A Manual for the Identification of Invasive Plants in Southern Forests

Adapted by Lewis Zimmerman from
A Field Guide for the Identification of Invasive
Plants in Southern Forests
by
James H. Miller, Erwin B. Chambliss, and Nancy J. Loewenstein

United States Department
of Agriculture

Forest Service

Southern Research Station
e-Science Update SRS-047

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The USDA prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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This handbook was created specifically for use by the U.S. Forest Service Southern Research Station (SRS), Forest Inventory and Analysis (FIA) field survey crews. The SRS FIA unit currently collects data on 33 invasive plants or groups across 13 States. The ability to accurately identify plant species in the field is a crucial component of monitoring a species' presence and range. Because our field crews are dispersed across several ecological regions the pages have been designed to allow the user to be able to reorganize and/or remove pages accordingly.

Explanation of codes

Alliaria petiolata		**6002**
(Scientific name)	**ALPE4** (NRCS code)	(FIA survey code)

Common name: garlic mustard

Please be aware that there are several species within this guide that share a common genus and we have grouped many "look-a-like" species together. Plant names and codes were derived from the USDA Natural Resources Conservation Service's (NRCS) Plants Database: http://plants.usda.gov with recent published modifications. For our purposes we have chosen to use only one NRCS plants code for each group of species.

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All plant images by James H. Miller unless otherwise noted.

Front cover: Kudzu infestation, aerial photo by John D. Byrd, Mississippi State University, Bugwood.org

November 2011

Southern Research Station
Forest Inventory and Analysis
200 W.T. Weaver Blvd.
Asheville, NC 28804

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- Winged Burning Bush
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- Sacred Bamboo, Nandina
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Invasive Vines
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Invasive Forbs
- Garlic Mustard
- Shrubby Lespedeza
- Chinese Lespedeza
- Tropical Soda Apple

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AIAL

Common names: tree-of-heaven, ailanthus, Chinese sumac, stinking sumac, paradise-tree, copal-tree

Plant. Deciduous tree to 80 feet (25 m) in height and 6 feet (1.8 m) in diameter from a shallow root system, with long, pinnately compound leaves. Strong unpleasant odor emitted from flowers and other parts when crushed.

Stem. Twigs stout, chestnut brown to reddish tan, smooth to velvety with light dots (lenticels) and large, heart-shaped leaf scars. Buds finely hairy, dome-shaped, and partially hidden by the leaf base. Branches light gray to dark gray, smooth and glossy, with raised dots becoming fissures with age. Bark light gray and rough with areas of light-tan fissures.

Leaves. Alternate, odd or even-pinnately compound, 10 to 41 leaflets on 1 to 3 foot (30 to 90 cm) long, light-green to reddish-green stalks with swollen bases. Leaflets lanceolate each 2 to 7 inches (5 to 18 cm) long and 1 to 2 inches (2.5 to 5 cm) wide. Long tapering tips and lobed bases with 1 or more glands beneath each lobe (round dots). Margins entire. Dark green with light-green veins above and whitish green beneath. Petioles 0.2 to 0.5 inch (5 to 12 mm) long.

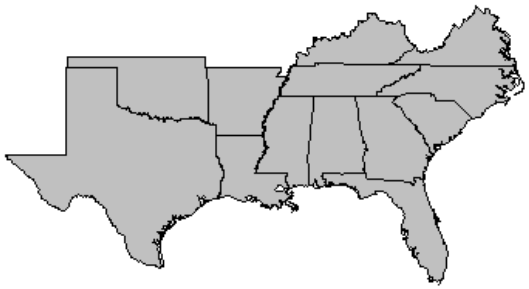
Flowers. April to June. Large terminal clusters to 20 inches (50 cm) long of small, yellowish-green flowers, with 5 petals and 5 sepals. Male and female flowers on separate trees.

Fruit and seeds. July to February. Persistent clusters of wing-shaped fruit with twisted tips on female trees, 1 inch (2.5 cm) long. Single seed. Green turning to tan, then brown. Persist on tree for most of the winter.

Ecology. Rapid growing, forming thickets and dense stands. Both shade and flood intolerant. Colonizes by root sprouts and spreads by wind and water-dispersed seeds. A female tree can produce up to 300,000 seeds per year.

Resembles hickories (*Carya* spp.), butternut (*Juglans cinerea*), black walnut (*J. nigra*), and sumacs (*Rhus* spp.), which have pinnately compound leaves but no glands at leaflet bases. Hickories distinguished by braided bark, butternut and black walnut by their ridged mature barks, and all have large nuts. Sumacs often in a shrub shape, red or winged leaf stalks, and terminal conical flower and seed clusters.

States with suspected infestations are shown in gray.



Ailanthus altissima 0341

AIAL

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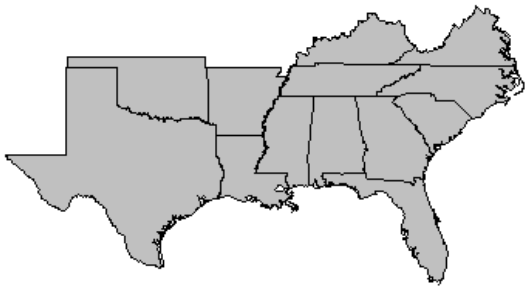

Ailanthus altissima **0341**

AIAL

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LOOK-A-LIKES

Rhus typhina - staghorn sumac

Bill Cook

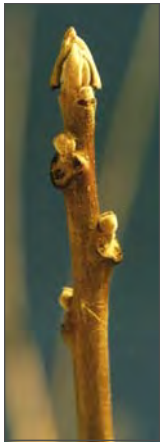
Paul Wray

Rhus glabra - smooth sumac

Ted Bodner

John Cardina

Juglans nigra - black walnut



Bill Cook

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Ailanthus altissima 0341

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ALJU

Common names: silktree, mimosa, silky acacia, Japanese mimosa

Plant. Deciduous, leguminous tree 10 to 50 feet (3 to 15 m) in height with single or multiple boles, smooth light-brown bark, feathery leaves, and showy pink blossoms that continually yield dangling flat pods during summer. Some pods persistent during winter.

Stem. Twigs slender to stout, lime green turning shiny grayish brown with light dots (lenticels). No terminal bud. Bark glossy, thin, light brown turning gray with raised corky dots and dashes.

Leaves. Alternate, bipinnately compound 6 to 20 inches (15 to 50 cm) long with 8 to 24 pairs of branches and 20 to 60 leaflets per branch, feathery and fernlike. Leaflets asymmetric, 0.4 to 0.6 inch (1 to 1.5 cm) long, dark green, with midvein nearer and running parallel to one margin. Margins entire.

Flowers. May to July (and sporadically to November). Terminal clusters at the base of current year twigs, each with 15 to 25 sessile flowers 1.4 to 2 inches (3.5 to 5 cm) long. Pompom-like with numerous filaments, bright pink feathery tufts with white bases. Fragrant.

Fruits and seeds. June to February. Legume pods in clusters, flat with bulging seeds, each pod 3 to 7 inches (8 to 18 cm) long, splitting in winter along the edges to release 5 to 10 oval seeds or disperse whole to float on water. Initially light green turning dark brown in fall and whitish tan in winter.

Ecology. Occurs on dry-to-wet sites and spreads along stream banks, preferring open conditions but also persisting in shade. Can form dense stands. Seldom found above 3,000 feet (900 m). Forms colonies from root sprouts and spreads by abundant animal and water-dispersed seeds.

Resembles honeylocust (*Gleditsia triacanthos*) and locusts (*Robinia* spp.), which have longer leaflets—1 to 2 inches (2.5 to 5 cm) long. **Also resembles** seedlings of partridge pea (*Chamaecrista fasciculata)*, an annual plant with once pinnately compound leaves, and littleleaf sensitive-briar (*Mimosa microphylla*), a reclining legume with fine prickles.

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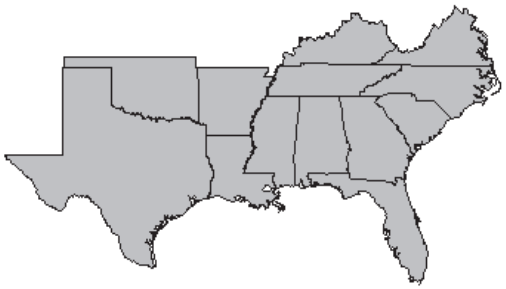

Albizia julibrissin 0345

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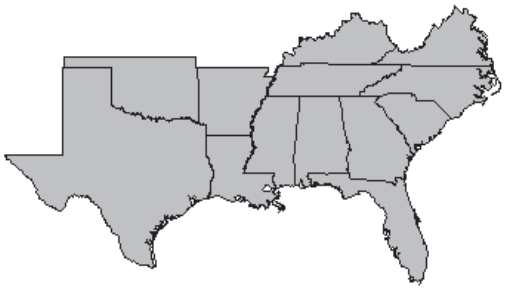

Albizia julibrissin **0345**

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LOOK-A-LIKES

Chamaecrista fasciculata - partridge pea

Richard Old

Mimosa pellita - catclaw mimosa

USDA APHIS PPQ Archive

Gleditsia triacanthos - honey locust

Mimosa pudica - sensitive plant

Karan A. Rawlins

Robinia pseudoacacia - black locust

Linda Haugen

Albizia julibrissin 0345

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Linda Haugen

ALPE4

Common name: garlic mustard

Plant. Cool-season biennial, with a slender white taproot, found in small to extensive colonies. Basal rosettes of leaves in the first year remain green during winter and produce 1 to several 2- to 6-foot (60 to 180 cm) tall flower stalks in the second year, and then die after seed formation in midsummer. Dead plants remain standing as long slender seedstalks with many upturned thin seed capsules and a characteristic crook at the stalk base. May have a slight garlic odor when crushed.

Stem. Erect, slightly ridged, light green, hairy lower and hairless above. One to several stems from the same rootstock.

Leaves. Early basal rosette of kidney-shaped leaves and later alternate heart-shaped to triangular leaves, 1.2 to 3.6 inches (3 to 9 cm) long and 1 to 4 inches (2.5 to 10 cm) wide. Margins shallow to coarsely wavy toothed. Tips elongated on stem leaves. Petioles 0.4 to 3 inches (1 to 8 cm) long and reduced upward.

Flowers. April to May (sporadically to July). Terminal, tight clusters of small, white 4-petaled flowers, each 0.2 to 0.3 inch (5 to 7 mm) long and 0.4 to 0.6 inch (10 to 14 mm) wide. Flowers progress upward as seedpods form below.

Fruit and seeds. May to June. Four-sided, erect-to-ascending, thin pod, 1 to 5 inches (2.5 to 12 cm) long and 0.06 inch (1.5 mm) wide. Initially appearing to be stem branches, spiraled along the stalk. Green, ripening to tan and papery, exploding to expel tiny black seeds arranged in rows.

Ecology. Occurs in small to extensive colonies on floodplains, at forest margins and openings, and less so under dense forest canopies. Shade tolerant while favoring forest edges. Litter disturbance not necessary for establishment. Capable of ballistic seed dispersal of up to 10 feet (3 m). Spreads by human, animal, and water-dispersed seeds, which lie dormant for 2 to 6 years before germinating in spring. Experiences year-to-year variations in population densities.

Resembles violet (*Viola* spp.) in the rosette stage without stalks; and white avens (*Geum canadense*) and bittercress (*Cardamine* spp.) have similar small white flowers, but dissected leaves. None emit garlic odor like garlic mustard.

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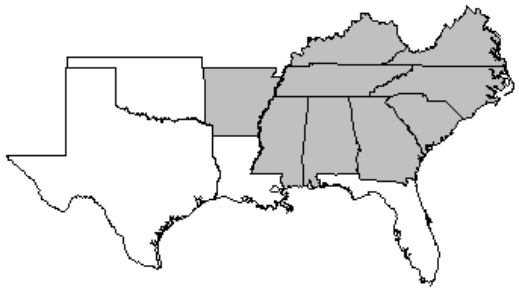

Alliaria petiolata 6002

ALPE4

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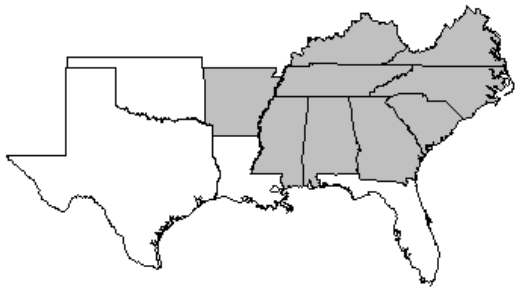

Alliaria petiolata **6002**

ALPE4

Leslie J. Mehrhoff

Alliaria petiolata **6002**

ALPE4

Leslie J. Mehrhoff

Alliaria petiolata **6002**

ALPE4

Common name: garlic mustard

Chris Evans

Steven Katovich

Alliaria petiolata **6002**

ALPE4

Common name: garlic mustard

Chris Evans

Steven Katovich

LOOK-A-LIKES

Viola sp.

Mary Ellen (Mel) Harte

Cardamine sp.

Karen A. Rawlins, University of Georgia

Viola sp.

James Henderson, Gulf South Research Corporation

Alliaria petiolata 6002

LOOK-A-LIKES

Viola sp.

Mary Ellen (Mel) Harte

Cardamine sp.

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Viola sp.

James Henderson, Gulf South Research Corporation

ARDO4

Common name: giant reed

Plant. Giant reed grass, corn-like stems, thicket forming in distinct clumps to 20 feet (6 m) in height, with gray-green and hairless stems, long-lanceolate alternate leaves jutting from stems and drooping at the ends, and large plume-like terminal panicles. Dried grass remains standing in winter and spring while low and sheltered plants may remain green.

Stem (culm). Somewhat succulent and fibrous, with round cross section to 1 inch (2.5 cm). Solid jointed every 1 to 8 inches (2.5 to 20 cm) and covered by overlapping leaf sheaths. Gray to yellowish green. Initially white pithed and becoming hollow between joints. Old stems sometimes persistent into the following summer.

Leaves. Alternate, corn-like, long lanceolate with both surfaces hairless, clasping stem with conspicuous whitish base. Eighteen to 30 inches (45 to 76 cm) long and 1 to 4 inches (2.5 to 10 cm) wide near base. Margins and ligule membranous (about 1 mm). Midvein whitish near base becoming inconspicuous towards tip. Veins parallel. Sheaths overlapping, hairless, and semiglossy. White and green variegated forms also escape from cultivation.

Flowers. August to September. Terminal erect dense plumes of whorled, stemmed flowers to 36 inches (1 m) long. Husks hairy, membranous with several veins, and greenish to whitish to purplish.

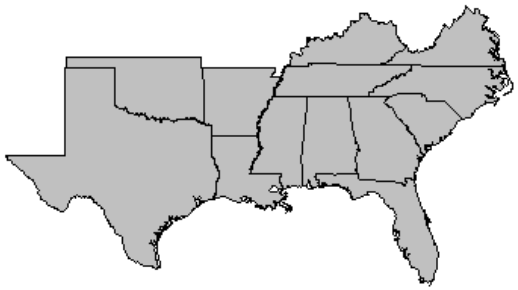
Seeds. October to March. Dense terminal plume, spindle shaped, densely hairy. Grain infertile.

Ecology. Occurs mainly on upland sites as scattered dense clumps along roadsides and forest margins, migrating from old home plantings by displaced rhizome fragments. Persistent infestations by dense branching tuberous rhizome growth. Probable spread by movement of stem and rhizome parts in soil or by road shoulder grading and by running water.

Resembles golden bamboo (*Phyllostachys aurea*), another large grasslike plant that is woody in character. **Closely resembles** common reed (*Phragmites australis*), which has similar large hairy seed heads, but fanned in a loose plume and not erect, and which occurs mainly near swamps, marshes, and other wet habitats.

Distribution. Found throughout the region with scattered dense infestations in every State. Especially frequent along highway and roadside margins.

States with suspected infestations are shown in gray.



Arundo donax 4008

ARDO4

Common name: giant reed

Plant. Giant reed grass, corn-like stems, thicket forming in distinct clumps to 20 feet (6 m) in height, with gray-green and hairless stems, long-lanceolate alternate leaves jutting from stems and drooping at the ends, and large plume-like terminal panicles. Dried grass remains standing in winter and spring while low and sheltered plants may remain green.

Stem (culm). Somewhat succulent and fibrous, with round cross section to 1 inch (2.5 cm). Solid jointed every 1 to 8 inches (2.5 to 20 cm) and covered by overlapping leaf sheaths. Gray to yellowish green. Initially white pithed and becoming hollow between joints. Old stems sometimes persistent into the following summer.

Leaves. Alternate, corn-like, long lanceolate with both surfaces hairless, clasping stem with conspicuous whitish base. Eighteen to 30 inches (45 to 76 cm) long and 1 to 4 inches (2.5 to 10 cm) wide near base. Margins and ligule membranous (about 1 mm). Midvein whitish near base becoming inconspicuous towards tip. Veins parallel. Sheaths overlapping, hairless, and semiglossy. White and green variegated forms also escape from cultivation.

Flowers. August to September. Terminal erect dense plumes of whorled, stemmed flowers to 36 inches (1 m) long. Husks hairy, membranous with several veins, and greenish to whitish to purplish.

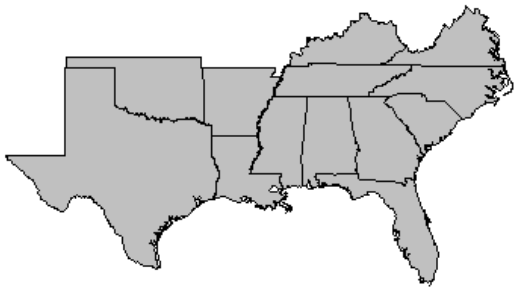
Seeds. October to March. Dense terminal plume, spindle shaped, densely hairy. Grain infertile.

Ecology. Occurs mainly on upland sites as scattered dense clumps along roadsides and forest margins, migrating from old home plantings by displaced rhizome fragments. Persistent infestations by dense branching tuberous rhizome growth. Probable spread by movement of stem and rhizome parts in soil or by road shoulder grading and by running water.

Resembles golden bamboo (*Phyllostachys aurea*), another large grasslike plant that is woody in character. **Closely resembles** common reed (*Phragmites australis*), which has similar large hairy seed heads, but fanned in a loose plume and not erect, and which occurs mainly near swamps, marshes, and other wet habitats.

Distribution. Found throughout the region with scattered dense infestations in every State. Especially frequent along highway and roadside margins.

States with suspected infestations are shown in gray.



Arundo donax 4008

ARDO4

Arundo donax 4008

ARDO4

Arundo donax **4008**

ARDO4

Common name: giant reed

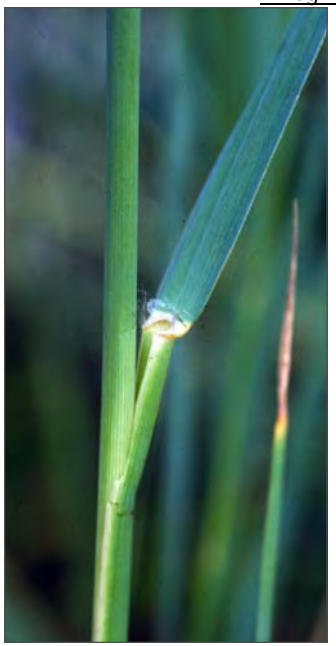
Arundo donax **4008**

ARDO4

Common name: giant reed

LOOK-A-LIKES

Phragmites australis - common reed



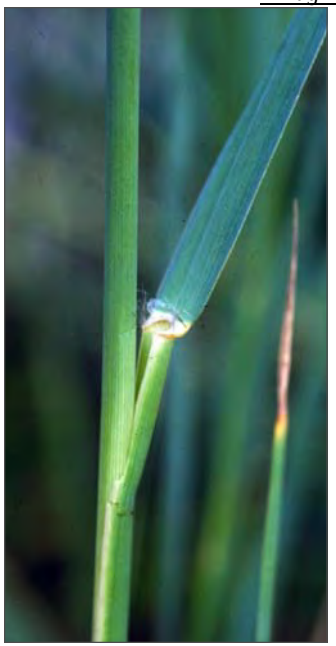
Ohio State Weed Lab Archive

Phyllostachys aurea - golden bamboo

Arundo donax 4008

LOOK-A-LIKES

Phragmites australis - common reed



Ohio State Weed Lab Archive

Phyllostachys aurea - golden bamboo

CEOR7

Common names: Oriental bittersweet, Asian bittersweet

Plant. Deciduous, twining and climbing woody vine to 60 feet (20 m) in tree crowns, forming thickets and arbor infestations. Elliptic to round-tipped leaves, axillary dangling clusters of inconspicuous yellowish flowers in spring, and green spherical fruit that split to reveal 3-parted showy scarlet berries in winter.

Stem. Woody vine to 4 inches (10 cm) diameter, twining and arbor forming, with many alternate drooping branches growing at angles and eventually becoming straight. Vigorous twigs with sharp bud scale tips. Reddish brown with many raised whitish corky dots (lenticels), often angular or ridged, becoming tan to gray. Branch scars of fruit clusters semicircular, each with a tiny corky shelf projection. Bark dark grayish brown with irregular netted ridges.

Leaves. Alternate, 1.2 to 5 inches (3 to 12 cm) long. Variable shaped, long tapering tipped when young becoming larger and round tipped when mature. Margins finely blunt toothed. Dark green becoming bright yellow in late summer to fall. Base tapering into 0.4- to 1.2-inch (1- to 3-cm) petiole.

Flowers. May. Numerous tiny-branched axillary clusters (cymes), each with 3 to 7 inconspicuous orange-yellow flowers. Five petals. Male and female flowers can occur on the same or different plants.

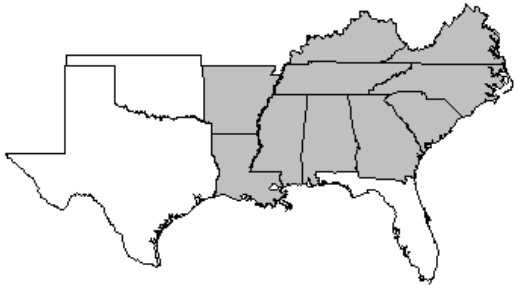
Fruit and seeds. August to January. Dangling clusters of spherical 0.5-inch (1.2 cm) capsules, tipped with a persistent pistil. Green turning yellow orange then tan. In autumn, splitting and folding upward to reveal 3 fleshy scarlet sections, each containing 2 white seeds. Persistent in winter at most leaf axils.

Ecology. Occurs on a wide range of sites mainly along forest edges. Found as scattered plants to extensive infestations in forest openings, margins, and roadsides as well as in meadows. Shade tolerant with high seed germination under canopies.

Resembles American bittersweet (*C. scandens*), which has only terminal flowers and fruit, leaves usually twice as large but absent among the flowers and fruit, grayish and nonridged twigs, and blunt bud-scale tips. Hybridization occurs between the 2 species. **Also resembles** grape vines (*Vitis* spp.) in winter but can be distinguished by persistent scarlet fruit versus grapes.

Distribution. Found throughout the region except FL, TX, and OK with frequent and dense infestations in east KY, west NC, and north VA.

States with suspected infestations are shown in gray.



Celastrus orbiculatus 3026

CEOR7

Common names: Oriental bittersweet, Asian bittersweet

Plant. Deciduous, twining and climbing woody vine to 60 feet (20 m) in tree crowns, forming thickets and arbor infestations. Elliptic to round-tipped leaves, axillary dangling clusters of inconspicuous yellowish flowers in spring, and green spherical fruit that split to reveal 3-parted showy scarlet berries in winter.

Stem. Woody vine to 4 inches (10 cm) diameter, twining and arbor forming, with many alternate drooping branches growing at angles and eventually becoming straight. Vigorous twigs with sharp bud scale tips. Reddish brown with many raised whitish corky dots (lenticels), often angular or ridged, becoming tan to gray. Branch scars of fruit clusters semicircular, each with a tiny corky shelf projection. Bark dark grayish brown with irregular netted ridges.

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Resembles American bittersweet (*C. scandens*), which has only terminal flowers and fruit, leaves usually twice as large but absent among the flowers and fruit, grayish and nonridged twigs, and blunt bud-scale tips. Hybridization occurs between the 2 species. **Also resembles** grape vines (*Vitis* spp.) in winter but can be distinguished by persistent scarlet fruit versus grapes.

Distribution. Found throughout the region except FL, TX, and OK with frequent and dense infestations in east KY, west NC, and north VA.

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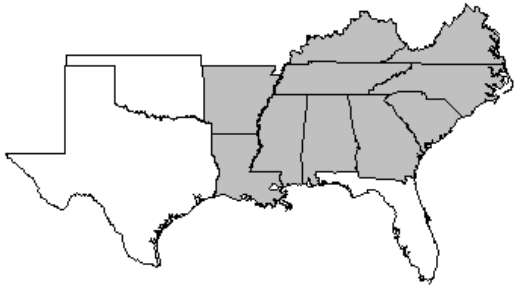

Celastrus orbiculatus 3026

CEOR7

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Celastrus orbiculatus **3026**

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Common names: Oriental bittersweet, Asian bittersweet

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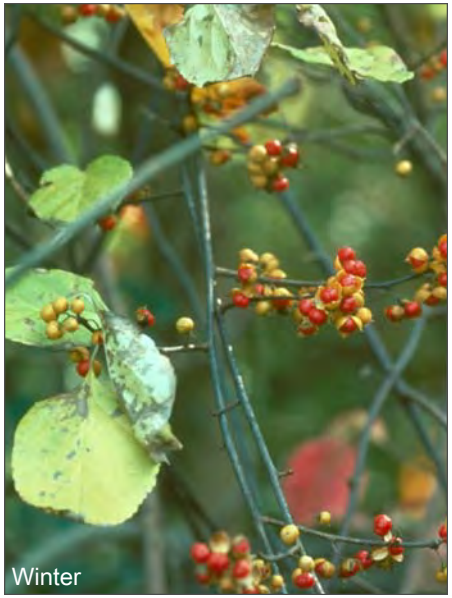
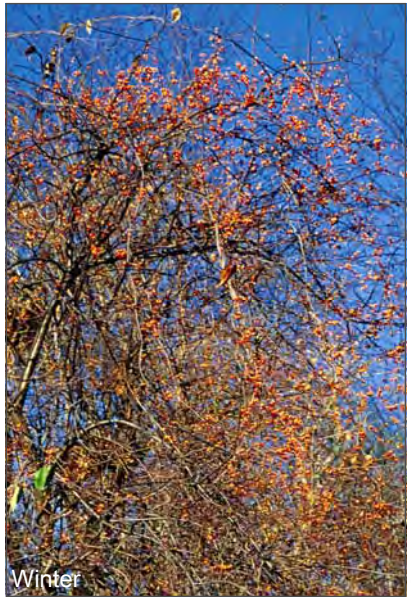
Celastrus orbiculatus **3026**

CEOR7

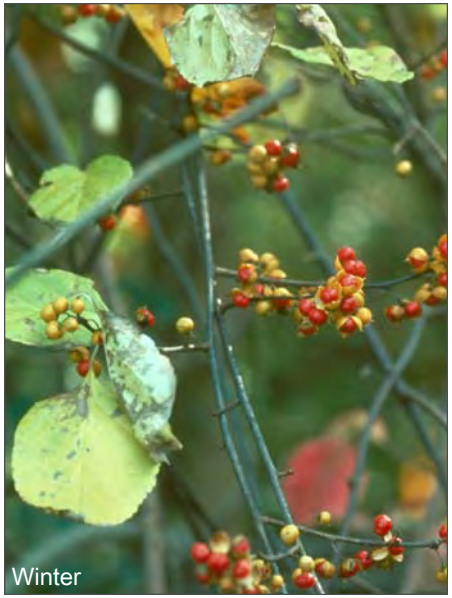


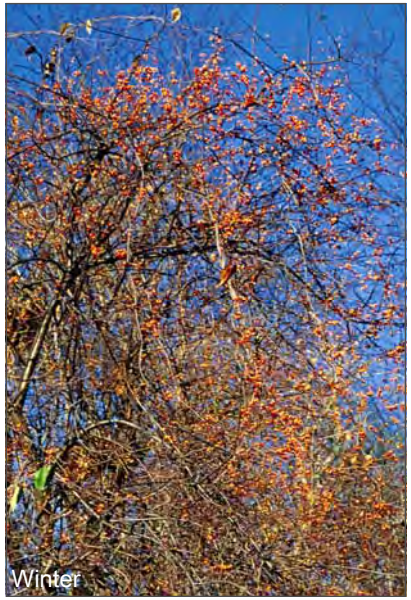


Jil M. Swearingen

Celastrus orbiculatus **3026**

CEOR7





Jil M. Swearingen

DIBU*

Includes: *Dioscorea bulbifera, D. oppositifolia, D. batatas, D. alata*
Common names: air potato, cinnamon vine, winged yam, white yam, air yam, Chinese yam, water yam, climbing yams

Plant. Herbaceous, high climbing vines to 65 feet (20 m) long, infestations covering shrubs and trees. Twining and sprawling stems with long-petioled heart-shaped leaves. Spreading by dangling potato-like tubers (bulbils) at leaf axils and underground tubers. Monocots.

Stem. Twining and covering vegetation, branching, hairless. Internode cross sections round for air yam to angled for Chinese and water yams. Water yam nodes winged and reddish. All stems dying back in winter leaving some bulbils attached.

Leaves. Alternate (air) or combination of alternate and opposite (Chinese and water). Heart shaped to triangular with elongated tips, thin and hairless, 4 to 8 inches (10 to 20 cm) long and 2 to 6 inches (5 to 15 cm) wide. Long petioled. Basal lobes broadly rounded (air) or often angled (Chinese and water). Margins smooth. Veins curved and converging at tip and base. Dark green with slightly indented curved veins above (quilted appearance) and lighter green beneath.

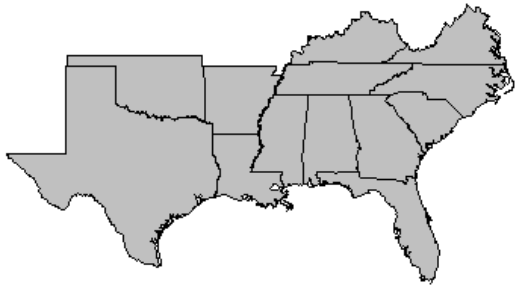
Flowers. May to August. Rare, small, panicles or spikes to 4.5 inches (11 cm) long in axils male and female flowers on separate plants (dioecious). Green to white. Fragrant, with Chinese yam having a cinnamon fragrance.

Fruit and seeds. June to September (and year round). One to 4 aerial tubers (bulbils) resembling miniature potatoes or yams occur at leaf axils, eventually dropping and sprouting to form new plants. Shape spherical to ovoid (air and Chinese) to oblong (water). Texture smooth with dimples (air) to warty (Chinese) to rough (water). Air yam to 5 inches (12 cm) long, Chinese yam to 1 inch (2.5 cm) long, and water yam to 4 inches (10 cm) long and 1.2 inches (3 cm) wide. Very rarely have capsules and winged seeds, which have questionable viability.

Ecology. Rapid growing and occurring on open sites: Dying back during winter but able to cover small trees in a year, with old vines providing trellises for regrowth.

Resemble greenbriers (*Smilax* spp.) with most having thorns and/or green-to-purple berries but no aerial potatoes. **Also resemble** several native *Dioscorea* species that do not form dense vine infestations nor have aerial tubers (bulbils): wild yam (*D. villosa*) with hairy upper leaf surfaces; native Florida yam (*D. floridana*); and, only in Florida, nonnative Zanzibar yam (*D. sansibarensis*). Chinese yam leaves are a similar shape to the native vine, Carolina coralbead (*Cocculus carolinus*), and morning-glory (*Ipomoea* spp.) while their veins are not curved tip to base.

States with suspected infestations are shown in gray.



*For the purposes of this guide, DIBU (*D. bulbifera),* DIOP (*D. oppositifolia*), and DIAL2 (*D. alata*) are included in the DIBU group.

Dioscorea bulbifera 3030

DIBU*

Includes: *Dioscorea bulbifera, D. oppositifolia, D. batatas, D. alata*
Common names: air potato, cinnamon vine, winged yam, white yam, air yam, Chinese yam, water yam, climbing yams

Plant. Herbaceous, high climbing vines to 65 feet (20 m) long, infestations covering shrubs and trees. Twining and sprawling stems with long-petioled heart-shaped leaves. Spreading by dangling potato-like tubers (bulbils) at leaf axils and underground tubers. Monocots.

Stem. Twining and covering vegetation, branching, hairless. Internode cross sections round for air yam to angled for Chinese and water yams. Water yam nodes winged and reddish. All stems dying back in winter leaving some bulbils attached.

Leaves. Alternate (air) or combination of alternate and opposite (Chinese and water). Heart shaped to triangular with elongated tips, thin and hairless, 4 to 8 inches (10 to 20 cm) long and 2 to 6 inches (5 to 15 cm) wide. Long petioled. Basal lobes broadly rounded (air) or often angled (Chinese and water). Margins smooth. Veins curved and converging at tip and base. Dark green with slightly indented curved veins above (quilted appearance) and lighter green beneath.

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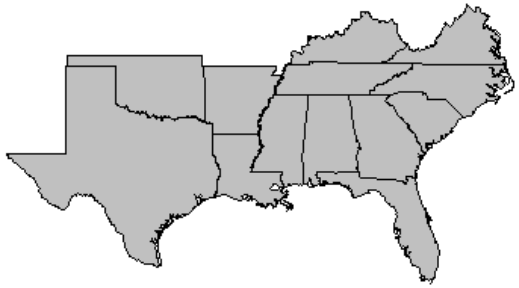


*For the purposes of this guide, DIBU (*D. bulbifera),* DIOP (*D. oppositifolia*), and DIAL2 (*D. alata*) are included in the DIBU group.

Dioscorea bulbifera **3030**

DIBU

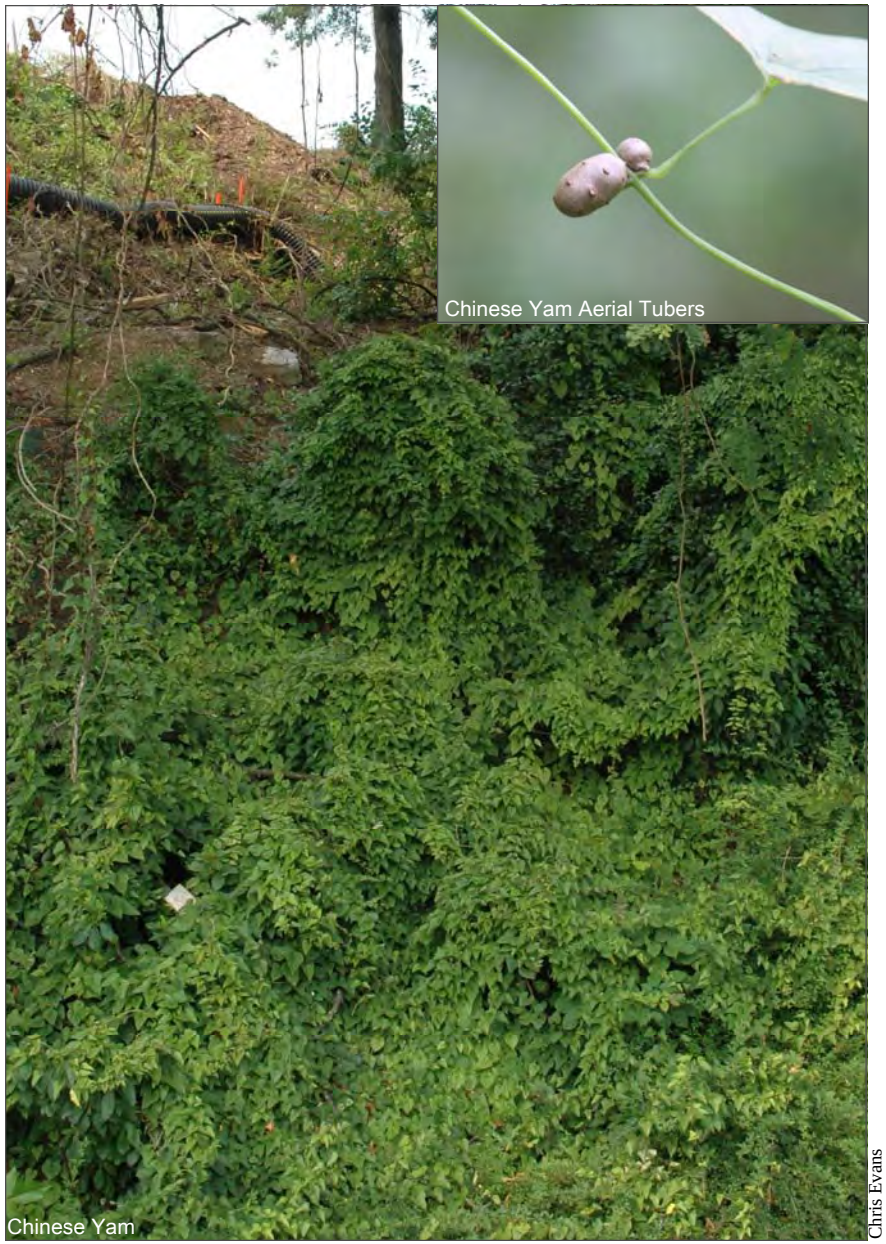
Dioscorea bulbifera **3030**

DIBU

Dioscorea bulbifera **3030**

DIBU

Includes: *D. bulbifera, D. oppositifolia, D. polysachya, D. batatas, D. alata*
Common names: air potato, cinnamon vine, winged yam, white yam, air yam, Chinese yam, water yam, climbing yams



Chris Evans

Dioscorea bulbifera **3030**

DIBU

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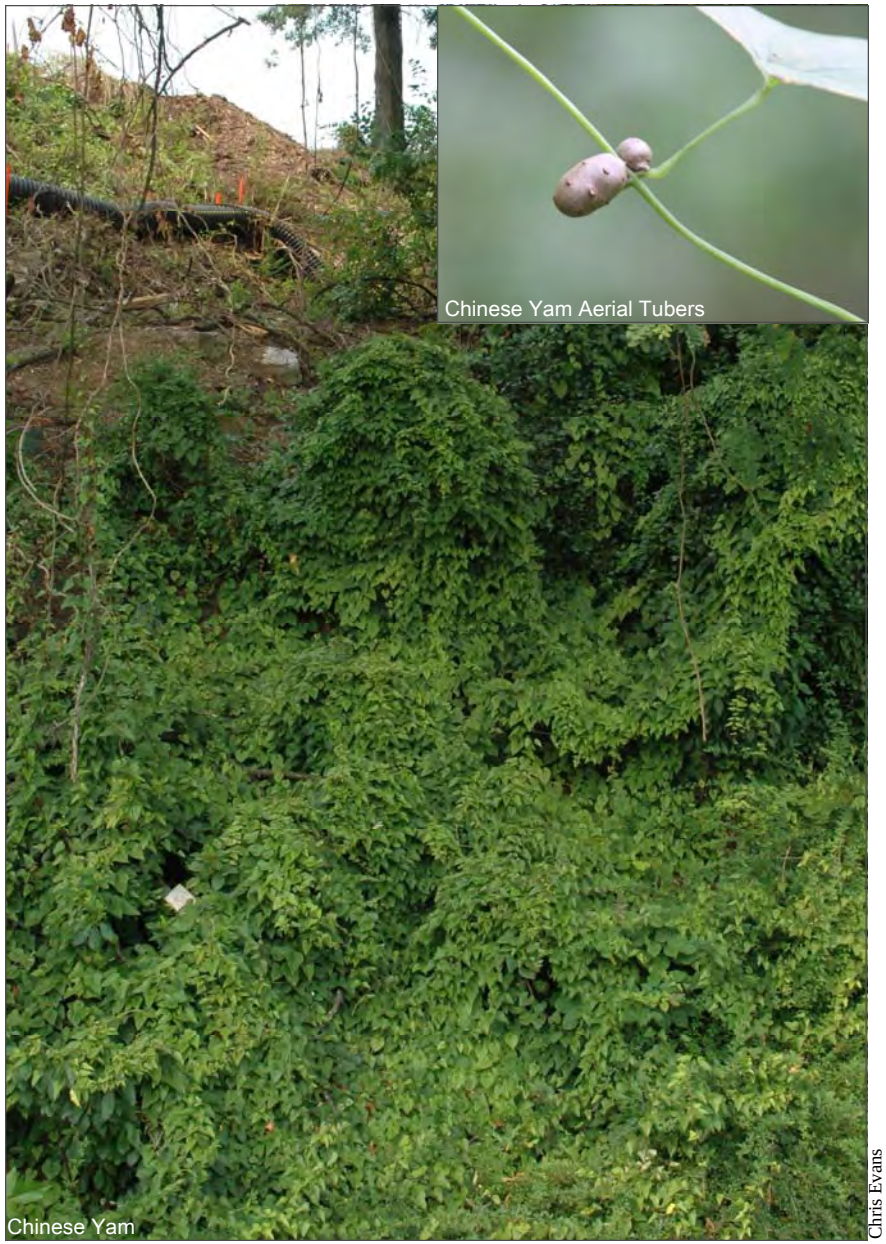


Chris Evans

Dioscorea bulbifera **3030**

LOOK-A-LIKES

Smilax spp. - greenbriar

Calystegia spp. - bindweed

Ohio State Weed Lab Archive

Ipomoea spp. - morning-glory

Ted Bodner

Dioscorea bulbifera **3030**

LOOK-A-LIKES

Smilax spp. - greenbriar

Calystegia spp. - bindweed

Ohio State Weed Lab Archive

Ipomoea spp. - morning-glory

Ted Bodner

ELAN

Common names: oleaster, Russian olive

Plant. Deciduous, thorny tree or shrub to 35 feet (10 m) in height with single or multiple boles, many long narrow leaves, and many yellow fruit covered with minute silvery scales. Rare at present in the South while a widespread invasive elsewhere in the United States.

Stem. Twigs slender, thorny, and densely silver scaly in the first year becoming glossy and greenish. Branches smooth and reddish brown. Pith pale brown to orange brown. Bark dark brown and densely fissured.

Leaves. Alternate, long lanceolate to oblanceolate measuring 1.5 to 4 inches (4 to 10 cm) long and 0.4 to 1.2 inches (1 to 3 cm) wide. Margins entire (rarely toothed). Green to slightly silvery above with dense silver scales beneath. Petioles short and silvery.

Flowers. April to July. Axillary clusters, each with 5 to 10 silvery-white to yellow flowers. Tubular with 4 lobes. Fragrant.

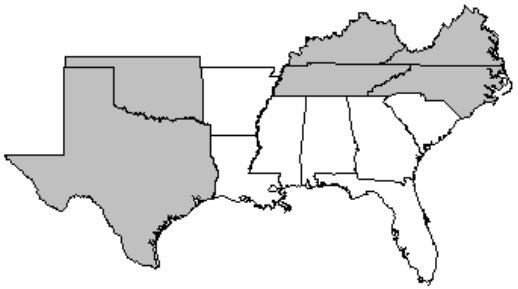
Fruit and seeds. August to October. Drupe-like, hard fleshy fruit 0.5 inch (1.2 cm) long, resembling an olive. Light green to yellow with silvery scales. One nutlet in each fruit.

Ecology. Found as rare plants in city forests, disturbed areas near forests, and escapes from surface mine plantings. Thrives in sandy flood plains. Shade intolerant. Spreads by bird- and animal-dispersed seeds. A nonleguminous nitrogen fixer.

Resembles silverthorn or thorny olive (*E. pungens*), which is an evergreen with brown scaly and hairy twigs, flowers in late fall producing reddish silver-scaly drupes in spring. **Also resembles** autumn olive (*E. umbellata*), a widespread invasive plant that has leaves with green nonscaly upper surfaces in summer and clusters of reddish, rounded berries in fall and early winter.

Distribution. Found infrequently as escaped plants from ornamental and surface mine plantings in forests and urban areas in VA and NC. Widely escaped in the Western and Northeastern United States.

States with suspected infestations are shown in gray.



Elaeagnus angustifolia 0997

ELAN

Common names: oleaster, Russian olive

Plant. Deciduous, thorny tree or shrub to 35 feet (10 m) in height with single or multiple boles, many long narrow leaves, and many yellow fruit covered with minute silvery scales. Rare at present in the South while a widespread invasive elsewhere in the United States.

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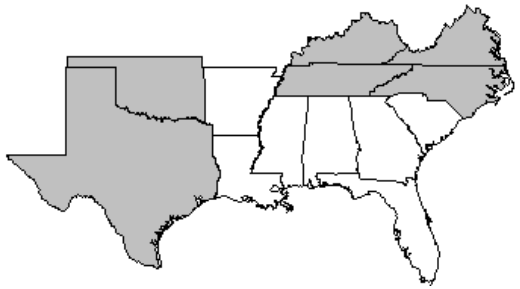


ELAN

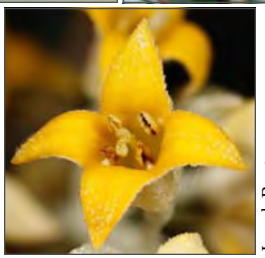
Patrick Breen

Patrick Breen

John M. Randall

Barry Rice

Patrick Breen



Joseph Berger

Elaeagnus angustifolia 0997

ELAN

Patrick Breen

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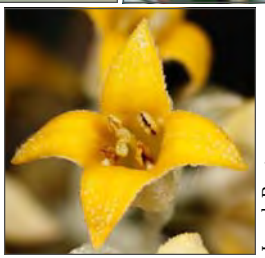


Joseph Berger

Elaeagnus angustifolia **0997**

ELAN

Common names: oleaster, Russian olive

Chris Evans

Patrick Breen

Elaeagnus angustifolia **0997**

ELAN

Common names: oleaster, Russian olive

Chris Evans

Patrick Breen

LOOK-A-LIKES

Elaeagnus umbellata - autumn olive

PA Dept. Conserv. Nat. Res. - Forestry Archive

Elaeagnus pungens - thorny olive

Ted Bodner

Elaeagnus angustifolia 0997

LOOK-A-LIKES

Elaeagnus umbellata - autumn olive

PA Dept. Conserv. Nat. Res. - Forestry Archive

Elaeagnus pungens - thorny olive

Ted Bodner

ELPU2

Common names: silverthorn, thorny olive, spotted elaeagnus, thorny elaeagnus

Plant. Evergreen, densely bushy shrub 3 to 25 feet (1 to 8 m) in height, with scattered sharp stubby branches and long limber projecting shoots. Thick leaves, silver-brown scaly beneath. Often found near ornamental and wildlife plantings as escaped single plants from animal-dispersed seeds.

Stem. Multiple stems and densely branched. Twigs brown, covered with brown scales, and hairy when young. Short shoots with small leaves become sharp-branched or unbranched thorns 0.4 to 1.6 inches (1 to 4 cm) long, and in second year produce leafy lateral branches, followed by flowers in fall. Lateral branches distinctly long, limber, and in late summer to spring extending beyond bushy crown and ascending into trees. Bark dark, drab and rough with projecting stubby thorns.

Leaves. Alternate, oval to elliptic and thick, 0.4 to 4 inches (1 to 10 cm) long and 0.2 to 2 inches (0.6 to 5 cm) wide. Irregular and wavy margins that may roll under. Blade surfaces silver scaly in spring becoming dark green or brownish green above and densely silver scaly with scattered brown scales beneath. Petioles 0.1 to 0.2 inch (4 to 5 mm) long, grooved above.

Flowers. October to December. Axillary clusters, each with 1 to 3 flowers, 0.4 inch (1 cm) long, silvery white to brown. Tubular with 4 lobes. Fragrant.

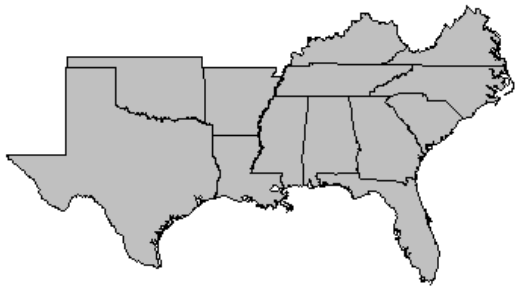
Fruit and seeds. March to June. Oblong, juicy drupe, 0.3 to 0.6 inch (1 to 1.5 cm) long, containing 1 nutlet. Whitish ripening to red and finely dotted with silvery to silvery-brown scales. Persistent shriveled calyx tube at tip.

Ecology. Fast-growing, weedy ornamental. Tolerant to shade, drought, and salt. Spreads by animal-dispersed seeds and occurs as scattered individuals, both in the open and under forest shade. Increases in size by prolific stem sprouts. Can climb into trees.

Resembles autumn olive (*E. umbellata*) and Russian olive (*E. angustifolia*), both of which are deciduous and are further described in this guide. Autumn olive has thin leaves with silver scales (not silver brown) and abundant reddish rounded berries in fall and early winter. Russian olive has silver scaly twigs and leaf surfaces, and many yellow fruit in fall and winter.

Distribution. Found as scattered plants or small infestations throughout the region.

States with suspected infestations are shown in gray.



Elaeagnus pungens 2037

ELPU2

Common names: silverthorn, thorny olive, spotted elaeagnus, thorny elaeagnus

Plant. Evergreen, densely bushy shrub 3 to 25 feet (1 to 8 m) in height, with scattered sharp stubby branches and long limber projecting shoots. Thick leaves, silver-brown scaly beneath. Often found near ornamental and wildlife plantings as escaped single plants from animal-dispersed seeds.

Stem. Multiple stems and densely branched. Twigs brown, covered with brown scales, and hairy when young. Short shoots with small leaves become sharp-branched or unbranched thorns 0.4 to 1.6 inches (1 to 4 cm) long, and in second year produce leafy lateral branches, followed by flowers in fall. Lateral branches distinctly long, limber, and in late summer to spring extending beyond bushy crown and ascending into trees. Bark dark, drab and rough with projecting stubby thorns.

Leaves. Alternate, oval to elliptic and thick, 0.4 to 4 inches (1 to 10 cm) long and 0.2 to 2 inches (0.6 to 5 cm) wide. Irregular and wavy margins that may roll under. Blade surfaces silver scaly in spring becoming dark green or brownish green above and densely silver scaly with scattered brown scales beneath. Petioles 0.1 to 0.2 inch (4 to 5 mm) long, grooved above.

Flowers. October to December. Axillary clusters, each with 1 to 3 flowers, 0.4 inch (1 cm) long, silvery white to brown. Tubular with 4 lobes. Fragrant.

Fruit and seeds. March to June. Oblong, juicy drupe, 0.3 to 0.6 inch (1 to 1.5 cm) long, containing 1 nutlet. Whitish ripening to red and finely dotted with silvery to silvery-brown scales. Persistent shriveled calyx tube at tip.

Ecology. Fast-growing, weedy ornamental. Tolerant to shade, drought, and salt. Spreads by animal-dispersed seeds and occurs as scattered individuals, both in the open and under forest shade. Increases in size by prolific stem sprouts. Can climb into trees.

Resembles autumn olive (*E. umbellata*) and Russian olive (*E. angustifolia*), both of which are deciduous and are further described in this guide. Autumn olive has thin leaves with silver scales (not silver brown) and abundant reddish rounded berries in fall and early winter. Russian olive has silver scaly twigs and leaf surfaces, and many yellow fruit in fall and winter.

Distribution. Found as scattered plants or small infestations throughout the region.

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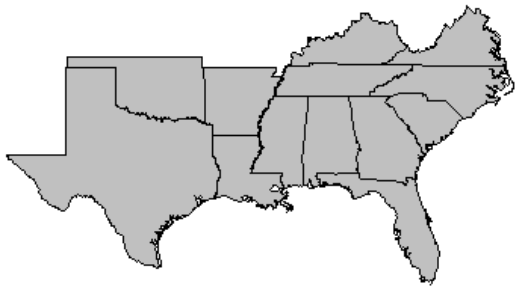


ELPU2

Elaeagnus pungens 2037

ELPU2

ELPU2

Common names: silverthorn, thorny olive, spotted elaeagnus, thorny elaeagnus

Ted Bodner

Elaeagnus pungens 2037

ELPU2

Common names: silverthorn, thorny olive, spotted elaeagnus, thorny elaeagnus

Ted Bodner

LOOK-A-LIKES

Elaeagnus umbellata - autumn olive

Elaeagnus angustifolia - Russian olive

John M. Randall

Partick Breen

Elaeagnus pungens 2037

LOOK-A-LIKES

Elaeagnus umbellata - autumn olive

Elaeagnus angustifolia - Russian olive

John M. Randall

Partick Breen

ELUM

Common names: Autumn olive, oleaster

Plant. Tardily deciduous, bushy and leafy shrub, 3 to 20 feet (1 to 6 m) in height, with scattered thorny branches. Leaves silver scaly beneath, with many red berries in fall.

Stem. Twigs slender and silver scaly, spur twigs common, with some lateral twigs becoming pointed, like thorns. Branches and main stems glossy and gray green with scattered thorns and many whitish dots (lenticels), becoming light gray to gray brown with age and eventually fissuring to expose light-brown inner bark.

Leaves. Alternate, elliptic, 2 to 3 inches (5 to 8 cm) long and 0.8 to 1.2 inches (2 to 3 cm) wide. Margins entire and wavy. Bright green to gray green above with silver scaly midvein and densely silver scaly beneath. Petioles short and silvery.

Flowers. February to June. Axillary clusters, each with 5 to 10 tubular flowers with 4 lobes. Silvery white to yellow. Fragrant.

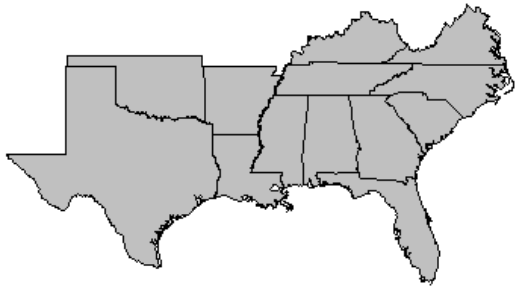
Fruit and seeds. August to November. Round, juicy drupe 0.3 to 0.4 inch (8 to 10 mm) wide containing 1 nutlet. Red and finely doted with silvery to silvery-brown scales.

Ecology. Prefers drier sites. Shade tolerant. Spreads by animal-dispersed seeds and found as scattered plants in forest openings and open forests, eventually forming dense stands. A nonleguminous nitrogen fixer.

Resembles silverthorn (*E. pungens*) and Russian olive (*E. angustifolia*). Silverthorn is an evergreen that has brown scaly and hairy twigs, flowers in late fall, and oval reddish-silver, scaly drupes in spring. Russian olive rarely occurs and has silver scaly twigs and leaves, leaves longer and more linear, flowers in early summer, and many yellow olives in fall and winter.

Distribution. Found throughout the region with dense infestations more frequent in VA, KY, SC, and GA.

States with suspected infestations are shown in gray.



Elaeagnus umbellata 2038

ELUM

Common names: Autumn olive, oleaster

Plant. Tardily deciduous, bushy and leafy shrub, 3 to 20 feet (1 to 6 m) in height, with scattered thorny branches. Leaves silver scaly beneath, with many red berries in fall.

Stem. Twigs slender and silver scaly, spur twigs common, with some lateral twigs becoming pointed, like thorns. Branches and main stems glossy and gray green with scattered thorns and many whitish dots (lenticels), becoming light gray to gray brown with age and eventually fissuring to expose light-brown inner bark.

Leaves. Alternate, elliptic, 2 to 3 inches (5 to 8 cm) long and 0.8 to 1.2 inches (2 to 3 cm) wide. Margins entire and wavy. Bright green to gray green above with silver scaly midvein and densely silver scaly beneath. Petioles short and silvery.

Flowers. February to June. Axillary clusters, each with 5 to 10 tubular flowers with 4 lobes. Silvery white to yellow. Fragrant.

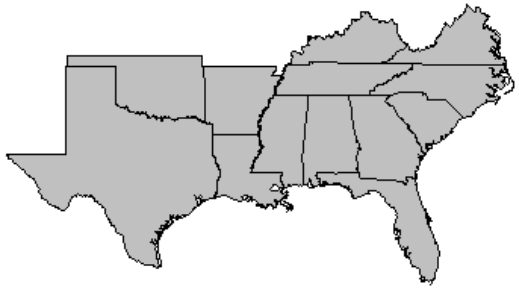
Fruit and seeds. August to November. Round, juicy drupe 0.3 to 0.4 inch (8 to 10 mm) wide containing 1 nutlet. Red and finely doted with silvery to silvery-brown scales.

Ecology. Prefers drier sites. Shade tolerant. Spreads by animal-dispersed seeds and found as scattered plants in forest openings and open forests, eventually forming dense stands. A nonleguminous nitrogen fixer.

Resembles silverthorn (*E. pungens*) and Russian olive (*E. angustifolia*). Silverthorn is an evergreen that has brown scaly and hairy twigs, flowers in late fall, and oval reddish-silver, scaly drupes in spring. Russian olive rarely occurs and has silver scaly twigs and leaves, leaves longer and more linear, flowers in early summer, and many yellow olives in fall and winter.

Distribution. Found throughout the region with dense infestations more frequent in VA, KY, SC, and GA.

States with suspected infestations are shown in gray.



Elaeagnus umbellata **2038**

ELUM

PA Dept. Conserv. Nat. Res. - Forestry Archive

Elaeagnus umbellata **2038**

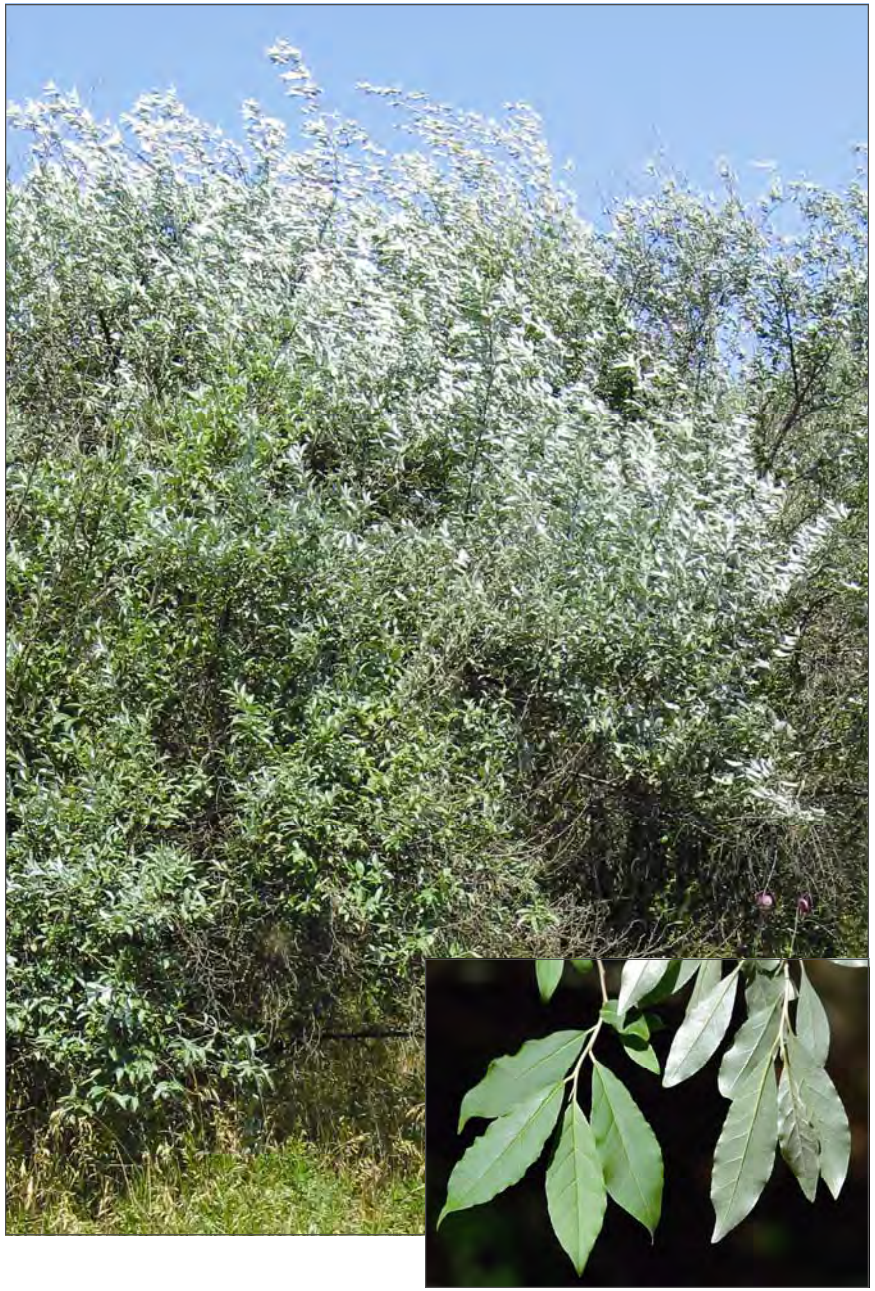
ELUM

PA Dept. Conserv. Nat. Res. - Forestry Archive

Elaeagnus umbellata **2038**

ELUM

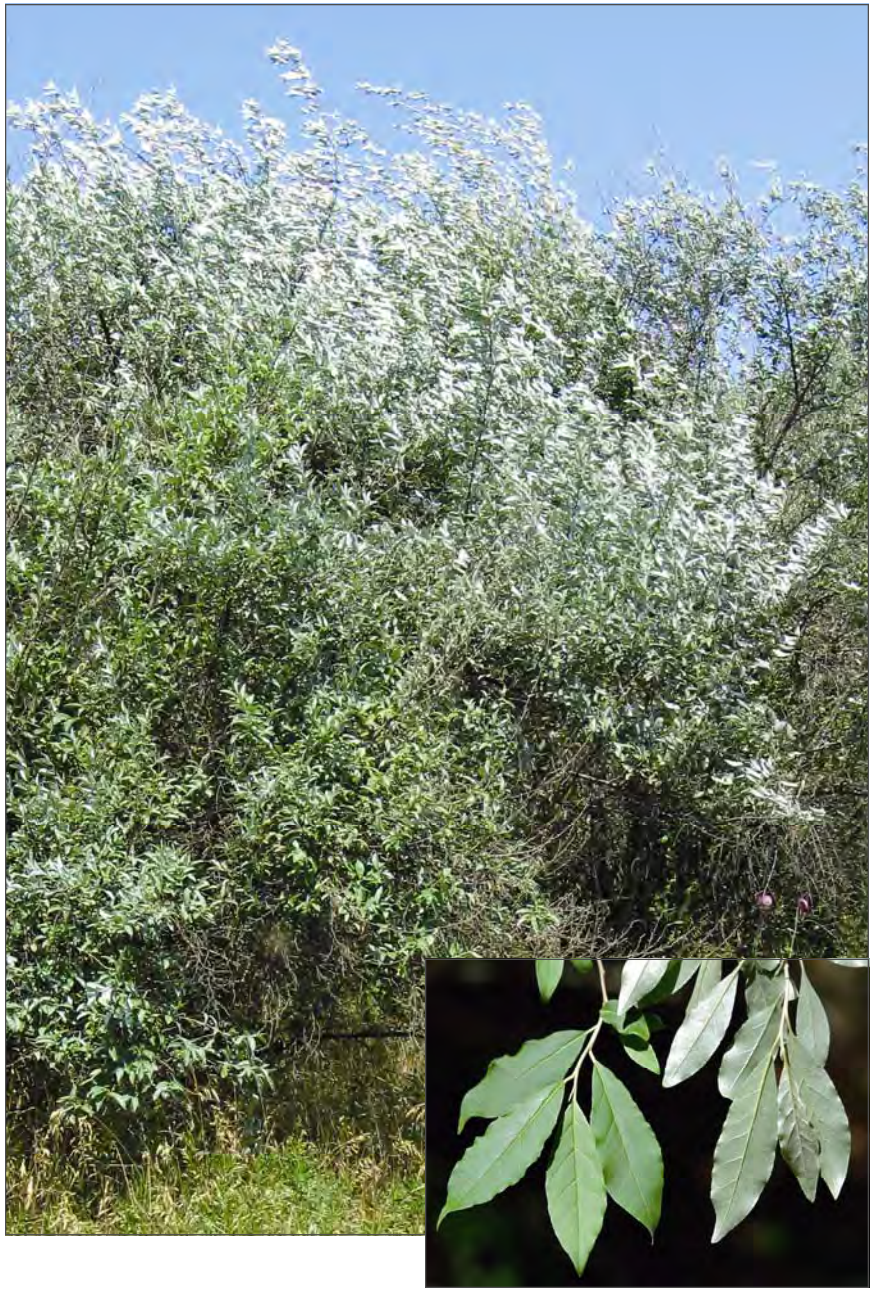
Common names: Autumn olive, oleaster



Elaeagnus umbellata **2038**

ELUM

Common names: Autumn olive, oleaster



LOOK-A-LIKES

Elaeagnus angustifolia - Russian olive

Patrick Breen

John M. Randall

Elaeagnus pungens - silverthorn

Ted Bodner

Elaeagnus umbellata 2038

LOOK-A-LIKES

Elaeagnus angustifolia - Russian olive

Patrick Breen

John M. Randall

Elaeagnus pungens - silverthorn

Ted Bodner

EUAL8

Common names: winged wahoo, winged euonymus, burning bush, winged burning bush

Plant. Deciduous, wing-stemmed, bushy shrub to 12 feet (4 m) in height, multiple stemmed and much branched. Canopy broad and leafy. Small obovate leaves green and turning bright scarlet to purplish red in fall. Paired purple fruit in fall on new growth.

Stem. Four corky wings or ridges appearing along young lime-green squarish twigs with wings becoming wider with age. Numerous opposite branches, with bases encircled by corky rings. Larger branches and bark becoming light gray.

Leaves. Opposite, obovate, and thin, 1 to 2 inches (2.5 to 5 cm) long and 0.4 to 0.8 inch (1 to 2 cm) wide. Tips tapering to an acute point. Margins finely crenate. Both surfaces smooth and hairless. Dark green with whitish midvein above and light green beneath, turning bright crimson to purplish red in fall. Petioles 0.04 to 0.16 inch (1 to 4 mm) long.

Flowers. April to May. Axillary pairs of small flowers at the ends of a Y-shaped 1-inch (2.5-cm) stem. Flowers inconspicuous, 0.2 to 0.3 inch (6 to 8 mm) across, greenish yellow, 5 lobed, pistil elongating as fruit forms.

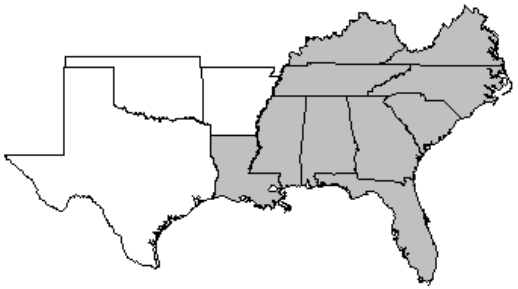
Fruit and seeds. August to January. Dangling paired (or single) reddish capsules in leaf axils, turning purple and splitting in fall to reveal an orange fleshy-covered seed.

Ecology. Shade tolerant and invading forest understories, pastures, and coastal shrub lands. Colonizes by root suckers and spreads by animal-dispersed seeds.

Resembles the native burning bush (*E. atropurpureus)* and strawberry bush (*E. americanus)*. **Also resembles** the larger-leaved species of blueberry (*Vaccinium* spp.), but their leaves are alternate. **Possibly resembles** rusty blackhaw (*Viburnum rufidulum*), which also has opposite leaves but distinguished by their larger size and leathery texture. Dormant twigs **may resemble** winged elm (*Ulmus alata*) and sweetgum (*Liquidambar styraciflua*), which have alternate leaves and are usually 2 winged instead of 4 winged.

Distribution. Found throughout the region except AR, TX, and OK with dense infestations in KY and VA.

States with suspected infestations are shown in gray.



Euonymus alatus 2042

EUAL8

Common names: winged wahoo, winged euonymus, burning bush, winged burning bush

Plant. Deciduous, wing-stemmed, bushy shrub to 12 feet (4 m) in height, multiple stemmed and much branched. Canopy broad and leafy. Small obovate leaves green and turning bright scarlet to purplish red in fall. Paired purple fruit in fall on new growth.

Stem. Four corky wings or ridges appearing along young lime-green squarish twigs with wings becoming wider with age. Numerous opposite branches, with bases encircled by corky rings. Larger branches and bark becoming light gray.

Leaves. Opposite, obovate, and thin, 1 to 2 inches (2.5 to 5 cm) long and 0.4 to 0.8 inch (1 to 2 cm) wide. Tips tapering to an acute point. Margins finely crenate. Both surfaces smooth and hairless. Dark green with whitish midvein above and light green beneath, turning bright crimson to purplish red in fall. Petioles 0.04 to 0.16 inch (1 to 4 mm) long.

Flowers. April to May. Axillary pairs of small flowers at the ends of a Y-shaped 1-inch (2.5-cm) stem. Flowers inconspicuous, 0.2 to 0.3 inch (6 to 8 mm) across, greenish yellow, 5 lobed, pistil elongating as fruit forms.

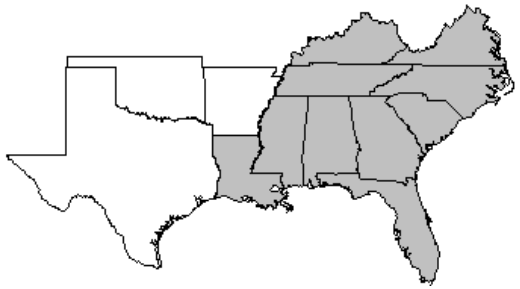
Fruit and seeds. August to January. Dangling paired (or single) reddish capsules in leaf axils, turning purple and splitting in fall to reveal an orange fleshy-covered seed.

Ecology. Shade tolerant and invading forest understories, pastures, and coastal shrub lands. Colonizes by root suckers and spreads by animal-dispersed seeds.

Resembles the native burning bush (*E. atropurpureus)* and strawberry bush (*E. americanus)*. **Also resembles** the larger-leaved species of blueberry (*Vaccinium* spp.), but their leaves are alternate. **Possibly resembles** rusty blackhaw (*Viburnum rufidulum*), which also has opposite leaves but distinguished by their larger size and leathery texture. Dormant twigs **may resemble** winged elm (*Ulmus alata*) and sweetgum (*Liquidambar styraciflua*), which have alternate leaves and are usually 2 winged instead of 4 winged.

Distribution. Found throughout the region except AR, TX, and OK with dense infestations in KY and VA.

States with suspected infestations are shown in gray.



Euonymus alatus **2042**

EUAL8

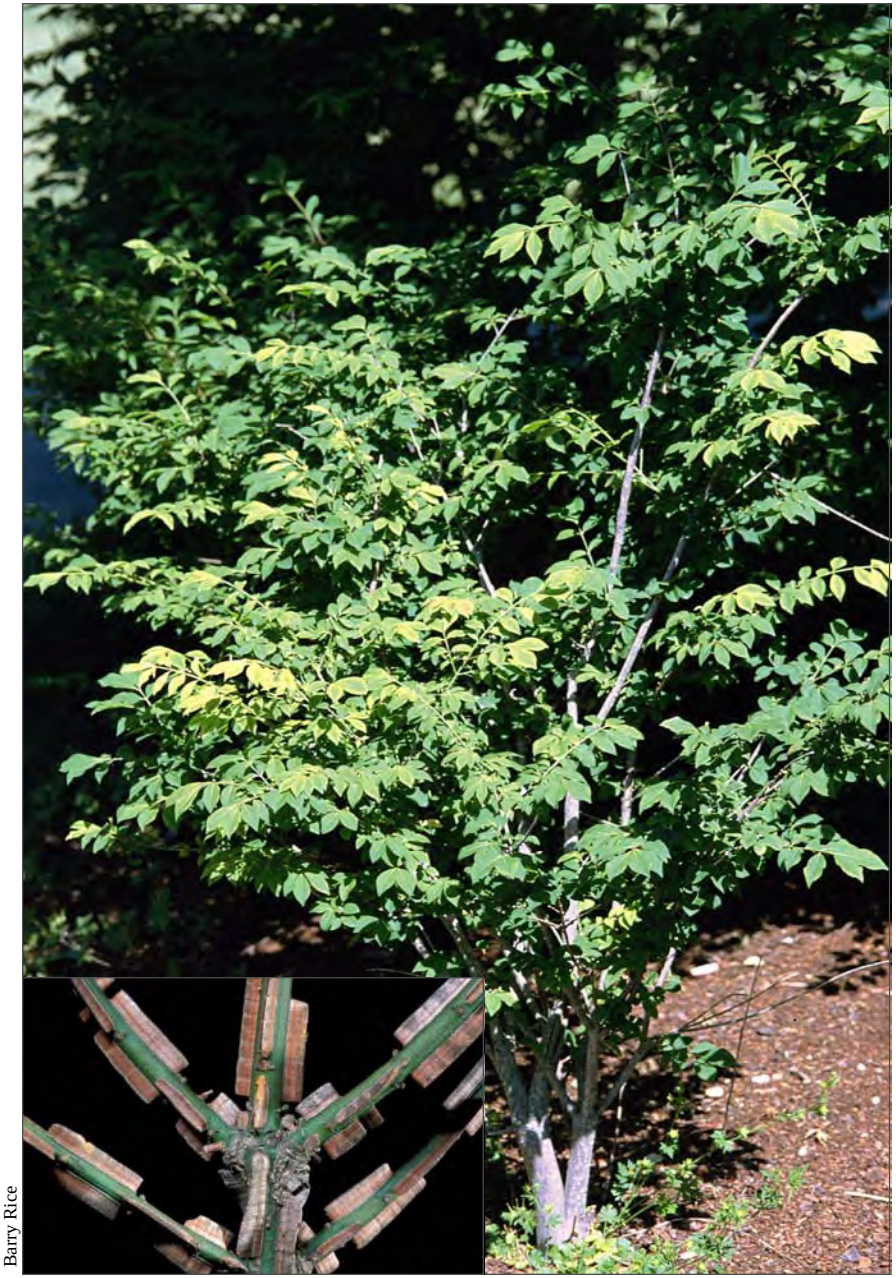
Euonymus alatus **2042**

EUAL8

Euonymus alatus **2042**

EUAL8

Common names: winged wahoo, winged euonymus, burning bush, winged burning bush

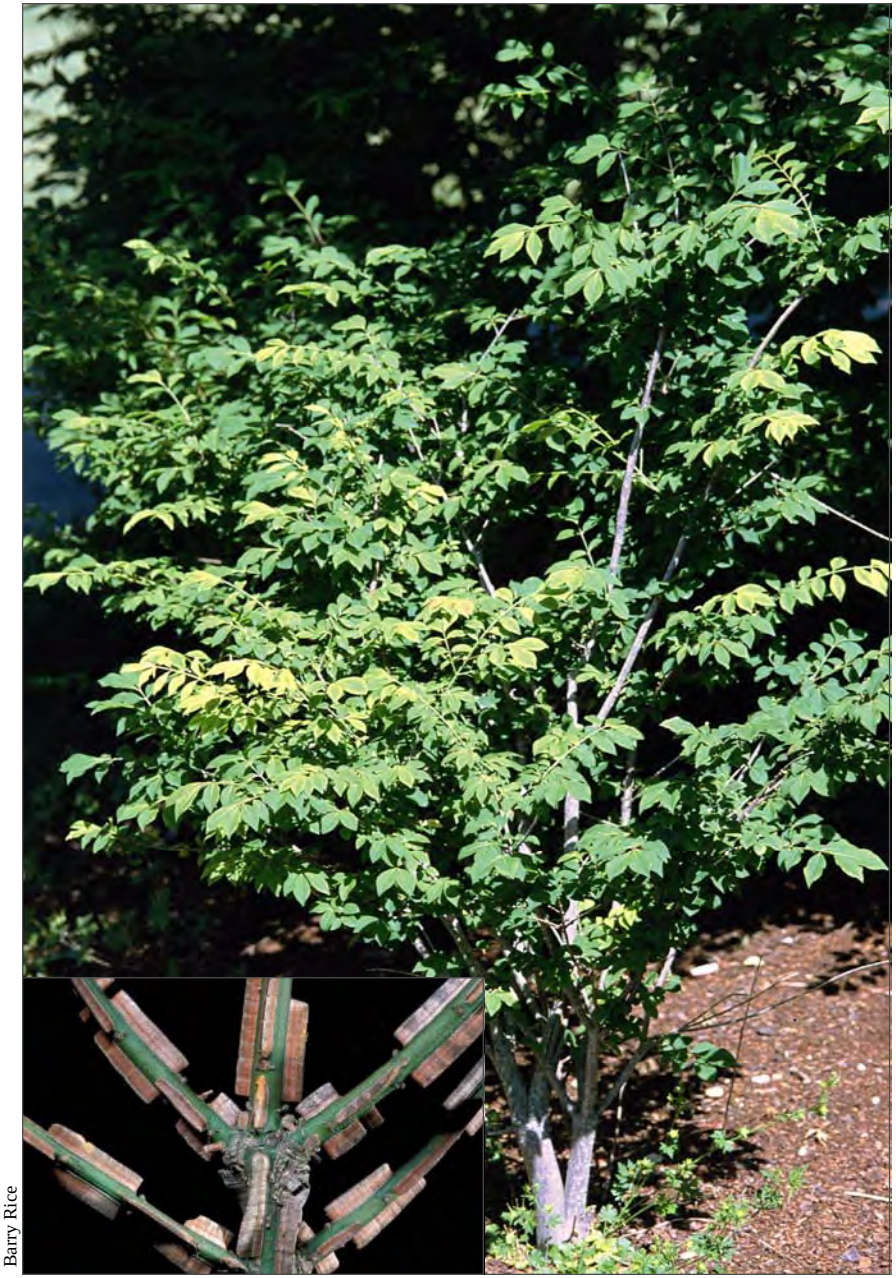


Barry Rice

Euonymus alatus **2042**

EUAL8

Common names: winged wahoo, winged euonymus, burning bush, winged burning bush



Barry Rice

LOOK-A-LIKES

Euonymus americanus - strawberry bush

Karan A. Rawlins

Ulmus alata - winged elm

Euonymus alatus 2042

LOOK-A-LIKES

Euonymus americanus - strawberry bush

Karan A. Rawlins

Ulmus alata - winged elm

EUFO5

Synonym: *Euonymus hederaceus*
Common names: climbing euonymus, gaiety, winter creeper

Plant. Evergreen woody vine climbing to 70 feet (22 m) and clinging by aerial roots or rooting at nodes, or standing as a shrub to 3 feet (1 m) in height. The non-flowering juvenile climbing phase, upon reaching high enough into the crowns of trees, develops into a flowering phase that does not have climbing rootlets.

Stem. Twigs stout, lime green, and hairless becoming increasingly dusted and streaked with light-gray reddish corky bark. Patches or lines of protruding aerial roots grow on lower surfaces or where touching supporting structures. Branches opposite, leaf scars thin upturned white crescents, and branch scars jutting and containing a light semicircle. Older stems covered with gray corky bark becoming fissured and then checked.

Leaves. Opposite, broadly oval, moderately thick, with bases tapering to petiole. One to 2.5 inches (2.5 to 6 cm) long and 1 to 1.8 inches (2.5 to 4.5 cm) wide. Margins finely crenate, somewhat turned under, to wavy. Blades smooth glossy, hairless, dark green with whitish veins above and light green beneath. Some varieties variegated, with white or golden margins. Petioles 0.15 to 0.4 inch (0.4 to 1 cm) long.

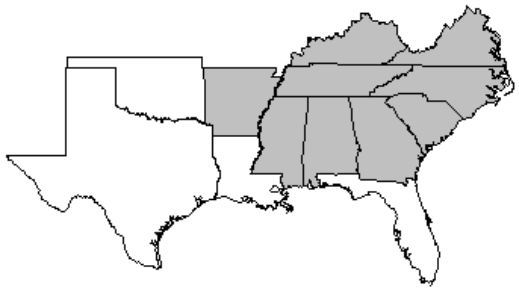
Flowers. May to July. Axillary clusters of small greenish-yellow inconspicuous flowers at the ends of Y-shaped stems, each flower 0.1 inch (2 to 3 mm) wide. Five petals. Pistils soon elongating with fruit.

Fruit and seeds. September to November. Dangling paired or single pinkish-to-red capsules, 0.2 to 0.4 inch (5 to 10 mm) long, splitting to reveal 4 tightly clustered seeds with orange-to-red fleshy coats.

Ecology. Forms dense ground cover and can climb trees, eventually overtopping them. Climbing vines produce fruit. Cold and shade tolerant, occurring under dense stands but avoiding wet areas.

Resembles the larger-leaved species of blueberry (*Vaccinium* spp.) but their leaves are alternate. **Also resembles** native partridgeberry (*Mitchella repens*), a creeping vine with opposite oval or cordate leaves < 1 inch (2.5 cm) long and wide, white twin flowers and red berries; and the nonnative vincas (*Vinca* spp.), trailing vines with similar opposite leaves but margins are rolled under and flowers violet-to-blue pinwheels. May also resemble the native burning bush (*E. atropurpureus)* and strawberry bush (*E. americanus)*.

States with suspected infestations are shown in gray.



Euonymus fortunei 3042

EUFO5

Synonym: *Euonymus hederaceus*
Common names: climbing euonymus, gaiety, winter creeper

Plant. Evergreen woody vine climbing to 70 feet (22 m) and clinging by aerial roots or rooting at nodes, or standing as a shrub to 3 feet (1 m) in height. The non-flowering juvenile climbing phase, upon reaching high enough into the crowns of trees, develops into a flowering phase that does not have climbing rootlets.

Stem. Twigs stout, lime green, and hairless becoming increasingly dusted and streaked with light-gray reddish corky bark. Patches or lines of protruding aerial roots grow on lower surfaces or where touching supporting structures. Branches opposite, leaf scars thin upturned white crescents, and branch scars jutting and containing a light semicircle. Older stems covered with gray corky bark becoming fissured and then checked.

Leaves. Opposite, broadly oval, moderately thick, with bases tapering to petiole. One to 2.5 inches (2.5 to 6 cm) long and 1 to 1.8 inches (2.5 to 4.5 cm) wide. Margins finely crenate, somewhat turned under, to wavy. Blades smooth glossy, hairless, dark green with whitish veins above and light green beneath. Some varieties variegated, with white or golden margins. Petioles 0.15 to 0.4 inch (0.4 to 1 cm) long.

Flowers. May to July. Axillary clusters of small greenish-yellow inconspicuous flowers at the ends of Y-shaped stems, each flower 0.1 inch (2 to 3 mm) wide. Five petals. Pistils soon elongating with fruit.

Fruit and seeds. September to November. Dangling paired or single pinkish-to-red capsules, 0.2 to 0.4 inch (5 to 10 mm) long, splitting to reveal 4 tightly clustered seeds with orange-to-red fleshy coats.

Ecology. Forms dense ground cover and can climb trees, eventually overtopping them. Climbing vines produce fruit. Cold and shade tolerant, occurring under dense stands but avoiding wet areas.

Resembles the larger-leaved species of blueberry (*Vaccinium* spp.) but their leaves are alternate. **Also resembles** native partridgeberry (*Mitchella repens*), a creeping vine with opposite oval or cordate leaves < 1 inch (2.5 cm) long and wide, white twin flowers and red berries; and the nonnative vincas (*Vinca* spp.), trailing vines with similar opposite leaves but margins are rolled under and flowers violet-to-blue pinwheels. May also resemble the native burning bush (*E. atropurpureus)* and strawberry bush (*E. americanus)*.

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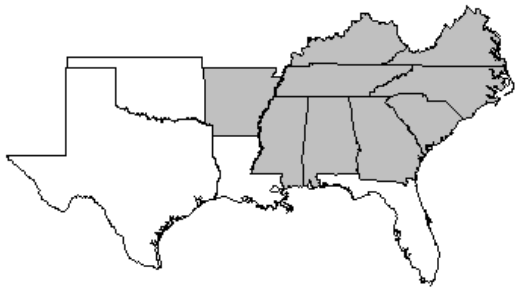


Euonymus fortunei 3042

EUFO5

Euonymus fortunei 3042

EUFO5

Euonymus fortunei **3042**

EUFO5

Synonym: *Euonymus hederaceus*
Common names: climbing euonymus, gaiety, winter creeper

Euonymus fortunei **3042**

EUFO5

Synonym: *Euonymus hederaceus*
Common names: climbing euonymus, gaiety, winter creeper

LOOK-A-LIKES

Mitchella repens - partridgeberry

Vinca sp. - periwinkle

Rebekah D. Wallace

Euonymus americanus - strawberry bush

Karan A. Rawlins

Euonymus fortunei 3042

LOOK-A-LIKES

Mitchella repens - partridgeberry

Vinca sp. - periwinkle

Rebekah D. Wallace

Euonymus americanus - strawberry bush

Karan A. Rawlins

HEHE*

Includes: *Hedera helix, H. hibernica*, *H. colchica*
Common names: English ivy, Atlantic ivy, Irish ivy, Colchis ivy, Persian ivy

Plant. Evergreen woody vines climbing to 90 feet (28 m) by clinging aerial roots and trailing to form dense ground cover. Maturing at about 10 years into erect plants or branches with unlobed leaves and terminal flower clusters that yield blackish-to-purplish berries. Hundreds of cultivars vary in leaf size and color. **Caution:** Fruit toxic to humans, and plant contact triggers dermatitis in sensitive individuals.

Stem. Woody slender vines when a ground cover and growing to 10 inches (25 cm) in diameter when climbing infested trees and rocks by many fine to stout aerial rootlets. Vines pale green (sometimes reddish tinged), rooting at nodes, becoming covered with gray-brown shiny bark, segmented by encircling and raised leaf scars, and roughened by tiny ridges. Bark light gray to brown, bumpy and gnarly, with aerial rootlets that exude a glue-like substance to tightly cling to vertical structures. Older vines sometimes grown together where crossed.

Leaves. Alternate, thick dark-green leaves with whitish veins and 3 to 5 pointed lobes when juvenile. Colchis ivy with 3 slight tips and few sharp teeth.

Flowers. June to October. Terminal hairy-stemmed umbel clusters of small greenish-yellow flowers on mature plants. Five thick and pointed petals, 0.1 inch (3 mm) long. Each petal radiating from a 5-sided domed green floral disk, 0.1 inch (3 mm) wide, tipped by a short pistil.

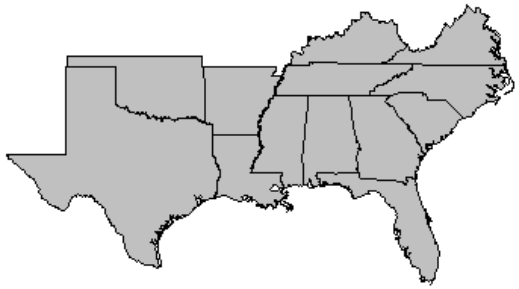
Fruit and seeds. October to May. Clusters of spherical drupes, 0.2 to 0.3 inch (7 to 8 mm). Pale green in late summer ripening to dark blue to black in late winter to spring.

Ecology. Thrive in moist open forests, but adaptable to a range of moisture and soil conditions, including rocky cliffs. Avoids wet areas. Shade tolerance allowing early growth under dense stands, but becoming adapted to higher light levels with maturity. Grow very aggressively once established. Amass on infested trees, decreasing vigor, and increasing chance of windthrow.

Resemble grape (*Vitis* spp.) which has a leaf that is similarly shaped but not thick and often hairy.

Distribution. English ivy found throughout the region with scattered dense infestations in every State. Currently Atlantic and colchis ivies only in NC and SC.

States with suspected infestations are shown in gray.



*For the purposes of this guide, HEHE (*H. helix*), HEHI12 (*H. hibernica*), and HE-CO20 (*H. colchica*) are included in the HEHE group.

Hedera helix 3071

HEHE*

Includes: *Hedera helix, H. hibernica*, *H. colchica*
Common names: English ivy, Atlantic ivy, Irish ivy, Colchis ivy, Persian ivy

Plant. Evergreen woody vines climbing to 90 feet (28 m) by clinging aerial roots and trailing to form dense ground cover. Maturing at about 10 years into erect plants or branches with unlobed leaves and terminal flower clusters that yield blackish-to-purplish berries. Hundreds of cultivars vary in leaf size and color. **Caution:** Fruit toxic to humans, and plant contact triggers dermatitis in sensitive individuals.

Stem. Woody slender vines when a ground cover and growing to 10 inches (25 cm) in diameter when climbing infested trees and rocks by many fine to stout aerial rootlets. Vines pale green (sometimes reddish tinged), rooting at nodes, becoming covered with gray-brown shiny bark, segmented by encircling and raised leaf scars, and roughened by tiny ridges. Bark light gray to brown, bumpy and gnarly, with aerial rootlets that exude a glue-like substance to tightly cling to vertical structures. Older vines sometimes grown together where crossed.

Leaves. Alternate, thick dark-green leaves with whitish veins and 3 to 5 pointed lobes when juvenile. Colchis ivy with 3 slight tips and few sharp teeth.

Flowers. June to October. Terminal hairy-stemmed umbel clusters of small greenish-yellow flowers on mature plants. Five thick and pointed petals, 0.1 inch (3 mm) long. Each petal radiating from a 5-sided domed green floral disk, 0.1 inch (3 mm) wide, tipped by a short pistil.

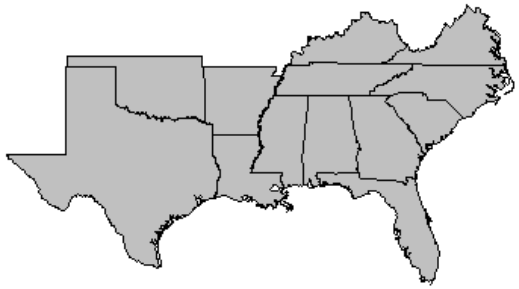
Fruit and seeds. October to May. Clusters of spherical drupes, 0.2 to 0.3 inch (7 to 8 mm). Pale green in late summer ripening to dark blue to black in late winter to spring.

Ecology. Thrive in moist open forests, but adaptable to a range of moisture and soil conditions, including rocky cliffs. Avoids wet areas. Shade tolerance allowing early growth under dense stands, but becoming adapted to higher light levels with maturity. Grow very aggressively once established. Amass on infested trees, decreasing vigor, and increasing chance of windthrow.

Resemble grape (*Vitis* spp.) which has a leaf that is similarly shaped but not thick and often hairy.

Distribution. English ivy found throughout the region with scattered dense infestations in every State. Currently Atlantic and colchis ivies only in NC and SC.

States with suspected infestations are shown in gray.



*For the purposes of this guide, HEHE (*H. helix*), HEHI12 (*H. hibernica*), and HE-CO20 (*H. colchica*) are included in the HEHE group.

Hedera helix **3071**

HEHE

Hedera helix **3071**

HEHE

Hedera helix **3071**

HEHE

Includes: *Hedera helix, H. hibernica*, *H. colchica*
Common names: English ivy, Atlantic ivy, Irish ivy, Colchis ivy, Persian ivy

Hedera helix **3071**

HEHE

Includes: *Hedera helix, H. hibernica*, *H. colchica*
Common names: English ivy, Atlantic ivy, Irish ivy, Colchis ivy, Persian ivy

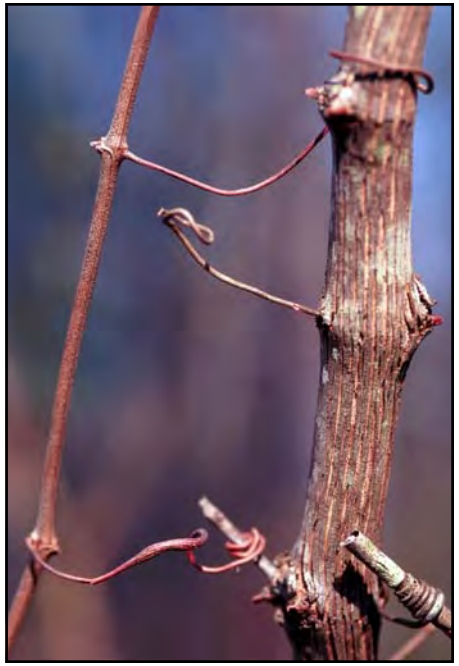
LOOK-A-LIKE

Vitis spp. - grape

Ted Bodner

John Cardina

Rebekah D. Wallace



Hedera helix 3071

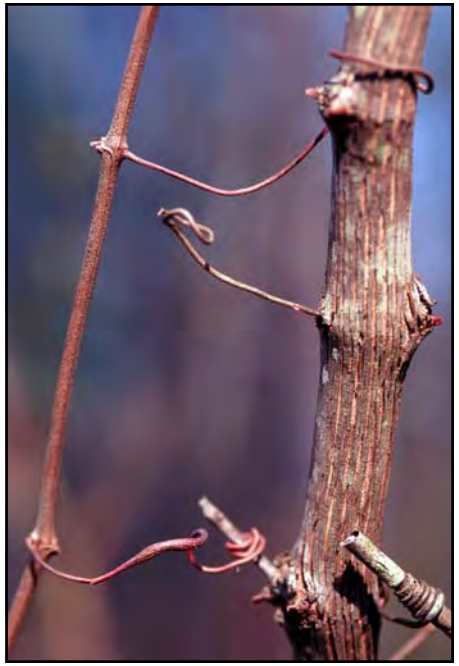
LOOK-A-LIKE

Vitis spp. - grape

Ted Bodner

John Cardina

Rebekah D. Wallace



IMCY

Synonym: *I. cylindrica* var. *major*
Common names: cogongrass, japgrass, speargrass, Japanese blood grass (‘Red Baron’ and other red varieties)

Plant. Aggressive, colony-forming dense perennial grass 1 to 6 feet (30 to 150 cm) in height, often leaning in mats when over 3 feet (90 cm) in height.

Stem (culm). Upright to ascending, stout, not apparent, as hidden by overlapping leaf sheaths that are long hairy or not.

Leaves. Mainly arising from near the base, long lanceolate, 1 to 6 feet (30 to 180 cm) long and 0.5 to 1 inch (12 to 25 mm) wide, shorter upward. Overlapping sheaths, with outer sheaths often long hairy and hair tufts near the throat. Blades flat or cupped inward, bases narrowing, tips sharp and often drooping. Most often yellowish-green. White midvein on upper surface slightly-to-mostly off center (varies in an area). Margins translucent and minutely serrated (rough to touch). Ligule a fringed membrane to 0.04 inch (1.1 mm). Tough to break due to high silica content. Tan colored and persisting after winter dieback.

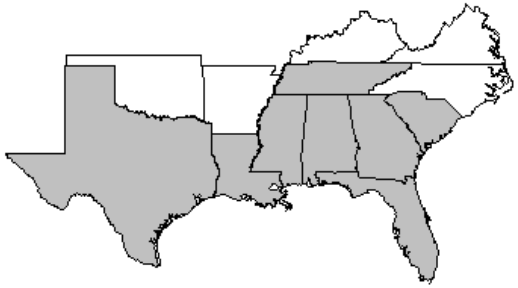
Flowers. February to June and sporadically (or year-round in Florida). Terminal, silky spike-like panicle, 1 to 8 inches (2.5 to 20 cm) long and 0.2 to 1 inch (0.5 to 2.5 cm) wide, cylindrical and tightly branched on a reddish slender stalk. Spikelets paired, each 0.1 to 0.2 inch (3 to 6 mm) long, obscured by tufts of silky silvery-white hairs to 0.07 inch (1.8 mm).

Seeds. May to June. Tiny oblong brown grain, 0.02 to 0.05 inch (0.5 to 1.3 mm) long, released within dense tufts of silvery hairy husks, often in clusters, for wind dispersal. Seeds mature after V-shaped stigma pair at grain tips shrivel and darken.

Ecology. Grows in full sunlight to partial shade, dry to wet soils, and, thus, can invade a range of stands and sites. Often in circular infestations through rapid growth of branching rhizomes that fill friable soils to a depth of 0.6 to 10 feet (0.1 to 3 m) to exclude most other vegetation. Aggressively invades rights-of-way, new forest plantations, open forests, old fields, and pastures. Absent in areas with frequent tillage, but promoted by burning.

Resembles Johnsongrass (*Sorghum halepense*), purpletop (*Tridens flavus*), silver plumegrass (*Saccharum alopecuroides*) and sugarcane plumegrass (*S. giganteum*) —all having a distinct stem and none having an off-center midvein. **Also resembles** longleaf woodoats (*Chasmanthium sessiliflorum*), which lacks off-center midveins and silky flowers, having tufts of spiked flowers and seeds along a slender stalk.

States with suspected infestations are shown in gray.



Imperata cylindrica 4055

IMCY

Synonym: *I. cylindrica* var. *major*
Common names: cogongrass, japgrass, speargrass, Japanese blood grass (‘Red Baron’ and other red varieties)

Plant. Aggressive, colony-forming dense perennial grass 1 to 6 feet (30 to 150 cm) in height, often leaning in mats when over 3 feet (90 cm) in height.

Stem (culm). Upright to ascending, stout, not apparent, as hidden by overlapping leaf sheaths that are long hairy or not.

Leaves. Mainly arising from near the base, long lanceolate, 1 to 6 feet (30 to 180 cm) long and 0.5 to 1 inch (12 to 25 mm) wide, shorter upward. Overlapping sheaths, with outer sheaths often long hairy and hair tufts near the throat. Blades flat or cupped inward, bases narrowing, tips sharp and often drooping. Most often yellowish-green. White midvein on upper surface slightly-to-mostly off center (varies in an area). Margins translucent and minutely serrated (rough to touch). Ligule a fringed membrane to 0.04 inch (1.1 mm). Tough to break due to high silica content. Tan colored and persisting after winter dieback.

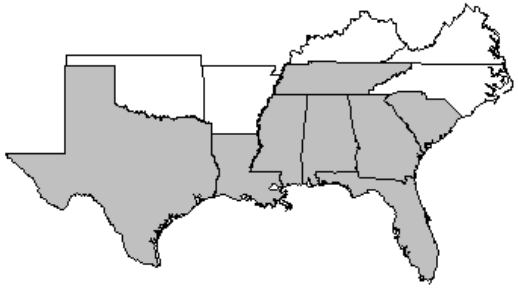
Flowers. February to June and sporadically (or year-round in Florida). Terminal, silky spike-like panicle, 1 to 8 inches (2.5 to 20 cm) long and 0.2 to 1 inch (0.5 to 2.5 cm) wide, cylindrical and tightly branched on a reddish slender stalk. Spikelets paired, each 0.1 to 0.2 inch (3 to 6 mm) long, obscured by tufts of silky silvery-white hairs to 0.07 inch (1.8 mm).

Seeds. May to June. Tiny oblong brown grain, 0.02 to 0.05 inch (0.5 to 1.3 mm) long, released within dense tufts of silvery hairy husks, often in clusters, for wind dispersal. Seeds mature after V-shaped stigma pair at grain tips shrivel and darken.

Ecology. Grows in full sunlight to partial shade, dry to wet soils, and, thus, can invade a range of stands and sites. Often in circular infestations through rapid growth of branching rhizomes that fill friable soils to a depth of 0.6 to 10 feet (0.1 to 3 m) to exclude most other vegetation. Aggressively invades rights-of-way, new forest plantations, open forests, old fields, and pastures. Absent in areas with frequent tillage, but promoted by burning.

Resembles Johnsongrass (*Sorghum halepense*), purpletop (*Tridens flavus*), silver plumegrass (*Saccharum alopecuroides*) and sugarcane plumegrass (*S. giganteum*) —all having a distinct stem and none having an off-center midvein. **Also resembles** longleaf woodoats (*Chasmanthium sessiliflorum*), which lacks off-center midveins and silky flowers, having tufts of spiked flowers and seeds along a slender stalk.

States with suspected infestations are shown in gray.



Imperata cylindrica **4055**

IMCY

Imperata cylindrica **4055**

IMCY

IMCY

Synonym: *I. cylindrica* var. *major*

Common names: cogongrass, japgrass, speargrass, Japanese blood grass ('Red Baron' and other red varieties)

Imperata cylindrica 4055

IMCY

Synonym: *I. cylindrica* var. *major*

Common names: cogongrass, japgrass, speargrass, Japanese blood grass ('Red Baron' and other red varieties)

LOOK-A-LIKES

Sorghum halepense - Johnsongrass

Steve Dewey

Chasmanthium sessiliflorum - long leaf woodoats

Ted Bodner

Tridens flavus - purpletop

Ted Bodner

Imperata cylindrica 4055

LOOK-A-LIKES

Sorghum halepense - Johnsongrass

Steve Dewey

Chasmanthium sessiliflorum - long leaf woodoats

Ted Bodner

Tridens flavus - purpletop

Ted Bodner

LEBI2*

Includes: *Lespedeza bicolor, L. thunbergii*
Common names: shrubby lespedeza, bicolor, Thunberg's lespedeza

Plant. Perennial, erect, and much branched or ascending leguminous shrubs, 3 to 10 feet (1 to 3 m) in height. Stems clustered at the base with Thunberg's and single with bicolor. Dormant brown plants remain upright most of the winter and may sprout at branches in the spring. Species probably hybridize to blur traits.

Stem. Arching branched, upright-to-ascending stems, 0.2 to 0.8 inch (0.5 to 2 cm) in diameter. Thunberg's often purple when young and bicolor often light tan to gray green. Appressed hairy to hairless.

Leaves. Alternate, 3-leaflet leaves. Thunberg's leaflets mostly narrowly elliptic to oblong, 0.8 to 2 inches (2 to 5 cm) long, and shrubby broadly elliptic to oval, 0.8 to 1.2 inches (2 to 3 cm) long, both with a hair-like tip. Lower surfaces lighter green than upper surfaces. Petioles 0.8 to 1.6 inches (2 to 4 cm) long. Stipules narrowly linear, 0.04 to 0.3 inch (1 to 8 mm) long.

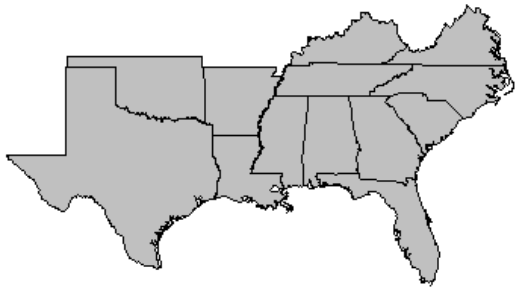
Flowers. June to September. Clusters (racemes) 4 to 6 inches (10 to 15 cm) long growing from upper leaf axils—each cluster subtended by a tiny ovate bract—composed of 2 to 15 well-spaced, pea-like flowers, more drooping in Thunberg's while shrubby are erect and extending beyond leaves. Each flower 0.3 to 0.6 inch (8 to 15 mm) long and beyond the upper leaves. Petals usually rosy purple in center and often grading to lighter shades, but can vary to white (many cultivars). Sepal teeth sharp with the lowest longer than the tube for Thunberg's while rounded and shorter than the tube for shrubby.

Fruit and seeds. August to March. Flat legume pod 0.2 to 0.3 inch (6 to 8 mm) long, broadly elliptic with pointed hair-like tip. Green becoming gray and densely appressed hairy, not splitting. Single seed 0.12 to 0.16 inch (3 to 4 mm) long, black for Thunberg's and mottled purple on green for shrubby.

Ecology. Planted widely in forest openings for wildlife food plots and soil stabilization to later encroach into adjoining stands. Reproduce and spread by abundant seed production even under a medium-to-dense overstory to exclude all other vegetation.

Distribution. Found throughout the region with scattered dense infestations in every State.

States with suspected infestations are shown in gray.



*For the purposes of this guide, both LEBI2 (*L. bicolor*) and LETH4 (*L. thunbergii*) are included in the LEBI2 group.

Lespedeza bicolor 6052

LEBI2*

Includes: *Lespedeza bicolor, L. thunbergii*
Common names: shrubby lespedeza, bicolor, Thunberg's lespedeza

Plant. Perennial, erect, and much branched or ascending leguminous shrubs, 3 to 10 feet (1 to 3 m) in height. Stems clustered at the base with Thunberg's and single with bicolor. Dormant brown plants remain upright most of the winter and may sprout at branches in the spring. Species probably hybridize to blur traits.

Stem. Arching branched, upright-to-ascending stems, 0.2 to 0.8 inch (0.5 to 2 cm) in diameter. Thunberg's often purple when young and bicolor often light tan to gray green. Appressed hairy to hairless.

Leaves. Alternate, 3-leaflet leaves. Thunberg's leaflets mostly narrowly elliptic to oblong, 0.8 to 2 inches (2 to 5 cm) long, and shrubby broadly elliptic to oval, 0.8 to 1.2 inches (2 to 3 cm) long, both with a hair-like tip. Lower surfaces lighter green than upper surfaces. Petioles 0.8 to 1.6 inches (2 to 4 cm) long. Stipules narrowly linear, 0.04 to 0.3 inch (1 to 8 mm) long.

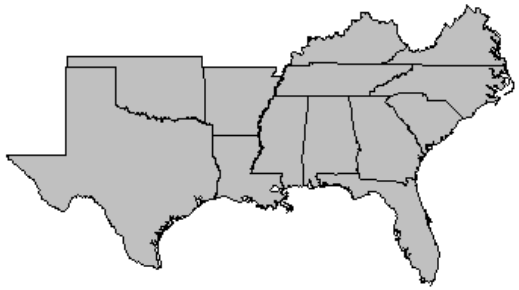
Flowers. June to September. Clusters (racemes) 4 to 6 inches (10 to 15 cm) long growing from upper leaf axils—each cluster subtended by a tiny ovate bract—composed of 2 to 15 well-spaced, pea-like flowers, more drooping in Thunberg's while shrubby are erect and extending beyond leaves. Each flower 0.3 to 0.6 inch (8 to 15 mm) long and beyond the upper leaves. Petals usually rosy purple in center and often grading to lighter shades, but can vary to white (many cultivars). Sepal teeth sharp with the lowest longer than the tube for Thunberg's while rounded and shorter than the tube for shrubby.

Fruit and seeds. August to March. Flat legume pod 0.2 to 0.3 inch (6 to 8 mm) long, broadly elliptic with pointed hair-like tip. Green becoming gray and densely appressed hairy, not splitting. Single seed 0.12 to 0.16 inch (3 to 4 mm) long, black for Thunberg's and mottled purple on green for shrubby.

Ecology. Planted widely in forest openings for wildlife food plots and soil stabilization to later encroach into adjoining stands. Reproduce and spread by abundant seed production even under a medium-to-dense overstory to exclude all other vegetation.

Distribution. Found throughout the region with scattered dense infestations in every State.

States with suspected infestations are shown in gray.



*For the purposes of this guide, both LEBI2 (*L. bicolor*) and LETH4 (*L. thunbergii*) are included in the LEBI2 group.

Lespedeza bicolor **6052**

LEBI2

Lespedeza bicolor **6052**

LEBI2

LEBI2

Includes: *Lespedeza bicolor, L. thunbergii*
Common names: shrubby lespedeza, bicolor, Thunberg's lespedeza

Lespedeza bicolor 6052

LEBI2

Includes: *Lespedeza bicolor, L. thunbergii*
Common names: shrubby lespedeza, bicolor, Thunberg's lespedeza

LOOK-A-LIKES

Desmodium obtusum - stiff ticktrefoil

Desmodium tortuosum - Florida beggarweed

Lespedeza cuneata - Chinese lespedeza

Lespedeza bicolor 6052

LOOK-A-LIKES

Desmodium obtusum - stiff ticktrefoil

Desmodium tortuosum - Florida beggarweed

Lespedeza cuneata - Chinese lespedeza

LECU

Synonym: *L. sericea*
Common names: Chinese lespedeza, sericea lespedeza

Plant. Perennial ascending-to-upright leguminous forb 3 to 6 feet (1 to 2 m) in height, with 1-to-many leafy slender stems often branching at midplant, 3-leaflet leaves, and tiny creamy white flowers. Plant arising from a woody root crown. Dormant brown plants remaining upright during most of the winter.

Stems. Often gray green with lines of hairs along the stem.

Leaves. Alternate, crowded, and numerous, 3-leaflet leaves. Each leaflet oblong to linear with a hair-like tip, 0.4 to 0.8 inch (1 to 2 cm) long and 0.1 to 0.3 inch (3 to 8 mm) wide. Green above and dense whitish hairy to light gray green beneath. Hairy petioles 0.2 to 0.6 inch (5 to 15 mm) long, absent for upper leaves. Stipules narrowly linear.

Flowers. July to September. Clusters of 1 to 3 pea-like flowers crowded in upper leaf axils. Flowers creamy white with purple marks, 0.1 to 0.3 inch (4 to 7 mm) long and shorter than leaves. Hairy 5-lobed calyx shorter than petals.

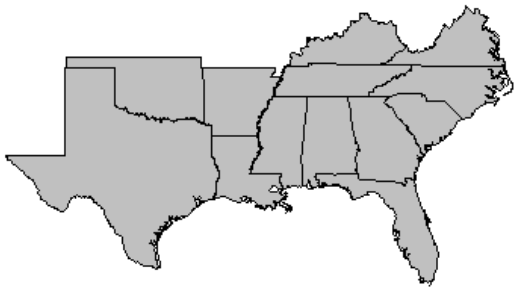
Fruit and seeds. October to March. Flat ovate to round single-seeded legume pod 0.12 to 0.15 inch (3 to 4 mm) wide. Pods clustered in terminal axils, scattered along the stem and clasped by persistent sepals. Green becoming tan with tiny hairs, with 1 yellow-to-tan seed.

Ecology. Occurs in new and older forest openings, dry upland woodlands to moist savannas, old fields, rights-of-way and cities. Flood tolerant. Forms dense stands by stems sprouting from root crowns, preventing forest regeneration and land access. Cross and self-pollinates. Spreads slowly from plantings by seeds that have low germination, but remain viable for decades. Nitrogen fixer.

Resembles slender lespedeza (*L. virginica)*, a native, which grows in tufted clumps instead of infestations, has crowded clusters of pink-purple to violet flowers and somewhat larger leaflets 0.6 to 1.2 inches (1.5 to 3 cm) long, and brown stems. **Also resembles** roundhead lespedeza (*L. capitata*), also native, which has similar leaves and whitish flowers in round-topped clusters.

Distribution. Found throughout the region with frequent and dense infestations in AR, north MS, and southwest TN, KY, northeast NC, northern SC, and central AL and GA. Not reported in the forests of central and south FL.

States with suspected infestations are shown in gray.



Lespedeza cuneata 6053

LECU

Synonym: *L. sericea*
Common names: Chinese lespedeza, sericea lespedeza

Plant. Perennial ascending-to-upright leguminous forb 3 to 6 feet (1 to 2 m) in height, with 1-to-many leafy slender stems often branching at midplant, 3-leaflet leaves, and tiny creamy white flowers. Plant arising from a woody root crown. Dormant brown plants remaining upright during most of the winter.

Stems. Often gray green with lines of hairs along the stem.

Leaves. Alternate, crowded, and numerous, 3-leaflet leaves. Each leaflet oblong to linear with a hair-like tip, 0.4 to 0.8 inch (1 to 2 cm) long and 0.1 to 0.3 inch (3 to 8 mm) wide. Green above and dense whitish hairy to light gray green beneath. Hairy petioles 0.2 to 0.6 inch (5 to 15 mm) long, absent for upper leaves. Stipules narrowly linear.

Flowers. July to September. Clusters of 1 to 3 pea-like flowers crowded in upper leaf axils. Flowers creamy white with purple marks, 0.1 to 0.3 inch (4 to 7 mm) long and shorter than leaves. Hairy 5-lobed calyx shorter than petals.

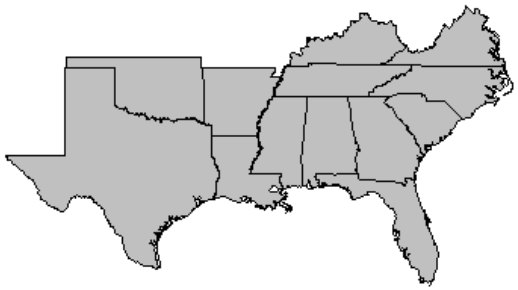
Fruit and seeds. October to March. Flat ovate to round single-seeded legume pod 0.12 to 0.15 inch (3 to 4 mm) wide. Pods clustered in terminal axils, scattered along the stem and clasped by persistent sepals. Green becoming tan with tiny hairs, with 1 yellow-to-tan seed.

Ecology. Occurs in new and older forest openings, dry upland woodlands to moist savannas, old fields, rights-of-way and cities. Flood tolerant. Forms dense stands by stems sprouting from root crowns, preventing forest regeneration and land access. Cross and self-pollinates. Spreads slowly from plantings by seeds that have low germination, but remain viable for decades. Nitrogen fixer.

Resembles slender lespedeza (*L. virginica)*, a native, which grows in tufted clumps instead of infestations, has crowded clusters of pink-purple to violet flowers and somewhat larger leaflets 0.6 to 1.2 inches (1.5 to 3 cm) long, and brown stems. **Also resembles** roundhead lespedeza (*L. capitata*), also native, which has similar leaves and whitish flowers in round-topped clusters.

Distribution. Found throughout the region with frequent and dense infestations in AR, north MS, and southwest TN, KY, northeast NC, northern SC, and central AL and GA. Not reported in the forests of central and south FL.

States with suspected infestations are shown in gray.



Lespedeza cuneata **6053**

LECU

Lespedeza cuneata **6053**

LECU

Lespedeza cuneata **6053**

LECU

Synonym: *L. sericea*
Common names: Chinese lespedeza, sericea lespedeza

Ted Bodner

Lespedeza cuneata **6053**

LECU

Synonym: *L. sericea*
Common names: Chinese lespedeza, sericea lespedeza

Ted Bodner

LOOK-A-LIKES

Lespedeza virginica - slender lespedeza

Ted Bodner

Ted Bodner

Lespedeza capitata - roundhead lespedeza

Chris Evans

Lespedeza cuneata 6053

LOOK-A-LIKES

Lespedeza virginica - slender lespedeza

Ted Bodner

Ted Bodner

Lespedeza capitata - roundhead lespedeza

Chris Evans

LIJA*

Includes: *Ligustrum japonicum, L. lucidum*
Common names: Japanese privet, glossy privet

Plant. Opposite, thick-leaved evergreens to 35 feet (10 m) in height, with spreading crowns, conical clusters of white flowers in spring, and green to purple-black fruit in summer to following spring.

Stem. Twigs hairless and pale green becoming brown reddish tinged. Branches opposite and brownish gray with many raised corky dots (lenticels). Bark light gray and smooth except for scattered horizontal, discontinuous ridges.

Leaves. Opposite, leathery, ovate to oblong, bases rounded and tips blunt or tapering, often with a tiny sharp tip. Two to 4 inches (5 to 10 cm) long and 1 to 2 inches (2.5 to 5 cm) wide. Margins entire and often yellowish rimmed, turned upward with glossy privet and slightly rolled under with Japanese privet. Upper blades lustrous dark green with 6 to 8 pairs of light-green veins with glossy privet and 4 to 6 pairs of indistinct veins that protrude slightly from light green lower surfaces with Japanese privet. Petioles 0.4 to 0.8 inch (1 to 2 cm) long and often reddish tinged for glossy privet and 0.2 to 0.4 inch (6 to 12 mm) long and light green for Japanese privet.

Flowers. April to June. Loosely branching, terminal and upper-axillary, conical clusters of many small white 4-petaled flowers. Fragrant.

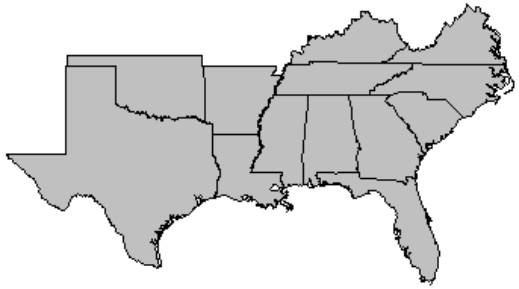
Fruit and seeds. July to February. Conical-shaped, branched terminal clusters of ovoid drupes, each 0.2 to 0.5 inch (5 to 12 mm) long and 0.2 inch (5 mm) wide. Pale green in summer ripening to blue black in winter.

Ecology. Single plants or thicket-forming. Invades both lowland and upland habitats, but usually more prevalent in lowlands. Shade tolerant. Colonizes by root sprouts and spread by abundant bird- and animal-dispersed seeds.

***Resembles** Chinese privet (*L. sinense*), which has smaller and thinner leaves and is further described in this guide as **LISI**. Also resembles red tip or photinia (*Photinia* spp.). and Carolina laurelcherry (*Prunus caroliniana*), which have similar evergreen, but alternate, leaves with finely toothed margins.

Distribution. Found in dense infestations and as scattered escaped plants throughout the region.

States with suspected infestations are shown in gray.



*For the purposes of this guide LIJA (*L. japonicum*) and LILU2 (*L. lucidum*) are both included in the LIJA group.

Ligustrum japonicum 2104

LIJA*

Includes: *Ligustrum japonicum, L. lucidum*
Common names: Japanese privet, glossy privet

Plant. Opposite, thick-leaved evergreens to 35 feet (10 m) in height, with spreading crowns, conical clusters of white flowers in spring, and green to purple-black fruit in summer to following spring.

Stem. Twigs hairless and pale green becoming brown reddish tinged. Branches opposite and brownish gray with many raised corky dots (lenticels). Bark light gray and smooth except for scattered horizontal, discontinuous ridges.

Leaves. Opposite, leathery, ovate to oblong, bases rounded and tips blunt or tapering, often with a tiny sharp tip. Two to 4 inches (5 to 10 cm) long and 1 to 2 inches (2.5 to 5 cm) wide. Margins entire and often yellowish rimmed, turned upward with glossy privet and slightly rolled under with Japanese privet. Upper blades lustrous dark green with 6 to 8 pairs of light-green veins with glossy privet and 4 to 6 pairs of indistinct veins that protrude slightly from light green lower surfaces with Japanese privet. Petioles 0.4 to 0.8 inch (1 to 2 cm) long and often reddish tinged for glossy privet and 0.2 to 0.4 inch (6 to 12 mm) long and light green for Japanese privet.

Flowers. April to June. Loosely branching, terminal and upper-axillary, conical clusters of many small white 4-petaled flowers. Fragrant.

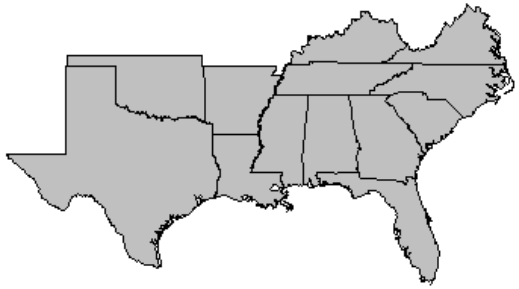
Fruit and seeds. July to February. Conical-shaped, branched terminal clusters of ovoid drupes, each 0.2 to 0.5 inch (5 to 12 mm) long and 0.2 inch (5 mm) wide. Pale green in summer ripening to blue black in winter.

Ecology. Single plants or thicket-forming. Invades both lowland and upland habitats, but usually more prevalent in lowlands. Shade tolerant. Colonizes by root sprouts and spread by abundant bird- and animal-dispersed seeds.

***Resembles** Chinese privet (*L. sinense*), which has smaller and thinner leaves and is further described in this guide as **LISI**. Also resembles red tip or photinia (*Photinia* spp.). and Carolina laurelcherry (*Prunus caroliniana*), which have similar evergreen, but alternate, leaves with finely toothed margins.

Distribution. Found in dense infestations and as scattered escaped plants throughout the region.

States with suspected infestations are shown in gray.



*For the purposes of this guide LIJA (*L. japonicum*) and LILU2 (*L. lucidum*) are both included in the LIJA group.

Ligustrum japonicum **2104**

LIJA

Ted Bodner

Ligustrum japonicum **2104**

LIJA

Ted Bodner

Ligustrum japonicum **2104**

LIJA

Includes: *Ligustrum japonicum, L. lucidum*
Common names: Japanese privet, glossy privet

Ligustrum japonicum **2104**

LIJA

Includes: *Ligustrum japonicum, L. lucidum*
Common names: Japanese privet, glossy privet

LOOK-A-LIKES

Ligustrum sinense - Chinese privet

Ted Bodner

Prunus caroliniana - Carolina laurelcherry

Carl Dennis

Chris Evans

Ligustrum japonicum 2104

LOOK-A-LIKES

Ligustrum sinense - Chinese privet

Ted Bodner

Prunus caroliniana - Carolina laurelcherry

Carl Dennis

Chris Evans

LISI*

Includes: *Ligustrum sinense, L. vulgare, L. obtusifolium, L. ovalifolium*
Common names: Chinese privet, European privet, Border privet, California privet

Plant. Thin, opposite-leaved, evergreen, thicket-forming shrubs to 30 feet (9 m) in height that are multiple stemmed and leaning to arching with long, leafy branches. Much used as border shrubs. **Caution: Fruit is poisonous.**

Stem. Opposite, long slender branching that increases upward with shorter twigs projecting outward at near right angles. Brownish gray turning gray green and hairy or not with light dots (lenticels). Leaf scars semicircular with 1 bundle scar. Bark light gray to brownish gray and slightly rough (not fissured).

Leaves. Thin and opposite in 2 rows at near right angle to stem. Chinese and European: ovate to elliptic with rounded tip, 0.8 to 1.6 inches (2 to 4 cm) long and 0.4 to 1.2 inches (1 to 3 cm) wide, hairless beneath. Lustrous green above and pale green beneath with Chinese having a hairy midvein beneath. Border: elliptic-oblong, 1 to 2.2 inches (2.5 to 6 cm) long and 0.3 to 1 inch (0.8 to 2.5 cm) wide, hairless green above and hairy beneath. California: oval to elliptic with wedge-shaped base, 1.2 to 2.4 inches (3 to 6 cm) long and half as wide, lustrous green above and yellow green beneath and hairless. Margins entire. Petioles 0.04 to 0.2 inch (1 to 5 mm) long. Leaves usually persistent during winter, while California privet is deciduous northward.

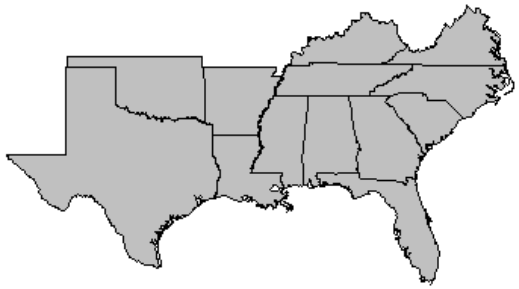
Flowers. April to June. Abundant, terminal and upper axillary clusters on short branches forming panicles of white to cream flowers. Corolla 4-lobed, to 0.6 inch (1.8 cm) long, with stamens extending or within the corolla.

Fruit and seeds. July to March. Dense ovoid drupes hanging or projecting outward, 0.2 to 0.3 inch (6 to 8 mm) long and 0.16 inch (4 mm) wide, containing 1 to 4 seeds. Pale green in summer ripening to dark purple and appearing almost black in winter.

Ecology. Aggressive, often forming dense thickets, particularly in bottomland forests and along fencerows, thus gaining access to forests, fields, and rights-of-way. Shade tolerant.

***Resemble** Japanese privet (*L. japonicum*) and glossy privet (*L. lucidum*), which have larger leaves and are further described in this guide as **LIJA**. Also resemble native swamp privet (*Forestiera* spp.), which have leaves on short twigs, sparse axillary flowers, and few fruit.

States with suspected infestations are shown in gray.



*For the purposes of this guide LISI (*L. sinense*), LIVU (*L. vulgare*), LIOB (*L. obtusifolium*) and LIOV (*L. ovalifolium*), are included in the LISI group.

Ligustrum sinense 2103

LISI*

Includes: *Ligustrum sinense, L. vulgare, L. obtusifolium, L. ovalifolium*
Common names: Chinese privet, European privet, Border privet, California privet

Plant. Thin, opposite-leaved, evergreen, thicket-forming shrubs to 30 feet (9 m) in height that are multiple stemmed and leaning to arching with long, leafy branches. Much used as border shrubs. **Caution: Fruit is poisonous.**

Stem. Opposite, long slender branching that increases upward with shorter twigs projecting outward at near right angles. Brownish gray turning gray green and hairy or not with light dots (lenticels). Leaf scars semicircular with 1 bundle scar. Bark light gray to brownish gray and slightly rough (not fissured).

Leaves. Thin and opposite in 2 rows at near right angle to stem. Chinese and European: ovate to elliptic with rounded tip, 0.8 to 1.6 inches (2 to 4 cm) long and 0.4 to 1.2 inches (1 to 3 cm) wide, hairless beneath. Lustrous green above and pale green beneath with Chinese having a hairy midvein beneath. Border: elliptic-oblong, 1 to 2.2 inches (2.5 to 6 cm) long and 0.3 to 1 inch (0.8 to 2.5 cm) wide, hairless green above and hairy beneath. California: oval to elliptic with wedge-shaped base, 1.2 to 2.4 inches (3 to 6 cm) long and half as wide, lustrous green above and yellow green beneath and hairless. Margins entire. Petioles 0.04 to 0.2 inch (1 to 5 mm) long. Leaves usually persistent during winter, while California privet is deciduous northward.

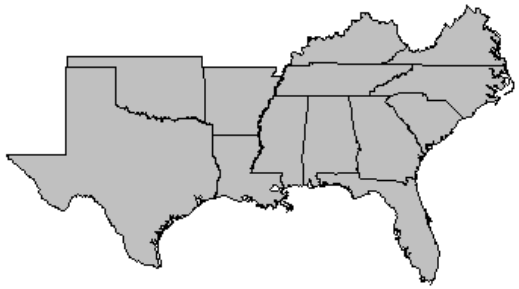
Flowers. April to June. Abundant, terminal and upper axillary clusters on short branches forming panicles of white to cream flowers. Corolla 4-lobed, to 0.6 inch (1.8 cm) long, with stamens extending or within the corolla.

Fruit and seeds. July to March. Dense ovoid drupes hanging or projecting outward, 0.2 to 0.3 inch (6 to 8 mm) long and 0.16 inch (4 mm) wide, containing 1 to 4 seeds. Pale green in summer ripening to dark purple and appearing almost black in winter.

Ecology. Aggressive, often forming dense thickets, particularly in bottomland forests and along fencerows, thus gaining access to forests, fields, and rights-of-way. Shade tolerant.

***Resemble** Japanese privet (*L. japonicum*) and glossy privet (*L. lucidum*), which have larger leaves and are further described in this guide as **LIJA**. Also resemble native swamp privet (*Forestiera* spp.), which have leaves on short twigs, sparse axillary flowers, and few fruit.

States with suspected infestations are shown in gray.



*For the purposes of this guide LISI (*L. sinense*), LIVU (*L. vulgare*), LIOB (*L. obtusifolium*) and LIOV (*L. ovalifolium*), are included in the LISI group.

LISI

Ted Bodner

Chinese privet shown in all photos

Ligustrum sinense 2103

LISI

Ted Bodner

Chinese privet shown in all photos

LISI

Includes: *Ligustrum sinense, L. vulgare, L. obtusifolium, L. ovalifolium*
Common names: Chinese privet, European privet, Border privet, California privet

Ted Bodner

Chinese privet shown in all photos

Ligustrum sinense 2103

LISI

Includes: *Ligustrum sinense, L. vulgare, L. obtusifolium, L. ovalifolium*
Common names: Chinese privet, European privet, Border privet, California privet

Ted Bodner

Chinese privet shown in all photos

LOOK-A-LIKES

Glossy privet

Glossy privet

Glossy privet

Japanese privet

Ligustrum sinense 2103

LOOK-A-LIKES

Glossy privet

Glossy privet

Glossy privet

Japanese privet

LOJA

Common name: Japanese honeysuckle

Plant. Semi-evergreen to evergreen woody vine, high climbing and trailing to 80 feet (24 m) long, branching and often forming spotty to extensive arbors in lower and upper forest canopies and/or ground cover under canopies and in new forests, rooting at nodes along leaf-covered vines (stolons).

Stem. Slender woody vine becoming stout to 2 inches (5 cm) in diameter, with cross-section round and opposite branching. Brown and hairy becoming tan barked, fissured, and sloughing with age. Rooting at low nodes.

Leaves. Opposite, broadly ovate to elliptic to oblong, base rounded, tips blunt pointed to round. Length 1.6 to 2.6 inches (4 to 6.5 cm) and width 0.8 to 1.5 inches (2 to 4 cm). Margins entire but often lobed in early spring. Both surfaces smooth to rough hairy, with undersurface appearing whitish.

Flowers. April to August. Axillary pairs, each 0.8 to 1.2 inches (2 to 3 cm) long, on a bracted stalk. White (or pink) and pale yellow. Fragrant. Thin tubular, flaring into 5 lobes in 2 lips (upper lip 4 lobed and lower lip single lobed), with the longest lobes roughly equal to the tube. Five stamens and 1 pistil, all projecting outward and becoming curved. Persistent sepals.

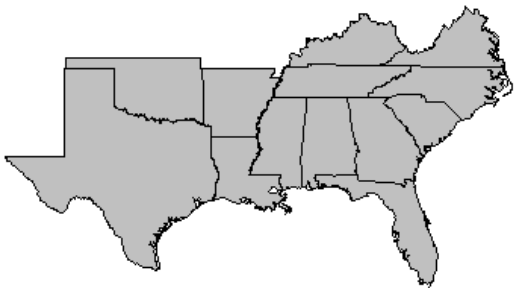
Fruit and seeds. June to March. Nearly spherical, green ripening to black, glossy berry 0.2 inch (5 to 6 mm) on stalks 0.4 to 1.2 inches (1 to 3 cm) long. Two to three seeds.

Ecology. Most commonly occurring invasive plant in the South, overwhelming and replacing native flora in all forest types over a wide range of sites or occurring as scattered plants. Often coexisting with other invasive plants. Occurs as dense infestations along forest margins and rights-of-way as well as under dense canopies and as arbors high in canopies. Shade tolerant.

Resembles yellow jessamine (*Gelsemium sempervirens*), which has narrower leaves and hairless stems. **Also resembles** native honeysuckles (*Lonicera* spp.) that usually have reddish hairless stems and hairless leaves and do not form extensive infestations.

Distribution. The most pervasive invasive plant throughout the region with the most frequent and dense infestations in east-central AL and a sizeable number in central MS and TN, as well as northwest SC.

States with suspected infestations are shown in gray.



Lonicera japonica 3101

LOJA

Common name: Japanese honeysuckle

Plant. Semi-evergreen to evergreen woody vine, high climbing and trailing to 80 feet (24 m) long, branching and often forming spotty to extensive arbors in lower and upper forest canopies and/or ground cover under canopies and in new forests, rooting at nodes along leaf-covered vines (stolons).

Stem. Slender woody vine becoming stout to 2 inches (5 cm) in diameter, with cross-section round and opposite branching. Brown and hairy becoming tan barked, fissured, and sloughing with age. Rooting at low nodes.

Leaves. Opposite, broadly ovate to elliptic to oblong, base rounded, tips blunt pointed to round. Length 1.6 to 2.6 inches (4 to 6.5 cm) and width 0.8 to 1.5 inches (2 to 4 cm). Margins entire but often lobed in early spring. Both surfaces smooth to rough hairy, with undersurface appearing whitish.

Flowers. April to August. Axillary pairs, each 0.8 to 1.2 inches (2 to 3 cm) long, on a bracted stalk. White (or pink) and pale yellow. Fragrant. Thin tubular, flaring into 5 lobes in 2 lips (upper lip 4 lobed and lower lip single lobed), with the longest lobes roughly equal to the tube. Five stamens and 1 pistil, all projecting outward and becoming curved. Persistent sepals.

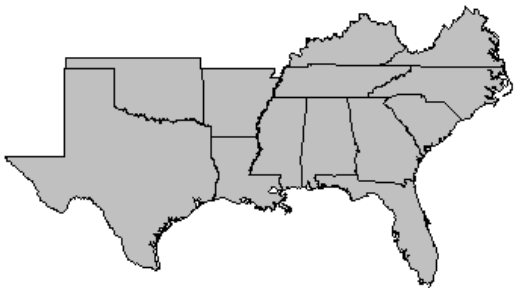
Fruit and seeds. June to March. Nearly spherical, green ripening to black, glossy berry 0.2 inch (5 to 6 mm) on stalks 0.4 to 1.2 inches (1 to 3 cm) long. Two to three seeds.

Ecology. Most commonly occurring invasive plant in the South, overwhelming and replacing native flora in all forest types over a wide range of sites or occurring as scattered plants. Often coexisting with other invasive plants. Occurs as dense infestations along forest margins and rights-of-way as well as under dense canopies and as arbors high in canopies. Shade tolerant.

Resembles yellow jessamine (*Gelsemium sempervirens*), which has narrower leaves and hairless stems. **Also resembles** native honeysuckles (*Lonicera* spp.) that usually have reddish hairless stems and hairless leaves and do not form extensive infestations.

Distribution. The most pervasive invasive plant throughout the region with the most frequent and dense infestations in east-central AL and a sizeable number in central MS and TN, as well as northwest SC.

States with suspected infestations are shown in gray.



Lonicera japonica **3101**

LOJA

Ted Bodner

Lonicera japonica **3101**

LOJA

Ted Bodner

LOJA

Common name: Japanese honeysuckle

Ted Bodner

Lonicera japonica 3101

LOJA

Common name: Japanese honeysuckle

Ted Bodner

LOOK-A-LIKES

Gelsemium sempervirens - yellow jessamine

Ted Bodner

Ted Bodner

Lonicera sempervirens - trumpet honeysuckle

David J. Moorhead

Lonicera japonica 3101

LOOK-A-LIKES

Gelsemium sempervirens - yellow jessamine

Ted Bodner

Ted Bodner

Lonicera sempervirens - trumpet honeysuckle

David J. Moorhead

LOTA*

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

Plant. Upright, arching-branched shrubs to small trees, 5 to 30 feet (1.5 to 9 m) in height. Much branched and arching in openings, multiple stemmed, dark-green opposite leaves, showy white to pink or yellow flowers, and abundant orange to red berries.

Stem. Opposite branched, light tan with braided-strand appearance. Bark often flaking. Older branches hollow.

Leaves. Opposite in 2 rows, ovate to oblong with rounded bases, 1.2 to 4 inches (3 to 10 cm) long. Persistent into winter. Margins entire. Amur tapering to a long slender tip; Bell's to a medium tapering tip; and others with short pointed tips. Morrow's with wrinkled upper surface and both Amur and Bell's soft-hairy lower surface, others with hairless leaves. Petioles 0.1 to 0.4 inch (2.5 to 10 mm) long.

Flowers. February to June. Axillary, bracted short-stemmed clusters, each with 1 to several white to yellow (some pink to red) flowers. Petals tubular flaring to 5 lobes in 2 lips (upper lip 4-lobed, lower lip single-lobed). Five extended stamens. Fragrant.

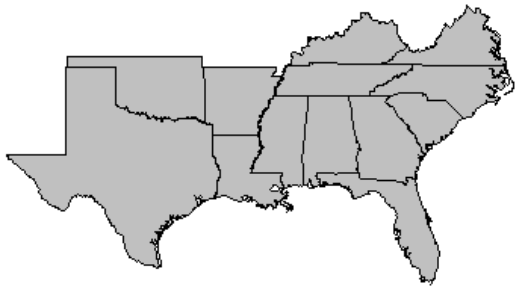
Fruit and seeds. June to March. Abundant spherical, glossy berries paired in leaf axils, each 0.2 to 0.5 inch (6 to 12 mm). Green becoming pink and ripening to red (sometimes yellow or orange). Usually persistent into winter and sometimes spring.

Ecology. Often forms dense thickets in open forests, forest edges, abandoned fields, pastures, roadsides, and other open upland habitats. Shade tolerant.

Resemble the woody vine, Japanese honeysuckle (*L. japonica*) as far as leaves and flowers. **Also resemble** the native shrub American fly honeysuckle (*L. canadensis*), which has hairy-margined leaves, blue fruit, and is found at high elevation in mountains. **Also resemble** the native bush honeysuckles (*Diervilla* spp.), which have similar leaves but terminal flowers in cymes and capsules for fruit.

Distribution. Found throughout the region with dense infestations in KY, TN, central VA, and north AR.

States with suspected infestations are shown in gray.



*For the purposes of this guide LOTA (*L. tartarica*), LOMA6 (*L. maackii*), LOMO2 (*L. morrowii*), LOFR (*L. fragrantissima*), and LOBE (*L. x bella*) are included in the LOTA group.

Lonicera tartarica 2105

LOTA*

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

Plant. Upright, arching-branched shrubs to small trees, 5 to 30 feet (1.5 to 9 m) in height. Much branched and arching in openings, multiple stemmed, dark-green opposite leaves, showy white to pink or yellow flowers, and abundant orange to red berries.

Stem. Opposite branched, light tan with braided-strand appearance. Bark often flaking. Older branches hollow.

Leaves. Opposite in 2 rows, ovate to oblong with rounded bases, 1.2 to 4 inches (3 to 10 cm) long. Persistent into winter. Margins entire. Amur tapering to a long slender tip; Bell's to a medium tapering tip; and others with short pointed tips. Morrow's with wrinkled upper surface and both Amur and Bell's soft-hairy lower surface, others with hairless leaves. Petioles 0.1 to 0.4 inch (2.5 to 10 mm) long.

Flowers. February to June. Axillary, bracted short-stemmed clusters, each with 1 to several white to yellow (some pink to red) flowers. Petals tubular flaring to 5 lobes in 2 lips (upper lip 4-lobed, lower lip single-lobed). Five extended stamens. Fragrant.

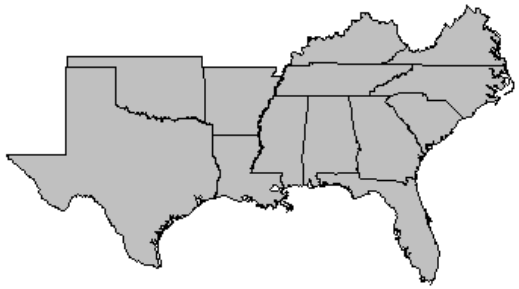
Fruit and seeds. June to March. Abundant spherical, glossy berries paired in leaf axils, each 0.2 to 0.5 inch (6 to 12 mm). Green becoming pink and ripening to red (sometimes yellow or orange). Usually persistent into winter and sometimes spring.

Ecology. Often forms dense thickets in open forests, forest edges, abandoned fields, pastures, roadsides, and other open upland habitats. Shade tolerant.

Resemble the woody vine, Japanese honeysuckle (*L. japonica*) as far as leaves and flowers. **Also resemble** the native shrub American fly honeysuckle (*L. canadensis*), which has hairy-margined leaves, blue fruit, and is found at high elevation in mountains. **Also resemble** the native bush honeysuckles (*Diervilla* spp.), which have similar leaves but terminal flowers in cymes and capsules for fruit.

Distribution. Found throughout the region with dense infestations in KY, TN, central VA, and north AR.

States with suspected infestations are shown in gray.



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LOTA

Warner Park

John Schwegman

Amur honeysuckle shown in all photos

Lonicera tartarica 2105

LOTA

Warner Park

John Schwegman

Amur honeysuckle shown in all photos

LOTA

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

Amur honeysuckle

Warner Park

Lonicera tartarica 2105

LOTA

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

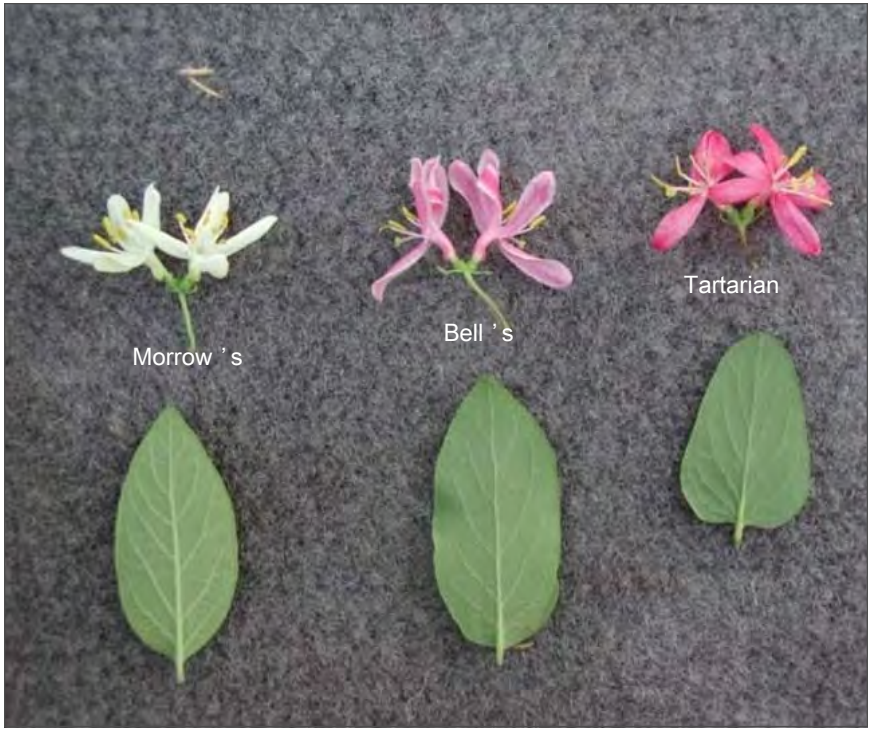
Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

Amur honeysuckle

Warner Park

LOTA

Leslie J. Mehrhoff

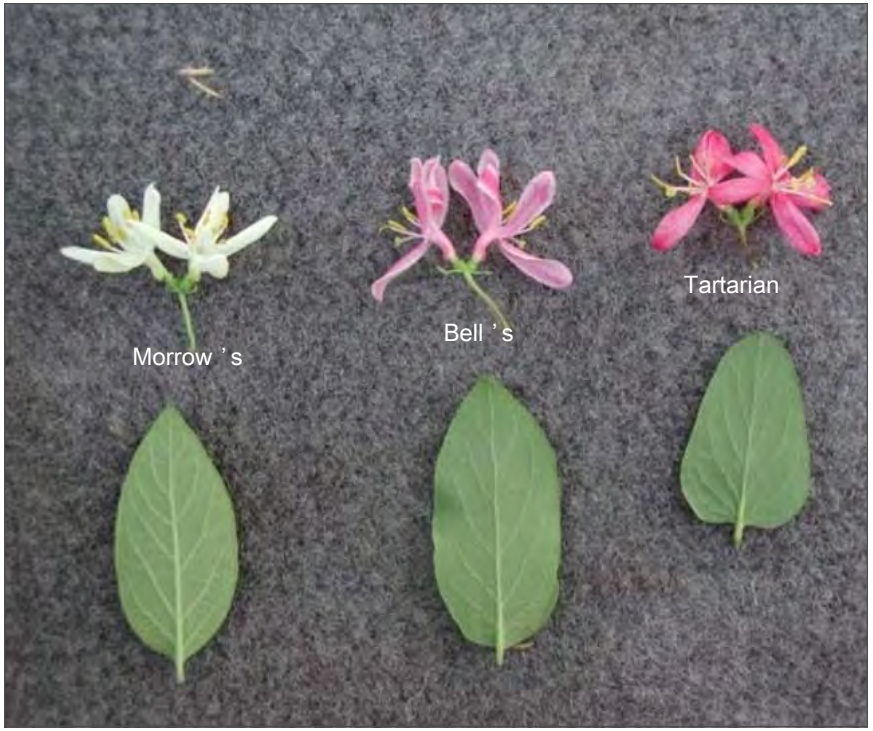


Leslie J. Mehrhoff

Lonicera tartarica 2105

LOTA

Leslie J. Mehrhoff



Leslie J. Mehrhoff

LOTA

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

Lonicera tartarica 2105

LOTA

Includes: *Lonicera tatarica, L. maackii, L. morrowii, L. fragrantissima, L. x bella*

Common names: Tatarian honeysuckle, Amur honeysuckle, Morrow's honeysuckle, sweet-breath-of-spring, Bell's honeysuckle

LOOK-A-LIKES

Lonicera japonica - Japanese honeysuckle

Ted Bodner

Lonicera sempervirens - trumpet honeysuckle

David J. Moorhead

Lonicera tartarica 2105

LOOK-A-LIKES

Lonicera japonica - Japanese honeysuckle

Ted Bodner

Lonicera sempervirens - trumpet honeysuckle

David J. Moorhead

LYJA

Common name: Japanese climbing fern

Plant. Perennial viney fern, climbing and twining, to 90 feet (30 m) long, with lacy finely divided fronds along green to orange to black wiry vines or rachis, often forming infestations of shrub- and tree-covering mats. Tan-brown fronds persisting in winter, while others remain green in FL and in sheltered places further north. Vines arising as branches (long compound leaves) from underground, widely creeping rhizomes that are slender, dark brown, and wiry.

Stem (rachis). Slender but difficult to break, twining and climbing, wiry. Green to straw colored or reddish. Mostly deciduous in late winter except in south FL.

Leaves (fronds or pinnae). Opposite on vine, compound, once or twice divided, varying in appearance according to the number of divisions, generally triangular in outline. Three to 6 inches (8 to 15 cm) long and 2 to 3 inches (5 to 8 cm) wide. Highly dissected leaflets, appearing lacy, especially fertile ones. Light green turning tan to dark brown in winter.

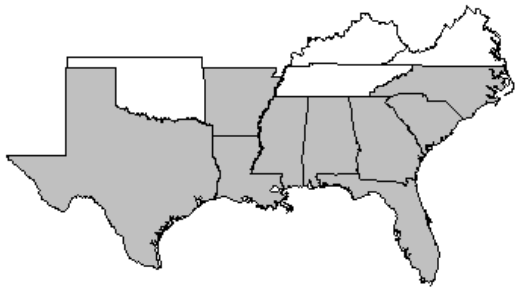
Flowers (sporangia). Fertile fronds have smaller segmented fingerlike projections around the margins, bearing sporangia (spore producing dots) in double rows under margins.

Seeds. Late summer to fall (year-round in south FL). Tiny, wind-dispersed spores.

Ecology. Occurs along highway rights-of-way, especially under and around bridges, invading into open forests, forest road edges, and stream and swamp margins. Scattered in open timber stands and plantations, but can increase in cover to form mats, especially after burns, smothering shrubs and trees. Dies back in late winter in the more northern areas, with dead vines providing a trellis for reestablishment.

Resembles Old World climbing fern (*L. microphyllum*) and American climbing fern (*L. palmatum*) which is distinguished by 5 to 7 palmately lobed, fingerlike fronds. American climbing fern—a native occurring in swamps, streambeds, and ravines—does not spread beyond small areas to form extensive infestations. Old World climbing fern, also introduced, is a major invasive pest in mid- to southern FL and projected to migrate northward.

States with suspected infestations are shown in gray.



Lygodium japonicum 5171

LYJA

Common name: Japanese climbing fern

Plant. Perennial viney fern, climbing and twining, to 90 feet (30 m) long, with lacy finely divided fronds along green to orange to black wiry vines or rachis, often forming infestations of shrub- and tree-covering mats. Tan-brown fronds persisting in winter, while others remain green in FL and in sheltered places further north. Vines arising as branches (long compound leaves) from underground, widely creeping rhizomes that are slender, dark brown, and wiry.

Stem (rachis). Slender but difficult to break, twining and climbing, wiry. Green to straw colored or reddish. Mostly deciduous in late winter except in south FL.

Leaves (fronds or pinnae). Opposite on vine, compound, once or twice divided, varying in appearance according to the number of divisions, generally triangular in outline. Three to 6 inches (8 to 15 cm) long and 2 to 3 inches (5 to 8 cm) wide. Highly dissected leaflets, appearing lacy, especially fertile ones. Light green turning tan to dark brown in winter.

Flowers (sporangia). Fertile fronds have smaller segmented fingerlike projections around the margins, bearing sporangia (spore producing dots) in double rows under margins.

Seeds. Late summer to fall (year-round in south FL). Tiny, wind-dispersed spores.

Ecology. Occurs along highway rights-of-way, especially under and around bridges, invading into open forests, forest road edges, and stream and swamp margins. Scattered in open timber stands and plantations, but can increase in cover to form mats, especially after burns, smothering shrubs and trees. Dies back in late winter in the more northern areas, with dead vines providing a trellis for reestablishment.

Resembles Old World climbing fern (*L. microphyllum*) and American climbing fern (*L. palmatum*) which is distinguished by 5 to 7 palmately lobed, fingerlike fronds. American climbing fern—a native occurring in swamps, streambeds, and ravines—does not spread beyond small areas to form extensive infestations. Old World climbing fern, also introduced, is a major invasive pest in mid- to southern FL and projected to migrate northward.

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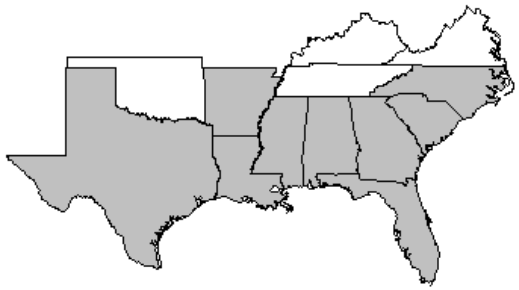


LYJA

Nancy Loewenstein

Chris Evans

Ted Bodner

Lygodium japonicum 5171

LYJA

Nancy Loewenstein

Chris Evans

Ted Bodner

Lygodium japonicum **5171**

LYJA

Common name: Japanese climbing fern

Lygodium japonicum **5171**

LYJA

Common name: Japanese climbing fern

LOOK-A-LIKES

Lygodium microphyllum - old world climbing fern

Amy Ferriter

Lygodium palmatum - American climbing fern

Troy Evans

Lygodium japonicum 5171

LOOK-A-LIKES

Lygodium microphyllum - old world climbing fern

Amy Ferriter

Lygodium palmatum - American climbing fern

Troy Evans

MEAZ

Common names: Persian lilac, pride-of-India, chinaberry

Plant. Deciduous tree to 50 feet (15 m) in height and 2 feet (60 cm) in diameter, much branched with multiple boles, lacy dark green leaves having a musky odor, and clusters of lavender flowers in spring yielding persistent, yellow berries. Common on roadsides, fencerows, at forest margins, and around old homesites, but rare at high elevations. **Caution: Fruit (berries) is poisonous.**

Stem. Twigs stout, glossy greenish brown with light dots (lenticels). No terminal bud. Numerous broad, V-shaped, raised leaf scars with 3 bundle scars below a domed fuzzy bud. Bark dark brown and becoming increasingly fissured with age. Wood soft and white.

Leaves. Alternate spiraled, bipinnately compound, 1 to 2 feet (30 to 60 cm) long and 9 to 16 inches (23 to 40 cm) wide. Leafstalk lime green with base slightly clasping stem. Each leaflet lanceolate with tapering tips, 1 to 3 inches (2.5 to 8 cm) long and 0.5 to 1.2 inches (1.2 to 3 cm) wide. Margins varying from entire to coarsely crenate to serrate and wavy. Glossy dark green with light-green midvein above and pale green with lighter green midvein beneath, becoming golden yellow in fall.

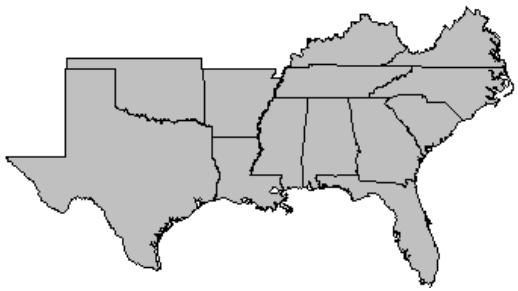
Flowers. March to May. Showy panicles from lower axils of new stems. Five pinkish-lavender to whitish petals, stamens united in dark-purple tube. Five green sepals. Fragrant.

Fruit and seeds. July to January. Berrylike spherical drupe 0.5 to 0.7 inch (1.2 to 1.8 cm) wide persisting through winter and containing a stone with 1 to 6 seeds. Light green turning yellowish green then yellowish tan. Poisonous to humans and livestock.

Resembles common elderberry (*Sambucus nigra* ssp. *canadensis)*, a spreading crowned shrub with once pinnately compound leaves having leaflets with finely serrate margins and green to dark-purple berries in flat-topped clusters. **Also resembles** trumpet creeper (*Campsis radicans*), a woody vine with once pinnately compound leaves.

Distribution. Found throughout the region with the most frequent forest infestations in east TX; west LA; south to central MS, AL, GA, and SC; and north FL.

States with suspected infestations are shown in gray.



Melia azedarach 0993

MEAZ

Common names: Persian lilac, pride-of-India, chinaberry

Plant. Deciduous tree to 50 feet (15 m) in height and 2 feet (60 cm) in diameter, much branched with multiple boles, lacy dark green leaves having a musky odor, and clusters of lavender flowers in spring yielding persistent, yellow berries. Common on roadsides, fencerows, at forest margins, and around old homesites, but rare at high elevations. **Caution: Fruit (berries) is poisonous.**

Stem. Twigs stout, glossy greenish brown with light dots (lenticels). No terminal bud. Numerous broad, V-shaped, raised leaf scars with 3 bundle scars below a domed fuzzy bud. Bark dark brown and becoming increasingly fissured with age. Wood soft and white.

Leaves. Alternate spiraled, bipinnately compound, 1 to 2 feet (30 to 60 cm) long and 9 to 16 inches (23 to 40 cm) wide. Leafstalk lime green with base slightly clasping stem. Each leaflet lanceolate with tapering tips, 1 to 3 inches (2.5 to 8 cm) long and 0.5 to 1.2 inches (1.2 to 3 cm) wide. Margins varying from entire to coarsely crenate to serrate and wavy. Glossy dark green with light-green midvein above and pale green with lighter green midvein beneath, becoming golden yellow in fall.

Flowers. March to May. Showy panicles from lower axils of new stems. Five pinkish-lavender to whitish petals, stamens united in dark-purple tube. Five green sepals. Fragrant.

Fruit and seeds. July to January. Berrylike spherical drupe 0.5 to 0.7 inch (1.2 to 1.8 cm) wide persisting through winter and containing a stone with 1 to 6 seeds. Light green turning yellowish green then yellowish tan. Poisonous to humans and livestock.

Resembles common elderberry (*Sambucus nigra* ssp. *canadensis)*, a spreading crowned shrub with once pinnately compound leaves having leaflets with finely serrate margins and green to dark-purple berries in flat-topped clusters. **Also resembles** trumpet creeper (*Campsis radicans*), a woody vine with once pinnately compound leaves.

Distribution. Found throughout the region with the most frequent forest infestations in east TX; west LA; south to central MS, AL, GA, and SC; and north FL.

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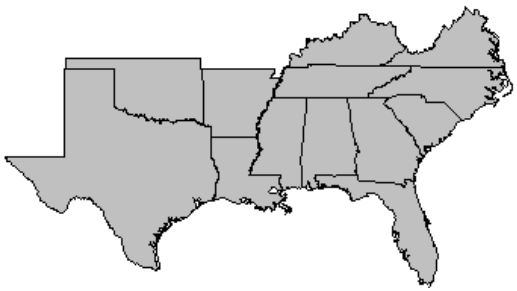


Melia azedarach **0993**

MEAZ

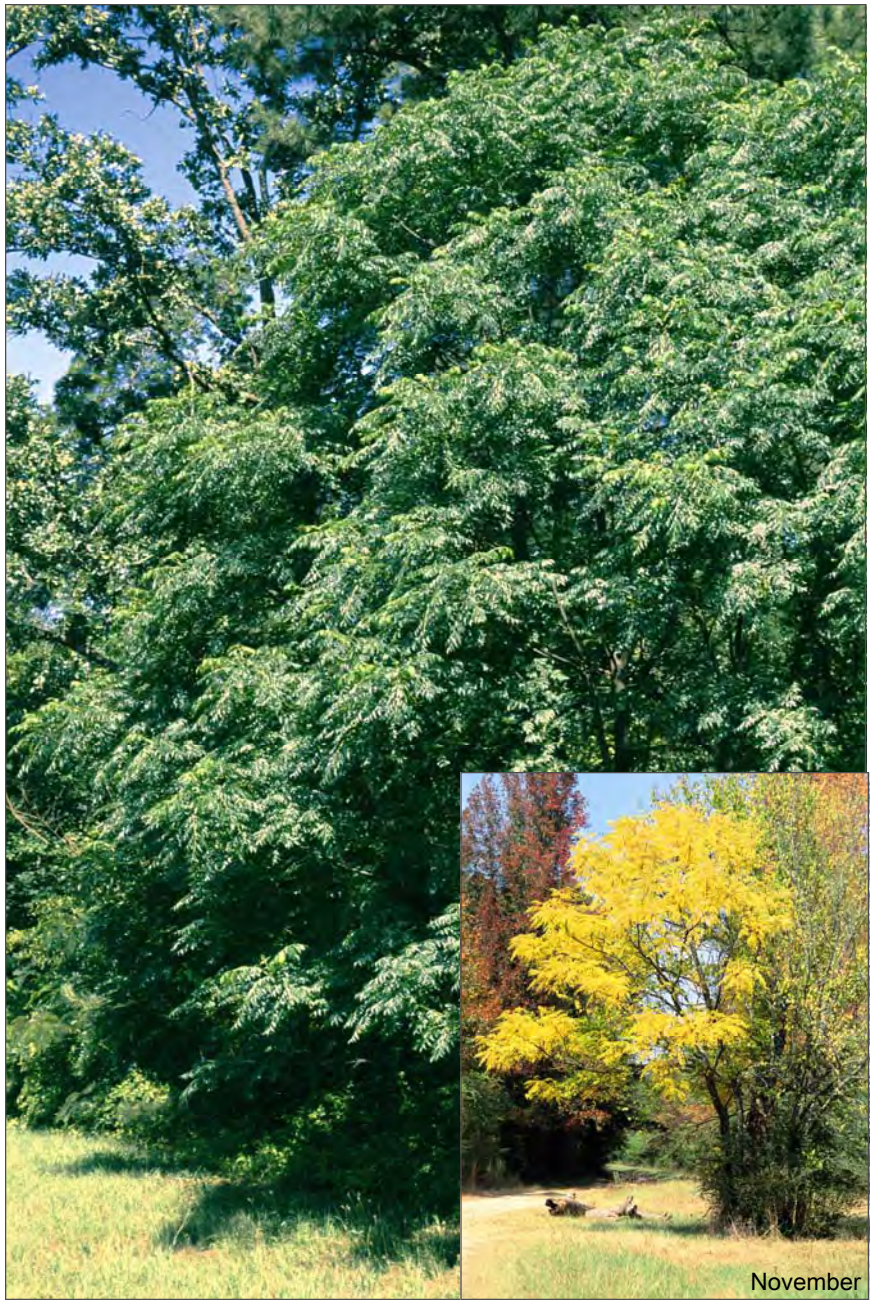
Melia azedarach **0993**

MEAZ

Melia azedarach **0993**

MEAZ

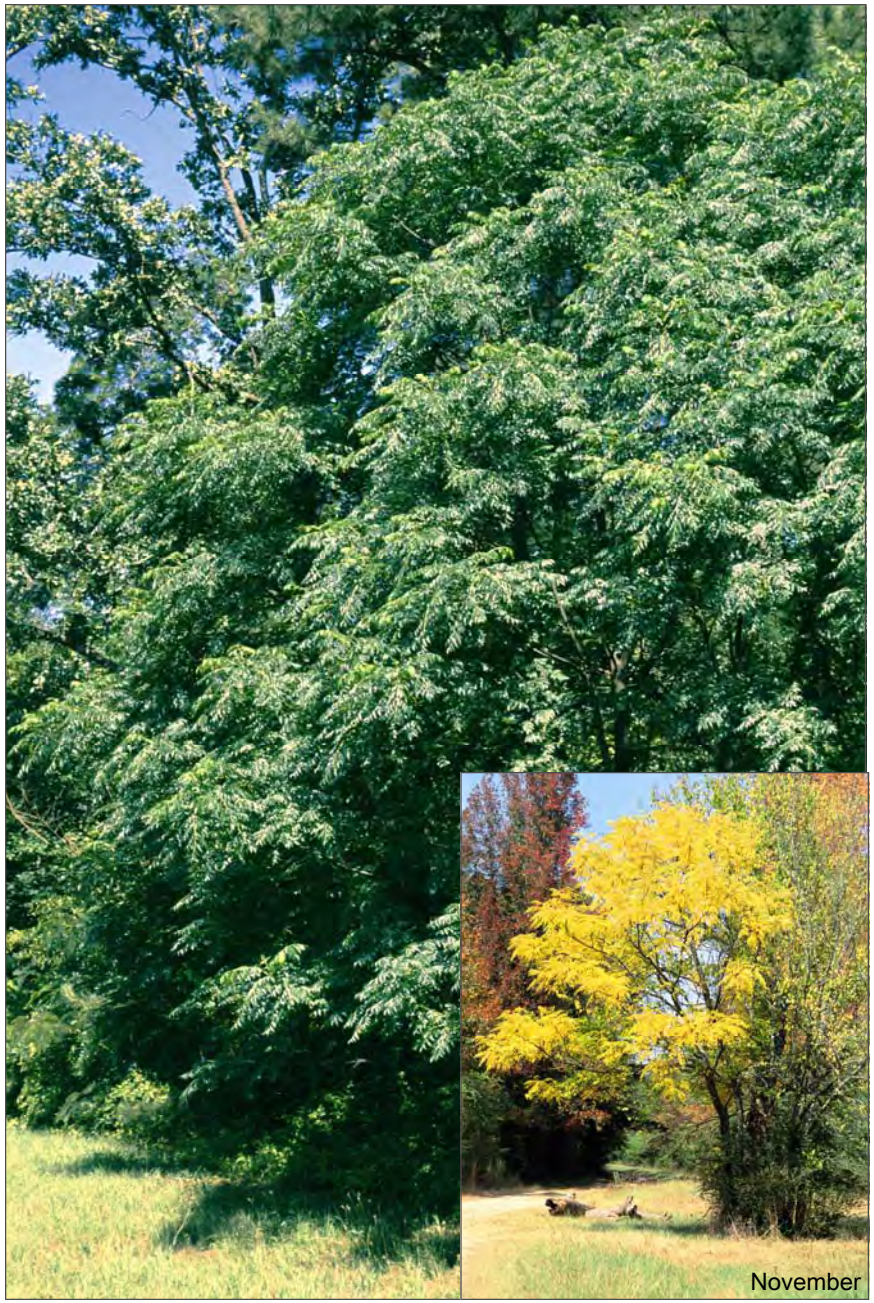
Common names: Persian lilac, pride-of-India, chinaberry



Melia azedarach **0993**

MEAZ

Common names: Persian lilac, pride-of-India, chinaberry



LOOK-A-LIKES

Sambucus nigra ssp. *canadensis* - common elderberry

Richard Webb

Gerard J. Lenhard

John Cardina

Campsis radicans - trumpet creeper

Ted Bodner

John Cardina

Melia azedarach 0993

LOOK-A-LIKES

Sambucus nigra ssp. *canadensis* - common elderberry

Richard Webb

Gerard J. Lenhard

John Cardina

Campsis radicans - trumpet creeper

Ted Bodner

John Cardina

MISI

Common name: Chinese silvergrass

Plant. Tall, densely bunched, perennial grass, 5 to 10 feet (1.5 to 3 m) in height. Long-slender upright-to-arching leaves with whitish upper midveins. Many loosely plumed panicles in late summer. Dried grass standing with some seed heads during winter. Seed viability variable depending on cultivar.

Stem (culm). Upright-to-arching, unbranched originating in tufts from base. Covered with overlapping leaf sheaths until stem appears with flower plume in late summer.

Leaves. Alternate, long linear, upright-to-arching (persisting and curly tipped when dried) to 40 inches (1 m) long and < 0.8 inch (2 cm) wide. Blades green to variegated (light green striped) with whitish collars. Midvein white above and green ridged beneath. Tufted hairs at throat, sheath margins, and ligule, but otherwise hairless. Margins rough.

Flowers. August to November. Terminal, plumed panicles, much branched and drooping, 4 to 15 inches (10 to 38 cm) long and 2 to 8 inches (5 to 20 cm) wide. Silvery to pinkish, showiest in fall. Stalk appressed-rough hairy.

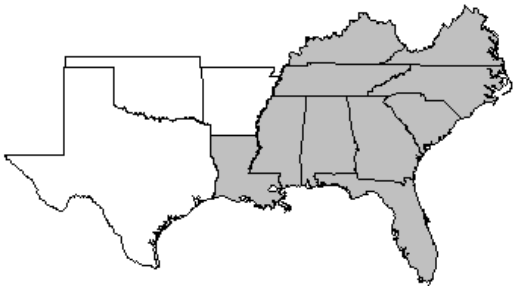
Seeds. September to January. Grain hidden, husks membranous, yellowish brown to slightly reddish, sparsely hairy, with twisted tip.

Ecology. Forms extensive infestations by escaping from older ornamental plantings to roadsides, forest margins, rights-of-way and adjacent disturbed sites, especially after burning. Shade tolerant.

Resembles giant reed (*Arundo donax*), which has wide corn-like leaves jutting from a central stalk and is described in this book. **Also resembles** Uruguayan pampas grass (*Cortaderia selloana*), another nonnative invasive grass and also commonly planted as an ornamental, which is usually larger in size with a tighter plume branched from a central stalk. **Also resembles** common reed (*Phragmites australis*), which has a similar large hairy seed head, but fanned in a loose plume and not erect, and which occurs mainly near swamps, marshes, and other wet habitats. **Also resembles** the native sugarcane plumegrass (*Saccharum giganteum*) but its leaves are mainly on the lower stem and do not have a distinctive white midvein.

Distribution. Found in scattered dense infestations in NC, west KY, south VA, east TN, and south GA with occasional infestations elsewhere throughout the region except TX, OK, and AR.

States with suspected infestations are shown in gray.



Miscanthus sinensis 4085

MISI

Common name: Chinese silvergrass

Plant. Tall, densely bunched, perennial grass, 5 to 10 feet (1.5 to 3 m) in height. Long-slender upright-to-arching leaves with whitish upper midveins. Many loosely plumed panicles in late summer. Dried grass standing with some seed heads during winter. Seed viability variable depending on cultivar.

Stem (culm). Upright-to-arching, unbranched originating in tufts from base. Covered with overlapping leaf sheaths until stem appears with flower plume in late summer.

Leaves. Alternate, long linear, upright-to-arching (persisting and curly tipped when dried) to 40 inches (1 m) long and < 0.8 inch (2 cm) wide. Blades green to variegated (light green striped) with whitish collars. Midvein white above and green ridged beneath. Tufted hairs at throat, sheath margins, and ligule, but otherwise hairless. Margins rough.

Flowers. August to November. Terminal, plumed panicles, much branched and drooping, 4 to 15 inches (10 to 38 cm) long and 2 to 8 inches (5 to 20 cm) wide. Silvery to pinkish, showiest in fall. Stalk appressed-rough hairy.

Seeds. September to January. Grain hidden, husks membranous, yellowish brown to slightly reddish, sparsely hairy, with twisted tip.

Ecology. Forms extensive infestations by escaping from older ornamental plantings to roadsides, forest margins, rights-of-way and adjacent disturbed sites, especially after burning. Shade tolerant.

Resembles giant reed (*Arundo donax*), which has wide corn-like leaves jutting from a central stalk and is described in this book. **Also resembles** Uruguayan pampas grass (*Cortaderia selloana*), another nonnative invasive grass and also commonly planted as an ornamental, which is usually larger in size with a tighter plume branched from a central stalk. **Also resembles** common reed (*Phragmites australis*), which has a similar large hairy seed head, but fanned in a loose plume and not erect, and which occurs mainly near swamps, marshes, and other wet habitats. **Also resembles** the native sugarcane plumegrass (*Saccharum giganteum*) but its leaves are mainly on the lower stem and do not have a distinctive white midvein.

Distribution. Found in scattered dense infestations in NC, west KY, south VA, east TN, and south GA with occasional infestations elsewhere throughout the region except TX, OK, and AR.

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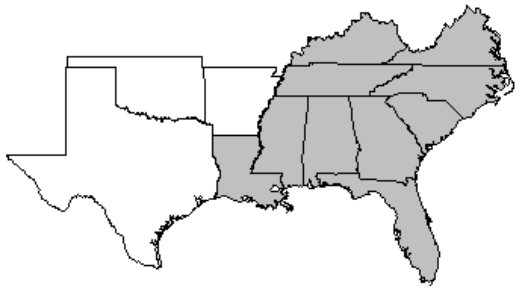


MISI

Miscanthus sinensis 4085

MISI

MISI

Common name: Chinese silvergrass

Miscanthus sinensis 4085

MISI

Common name: Chinese silvergrass

LOOK-A-LIKES

Arundo donax - giant reed

Cortaderia selloana - Uruguayan pampas grass

The Nature Conservancy Archive

Saccharun giganteum - sugarcane plumegrass

Phragmites australis - common reed

Miscanthus sinensis 4085

LOOK-A-LIKES

Arundo donax - giant reed

Cortaderia selloana - Uruguayan pampas grass

The Nature Conservancy Archive

Saccharun giganteum - sugarcane plumegrass

Phragmites australis - common reed

MIVI

Common names: Nepalese browntop, Japanese stiltgrass, Mary's grass, basketgrass, microstegium

Plant. Sprawling, annual grass, 0.5 to 3 feet (15 to 90 cm) in height. Forms dense and extensive infestations. Dried whitish-tan grass may remain standing or matted in early winter.

Stem (culm). Ascending to reclining, slender and wiry, up to 4 feet (120 cm) long, with alternate branching. Covered by overlapping sheaths with hairless nodes and internodes. Green to purple to brown. Aerial rootlets descend from lower nodes.

Leaves. Alternate (none basal), lanceolate to oblanceolate, 2 to 4 inches (5 to 10 cm) long and 0.07 to 0.6 inch (2 to 15 mm) wide. Blades flat, sparsely hairy on both surfaces and along margins. Midvein whitish and off center. Throat collar hairy. Ligule membranous with a hairy margin.

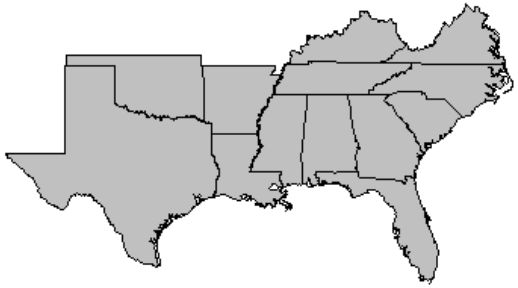
Flowers. July to October. Terminal, thin and spike-like raceme, to 3 inches (8 cm) long. Unbranched or with 1 to 3 lateral branches on an elongated wiry stem. Other thin racemes of self-pollinating flowers enclosed or slightly extending from lower leaf sheaths and flower/seeding before terminal racemes. Spikelets paired, with the outer stemmed and inner sessile.

Seeds. August to December. Husked grain, seed head thin, grain ellipsoid, 0.1 inch (2.8 to 3 mm) long, with terminal seedstalks partially remaining during early winter.

Ecology. Flourishes on alluvial floodplains and streamsides, mostly colonizing flood-scoured banks. Also common at forest edges, roadsides, and trailsides as well as damp fields, swamps, lawns, and along ditches. Very shade tolerant. Spreads on trails and recreational areas by seeds hitchhiking on hikers' and visitors' shoes and clothes.

Resembles nonnative crabgrass (*Digitaria* spp.) and native nimblewill (*Muhlenbergia schreberi*), both having broad short leaves, but distinguished from Nepalese browntop by branching seed heads and stout stems. **Also resembles** whitegrass (*Leersia virginica*), which is a native perennial with flat, compressed seed heads. **Also resembles** wavyleaf basketgrass (*O. hirtellus* ssp. *undulatifolius*) (nonnative invasive) and basketgrass (*Oplismenus hirtellus*) (native), which form dense stands of similar appearance in similar habitats, but have wavy leaves and widely branching seed heads.

States with suspected infestations are shown in gray.



Microstegium vimineum 4080

MIVI

Common names: Nepalese browntop, Japanese stiltgrass, Mary's grass, basketgrass, microstegium

Plant. Sprawling, annual grass, 0.5 to 3 feet (15 to 90 cm) in height. Forms dense and extensive infestations. Dried whitish-tan grass may remain standing or matted in early winter.

Stem (culm). Ascending to reclining, slender and wiry, up to 4 feet (120 cm) long, with alternate branching. Covered by overlapping sheaths with hairless nodes and internodes. Green to purple to brown. Aerial rootlets descend from lower nodes.

Leaves. Alternate (none basal), lanceolate to oblanceolate, 2 to 4 inches (5 to 10 cm) long and 0.07 to 0.6 inch (2 to 15 mm) wide. Blades flat, sparsely hairy on both surfaces and along margins. Midvein whitish and off center. Throat collar hairy. Ligule membranous with a hairy margin.

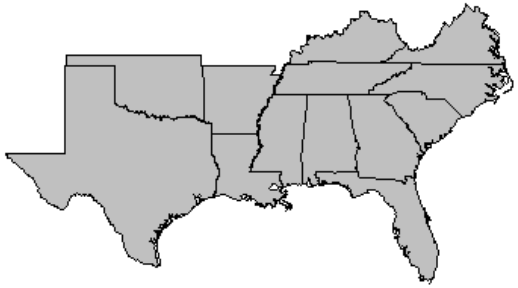
Flowers. July to October. Terminal, thin and spike-like raceme, to 3 inches (8 cm) long. Unbranched or with 1 to 3 lateral branches on an elongated wiry stem. Other thin racemes of self-pollinating flowers enclosed or slightly extending from lower leaf sheaths and flower/seeding before terminal racemes. Spikelets paired, with the outer stemmed and inner sessile.

Seeds. August to December. Husked grain, seed head thin, grain ellipsoid, 0.1 inch (2.8 to 3 mm) long, with terminal seedstalks partially remaining during early winter.

Ecology. Flourishes on alluvial floodplains and streamsides, mostly colonizing flood-scoured banks. Also common at forest edges, roadsides, and trailsides as well as damp fields, swamps, lawns, and along ditches. Very shade tolerant. Spreads on trails and recreational areas by seeds hitchhiking on hikers' and visitors' shoes and clothes.

Resembles nonnative crabgrass (*Digitaria* spp.) and native nimblewill (*Muhlenbergia schreberi*), both having broad short leaves, but distinguished from Nepalese browntop by branching seed heads and stout stems. **Also resembles** whitegrass (*Leersia virginica*), which is a native perennial with flat, compressed seed heads. **Also resembles** wavyleaf basketgrass (*O. hirtellus* ssp. *undulatifolius*) (nonnative invasive) and basketgrass (*Oplismenus hirtellus*) (native), which form dense stands of similar appearance in similar habitats, but have wavy leaves and widely branching seed heads.

States with suspected infestations are shown in gray.



Microstegium vimineum **4080**

MIVI

Chris Oswalt

Ted Bodner

Ted Bodner

Microstegium vimineum **4080**

MIVI

Chris Oswalt

Ted Bodner

Ted Bodner

Microstegium vimineum **4080**

MIVI

Common names: Nepalese browntop, Japanese stiltgrass, Mary's grass, basketgrass, microstegium

Danielle Zimmerman

Chris Evans

Microstegium vimineum **4080**

MIVI

Common names: Nepalese browntop, Japanese stiltgrass, Mary's grass, basketgrass, microstegium

Danielle Zimmerman

Chris Evans

LOOK-A-LIKES

Dichanthelium strigosum var. *leucoblepharis* - roughhair rosette grass

Richard Old

Richard Old

Oplismenus hirtellus ssp. *undulatifolius* - wavyleaf basketgrass

Kerrie L. Kyde

Kerrie L. Kyde

Microstegium vimineum 4080

LOOK-A-LIKES

Dichanthelium strigosum var. *leucoblepharis* - roughhair rosette grass

Richard Old

Richard Old

Oplismenus hirtellus ssp. *undulatifolius* - wavyleaf basketgrass

Kerrie L. Kyde

Kerrie L. Kyde

NADO

Common names: sacred bamboo, heavenly bamboo

Plant. Evergreen erect shrub to 8 feet (2.5 m) in height, with multiple bushy stems that resemble bamboo, glossy bipinnately compound green (or reddish) leaves, and bright-red berries in fall and winter.

Stem. Large compound leaves resembling leafy branches with overlapping sheaths clasping the main stem, woody leafstalk bases persisting as stubby branches. Stubby branches whorled alternately up the stem and tightly stacked near terminals for a given year's growth. The overlapping sheaths on the main stem give the appearance of bamboo (thus, the common name). Stem fleshy and greenish gray near terminal, becoming woody barked and tan to brown with fissures towards the base. Wood bright yellow.

Leaves. Alternate spiraled, at branch tips, bipinnately compound on 1.5 to 3 feet (0.5 to 1 m) long slender, often reddish tinged leafstalks, with joints distinctly segmented. Leafstalk bases clasping stems with a v-notch on the opposite side of attachment. Nine to 81 nearly sessile leaflets, lanceolate to diamond shaped, 0.5 to 4 inches (1.2 to 10 cm) long and 0.4 to 1.2 inches (1 to 3 cm) wide. Glossy light green to dark green sometimes red tinged or burgundy.

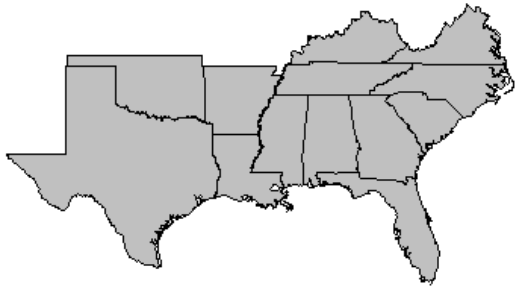
Flowers. May to July. Terminal (or axillary) panicles of several hundred flowers, 4 to 10 inches (10 to 25 cm) long. Pink in bud, opening to 3 (2 to 4) lanceolate deciduous petals, white to cream, with yellow anthers 0.2 to 0.3 inch (6 to 8 mm) long. Fragrant.

Fruit and seeds. September to April. Dense terminal and axillary clusters of fleshy, spherical berries 0.2 to 0.3 inch (6 to 8 mm). Light green ripening to bright red in winter. Two hemispherical seeds.

Ecology. Occurs under forest canopies and near forest edges. Shade tolerant. Seedlings frequent in vicinity of old plantings. Colonizes by root sprouts and spreads by animal-dispersed seeds.

Distribution. Found throughout the region with dense infestations in TN and LA. Mostly occurs in the north and west portions of the region and spreading southeast.

States with suspected infestations are shown in gray.



Nandina domestica 2113

NADO

Common names: sacred bamboo, heavenly bamboo

Plant. Evergreen erect shrub to 8 feet (2.5 m) in height, with multiple bushy stems that resemble bamboo, glossy bipinnately compound green (or reddish) leaves, and bright-red berries in fall and winter.

Stem. Large compound leaves resembling leafy branches with overlapping sheaths clasping the main stem, woody leafstalk bases persisting as stubby branches. Stubby branches whorled alternately up the stem and tightly stacked near terminals for a given year's growth. The overlapping sheaths on the main stem give the appearance of bamboo (thus, the common name). Stem fleshy and greenish gray near terminal, becoming woody barked and tan to brown with fissures towards the base. Wood bright yellow.

Leaves. Alternate spiraled, at branch tips, bipinnately compound on 1.5 to 3 feet (0.5 to 1 m) long slender, often reddish tinged leafstalks, with joints distinctly segmented. Leafstalk bases clasping stems with a v-notch on the opposite side of attachment. Nine to 81 nearly sessile leaflets, lanceolate to diamond shaped, 0.5 to 4 inches (1.2 to 10 cm) long and 0.4 to 1.2 inches (1 to 3 cm) wide. Glossy light green to dark green sometimes red tinged or burgundy.

Flowers. May to July. Terminal (or axillary) panicles of several hundred flowers, 4 to 10 inches (10 to 25 cm) long. Pink in bud, opening to 3 (2 to 4) lanceolate deciduous petals, white to cream, with yellow anthers 0.2 to 0.3 inch (6 to 8 mm) long. Fragrant.

Fruit and seeds. September to April. Dense terminal and axillary clusters of fleshy, spherical berries 0.2 to 0.3 inch (6 to 8 mm). Light green ripening to bright red in winter. Two hemispherical seeds.

Ecology. Occurs under forest canopies and near forest edges. Shade tolerant. Seedlings frequent in vicinity of old plantings. Colonizes by root sprouts and spreads by animal-dispersed seeds.

Distribution. Found throughout the region with dense infestations in TN and LA. Mostly occurs in the north and west portions of the region and spreading southeast.

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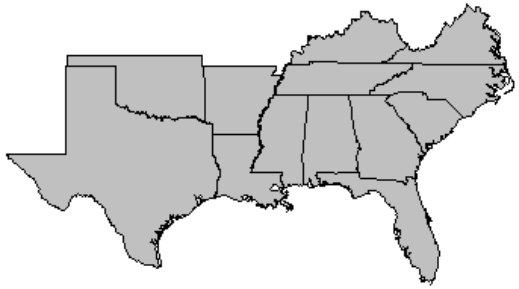


Nandina domestica

NADO

Lewis Zimmerman

Nandina domestica

NADO

Lewis Zimmerman

NADO

Common names: sacred bamboo, heavenly bamboo

Nandina domestica 2113

NADO

Common names: sacred bamboo, heavenly bamboo

NADO

Common names: sacred bamboo, heavenly bamboo

Forest and Kim Starr

Nandina domestica 2113

NADO

Common names: sacred bamboo, heavenly bamboo

Forest and Kim Starr

PATO2

Synonym: *P. imperialis*
Common names: princesstree, royal empresstree, royal paulownia

Plant. Deciduous tree to 60 feet (18 m) in height and 2 feet (60 cm) in diameter with large heart-shaped leaves, fuzzy hairy on both sides, showy pale-violet flowers in early spring before leaves, and persistent pecan-shaped capsules in terminal clusters in summer to winter. Abundant flower buds present on erect stalks over winter.

Stem. Twigs and branches stout, glossy gray brown and speckled with numerous white dots (lenticels). No terminal bud. Lateral leaf scars raised, circular, and becoming larger, dark, and sunken. Bark light-to-dark gray, roughened, and becoming slightly fissured. Stem pith chambered or hollow and wood white.

Leaves. Opposite, heart shaped and fuzzy hairy on both surfaces, 6 to 12 inches (15 to 30 cm) long and 5 to 9 inches (13 to 23 cm) wide. Leaves larger on resprouts, 16 to 20 inches (40 to 50 cm) across, with extra tips often extending from the end of veins. Petioles rough hairy, 2 to 8 inches (5 to 20 cm) long.

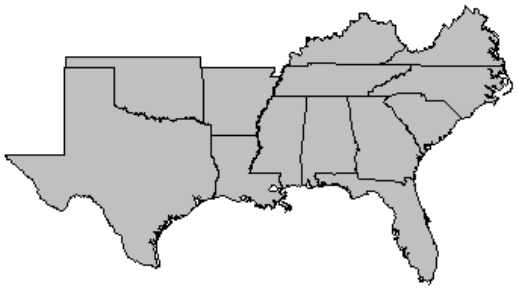
Flowers. April to May. Covered with showy erect panicles of pale-violet flowers before leaves in early spring, tubular with 5 unequal lobes. Fragrant. Flower buds fuzzy, linear, becoming ovoid in summer, and persistent on erect stalks over winter.

Fruit and seeds. June to April. Terminal clusters of pecan-shaped capsules 1 to 2 inches (2.5 to 5 cm) long and 0.6 to 1 inch (1.5 to 2.5 cm) wide. Pale green in summer turning tan and eventually black in winter and persistent into spring. Capsules split in half during late winter, each releasing thousands of tiny winged seeds.

Ecology. Common around old homes, roadsides, riparian areas, and forest margins in infested areas. Infrequently planted in plantations. In the mountains, seed can be dispersed up to 2 miles (3 km). Invades after fire, harvesting, and other disturbances. Forms colonies from root sprouts.

Resembles southern catalpa (*Catalpa bignonioides*) and northern catalpa (*C. speciosa*) which have leaves with sparsely hairy upper surfaces and rough hairy lower surfaces and long slender, persistent fruit.

States with suspected infestations are shown in gray.



Paulownia tomentosa 0712

PATO2

Synonym: *P. imperialis*
Common names: princesstree, royal empresstree, royal paulownia

Plant. Deciduous tree to 60 feet (18 m) in height and 2 feet (60 cm) in diameter with large heart-shaped leaves, fuzzy hairy on both sides, showy pale-violet flowers in early spring before leaves, and persistent pecan-shaped capsules in terminal clusters in summer to winter. Abundant flower buds present on erect stalks over winter.

Stem. Twigs and branches stout, glossy gray brown and speckled with numerous white dots (lenticels). No terminal bud. Lateral leaf scars raised, circular, and becoming larger, dark, and sunken. Bark light-to-dark gray, roughened, and becoming slightly fissured. Stem pith chambered or hollow and wood white.

Leaves. Opposite, heart shaped and fuzzy hairy on both surfaces, 6 to 12 inches (15 to 30 cm) long and 5 to 9 inches (13 to 23 cm) wide. Leaves larger on resprouts, 16 to 20 inches (40 to 50 cm) across, with extra tips often extending from the end of veins. Petioles rough hairy, 2 to 8 inches (5 to 20 cm) long.

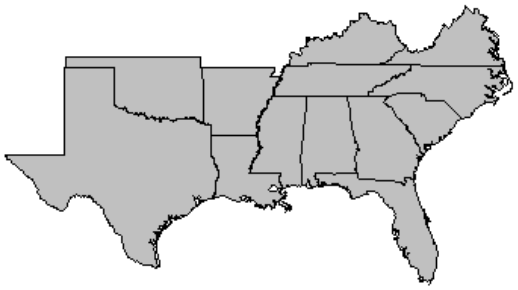
Flowers. April to May. Covered with showy erect panicles of pale-violet flowers before leaves in early spring, tubular with 5 unequal lobes. Fragrant. Flower buds fuzzy, linear, becoming ovoid in summer, and persistent on erect stalks over winter.

Fruit and seeds. June to April. Terminal clusters of pecan-shaped capsules 1 to 2 inches (2.5 to 5 cm) long and 0.6 to 1 inch (1.5 to 2.5 cm) wide. Pale green in summer turning tan and eventually black in winter and persistent into spring. Capsules split in half during late winter, each releasing thousands of tiny winged seeds.

Ecology. Common around old homes, roadsides, riparian areas, and forest margins in infested areas. Infrequently planted in plantations. In the mountains, seed can be dispersed up to 2 miles (3 km). Invades after fire, harvesting, and other disturbances. Forms colonies from root sprouts.

Resembles southern catalpa (*Catalpa bignonioides*) and northern catalpa (*C. speciosa*) which have leaves with sparsely hairy upper surfaces and rough hairy lower surfaces and long slender, persistent fruit.

States with suspected infestations are shown in gray.



Paulownia tomentosa **0712**

PATO2

Paulownia tomentosa **0712**

PATO2

Paulownia tomentosa **0712**

PATO2

Synonym: *P. imperialis*
Common names: princesstree, royal empresstree, royal paulownia

Paulownia tomentosa **0712**

PATO2

Synonym: *P. imperialis*
Common names: princesstree, royal empresstree, royal paulownia

Paulownia tomentosa **0712**

LOOK-A-LIKES

Catalpa bignonioides - southern catalpa

Robert Vidéki

Rebekah D. Wallace

Rebekah D. Wallace

Broussonetia papyrifera - paper mulberry

Paulownia tomentosa **0712**

LOOK-A-LIKES

Catalpa bignonioides - southern catalpa

Robert Vidéki

Rebekah D. Wallace

Rebekah D. Wallace

Broussonetia papyrifera - paper mulberry

PHAU8

Includes: *Phyllostachys* spp. and *Bambusa* spp.
Common names: bamboo, golden bamboo

Plant. Perennial infestation-forming bamboos, 16 to 40 feet (5 to 12 m) in height, with jointed cane stems and whorls of branches at each node. Bushy tops of lanceolate leaves along branches, in fan clusters, often golden green. Plants arising from branched rhizomes.

Stem. Solid jointed canes 1 to 6 inches (2.5 to 15 cm) in diameter. Hollow between joints. Golden to green to black. Branches wiry and projecting from joints. Lower shoots and branches with loose papery sheaths that cover the ground when shed.

Leaves. Alternate, grass-like, often in fan clusters. Blades long and lanceolate, 3 to 10 inches (8 to 25 cm) long and 0.5 to 1.5 inches (1.3 to 4 cm) wide. Often golden, sometimes green or variegated. Veins parallel. Hairless except for large hairs at base of petiole, which shed with age. Deciduous sheaths encasing stem.

Flowers. Flowers very rarely.

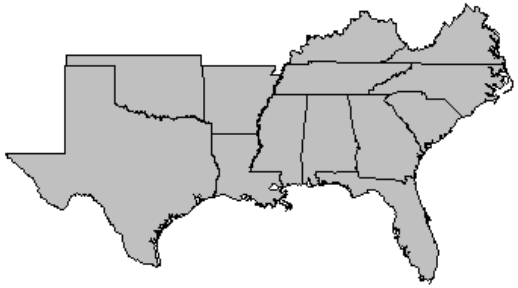
Seeds. Seeds very rarely.

Ecology. Common around old homesites and now escaped. Colonize by rhizomes and less so by stolons with infestations rapidly expanding after disturbance. General dieback after period flowering and seeding (about every 7 to 12 years) resulting in standing dead canes and new shoots.

Resemble switchcane (*Arundinaria gigantea)* and other native *Arundinaria* spp., the only native bamboo-like canes in the South, distinguished by its persistent sheaths on the stem, short alternate branches or branch clusters, and its lower height—usually only 6 to 8 feet (2 to 2.5 m). **Also resemble** giant reed (*Arundo donax*), also described in this guide.

Distribution. Found throughout the region with scattered dense infestations in every State.

States with suspected infestations are shown in gray.



Phyllostachys aurea 4130

PHAU8

Includes: *Phyllostachys* spp. and *Bambusa* spp.
Common names: bamboo, golden bamboo

Plant. Perennial infestation-forming bamboos, 16 to 40 feet (5 to 12 m) in height, with jointed cane stems and whorls of branches at each node. Bushy tops of lanceolate leaves along branches, in fan clusters, often golden green. Plants arising from branched rhizomes.

Stem. Solid jointed canes 1 to 6 inches (2.5 to 15 cm) in diameter. Hollow between joints. Golden to green to black. Branches wiry and projecting from joints. Lower shoots and branches with loose papery sheaths that cover the ground when shed.

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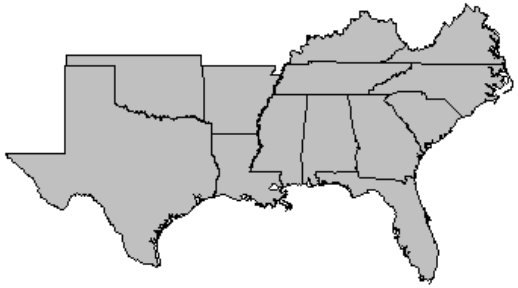

PHAU8

Phyllostachys aurea 4130

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Phyllostachys aurea 4130

PHAU8

Includes: *Phyllostachys* spp. and *Bambusa* spp.
Common names: bamboo, golden bamboo

LOOK-A-LIKES

Arundinaria gigantea - switchcane

Rebekah D. Wallace

Ted Bodner

Arundo donax - giant reed

Phyllostachys aurea 4130

LOOK-A-LIKES

Arundinaria gigantea - switchcane

Rebekah D. Wallace

Ted Bodner

Arundo donax - giant reed

PUMOL

Synonyms: *Pueraria lobata, P. montana* var. *lobata*
Common name: Kudzu

Plant. Deciduous twining, trailing, deep mat-forming, ropelike woody leguminous vine, 35 to 100 feet (10 to 30 m) long with 3-leaflet leaves. Large semiwoody tuberous roots reaching depths of 3 to 16 feet (1 to 5 m) with a knot -or ball-like root crown on top at the soil surface where vines originate. Leaves and small vines dying with first frost and matted dead leaves persistent during winter.

Stem. Woody vines to 10 inches (25 cm) in diameter, round in cross section, with infrequent branching. Stems succulent and yellow green with dense, erect golden hairs and upward-matted silver hairs, aging to ropelike and light gray barked. Frequent unswollen nodes root when on the ground to form new plants when interconnecting vines die, eventually growing large with age to form root crowns 1 to 10 inches (2.5 to 25 cm) wide. Mature bark eventually rough, rigid, and usually dark brown.

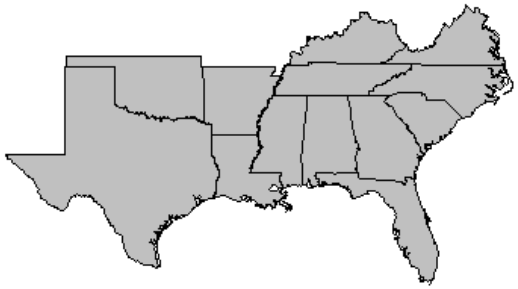
Leaves. Alternate, pinnately compound 3-leaflet leaves, each leaflet 3 to 7 inches (8 to 18 cm) long and 2.5 to 8 inches (6 to 20 cm) wide. Usually slightly lobed (unless in shade) with a 2-lobed symmetric middle leaflet and two 1-lobed side leaflets. Tips pointed. Margins thin membranous and fine golden hairy. Leaflet stems (petiolules) swollen near leaftlets. Petioles 6 to 12 inches (15 to 30 cm) long, long hairy, base swollen, with deciduous stipules.

Flowers. June to September. Axillary slender clusters (racemes), 2 to 12 inches (5 to 30 cm) long, of pea-like flowers in pairs (or threes) from raised nodes spiraling up the stalk, opening from the base to top. Flowers are reddish-purple with yellow centers, fragrant, often reported with the scent of grapes.

Fruit and seeds. September to January. Clustered dry, flattened legume pods (bulging above the seeds) each 1.2 to 3 inches (3 to 8 cm) long and 0.3 to 0.5 inch (8 to 12 mm) wide. Green ripening to tan with stiff golden-brown hairs. Falling whole or splitting on 1 to 2 sides to release a few ovoid seeds.

Resembles American hogpeanut (*Amphicarpaea bracteata*) which does not have pubescent stems or climb extensively into tree crowns. **Also may resemble** native tick trefoil (*Desmodium* spp.) but a trailing tick trefoil will rarely grow to lengths of > 5 feet (1.5 m).

States with suspected infestations are shown in gray.



Pueraria montana 3123

PUMOL

Synonyms: *Pueraria lobata, P. montana* var. *lobata*
Common name: Kudzu

Plant. Deciduous twining, trailing, deep mat-forming, ropelike woody leguminous vine, 35 to 100 feet (10 to 30 m) long with 3-leaflet leaves. Large semiwoody tuberous roots reaching depths of 3 to 16 feet (1 to 5 m) with a knot -or ball-like root crown on top at the soil surface where vines originate. Leaves and small vines dying with first frost and matted dead leaves persistent during winter.

Stem. Woody vines to 10 inches (25 cm) in diameter, round in cross section, with infrequent branching. Stems succulent and yellow green with dense, erect golden hairs and upward-matted silver hairs, aging to ropelike and light gray barked. Frequent unswollen nodes root when on the ground to form new plants when interconnecting vines die, eventually growing large with age to form root crowns 1 to 10 inches (2.5 to 25 cm) wide. Mature bark eventually rough, rigid, and usually dark brown.

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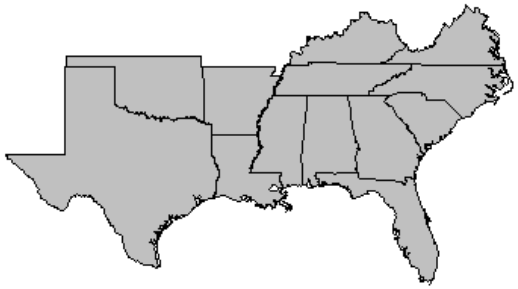


PUMOL

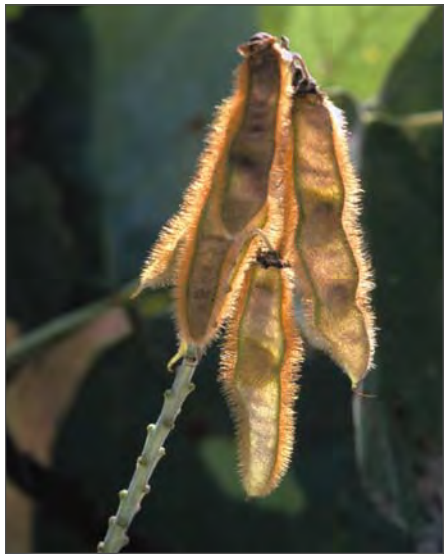
Pueraria montana 3123

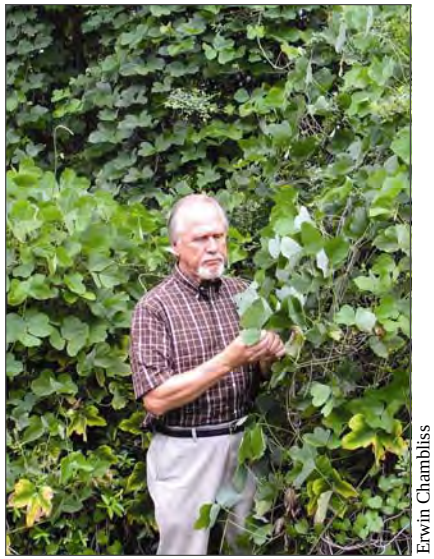
PUMOL

PUMOL

Synonyms: *Pueraria lobata, P. montana* var. *lobata*
Common name: Kudzu

Ted Bodner





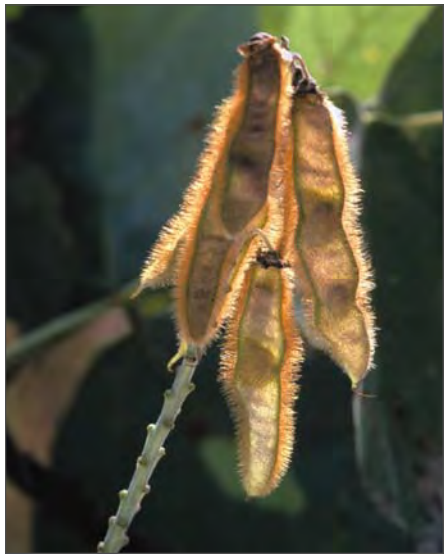
Erwin Chambliss

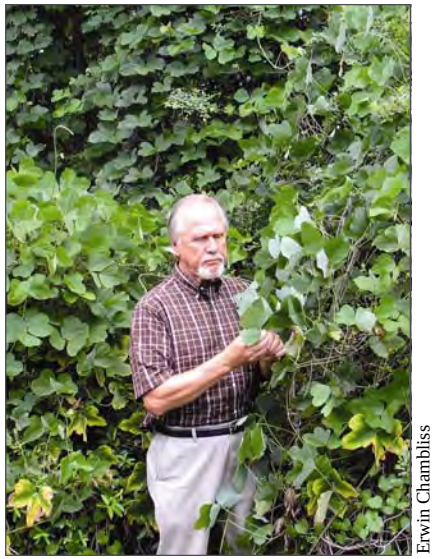
Pueraria montana 3123

PUMOL

Synonyms: *Pueraria lobata, P. montana* var. *lobata*
Common name: Kudzu

Ted Bodner





Erwin Chambliss

LOOK-A-LIKES

Amphicarpaea bracteata - American hogpeanut

Lewis Zimmerman

Desmodium spp. - tick trefoil

Rebekah D. Wallace

Pueraria montana 3123

LOOK-A-LIKES

Amphicarpaea bracteata - American hogpeanut

Lewis Zimmerman

Desmodium spp. - tick trefoil

Rebekah D. Wallace

ROMU*

Includes: *Rosa multiflora, R. bracteata, R. laevigata, Rosa* spp.
Common names: Multiflora rose, Macartney rose, Cherokee rose, other nonnative roses

Plant. There are 21 nonnative rose species loose in southern ecosystems and only 8 natives. These descriptions are for some of the most invasive roses, but are not all inclusive. Evergreen (except multiflora) erect climbing, arching, or trailing shrubs to 10 feet (3 m) in height or length. Clump forming.

Stem. Long arching or climbing by clinging using recurved or straight thorny prickles. Green with linear horizontal leaf and branch scars at nodes. Flower buds of multiflora often red in winter. Bark dark brown with streaks of light brown or green.

Leaves. Alternate, odd-pinnately compound with 3 to 9 elliptic to lanceolate leaflets, each 1 to 3 inches (2.5 to 8 cm) long. Margins finely and sharply serrate. Leafstalk bases clasping, channeled, and often bristled on margins, with toothed hairs.

Flowers. April to June. Terminal or axillary branched clusters or single flowers. Five white, pink, or red petals with many yellow anthers in center.

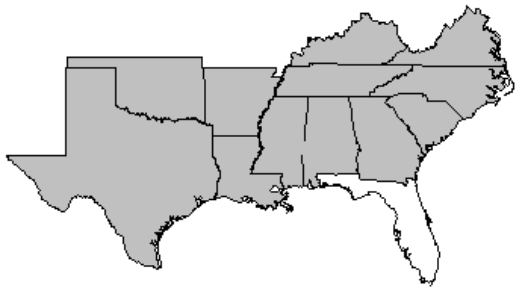
Fruit and seeds. July to December. Rose hip, spherical, and fleshy, 0.25 to 0.4 inch (0.6 to 1 cm). Green to yellow and ripening to glossy red.

Ecology. Form small-to-large infestations often climbing up into trees. Multiflora widely planted and often spreading along rights-of-way and invading new forests and forest margins. Colonizes by prolific sprouting and stems that root and spread by animal-dispersed seeds.

Resemble native Carolina rose (*R. carolina*), swamp rose (*R. palustris*), and climbing rose (*R. setigera*), all of which have pink flowers in spring and nonbristled leafstalk bases, but none forming extensive infestations except swamp rose in wet habitat.

Distribution. Found throughout the region except in FL with dense and frequent infestations in TX, AR, MS, AL, TN, KY, VA, NC, and west SC.

States with suspected infestations are shown in gray.



*For the purposes of this guide ROMU, (*R. multiflora*), ROBR (*R. bracteata*), and ROLA (*R. laevigata*) are all included in the ROMU group.

Rosa multiflora 2160

ROMU*

Includes: *Rosa multiflora, R. bracteata, R. laevigata, Rosa* spp.
Common names: Multiflora rose, Macartney rose, Cherokee rose, other nonnative roses

Plant. There are 21 nonnative rose species loose in southern ecosystems and only 8 natives. These descriptions are for some of the most invasive roses, but are not all inclusive. Evergreen (except multiflora) erect climbing, arching, or trailing shrubs to 10 feet (3 m) in height or length. Clump forming.

Stem. Long arching or climbing by clinging using recurved or straight thorny prickles. Green with linear horizontal leaf and branch scars at nodes. Flower buds of multiflora often red in winter. Bark dark brown with streaks of light brown or green.

Leaves. Alternate, odd-pinnately compound with 3 to 9 elliptic to lanceolate leaflets, each 1 to 3 inches (2.5 to 8 cm) long. Margins finely and sharply serrate. Leafstalk bases clasping, channeled, and often bristled on margins, with toothed hairs.

Flowers. April to June. Terminal or axillary branched clusters or single flowers. Five white, pink, or red petals with many yellow anthers in center.

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Ecology. Form small-to-large infestations often climbing up into trees. Multiflora widely planted and often spreading along rights-of-way and invading new forests and forest margins. Colonizes by prolific sprouting and stems that root and spread by animal-dispersed seeds.

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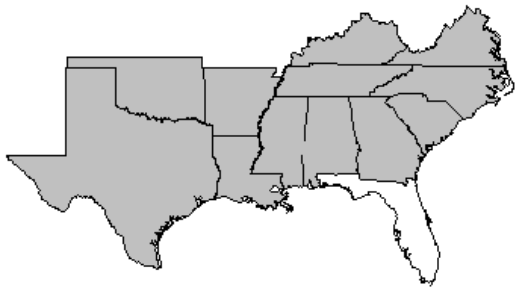

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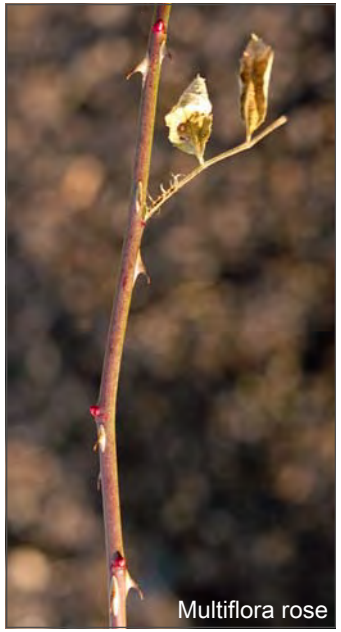
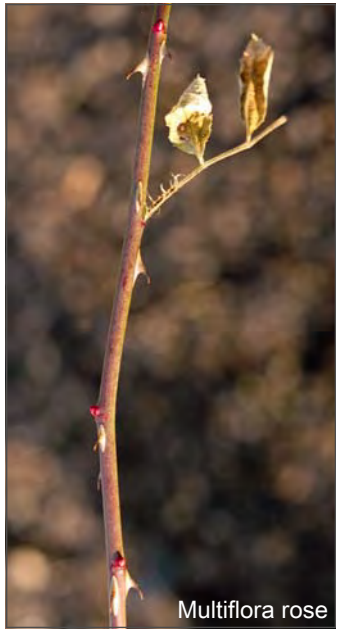
Rosa multiflora **2160**

ROMU



Rosa multiflora **2160**

ROMU



ROMU

Includes: *Rosa multiflora, R. bracteata, R. laevigata, Rosa* spp.
Common names: Multiflora rose, Macartney rose, Cherokee rose, other nonnative roses

Multiflora rose

Rosa multiflora 2160

ROMU

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Multiflora rose

LOOK-A-LIKE

Rosa carolina - Carolina rose

Rosa multiflora 2160

LOOK-A-LIKE

Rosa carolina - Carolina rose

SCPH

Synonyms: *Festuca arundinacea*, *F. elatior* ssp. *arundinacea, Lolium arundinaceum, S. arundinaceus*
Common names: tall fescue, meadow fescue, Kentucky 31 fescue

Plant. Erect, tufted, cool-season perennial grass 2 to 4 feet (60 to 120 cm) in height, green in winter and spring during which it is the most common green bunchgrass. Dark-green leaves appearing in late winter, usually flowering in spring. Semi-dormant during heat of summer, with whitish seed stalks persisting. Growth resuming in fall and continuing into winter. Many cultivars.

Stem (culm). Moderately stout, unbranched, hairless with round cross section and 1 to 3 swollen light-green nodes widely spaced near the base.

Leaves. Mostly basal and a few alternate, flat and long-lanceolate, 4 to 18 inches (10 to 45 cm) long and 0.1 to 0.3 inch (3 to 8 mm) wide. Whitish to yellow-green flared collars, with collar backs often at an angle to the stem. Blades smooth to rough, with 1 to 2 leaves along the stem, becoming smaller upward. Midvein not apparent. Ligule a tiny white membrane.

Flowers. March to June (to October). Loosely branched terminal panicles, 4 to 12 inches (10 to 30 cm) long that are erect or nodding at tips, narrow and tight, then spreading in spring. Branches shorter upward, with 4 to 7 flowers per branch. Flowers greenish white and shiny becoming purplish with whitish stamens and stigma protruding. Spikelets spindle shaped, hairless, ellipsoid with a pointed tip.

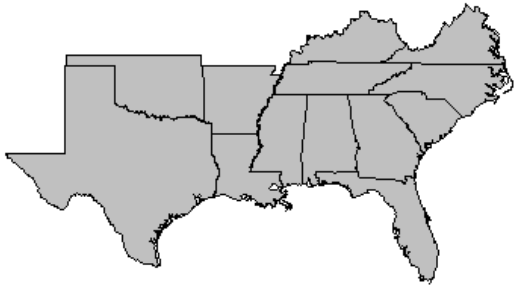
Seeds. May (to November). Husked grain, spindle shaped, 0.1 to 0.2 inch (3 to 5 mm) long. Whitish straw-colored husks, usually tipped with a short hair.

Ecology. The predominant cool-season bunchgrass. Occurs as tufted clumps or small to extensive colonies along forest margins and rights-of-way, and widely escaped to invade new forest plantations, roads, openings and high-elevation balds. Grows on wet to dry sites.

Resembles other grasses, especially other fescues and ryegrasses (*Schedonorus* spp.) but distinguished by forming extensive colonies (often planted on roadsides and pastures, to escape into infestations), and having long rounded stems with lower swollen nodes and whitish, flared collars at the base of leaves. Ryegrasses distinguished by producing alternate seed head tight clusters on opposite sides of seedstalks in spring.

Distribution. Found throughout the region with frequent and dense infestations in KY, VA, TN, NC, MS, and the northern portions of SC and AR.

States with suspected infestations are shown in gray.



Schedonorus phoenix 4051

SCPH

Synonyms: *Festuca arundinacea*, *F. elatior* ssp. *arundinacea, Lolium arundinaceum, S. arundinaceus*
Common names: tall fescue, meadow fescue, Kentucky 31 fescue

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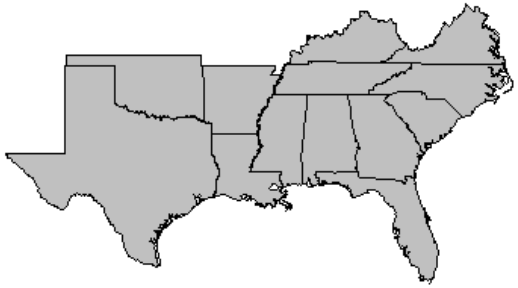

Schedonorus phoenix **4051**

SCPH

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Common names: tall fescue, meadow fescue, Kentucky 31 fescue

Ted Bodner

Schedonorus phoenix **4051**

SCPH

Synonyms: *Festuca arundinacea*, *F. elatior* ssp. *arundinacea, Lolium arundinaceum, S. arundinaceus*

Common names: tall fescue, meadow fescue, Kentucky 31 fescue

Ted Bodner

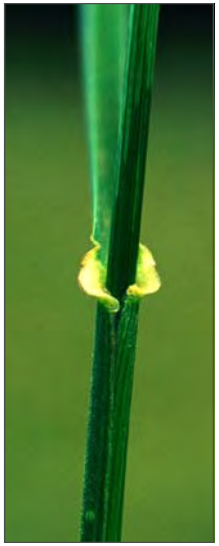
Schedonorus phoenix **4051**

SCPH

Synonyms: *Festuca arundinacea*, *F. elatior* ssp. *arundinacea, Lolium arundinaceum, S. arundinaceus*

Common names: tall fescue, meadow fescue, Kentucky 31 fescue

Ted Bodner



John D. Byrd

Schedonorus phoenix **4051**

SCPH

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Common names: tall fescue, meadow fescue, Kentucky 31 fescue

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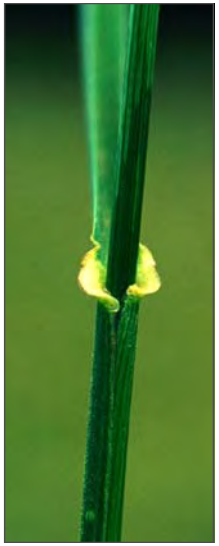


John D. Byrd

LOOK-A-LIKES

Poa pratensis - Kentucky bluegrass

Richard Old

The Regents of the University of California

Lolium perenne- perennial ryegrass

The Regents of the University of California

Schedonorus phoenix 4051

LOOK-A-LIKES

Poa pratensis - Kentucky bluegrass

Richard Old

The Regents of the University of California

Lolium perenne- perennial ryegrass

The Regents of the University of California

SOVI2

Common name: tropical soda apple

Plant. Upright, thorny perennial subshrub or shrub, 3 to 6 feet (1 to 2 m) in height. **Caution: Fruit is poisonous.**

Stem. Upright to leaning, much branched, hairy, covered with broad-based white to yellow thorns.

Leaves. Alternate, 4 to 8 inches (10 to 20 cm) long and 2 to 6 inches (5 to 15 cm) wide. Margins deeply lobed (shaped like oak leaves). Velvety hairy with thorns projecting from veins and petioles. Dark green with whitish midveins above and lighter green with netted veins beneath.

Flowers. May to August (year-round in Florida). Terminal small clusters of 5-petaled white flowers. Petals first extended, then becoming recurved. Yellow to white fused stamens projecting from the center.

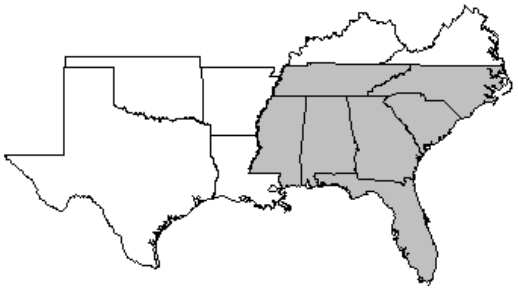
Fruit and seeds. June to November (year-round in Florida). Spherical, hairless, pulpy berry 1 to 1.5 inches (2.5 to 4 cm). Whitish then mottled green ripening to yellow. Each berry producing 200 to 400 reddish-brown seeds.

Ecology. Occurs on open to semi-shady sites. Viable seed in green or yellow fruit but not in white fruit. Reaches maturity from seed within 105 days. Persists by root crowns or green stems in warmer areas. Rapidly spreading by cattle and other livestock transportation and by wildlife-dispersed seeds as well as seed-contaminated hay, sod, and machinery.

Resembles horsenettle (*S. carolinense*), an 8- to 30-inch (20- to 80 cm) forb, which has similar but smaller fruit, long elliptic-to-ovate lobed leaves 3 to 5 inches (8 to 12 cm) long and 1 to 3 inches (2.5 to 8 cm) wide, and prickly yellow spines on stems and lower leaf veins but not on upper leaf. **Also resembles,** in stature and habitat, the closely related nonnative sticky nightshade (*S. sisymbrifolium*) which has deeply lobed lanceolate leaves and bright-red ripe fruit initially enclosed in a prickly husk.

Distribution. Found in dense infestations in FL and the southern portions of MS, AL, GA, and SC, with outlying infestations in west NC and central TN. Mainly occurs in pastures and moving into the forest margins and openings.

States with suspected infestations are shown in gray.



Solanum viarum 6095

SOVI2

Common name: tropical soda apple

Plant. Upright, thorny perennial subshrub or shrub, 3 to 6 feet (1 to 2 m) in height. **Caution: Fruit is poisonous.**

Stem. Upright to leaning, much branched, hairy, covered with broad-based white to yellow thorns.

Leaves. Alternate, 4 to 8 inches (10 to 20 cm) long and 2 to 6 inches (5 to 15 cm) wide. Margins deeply lobed (shaped like oak leaves). Velvety hairy with thorns projecting from veins and petioles. Dark green with whitish midveins above and lighter green with netted veins beneath.

Flowers. May to August (year-round in Florida). Terminal small clusters of 5-petaled white flowers. Petals first extended, then becoming recurved. Yellow to white fused stamens projecting from the center.

Fruit and seeds. June to November (year-round in Florida). Spherical, hairless, pulpy berry 1 to 1.5 inches (2.5 to 4 cm). Whitish then mottled green ripening to yellow. Each berry producing 200 to 400 reddish-brown seeds.

Ecology. Occurs on open to semi-shady sites. Viable seed in green or yellow fruit but not in white fruit. Reaches maturity from seed within 105 days. Persists by root crowns or green stems in warmer areas. Rapidly spreading by cattle and other livestock transportation and by wildlife-dispersed seeds as well as seed-contaminated hay, sod, and machinery.

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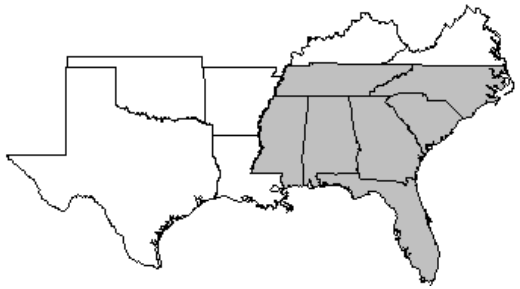
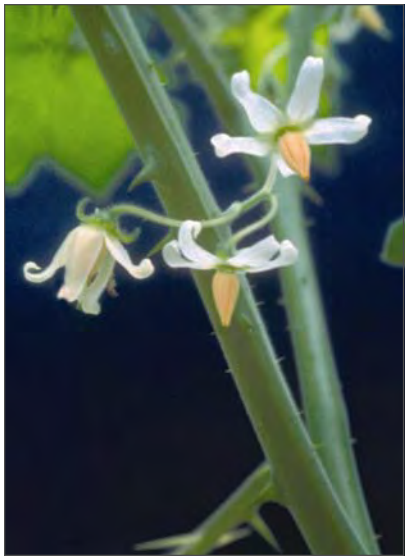


SOVI2



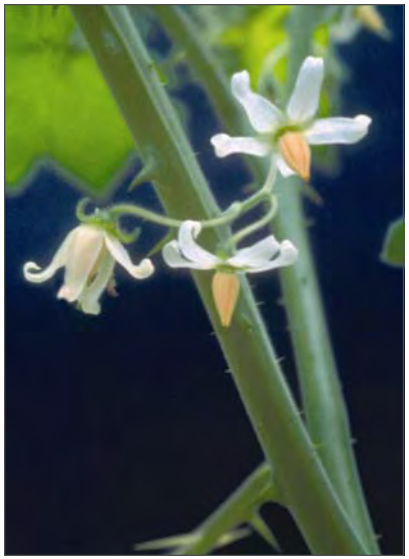
Charles Bryson

Charles Bryson

John Everest

Solanum viarum 6095

SOVI2



Charles Bryson

Charles Bryson

John Everest

Solanum viarum **6095**

SOVI2

Common name: tropical soda apple

John Everest

Solanum viarum **6095**

SOVI2

Common name: tropical soda apple

John Everest

LOOK-A-LIKES

Solanum sisymbriifolium - sticky nightshade

Charles T. Bryson

Charles T. Bryson

Solanum carolinense - horsenettle

Florida Division of Plant Industry

Solanum viarum 6095

LOOK-A-LIKES

Solanum sisymbriifolium - sticky nightshade

Charles T. Bryson

Charles T. Bryson

Solanum carolinense - horsenettle

Florida Division of Plant Industry

TRSE6

Synonym: *Sapium sebiferum*
Common names: tallowtree, popcorntree, Chinese tallowtree

Plant. Deciduous tree to 60 feet (18 m) in height and 3 feet (90 cm) in diameter, with broadly ovate leaves having extended tips. Dangling yellowish flower spikes in spring yield small clusters of 3-lobed fruit that split in fall and winter to reveal popcorn-like seeds.

Stem. Terminal clusters of flowers and fruits that drop in winter to result in whorled branching from lateral buds. Twigs lime green turning gray with scattered brownish dots (lenticels) later becoming striations. Numerous semicircular leaf scars becoming raised with age. Bark light gray and fissured. Sap milky.

Leaves. Alternate, entire, distinctively wide ovate with a rounded wide angled base and an acuminate tip. Blades 2 to 3 inches (5 to 8 cm) long and 1.5 to 2.5 inches (4 to 6 cm) wide. Dark green with light-green mid and lateral veins, turning yellow to red in fall. Hairless, lime-green petioles 1 to 3 inches (2.5 to 8 cm) long with 2 tiny glands on upper side of juncture between blade and petiole (requires magnification).

Flowers. April to June. Slender, drooping spikes to 8 inches (20 cm) long of tiny flowers. Yellowish-green sepals but no petals. Female flowers at base and males along the spike.

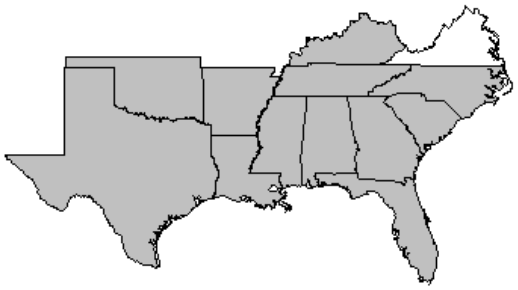
Fruit and seeds. Small terminal clusters of 3-lobed capsules (occasionally 4 to 5-lobed), each 0.5 to 0.75 inch (1.2 to 2 cm) across. Dark green in summer then becoming black and splitting to reveal 3 white-wax coated seeds 0.3 inch (0.8 cm) long and 0.2 inch (0.5 cm) wide. Resemble popcorn and remain attached until winter. Can produce up to 100,000 seeds per year.

Ecology. Invades stream banks, riverbanks, lakesides, and wet areas like ditches, as well as grassland prairies and upland sites. Thrives in both freshwater and saline soils.

Resembles cottonwood (*Populus* spp.), which have leaves with toothed margins and flaking bark with fissured ridges.

Distribution. Found in dense infestations in southeast TX; south and central LA; central and north FL; and the southern portions of AR, MS, AL, GA, and SC. Scattered infestations further north from ornamental plantings in cities and towns. The projected potential range includes all States within the region.

States with suspected infestations are shown in gray.



Triadica sebifera 0994

TRSE6

Synonym: *Sapium sebiferum*
Common names: tallowtree, popcorntree, Chinese tallowtree

Plant. Deciduous tree to 60 feet (18 m) in height and 3 feet (90 cm) in diameter, with broadly ovate leaves having extended tips. Dangling yellowish flower spikes in spring yield small clusters of 3-lobed fruit that split in fall and winter to reveal popcorn-like seeds.

Stem. Terminal clusters of flowers and fruits that drop in winter to result in whorled branching from lateral buds. Twigs lime green turning gray with scattered brownish dots (lenticels) later becoming striations. Numerous semicircular leaf scars becoming raised with age. Bark light gray and fissured. Sap milky.

Leaves. Alternate, entire, distinctively wide ovate with a rounded wide angled base and an acuminate tip. Blades 2 to 3 inches (5 to 8 cm) long and 1.5 to 2.5 inches (4 to 6 cm) wide. Dark green with light-green mid and lateral veins, turning yellow to red in fall. Hairless, lime-green petioles 1 to 3 inches (2.5 to 8 cm) long with 2 tiny glands on upper side of juncture between blade and petiole (requires magnification).

Flowers. April to June. Slender, drooping spikes to 8 inches (20 cm) long of tiny flowers. Yellowish-green sepals but no petals. Female flowers at base and males along the spike.

Fruit and seeds. Small terminal clusters of 3-lobed capsules (occasionally 4 to 5-lobed), each 0.5 to 0.75 inch (1.2 to 2 cm) across. Dark green in summer then becoming black and splitting to reveal 3 white-wax coated seeds 0.3 inch (0.8 cm) long and 0.2 inch (0.5 cm) wide. Resemble popcorn and remain attached until winter. Can produce up to 100,000 seeds per year.

Ecology. Invades stream banks, riverbanks, lakesides, and wet areas like ditches, as well as grassland prairies and upland sites. Thrives in both freshwater and saline soils.

Resembles cottonwood (*Populus* spp.), which have leaves with toothed margins and flaking bark with fissured ridges.

Distribution. Found in dense infestations in southeast TX; south and central LA; central and north FL; and the southern portions of AR, MS, AL, GA, and SC. Scattered infestations further north from ornamental plantings in cities and towns. The projected potential range includes all States within the region.

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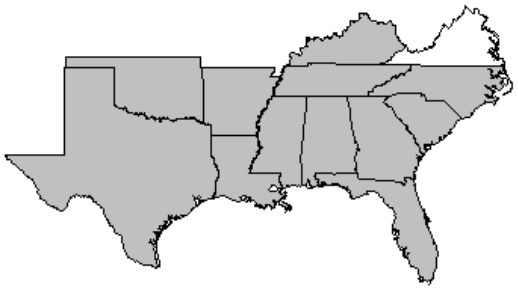


Triadica sebifera **0994**

TRSE6

Ted Bodner

Ted Bodner

Triadica sebifera **0994**

TRSE6

Ted Bodner

Ted Bodner

Triadica sebifera **0994**

TRSE6

Synonym: *Sapium sebiferum*
Common names: tallowtree, popcorntree, Chinese tallowtree

Thomas Ellis, Jr.

Triadica sebifera **0994**

TRSE6

Synonym: *Sapium sebiferum*
Common names: tallowtree, popcorntree, Chinese tallowtree

Thomas Ellis, Jr.

LOOK-A-LIKES

Populus tremuloides - quaking aspen

Populus sp. - twig

Populus tremuloides - quaking aspen

Populus deltoids ssp. *deltoides* - eastern cottonwood

Photos by Paul Wray

Triadica sebifera 0994

LOOK-A-LIKES

Populus tremuloides - quaking aspen

Populus sp. - twig

Populus tremuloides - quaking aspen

Populus deltoids ssp. *deltoides* - eastern cottonwood

Photos by Paul Wray

VIMI2*

Includes: *Vinca minor, V. major*
Common names: big-leaf periwinkle, common periwinkle

Plant. Evergreen to semi-evergreen vines, somewhat woody, trailing or scrambling to 3 feet (1 m) long and upright to 1 foot (30 cm). Violet pinwheel-shaped flowers.

Stem. Slender (common periwinkle) to stout (big-leaf periwinkle), succulent becoming somewhat woody (tough to break) with flowering branches erect and jointed at axils. Hairless and smooth. Dark green at base to light green upward with a reddish tinge.

Leaves. Opposite. Glossy and hairless, somewhat thick, with margins slightly rolled under. Common periwinkle narrow elliptic, 0.8 to 1.8 inches (2 to 4.5 cm) long and 0.4 to 1 inch (1 to 2.5 cm) wide, with petioles 0.1 inch (1 to 3 mm) long. Bigleaf periwinkle heart shaped to somewhat triangular to elliptic, 1.5 to 2.5 inches (4 to 6 cm) long and 1 to 1.5 inches (2.5 to 4 cm) wide, with petioles 0.2 to 0.4 inch (5 to 10 mm) long. Blades dark green with whitish lateral- and mid-veins above and lighter green with whitish midveins beneath. Some varieties variegated.

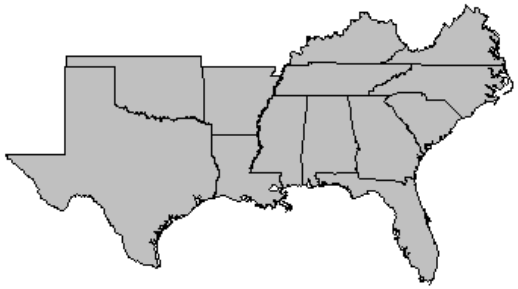
Flowers. March to May (sporadically May to September). Axillary, usually solitary violet to blue lavender (to white), with 5 petals radiating pinwheel-like at right angles from the floral tube. Common periwinkle 1 inch (2.5 cm) wide with a 0.3-to 0.5-inch (8-to 12-mm) long tube. Bigleaf periwinkle 1.5 to 2 inches (4 to 5 cm) wide with a 0.6-to 0.8-inch (1.5-to 2-cm) long tube. Five slender lanceolate sepals, about 0.4 inch (1 cm) long, hairy margined.

Fruit and seeds. May to July. Slender, cylindrical fruit to 2 inches (5 cm) long. Becoming dry and splitting to release 3 to 5 infertile seeds.

Ecology. Found around old homesite plantings and scattered in open to dense canopied forests. Form mats and extensive infestations, even under forest canopies, by vines rooting at nodes.

Resemble partridgeberry (*Mitchella repens*), which has cordate leaves, twin white flowers, and red berries. **Also may resemble** yellow jessamine (*Gelsemium sempervirens*), which has wider spaced leaves and reddish stems, often white waxy. **Also resembles** winter creeper (*Euonymus fortunei*), which has stout light-green vines, leathery leaves, and no showy flowers.

States with suspected infestations are shown in gray.



*For the purposes of this guide, both VIMA (*V. major*) and VIMI2 (*V. minor*) are included in the VIMI2 group.

Vinca minor 3211

VIMI2*

Includes: *Vinca minor, V. major*
Common names: big-leaf periwinkle, common periwinkle

Plant. Evergreen to semi-evergreen vines, somewhat woody, trailing or scrambling to 3 feet (1 m) long and upright to 1 foot (30 cm). Violet pinwheel-shaped flowers.

Stem. Slender (common periwinkle) to stout (big-leaf periwinkle), succulent becoming somewhat woody (tough to break) with flowering branches erect and jointed at axils. Hairless and smooth. Dark green at base to light green upward with a reddish tinge.

Leaves. Opposite. Glossy and hairless, somewhat thick, with margins slightly rolled under. Common periwinkle narrow elliptic, 0.8 to 1.8 inches (2 to 4.5 cm) long and 0.4 to 1 inch (1 to 2.5 cm) wide, with petioles 0.1 inch (1 to 3 mm) long. Bigleaf periwinkle heart shaped to somewhat triangular to elliptic, 1.5 to 2.5 inches (4 to 6 cm) long and 1 to 1.5 inches (2.5 to 4 cm) wide, with petioles 0.2 to 0.4 inch (5 to 10 mm) long. Blades dark green with whitish lateral- and mid-veins above and lighter green with whitish midveins beneath. Some varieties variegated.

Flowers. March to May (sporadically May to September). Axillary, usually solitary violet to blue lavender (to white), with 5 petals radiating pinwheel-like at right angles from the floral tube. Common periwinkle 1 inch (2.5 cm) wide with a 0.3-to 0.5-inch (8-to 12-mm) long tube. Bigleaf periwinkle 1.5 to 2 inches (4 to 5 cm) wide with a 0.6-to 0.8-inch (1.5-to 2-cm) long tube. Five slender lanceolate sepals, about 0.4 inch (1 cm) long, hairy margined.

Fruit and seeds. May to July. Slender, cylindrical fruit to 2 inches (5 cm) long. Becoming dry and splitting to release 3 to 5 infertile seeds.

Ecology. Found around old homesite plantings and scattered in open to dense canopied forests. Form mats and extensive infestations, even under forest canopies, by vines rooting at nodes.

Resemble partridgeberry (*Mitchella repens*), which has cordate leaves, twin white flowers, and red berries. **Also may resemble** yellow jessamine (*Gelsemium sempervirens*), which has wider spaced leaves and reddish stems, often white waxy. **Also resembles** winter creeper (*Euonymus fortunei*), which has stout light-green vines, leathery leaves, and no showy flowers.

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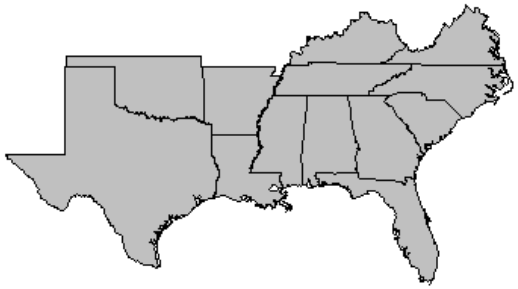

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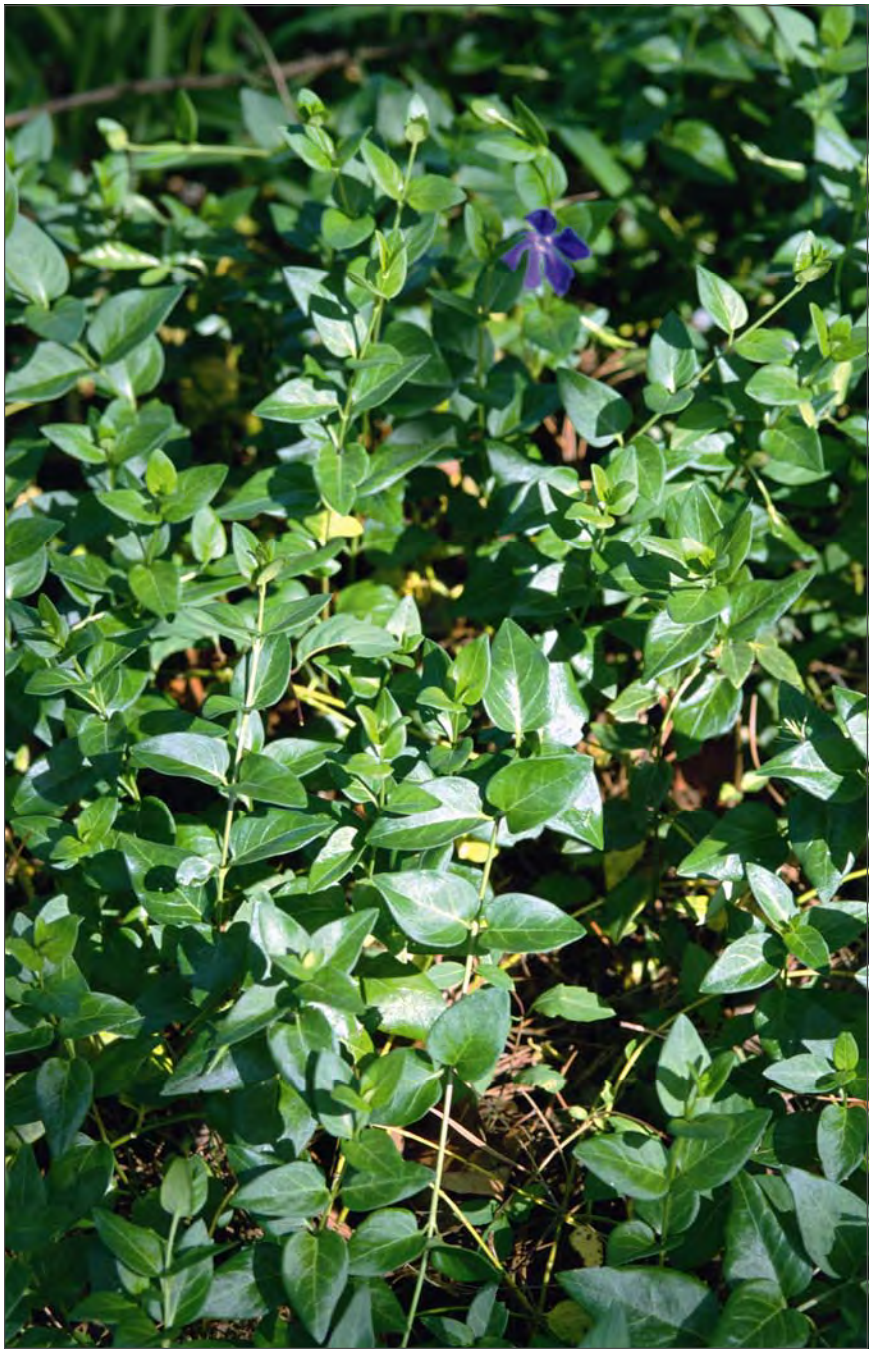
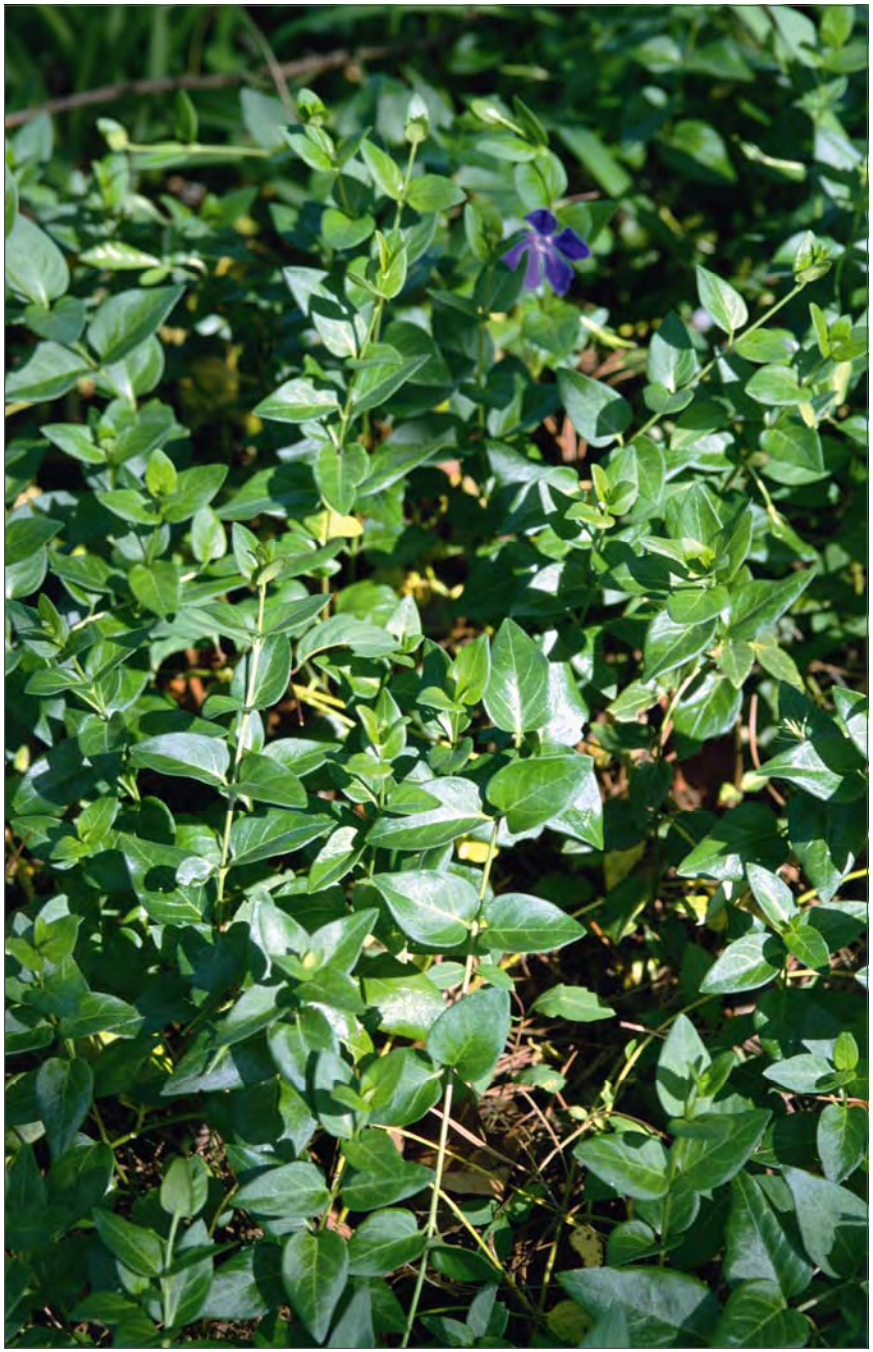
Vinca minor **3211**

VIMI2



Vinca minor **3211**

VIMI2



Vinca minor **3211**

VIMI2

Includes: *Vinca minor, V. major*
Common names: big-leaf periwinkle, common periwinkle

Nancy Loewentstein

Vinca minor **3211**

VIMI2

Includes: *Vinca minor, V. major*
Common names: big-leaf periwinkle, common periwinkle

Nancy Loewentstein

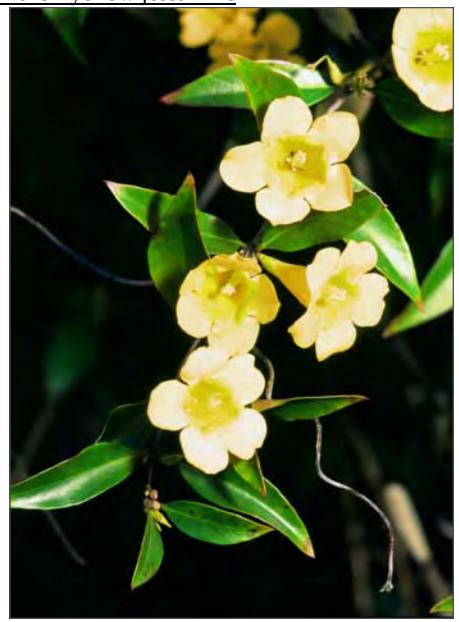
LOOK-A-LIKES

Mitchella repens - partridgeberry

Euonymus fortunei - winter creeper

Gelsemium sempervirens - yellow jessamine

Ted Bodner



Ted Bodner

Vinca minor 3211

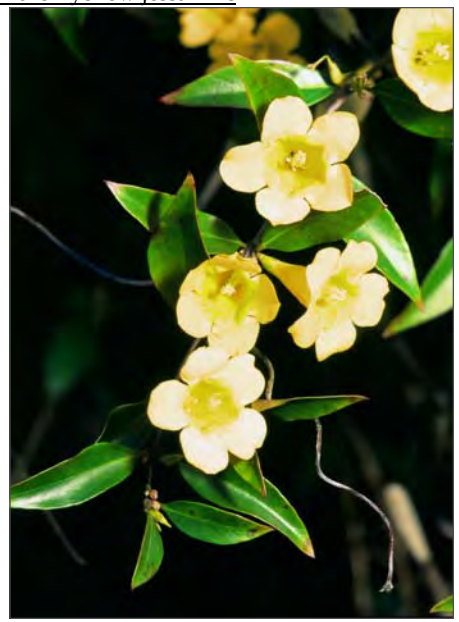
LOOK-A-LIKES

Mitchella repens - partridgeberry

Euonymus fortunei - winter creeper

Gelsemium sempervirens - yellow jessamine

Ted Bodner



Ted Bodner

WISI*

Includes: *Wisteria sinensis, W. floribunda*
Common names: Chinese wisteria, Japanese wisteria

Plant. Deciduous high climbing, twining, or trailing leguminous woody vines (or cultured as shrubs) to 70 feet (20 m) long. Chinese and Japanese wisteria difficult to distinguish due to hybridization.

Stem. Woody vines to 10 inches (25 cm) in diameter with infrequent alternate branching. Twigs densely short hairy. Older bark of Chinese wisteria tight and dark gray with light dots (lenticels) compared to white bark of Japanese wisteria.

Leaves. Alternate, odd-pinnately compound 4 to 16 inches (10 to 40 cm) long, with 7 to 13 leaflets (Chinese) or 13 to 19 leaflets (Japanese), and stalks with swollen bases. Leaflets oval to elliptic with tapering pointed tips, 1.6 to 3 inches (4 to 8 cm) long and 1 to 1.4 inches (2.5 to 3.5 cm) wide. Hairless to short hairy at maturity but densely silky hairy when young. Margins entire and wavy. Sessile or short petioled.

Flowers. March to May. Dangling and showy, stalked clusters (racemes) appearing when leaves emerge, 4 to 20 inches (10 to 50 cm) long and 3 to 3.5 inches (7 to 9 cm) wide. All blooming at about the same time (Chinese) or gradually from base (Japanese). Pea like flowers, corolla lavender to violet (to pink to white). Fragrant.

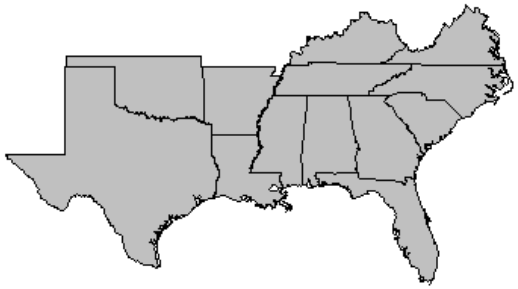
Fruit and seeds. July to November. Flattened legume pod, irregularly oblong to oblanceolate, 2.5 to 6 inches (6 to 15 cm) long and 0.8 to 1.2 inches (2 to 3 cm) wide. Velvety hairy, greenish brown to golden, splitting on 2 sides to release 1 to 8 flat, round, brown seeds, each 0.5 to 1 inch (1.2 to 2.5 cm) in diameter.

Ecology. Form dense infestations where previously planted. Occur on wet to dry sites. Colonize by vines twining and covering shrubs and trees and by runners rooting at nodes when vines covered by leaf litter.

Resemble native or naturalized American wisteria (*W. frutescens*), which occurs in wet forests and edges and sometimes forms large entanglements, flowers in June to August after leaves develop, and has 6-inch (15 cm) flower clusters, 9 to 15 leaflets, thin hairless, papery pods, and slender old vines. **Also may resemble** trumpet creeper (*Campsis radicans*), which has leaflets with coarsely toothed margins and white-hairy prominent veins beneath.

Distribution. Found throughout the region with scattered dense infestations in every State. Especially frequent in SC and southwest AL.

States with suspected infestations are shown in gray.



*For the purposes of this guide, both WISI (*W. sinensis*) and WIFL (*W. floribunda*) are included in the WISI group.

Wisteria sinensis 3251

WISI*

Includes: *Wisteria sinensis, W. floribunda*
Common names: Chinese wisteria, Japanese wisteria

Plant. Deciduous high climbing, twining, or trailing leguminous woody vines (or cultured as shrubs) to 70 feet (20 m) long. Chinese and Japanese wisteria difficult to distinguish due to hybridization.

Stem. Woody vines to 10 inches (25 cm) in diameter with infrequent alternate branching. Twigs densely short hairy. Older bark of Chinese wisteria tight and dark gray with light dots (lenticels) compared to white bark of Japanese wisteria.

Leaves. Alternate, odd-pinnately compound 4 to 16 inches (10 to 40 cm) long, with 7 to 13 leaflets (Chinese) or 13 to 19 leaflets (Japanese), and stalks with swollen bases. Leaflets oval to elliptic with tapering pointed tips, 1.6 to 3 inches (4 to 8 cm) long and 1 to 1.4 inches (2.5 to 3.5 cm) wide. Hairless to short hairy at maturity but densely silky hairy when young. Margins entire and wavy. Sessile or short petioled.

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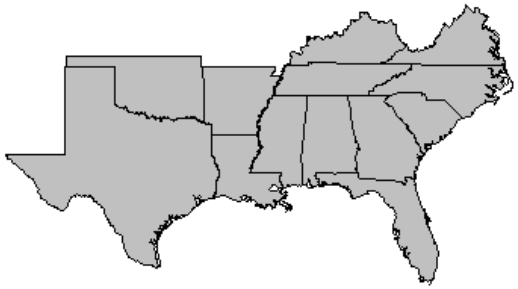
Fruit and seeds. July to November. Flattened legume pod, irregularly oblong to oblanceolate, 2.5 to 6 inches (6 to 15 cm) long and 0.8 to 1.2 inches (2 to 3 cm) wide. Velvety hairy, greenish brown to golden, splitting on 2 sides to release 1 to 8 flat, round, brown seeds, each 0.5 to 1 inch (1.2 to 2.5 cm) in diameter.

Ecology. Form dense infestations where previously planted. Occur on wet to dry sites. Colonize by vines twining and covering shrubs and trees and by runners rooting at nodes when vines covered by leaf litter.

Resemble native or naturalized American wisteria (*W. frutescens*), which occurs in wet forests and edges and sometimes forms large entanglements, flowers in June to August after leaves develop, and has 6-inch (15 cm) flower clusters, 9 to 15 leaflets, thin hairless, papery pods, and slender old vines. **Also may resemble** trumpet creeper (*Campsis radicans*), which has leaflets with coarsely toothed margins and white-hairy prominent veins beneath.

Distribution. Found throughout the region with scattered dense infestations in every State. Especially frequent in SC and southwest AL.

States with suspected infestations are shown in gray.



*For the purposes of this guide, both WISI (*W. sinensis*) and WIFL (*W. floribunda*) are included in the WISI group.

Wisteria sinensis **3251**

WISI

Wisteria sinensis **3251**

WISI

Wisteria sinensis **3251**

WISI

Includes: *Wisteria sinensis, W. floribunda*
Common names*:* Chinese wisteria, Japanese wisteria

Wisteria sinensis **3251**

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LOOK-A-LIKES

Wisteria frutescens - American wisteria (flowers in June to August after leaves develop)

Gena Todia

Campsis radicans - trumpet creeper

Ted Bodner

John Cardina

Wisteria sinensis 3251

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Wisteria frutescens - American wisteria (flowers in June to August after leaves develop)

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Zimmerman, Lewis 2012. A Guidebook to Invasive Plants in Southern Forests. General Technical Report. SRS - Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.

Nonnative exotic plants are currently increasing their numbers and occur as trees, shrubs, vines, grasses, ferns, and forbs. This guidebook was created specifically for use by the U.S. Forest Service Southern Research Station (SRS), Forest Inventory and Analysis (FIA) field survey crews. The SRS FIA unit currently collects data on 33 invasive plants or groups across 13 States. The ability to accurately identify plant species in the field is a crucial component of monitoring a species' range. This book provides information to help identify these invasive plant species.

Keywords: Alien plants, exotic plant control, exotic weeds, invasive exotic plants, invasive nonindigenous plants.

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