to January. The flower spikes grow from the leaf and stem joint, 2-12 inches long, and open from bottom to top. Fragrant flowers are about 1 inch in diameter and occur in pairs or threes in a spiral pattern up the main axis. Lower petals are lavender or violet while the upper petal can also be is pinkish with a yellow patch near the base. The fruit – flattened legumes – grow in clusters through January. They are 1.2 to 3 inches long, 0.3 to 0.5 inches wide, covered with stiff golden-brown hairs. Seeds are egg-shaped to nearly square and around 0.1 inch in diameter.

HABITAT

Kudzu is problematic for all habitats, except aquatic. It forms dense thickets, quickly shading out trees and other vegetation. It causes difficulty for human and animal navigation. It tolerates some drought and grows in a wide range of soils. Once established on a site, kudzu is difficult to eradicate.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Large Crabgrass



Large Crabgrass

[*Digitaria sanguinalis* (L.) Scop.]

DESCRIPTION

Large crabgrass is an annual warm-season grass reaching around 3 feet in high with good conditions. Plants are mat-forming and rooting at the lower nodes. Lower nodes are hairy, smoother upwards. Flowering shoots ascending with leaves usually flat, blades around 0.25-0.5 inch wide and 2-6 inches long. Blades are pubescent to rough, often with long hairs on leaf margins near the sheath. Sheaths are hairy, especially the lower sheaths. Ligules are membranous with a fringe of hairs, 2-3 millimeters long. Large crabgrass is common in many habitats and often confused with other crabgrass species. Flowering occurs from July to October. The inflorescences are racemes, 3 to 9, and digitate. Racemes are 2-6 inches long, in one or two whorls, with a winged rachis. Spikelets about 3 millimeters long in 2 or 4 rows on the rachis. The first glume is minute but evident and triangular; and the second glume, five-nerved, 2.8-3.2 millimeters, narrow with fine hairs.

HABITAT

Large crabgrass can be a problem in pastures, waste areas, prairies, rowcrops, fields, turf, roadsides and gardens. It generally forms dense stands in open disturbed or thin canopy sites.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Multiflora Rose

Multiflora Rose

(*Rosa multiflora* Thunb. ex Murr.)

DESCRIPTION

Multiflora rose is an straight, arching, deciduous shrub. Stems and leaves have short, recurved prickles, except in the cultivar 'Inermis'. Shrubs may reach 15 feet high by 15 feet wide, but are generally much smaller. Leaves are alternate and odd-pinnate with 7 to 9 leaflets. Leaflets tend to be smooth above and hairy beneath. Each leaflet is egg-shaped to elliptic and 0.5 to 2 inches long by 0.5 to just over 1 inch wide with serrate edges. Stipules pectinate; fused to petiole for about 0.1 to 0.6 inches then free about 0.1 to 0.3 inches. Flowers cluster in a raceme-like corymb with bracts or compound raceme with leaflike structures. The plant flowers from May to June and again sparingly in September and October. Five sepals are smooth to finely hairy and lanceolate, 1.5 to 2.5 inches long. The five petals are 0.4 to 0.6 inches long and typically white – related species have pink flowers. The hypanthium, sometimes called the 'fruit' or 'hip', mature from green to red; ellipsoid to ovoid in shape, 0.2 to 0.3 inches long. The hips occur in clusters and each contains approximately 7 actual true fruit, with a seed inside, about 0.1 inches long and densely hairy.

HABITAT

Multiflora rose is a problem in pastures, fence rows, prairies, forest and roadside margins, and open woodlands. It can form dense thickets, replacing native vegetation. Although these thickets may provide habitat for certain wildlife, they create difficult barrier for human activity.

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Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Nepalese Browntop

Nepalese Browntop (Stiltgrass)

[*Microstegium vimineum* (Trin.) A. Camus]

DESCRIPTION

Nepalese browntop is an annual grass with long trailing stems that produce a lush, uniform groundcover up to 3 feet high. Pale green leaves (3 inches long) have a distinctive silver-colored stripe that runs off-center along the blade. Nepalese browntop resembles a few delicate native grasses, including species in the genus *Leersia* (cutgrasses). These similarities make correct identification necessary before starting control measures.

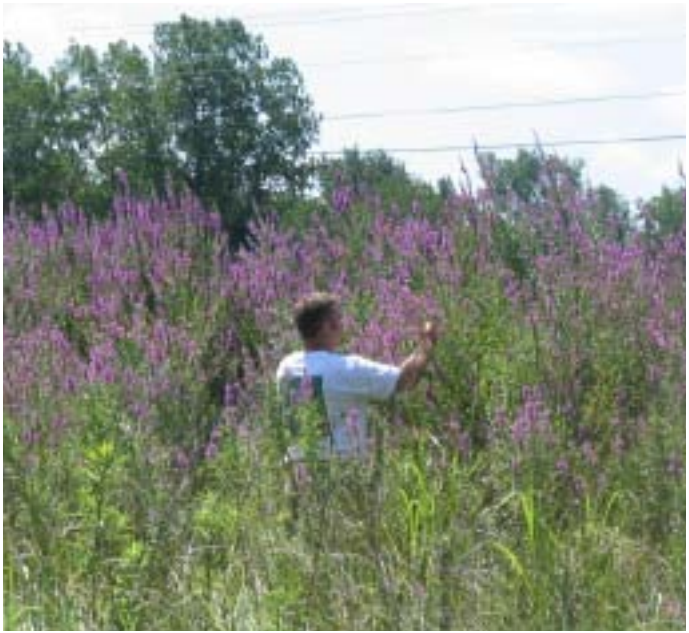
Nepalese browntop begins to flower in late summer and produces small spikes in the joints where leaves and stems meet and at the tips of the stems. Fruits are produced soon after flowers, and by the end of autumn the entire plant dies. A single plant can produce between 100 and 1000 seeds, which remain viable in the soil for at least three years. Soil disturbance may improve germination. Scientists don't know how the seed spreads, but it is possible that seeds float on surface runoff, stick to the feet of animals, and may pass the digestive systems of forest grazers.

HABITAT

Nepalese browntop is a shade tolerant grass that is commonly found in forest understories along streambanks, floodplains, and moist soil regions. It can also be found in more open-canopy areas such as roadsides and roadside ditches and utility rights-of-way. Nepalese browntop is common in disturbed soils and mowed habitats, but it can also invade relatively pristine sites.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Purple Loosestrife



Purple Loosestrife

(*Lythrum salicaria* L.)

DESCRIPTION

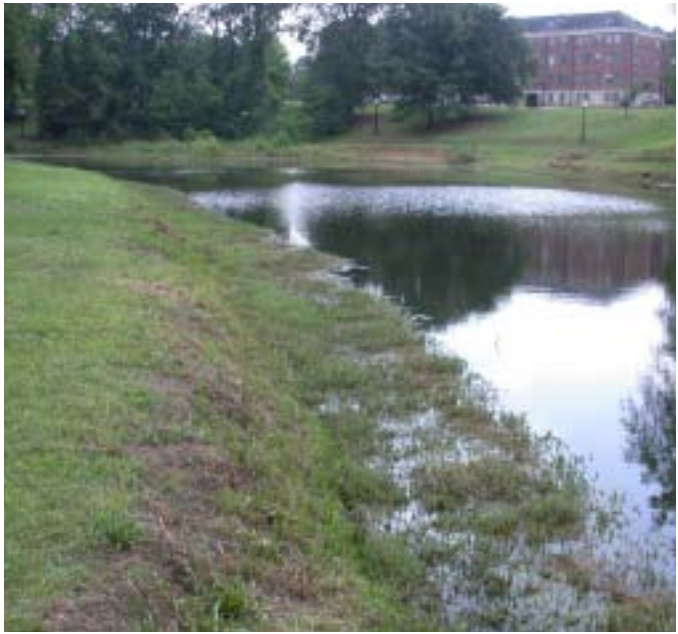
Purple loosestrife is a perennial species that over-winters as a stem base. Plants have numerous angled stems that grow over 6 feet high. The leaves are lance-shaped with fine hairs, and are attached directly to the stems without petioles. Leaves can be opposite, whorled, or spiraled around the stem. Purple flowers occur in axillary clusters that form a spike inflorescence. Each flower has 5 to 7 narrow, wrinkled purple petals that appear in late June through September. The plant may draw pollinators away from native plants, which could be one reason for this plant's prolific seed production. A mature multi-stemmed plant may produce 2-3 million seeds, which remain viable in the soil for many years. Seed dispersal is largely by drift in moving water; however, long distance transport occurs when seeds become embedded in mud and adhere to wildlife, livestock, humans, and vehicles. The time from germination to flowering is about eight weeks. Purple loosestrife can also spread vegetatively by detached shoot and rootstock fragments.

HABITAT

Purple loosestrife grows in a variety of moist soil habitats including wet meadows, marshes, floodplains, river margins, and lakeshores. The plant can tolerate shallow water depths, but it grows best in moist soil habitats. Disturbed sites create excellent opportunities for seed germination and expansion of new purple loosestrife infestations. Purple loosestrife occupies more than 300,000 acres of North American wetlands, from New Brunswick and North Carolina in the East to British Columbia and California in the West.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Roundleaf Toothcup



Roundleaf Toothcup

[*Rotala rotundifolia* (Roxb.) Koehne]

DESCRIPTION

Roundleaf toothcup has dark pink to purplish stems that branch abundantly, giving the plant a low, creeping growth form. Aerial leaves (~1 inch long) are round to broadly oval with no or short stalks. Submersed leaves are linear to elliptical in outline, and appear distinctly four-ranked along stems. Roundleaf toothcup can form dense mats across the water's surface or along shorelines, and it reproduces from stem fragments.

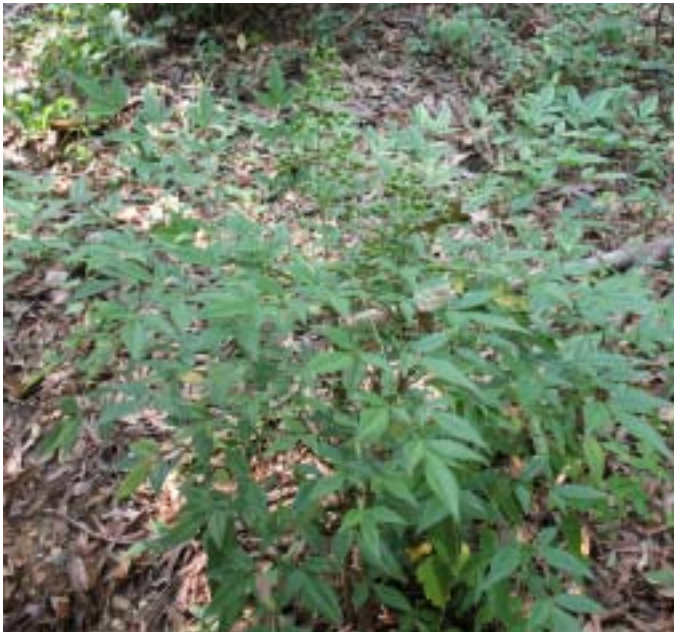
During spring to early summer, roundleaf toothcup produces abundant rose colored flowers in dense spikes at the tips of aerial stems. Both soil-rooted and floating plants can produce flowers, and both habits have been observed to flower simultaneously. Fruit are small capsules (~ 0.06 inch; 1.5 millimeters) that split along four sides to release seeds (~0.02 inch long; 0.5 millimeter). A study in Florida demonstrated viable seed production and vigorous germination under moist, but unsaturated soil conditions.

HABITAT

Roundleaf toothcup inhabits wetland areas, including low-lying fields, moist pond margins, and areas near dams and reservoirs. In the U.S., it is common in urban canals in southern Florida. This species also was known from an urban pond in Alabama, but it is believed to have been exterminated. The related *Rotala indica* (Indian toothcup, also non-native in the U.S.) occurs as a weed in rice grown in LA and CA, but is not known to occur outside rice paddies. Roundleaf toothcup is a serious threat for expansion because of its desirability as an aquarium species and its ability to quickly outgrow containers.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Sacred Bamboo



Sacred Bamboo

(*Nandina domestica* Thunb.)

DESCRIPTION

Sacred bamboo is an erect, evergreen shrub which can reach 10 feet high. One to several stems, usually unbranched, grow from a clump. New stems grow from the clump's base may produce a broad colony of stems. Stems are reddish at first, maturing light brown in color. Leaves are alternate, glossy, smooth, bi- to tri-pinnately compound, and green, sometimes reddish or burgundy. Petiole bases clasp the stem. Leaves are 1 to 3 feet long and wide, each leaflet elliptic-lanceolate and ¾ to 3 inches long. Leaflets are subsessile with entire margins.

The plant flowers from May to July. They grow in terminal, or sometimes branch joint, panicles 8 to 15 inches long with several hundred flowers. Fragrant flowers, with two to six petals, are ¼ to ½ inches across and pinkish in bud, maturing to white with yellow anthers. Fruits grow from September to October and persist into April. At first fruit are green, becoming bright red. The spherical berry fruit is 0.2 to 0.3 inches in diameter, with two hemispherical seeds. Seeds are viable, but can germinate slowly, waiting up to two years.

HABITAT

Sacred bamboo is a problem in fence rows, forest, forest margins and open woodlands. In the MidSouth, isolated plants or groups of plants typically grow in forest or fence rows with plentiful rainfall and well-drained soil. It can tolerate full sun or deep shade, damp sites, and may become weedy in landscapes or form dense understory stands as well. Sacred bamboo is hardy at least from zone 6 to 9.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Showy Rattlebox

Showy Rattlebox

[*Crotalaria spectabilis* (Roth)]

DESCRIPTION

Showy rattlebox is an erect, summer herbaceous annual. Compared to native rattlebox species, showy rattlebox can be quite large ranging from 1.5-6 feet tall. Stems are green or purplish and may be ribbed. Leaves grow alternately, but are large and simple, 2-6 inches long. They lack a stalk and are broadest at the end. Leaves are generally smooth above and densely hairy below. Persistent, ovate to lance-shaped leafy appendages less than 0.3 inches long grow at the base of the leaf. Seedlings have bean-shaped first leaves that are green above and light green below. As seedlings develop, true leaves are smooth above but develop dense flattened down hairs below. Seedlings have a distinct taproot.

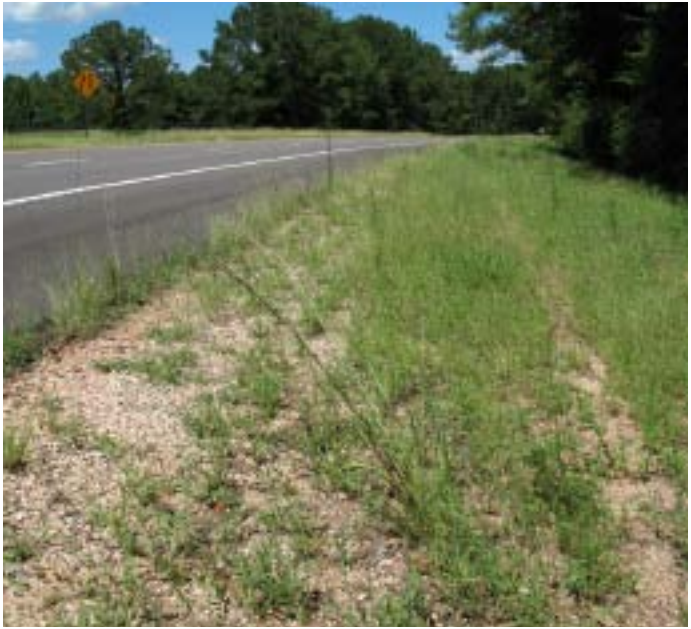
Flowers are large and showy at about 1 inch across, produced in clusters, and yellow in color. The sepal is smooth. Flower stalks are subtended by persistent bracts 0.3 to 0.5 inches long. Fruit are cylindrical pods nearly 2 inches long, which look inflated. When mature, the pods darken and seeds break free inside the pods and create a rattling sound when shaken; hence the name rattlebox. The very toxic seeds are kidney shaped, small, and brown to black at maturity.

HABITAT

Showy rattlebox is a problem in row crops, pastures and roadsides. An annual legume, it spreads primarily by seed. It prefers sites that are open and disturbed, but these sites tend to be poor nutritionally. The plants are often found on roadside or pasture slopes that have at least some erosion.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Smutgrass



Smutgrass

[*Sporobolus indicus* (L.) R.Br.]

DESCRIPTION

Smutgrass is a tufted, perennial warm-season grass reaching around 3 feet in height. Leaves are mostly from the base, usually rolled, to around 1 foot long and 0.2 inches wide. Sheathes are hairless, while margins are hairy toward the apex. Thin outgrowths at the junction of leaves and stalks are hidden.

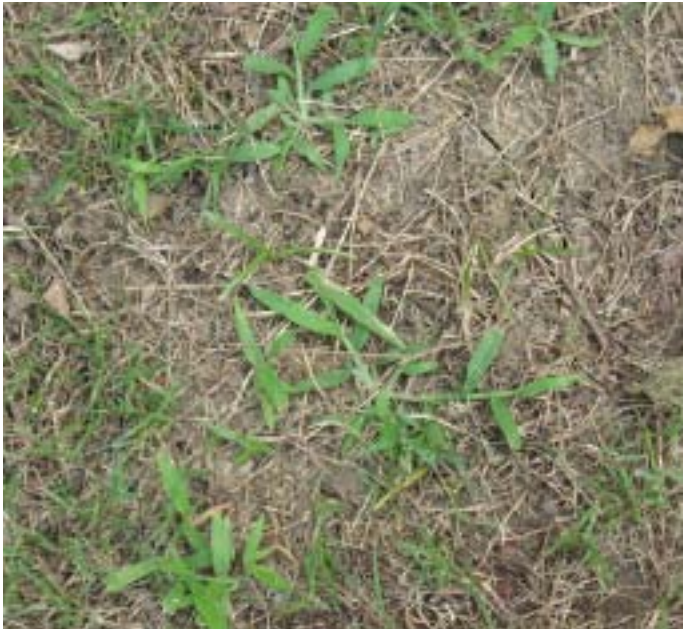
The inflorescence is a spike-like lying flat to growing upward panicle, around 1 foot long, 0.6 inches across, and dark green in color. Flowering typically occurs from July to October. Spikelets are small, around 0.08 inches long with obtuse somewhat unequal glumes that are about half the length of the spikelet. Upper and lower bracts—palea and lemma—are pointed on the end and nerveless. The caryopsis or grain is very small, reddish, flat, oblong, and around half the length of the spikelet.

HABITAT

Smutgrass can be a problem in pastures, flatwoods, waste areas, prairies, fields, turf, and roadsides. It generally forms dense clumps in open sites of poor, compacted compact soils, but may occur elsewhere in open sites. Once established, smutgrass can be difficult to control.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Southern Crabgrass



Southern Crabgrass

[*Digitaria ciliaris* (Retz.) Koeler]

DESCRIPTION

Southern crabgrass is an annual warm-season grass reaching around 3 feet high with good conditions. Plants are mat-forming and root at the lower nodes. Lower nodes are hairy, smoother upwards. Flowering shoots are ascending with leaves usually flat; blades around 0.25-0.5 inch wide and 2-6 inches long, with short hairs to rough, often with long hairs on margins near the sheath. Sheaths are hairy, especially the lower. Ligules are membranous with a fringe of hairs, 2-3 millimeters long. Often confused with other crabgrass species.

Flowering occurs from July to October. The inflorescences are racemes, 3 to 9, digitate, 2 to 6 inches long in 1 or two whorls, with a winged rachis. Spikelets are 3-3.5 millimeters long in 2 or 4 rows along the rachis. The first glume is minute but evident and triangular; and the second glume, five-nerved, 2.8-3.2 millimeters, narrow and ciliate.

HABITAT

Southern crabgrass can be a problem in pastures, waste areas, prairies, rowcrops, fields, turf, roadsides and gardens. It generally forms dense stands in open disturbed or thin canopy sites.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Spiny Cocklebur

Spiny Cocklebur

(*Xanthium spinosum* L.)

DESCRIPTION

Spiny cocklebur is an annual plant that grows to 5 feet tall, with yellowish or brownish gray striate stems. The leaves may be entire, toothed, or lobed. The lower surface of the leaves is covered with white hairs, and the upper leaf surface is white-veined. Leaves are 1-3 inches long and have a 3-forked spine at the leaf base, giving this species the common name "spiny" cocklebur.

Male and female flowers are separated, but they occur on the same plant during summer months. Male flowers form above the female flowers in the axils of the uppermost leaves. Female flowers occur in the leaf axils lower on the plants. As the fruit develops from the female flowers, the bur that bears a beak and hooked bristles begins to develop. On average, plants produce 150 burs, each containing only two seeds. A primary dispersal mechanism for spiny cocklebur is "hitchhiking" on animal fur or human clothing. The fruits float in water, and can also be effectively dispersed by water. Seeds can be spread by clinging to feedsacks or in contaminated hay. Ungerminated seeds remain viable for several years in the soil.

HABITAT

Spiny cocklebur is found in open and disturbed waste places. It can be found growing along roads and in barnyards, pastures, vacant lots, and other disturbed sites. It also can be common around moist disturbed sites such as along ditches, canals, river terraces, and floodplains.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Thorny Olive

Thorny Olive

(*Elaeagnus pungens* Thunb.)

DESCRIPTION

Thorny olive is an arching, evergreen shrub, or vine under certain conditions. Vining or climbing stems produce thorns which can make removal more difficult. Shrubs may reach 10 to 15 feet high with a similar spread. Thick, leathery leaves are alternate, 2 to 4 inches long, ¼ to 1 ¾ inches wide. They are dark green above with a silvery lower surface due to a covering of scales. Major leaf veins are typically brown including the stems supporting the leaf, or petiole. The petioles and stems are also brown with a covering of scales.

Flowers are perfect, ½ inch long, silvery white, and fragrant. Flowering occurs from October to December often in threes from leaf axils—joints with the stems—and easily overlooked except for the strong fragrance they produce. The fruit are ½ to ¾ inch long drupes, or fleshy fruit with single seed, likewise seldom seen. They are scaly brown at first but mature red finely dotted with brown scales in April to May.

HABITAT

Thorny olive is a problem in fence rows, forest, roadside margins, waste areas, dry disturbed sites, and open woodlands. Thorny olive can withstand adverse conditions in the MidSouth, such as drought, sun, shade, salt spray, and apparently air pollutants. It can form dense thickets, replacing the surrounding native vegetation. Although these thickets may provide habitat for certain wildlife, they are a difficult barrier for human activity.

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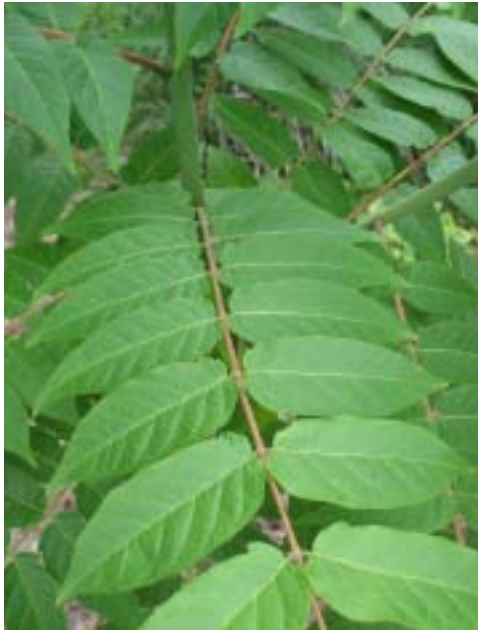
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Tree of Heaven



Tree of Heaven

[*Ailanthus altissima* (P. Mill.) Swingle]

DESCRIPTION

This *Ailanthus* may be confused with hickories and sumacs owing to the compound leaves, but it has roundish glands on its lobed leaflet bases and alternate to nearly opposite leaflet arrangement. It may exude a strong odor from flowers, like that of peanuts or cashews, and can form trees to 80 feet high and 6 feet in diameter. The pinnately compound leaves grow alternately on the stem, with 10 to more than 40 leaflets. The central leafstalk may be up to 3 feet long, with a swollen base covering next year's bud. Asymmetric, non-serrate leaflets (2-7 inches long; 1-2 inches wide) are usually dark above and lighter beneath.

Ailanthus matures in 2-3 years. From April to June, it produces large – up to 20 inches long – terminal branched cluster of small, yellowish-green, unisexual flowers, with five petals and five sepals. Persistent clusters of single-seeded, pinkish, wing-shaped fruit with twisted tips are visible from July to February. Each cluster may contain hundreds of viable seeds, which wind and water easily disperse.

HABITAT

Ailanthus tolerates a wide variety of soil conditions, including dry, rocky soils and urban pavement. It is common in urban areas and disturbed sites, but has shown a limited ability to establish in mature forest and is known to exploit forest openings. Patches along fencerows, hedges, or forest edge can invade adjacent grasslands, fallow fields, or other openings rapidly. This species has become a pest of agricultural areas in parts of its range.

Contact Info: Dr. John D. Madsen, MSU Geosystems Research Institute
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Tropical Soda Apple

Tropical Soda Apple

(*Solanum viarum* Dunal)

DESCRIPTION

Mature plants of tropical soda apple are 3 to 6 feet tall and are armed on the leaves, stems, pedicles, petioles, and calyxes with broad based white to yellowish thorn-like prickles up to ¾ inch long. The leaves and stems have short hairs. Flowers are white with five recurved petals and white cream colored stamens that surround the single pistil. Immature fruits are mottled whitish to light green and dark green, like a watermelon. The mature fruits are smooth, round, yellow and ¾ to 1 ¼ inches in diameter with a leathery-skin surrounding a thin-layered, pale green, scented pulp and 180 to 420 flattened, reddish brown seeds. Each plant is capable of producing 200 or more fruit per year.

HABITAT

Since its introduction into the U.S., tropical soda apple has spread rapidly, and currently infests an estimated one million acres of improved pastures, citrus groves, sugar cane fields, ditches, vegetable crops, sod farms, forestlands of oak hammocks and cypress heads, natural areas, etc. in Alabama, Florida, Georgia, and Mississippi. Although it can be a threat to a variety of habitat, it tends to be most problematic in pastures in the MidSouth.

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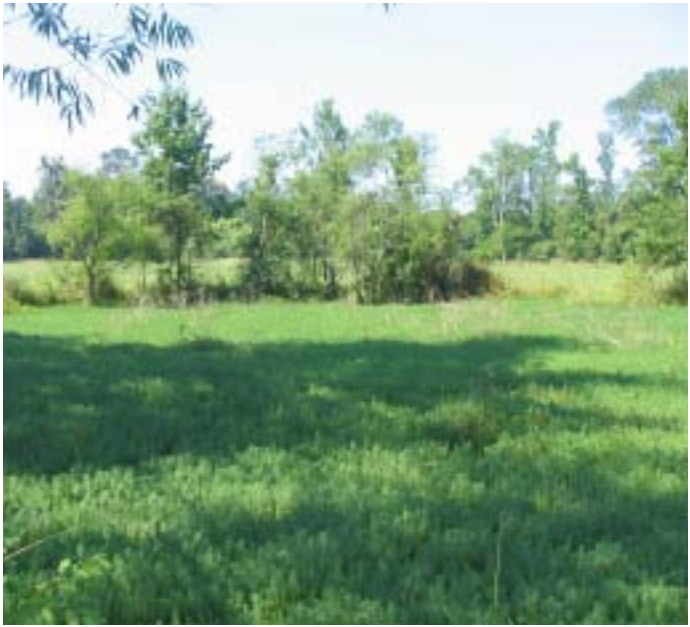
Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
jmadsen@gri.msstate.edu · www.gri.msstate.edu/ipams

Parrotfeather



Parrotfeather

[*Myriophyllum aquaticum* (Vellozo) Verdecourt]

DESCRIPTION

Parrotfeather has both an emergent and submersed growth form. Emergent feather-like, grayish green leaves are whorled, stiff, and usually have 20 or more linear divisions on each leaf. Vegetative reproduction occurs solely by fragmentation of emergent and/or submersed shoots. Submersed shoots have whorls of 4-6 filamentous, pectinate leaves from each node. When the submersed shoots reach the water surface, plants grow horizontally with lateral branching and vertical growth of the stem. Aerial leaves then senesce as they submerse, followed by the growth of emergent shoots and adventitious roots from the emergent stem. Parrotfeather lacks tubers, turions, and winter buds, so emergent stems serves reproductive and other functions. Flowers are produced in the axils of emergent leaves. Parrotfeather has separate plants that produce pollen-bearing and ovule-bearing flowers, but only ovule-bearing plants are found outside of South America. For this reason, seed production is not known to occur and reproduction is exclusively vegetative.

HABITAT

Parrotfeather grows well in shallow wetlands, slow moving streams, irrigation reservoirs or canals, edges of lakes, ponds, and backwaters. Parrotfeather is not seriously hurt by frost or salt water, a hard frost may kill emergent shoots and leaves on plants growing in northern latitudes. In general, depths less than 3 feet are best for required rooting in bottom sediment, but parrotfeather has been observed growing in waters up to 6 feet. Regardless of conditions, once parrotfeather establishes it persists despite environmental variation.

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Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
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Waterhyacinth

Waterhyacinth

[*Eichhornia crassipes* (Mart.) Solms]

DESCRIPTION

Waterhyacinth is a rosette-forming plant connected by stolons. At early stages of colonization, rosettes are small and grow sparse; once peak density is reached, rosettes will increase in size and height. Petioles are spongy and inflated in the middle. They grow short and horizontally to the water surface at early stages of colonization, but as the plant matures, they grow longer and perpendicularly to the water. Leaf blades are 1.5–3 inches wide, ovate to circular in shape. Healthy leaves of waterhyacinth are dark green in color, and attached in a rosette pattern to the stembase. Inflorescence is a contracted panicle growing from the center of the rosette and has about eight light to dark purple flowers.

HABITAT

Waterhyacinth is mainly a tropical and sub-tropical plant growing in freshwater such as rivers, lakes, ponds and ditches. Waterhyacinth does not grow at latitudes higher than 40 °N and 45°S. Waterhyacinth does not tolerate long exposure to temperatures below 0°C, but can tolerate short-term exposure to temperatures at or below freezing. The species does not tolerate high salinity, but can grow in eutrophic water bodies containing high levels of nitrogen, phosphorous, potassium and polluted water with heavy metals such as copper and lead. Waterhyacinth can root in the mud and remain unaffected by drought for a short period of time.

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Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
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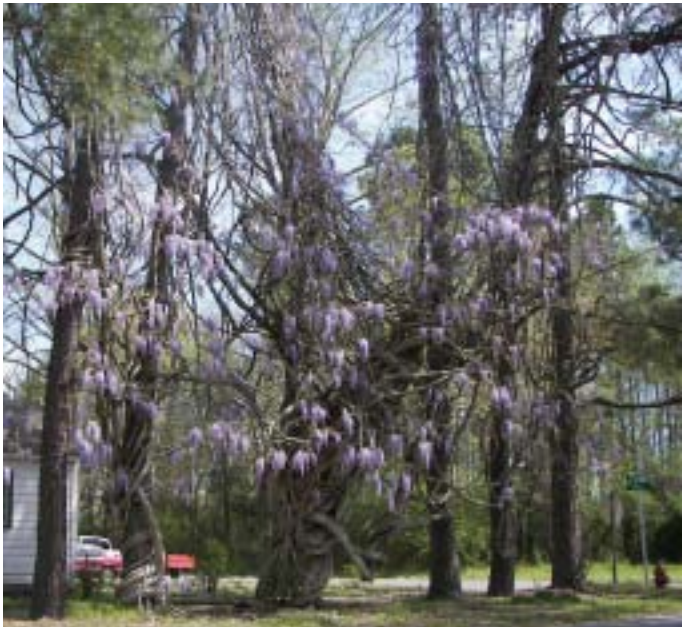
Wisteria



Wisteria

(*Wisteria* spp.)

DESCRIPTION

Invasive Chinese and Japanese wisterias climb over 70-80 feet, unlike American wisteria reaching 15-25 feet. Chinese wisteria twines counterclockwise; Japanese twines clockwise. Chinese wisteria has 6-13 leaflets; Japanese 13-19. All wisterias have compound leaves with leaflets growing alternately on each leafstalk side. Leaflets tend to be elliptical or egg-shaped, 1-4 inches long. Wisteria vines wrap around structures tightly, slowly killing trees. Vertical and lateral stems are light brown or tan and relatively smooth and are difficult to remove. Lateral stems trail across the ground, rooting along its length, tightening with age.

Wisteria flowers grow a 1/2 inch - 1 inch in many colors – usually white to purple in escaped plants on drooping clusters. On Chinese wisteria, all flowers on a 6-12 inch floral stalk open at the same time with little fragrance; on Japanese, flowers on an 8-20 inch stalk open from the base to the tip with stronger fragrance. American wisteria also has fragrant flowers on a 4-6 inch stalk. Wisteria fruits are legumes, 4-6 inches long covered with short, velvety hairs on Chinese and Japanese wisterias. Legumes on American wisteria grow shorter: 2-4 inches and smooth. The one to three seeds per fruit are flattened and brown.

HABITAT

Wisteria is problematic in fence rows, forest, and landscapes. It forms dense thickets, replacing native vegetation. Although these thickets may provide habitat for certain wildlife, they are a difficult barrier for human and animal activity.

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Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
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Japanese Privet

Japanese Privet

(*Ligustrum japonicum* Thunb.)

DESCRIPTION

Japanese privet is an evergreen shrub growing up to 20 feet, with a widely spreading canopy, and thick, leathery, opposite leaves. Twigs are smooth and pale green, darkening brownish to reddish at maturity. Branches are oppositely arranged with brownish gray bark covered with numerous raised, light-colored pores. The leaves (2-4 inches long, 1-2 inches wide) tend to be ovate to oblong, their bases rounded and tips blunt or tapering, sometimes with a short spine at the tip. Margins are entire, often with a yellow rim, and slightly rolled under.

The plant flowers from April to June, with loosely branching clusters of small, white, fragrant, four-petaled flowers at the end or in the joints of lower branches. From July through February the fleshy, single-seeded fruit (0.2-0.5 inch long, 0.2 inch wide) grow in clusters. Fruit are pale green in summer and ripen to blue-black in winter.

Privets grow readily from seed, or from root and stump sprouts. The species escape cultivation by movement of seed, transported by wildlife. Despite a low germination rate (5%-25%), the privets disperse very effectively and grow in abundance in disturbed areas such as field and forest edges and urban environments.

HABITAT

Japanese privet, which is shade tolerant, may occur as single plants or in thickets, frequently occurring in the same habitats as Chinese privet but generally not as abundantly. Japanese privet invades lowland and upland habitats, including floodplains, forests, wetlands and fields. It usually is most prevalent in lowland habitats, at elevations less than 3,000ft.

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Nodding Plumeless Thistle

Nodding Plumeless Thistle (Musk Thistle)

(*Carduus nutans* L.)

DESCRIPTION

Musk thistle is similar to Canada thistle and bull thistle, all non-native in the U.S. Musk thistle is different in its large, disk-shaped flower heads at the end of stems. Spiny stems grow 2-6 feet tall, and are highly branched. Its dark green leaves are coarsely toothed, elliptical to lance-shaped, with a smooth waxy surface and a yellowish to whitish spine at the end of each leaf lobe. Leaves are 0.5-1.5 inches wide and 2-5 inches long.

The 1.5-3.5 inches diameter flower heads are solitary at the ends of highly branched, spiny stems. Flower heads may be deep rose, violet, or rarely white, the outer bracts spiny. Flower heads droop on the stem when fully developed, hence another common name, "nodding thistle." The number of flower heads varies from 200 to 600 per plant in the most suitable habitats to 20 or fewer per plant on poor sites. Flowers appear from May to August and produce as many as 1,200 seeds per head. Seeds mature in about one month and wind can carry them several miles, with the aid of a pappus of fine bristles.

HABITAT

Musk thistle can be found from sea level to about 8,000 feet elevation on soils with neutral to acidic pH. It readily invades openings, and spreads rapidly in areas with frequent disturbance. Musk thistle grows poorly in excessively wet, dry, or shaded conditions, but cropland, pasture, and rangeland are especially vulnerable to invasion. Livestock avoidance exacerbates the invasion.

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Box 9652 · Mississippi State, MS 39762-9652 · Ph: (662)325-2428
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Silktree

Silktree (Mimosa)

(*Albizia julibrissin* Durazz.)

DESCRIPTION

A deciduous tree 10-50 feet in height with one or many stems, smooth light-brown to grayish bark, and compound leaves divided into very fine segments. Twigs are bright green when young, then shiny grayish brown with small raised pores, without a bud at the end of the stem. Leaves are alternately arranged, divided with divided leaflets, 6-20 inches long with 8 to 24 pairs of branchlets and 20 to 60 feathery leaflets per branch. Dark green leaflets are asymmetric, about 0.5 inch long, with midvein nearer and running parallel to one margin.

Flowers are produced May-July in clusters at the base of the current year's twigs; each cluster of 15-25 flowers, 1-2 inches, attached directly by the base. Fragrant flowers are "pom-pom" like with numerous bright-pink tufts with white bases. Fruit are clusters of flat legume pods with 5 to 10 bulging seeds, each pod 3-7 inches long, present from June to February. Mimosa seed coats are impermeable, resulting in long-term dormancy. Viability has been measured as high as 90% after five years.

HABITAT

Mimosa grows best in full sun, often occurring along roadsides and in vacant lots in urban areas. It can tolerate partial shade but is seldom found in forests with full canopy cover, or at elevations above about 3,000 feet, as its lack of cold-hardiness is a limiting factor. Mimosa often invades stream bank areas by animal- or water-transported seeds, and it may exploit eroded stream banks. Mimosa tolerates a broad range of soil conditions; this is enhanced by its nitrogen fixing capability.

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