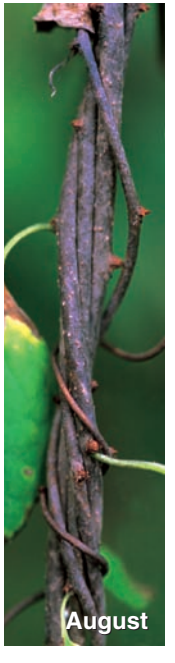
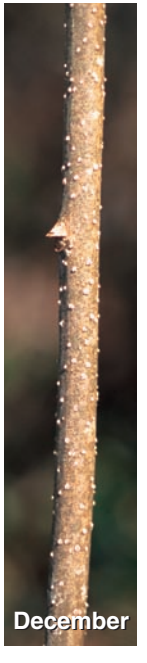
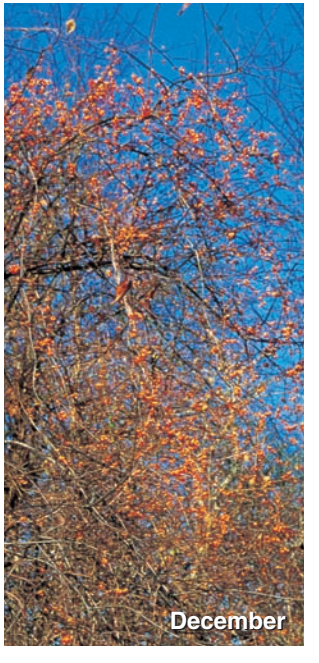
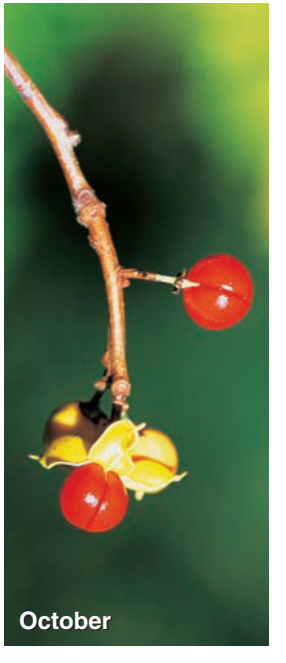
Oriental Bittersweet









Oriental Bittersweet 3026

Celastrus orbiculatus Thunb. **CEOR7**
Synonym: Asian bittersweet

Plant. Deciduous, twining and climbing woody vine to 60 feet (20 m) in tree crowns, forming thicket and arbor infestations. Elliptic to rounded leaves, axillary dangling clusters of inconspicuous yellowish flowers in spring, and green spherical fruit that split to reveal three-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. Olive drab with many raised whitish corky dots (lenticels) becoming tan to gray. Branch scars of fruit clusters semicircular, each with a tiny corky shelf projection.

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 three to seven inconspicuous orange-yellow flowers. Five petals.

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 winter, splitting and folding upward to reveal three fleshy scarlet sections, each containing two 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 but densest infestations along forest edges and in openings. Colonizes by prolific vine growth and seedlings, and spreads by bird- and other animal-dispersed seeds and humans collecting decorative fruit-bearing vines.

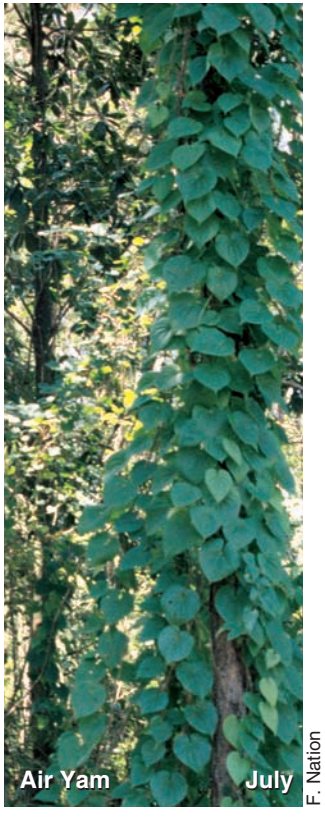
Resembles American bittersweet, *C. scandens* L., which has only terminal flowers and fruit, and leaves usually twice as large but absent among the flowers and fruit. Hybridization suspected between the two species. **Also resembles** grape vines, *Vitis* spp., in winter, but can be distinguished by persistent scarlet fruit versus grapes.

History and use. Introduced from Asia in 1736. Very showy ornamental with berried vines that are traditionally collected as home decorations in winter, which promotes spread when discarded.

States with suspected infestations are shown in gray.

Climbing Yams

F. Nation



F. Nation

F. Nation

Climbing Yams 3030

Air yam, *Dioscorea bulbifera L.* DIBU
Chinese yam, Cinnamon vine, *D. oppositifolia* L., formerly *D. batatas* Dcne. DIOP
Water yam, *D. alata L.* DIAL2
Synonym: air potato

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 small bulbils attached.

Leaves. Alternate (air) or combination 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 parallel and converging at base. Dark green with slightly indented curved veins above (quilted appearing) and lighter green beneath. Chinese yam leaves turning bright yellow in fall.

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

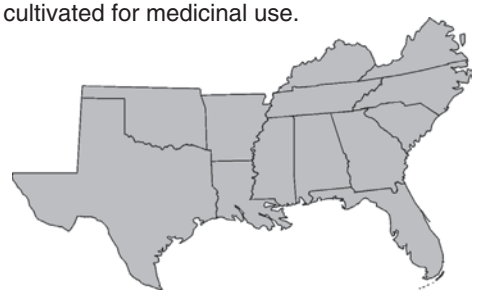
Fruit and seeds. June to September (and year-round). Aerial tubers (bulbils) resembling miniature potatoes being the most notable fruit with 1 to 4 occurring at leaf axils that drop and sprout to form new plants. Shape spherical (air and Chinese) to oblong (water). Texture smooth (air) to warty (Chinese) to rough (water). Air yam to 5 inches (12 cm) long, Chinese yam to 1 inch (2.5 cm) long, and water yam to 1.2 inches (3 cm) long and 4 inches (10 cm) wide. Very rarely have capsules and winged seeds, which have questionable viability.

Ecology. Rapid growing and occurring on open to semishady sites: water yams in Florida, air yams extending from Florida to adjacent States, and Chinese yams in all States except Florida. All dying back during winter but able to cover small trees in a year, with old vines providing trellises for regrowth. Spread and persist by underground tubers and abundant production of aerial yams, which drop and form new plants and can spread by water.

Resemble greenbrier, *Smilax* spp., which has thorns and 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): fourleaf yam, *D. quaternata* J.F. Gmel.; wild yam, *D. villosa* L., with hairy upper leaf surfaces; native Florida yam, *D. floridana* Bartlett; and, only in Florida, nonnative Zanzibar yam, *D. sansibarensis* Pax.

History and use. Introduced from Africa (air) and Asia (Chinese and water) as possible food sources in the 1800s. Ornamentals often spread by unsuspecting gardeners intrigued by the dangling yams. Presently cultivated for medicinal use.

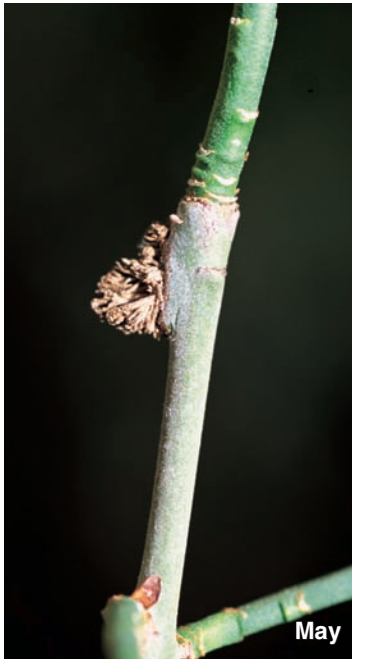
States with suspected infestations are shown in gray.



F. Nation

Winter Creeper

K. Langdon



Winter Creeper 3042

Euonymus fortunei (Tursz.) Hand.-Maz. **EUFO5**
Synonyms: climbing euonymus, gaity

Plant. Evergreen woody vine climbing to 40 to 70 feet (12 to 22 m) and clinging by aerial roots or rooting at nodes, or standing as a shrub to 3 feet (1 m) in height. Leaves thick and dark green or green-white variegated on green stems. Pinkish-to-red capsules splitting open in fall to expose fleshy orange seeds.

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 underneath or along surfaces used for attachment. 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 mid- and lateral veins (or variegated green white above and light green beneath). 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 a fleshy orange-to-red covered seed.

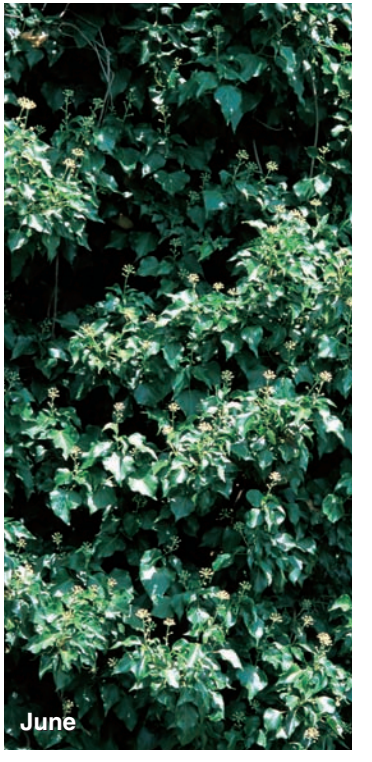
Ecology. Forms dense ground cover and can climb trees eventually overtopping them. Shade tolerant occurring under dense stands but avoiding wet areas. Colonizes by trailing and climbing vines that root at nodes, and spreads by bird-, other animal-, and water-dispersed seeds.

Resembles the larger leaved species of blueberry, *Vaccinium* spp., but their leaves are alternate. **Possibly resembles** the opposite- and thick-leaved rusty blackhaw, *Viburnum rufidulum* Raf., which is distinguished by dark buds in each axil.

History and use. Introduced from Asia in 1907. Ornamental ground cover.

States with suspected infestations are shown in gray.

English Ivy



English Ivy 3071

Hedera helix L. **HEHE**

Plant. Evergreen woody vine climbing to 90 feet (28 m) by clinging aerial roots and trailing to form dense ground cover. Thick dark-green leaves with whitish veins and three to five pointed lobes when juvenile. Maturing at about 10 years into erect plants or branches with unlobed leaves and terminal flower clusters that yield purplish berries. Toxic to humans when eaten and triggering 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 developing along the side where clinging to vertical structures. Aerial rootlets exuding a gluelike substance. Older vines sometimes grown together where crossed.

Leaves. Alternate, with shapes varying according to age—typical juvenile plants having three to five pointed lobes and mature plants broadly lanceolate and unlobed, 2 to 4 inches (5 to 10 cm) long and 2.5 to 5 inches (6 to 12 cm) wide. Thick and waxy, smooth and hairless, dark green with whitish veins radiating from the petiole and pale green beneath. Petioles to 6 inches (15 cm) long, pale green and often reddish tinged.

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 five-sided domed green floral disk, 0.1 inch (3 mm) wide, tipped by a short pistil.

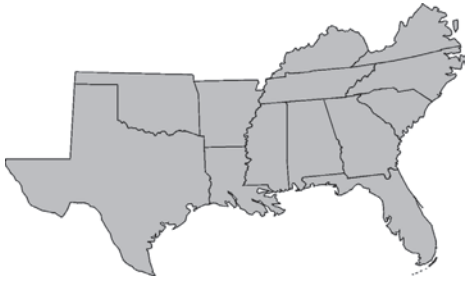
Fruit and seeds. October to May. Clusters of spherical drupes, 0.2 to 0.3 inch (7 to 8 mm). Pale green in late summer ripening to dark blue to purplish in late winter to spring.

Ecology. Thrives in moist open forests, but adaptable to a range of moisture and soil conditions, including rocky cliffs. Shade tolerance allowing early growth under dense stands, but becoming adapted to higher light levels with maturity. Avoids wet areas. Amasses on infested trees, decreasing vigor, and increasing chance of windthrow. Serves as a reservoir for bacterial leaf scorch that infects oaks (*Quercus* spp.), elms (*Ulmus* spp.), and maples (*Acer* spp.). Spreads by bird-dispersed seeds and colonizes by trailing and climbing vines that root at nodes. Drupes mildly toxic, discouraging over consumption by birds.

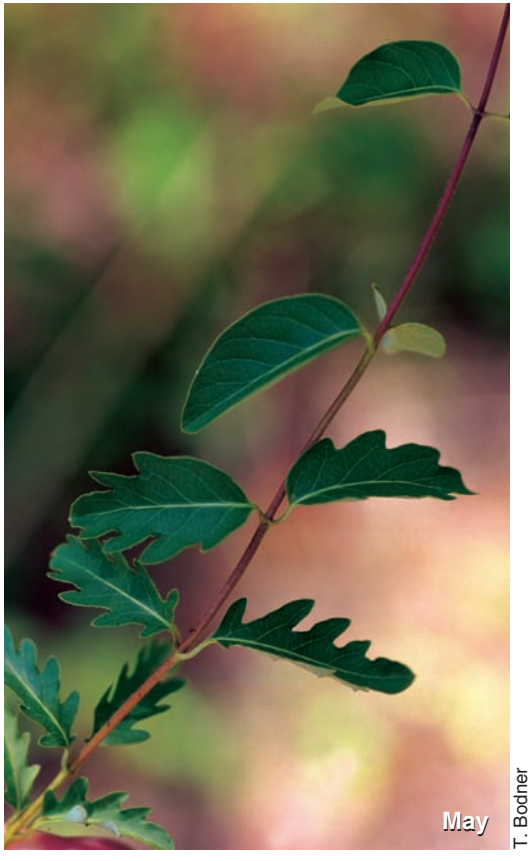
Resembles grape, *Vitis* spp., which has a leaf that is similarly shaped but not thick and often hairy.

History and use. Introduced from Europe in colonial times. Traditional ornamental and still widely planted as an ornamental. Source of varnish resin, dye, and tanning substances.

States with suspected infestations are shown in gray.



Japanese Honeysuckle



T. Bodner

T. Bodner

Japanese Honeysuckle 3101

Lonicera japonica Thunb. **LOJA**

Plant. Semievergreen to evergreen woody vine, high climbing and trailing to 80 feet (24 m) long, branching and often forming arbors in forest canopies and/or ground cover under canopies and forming long woody rhizomes that sprout frequently.

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 five lobes in two lips (upper lip four-lobed and lower lip single-lobed), with the longest lobes roughly equal to the tube. Five stamens and one pistil, all projecting outward and becoming curved. Persistent sepals.

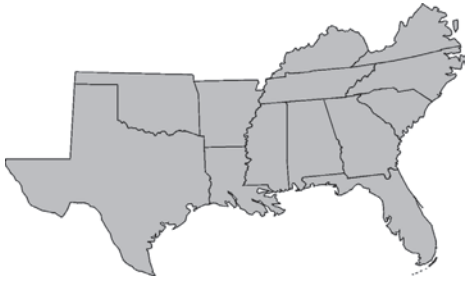
Fruit and seeds. June to March. Nearly spherical, green ripening to black, glossy berry 0.2 inch (5 to 6 mm) on stalks 0.4 to 1.2 inches (1 to 3 cm) long. Two to three seeds.

Ecology. Most commonly occurring invasive plant, overwhelming and replacing native flora in all forest types over a wide range of sites. Occurs as dense infestations along forest margins and right-of-ways as well as under dense canopies and as arbors high in canopies. Shade tolerant. Persists by large woody rootstocks and spreads by rooting at vine nodes and animal-dispersed seeds.

Resembles yellow jassamine, *Gelsemium sempervirens* (L.) St. Hil., which has thinner 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.

History and use. Introduced from Japan in the early 1800s. Traditional ornamental, valued as deer browse, with some value for erosion control. Still planted in wildlife food plots.

States with suspected infestations are shown in gray.



Kudzu

T. Bodner

T. Bodner

T. Bodner

Kudzu 3123

Pueraria montana (Lour.) Merr. **PUMOL**
Synonyms: *P. lobata* (Willd.) Ohwi, *P. montana var. lobata* (Willd.) Maesen & S. Almeida

Plant. Deciduous twining, trailing, mat-forming, ropelike woody leguminous vine, 35 to 100 feet (10 to 30 m) long with three-leaflet leaves. Large semiwoody tuberous roots reaching depths of 3 to 16 feet (1 to 5 m). 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 yellow green with dense erect golden hairs and upward matted silver hairs, aging to ropelike, light gray, and hairless. Frequent unswollen nodes that root when on the ground. Mature bark eventually rough, rigid, and usually dark brown.

Leaves. Alternate, pinnately compound three-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): a two-lobed symmetric middle leaflet and two one-lobed side leaflets, all petioles swollen near leaflets. Tips pointed. Margins thin membranous and fine golden hairy. Leafstalks 6 to 12 inches (15 to 30 cm) long, long hairy, base swollen, with deciduous stipules.

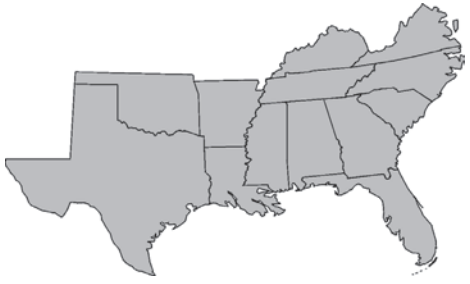
Flowers. June to September. Axillary slender clusters (racemes), 2 to 12 inches (5 to 30 cm) long, of pealike flowers in pairs (or threes) from raised nodes spiraling up the stalk, opening from the base to top. Petals lavender to wine colored with yellow centers.

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. Splitting on one to two sides to release a few ovoid seeds.

Ecology. Occurs in old infestations, along right-of-ways and stream banks. Forms dense mats over the ground, debris, shrubs, and mature trees forming dense patches by twining on objects less than 4 inches (10 cm) in diameter. Colonizes by vines rooting at nodes and spreads by wind-, animal-, and water-dispersed seeds. Seed viability variable. Leguminous nitrogen fixer.

History and use. Introduced from Japan and China in early 1900s with continued seed importation. Erosion control, livestock feed, and folk art.

States with suspected infestations are shown in gray.



Vincas, Periwinkles

Bigleaf periwinkle

Common periwinkle
leaves and flower

Bigleaf periwinkle
leaves and flower

Bigleaf periwinkle

Bigleaf periwinkle

B. Rice

Vincas, Periwinkles 3211

Common periwinkle, *Vinca minor* L. VIMI2
Bigleaf periwinkle, *V. major* L. VIMA

Plant. Evergreen to semievergreen 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 (bigleaf 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 midveins above and lighter green with whitish midveins beneath. Some varieties variegated.

Flowers. April to May (sporadically May to September). Axillary, usually solitary. Violet to blue lavender (to white), with five 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 sepals long lanceolate, about 0.4 inch (1 cm), hairy margined.

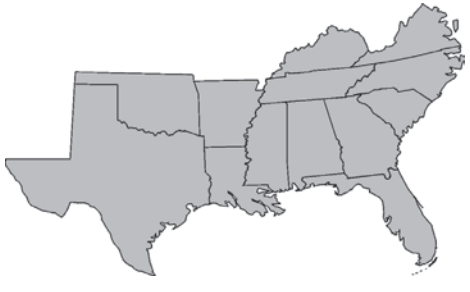
Fruit and seeds. May to July. Slender, cylindrical fruit to 2 inches (5 cm) long. Becoming dry and splitting to release three to five seeds.

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, with viability of seeds yet to be reported.

Resemble partridgeberry, *Mitchella repens* L., which has cordate leaves, white twin flowers, and red berries. **Also, may resemble** yellow jasmine, *Gelsemium sempervirens* (L.) St. Hil., which has wider spaced leaves and reddish stems, often white waxy.

History and use. Introduced from Europe in 1700s. Ornamental ground cover, commonly sold and planted by gardeners.

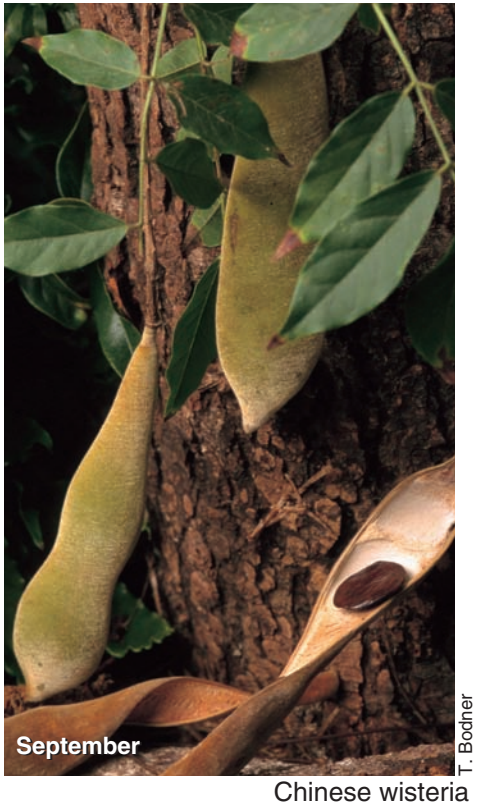
States with suspected infestations are shown in gray.



Bigleaf periwinkle April

Nonnative Wisterias

T. Bodner



T. Bodner

Chinese wisteria shown in images

T. Bodner

Nonnative Wisterias 3251

Chinese wisteria, *Wisteria sinensis* (Sims) DC. **WISI**
Japanese wisteria, *W. floribunda* (Willd.) DC. **WIFL**

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 possible 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). Pealike flowers, corolla lavender to violet (to pink to white). Fragrant.

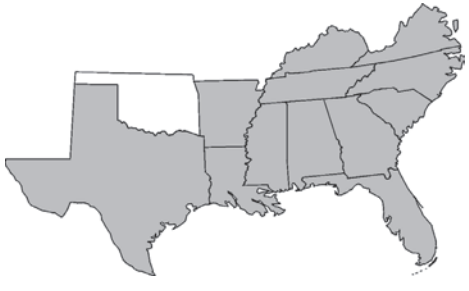
Fruit and seeds. July to November. Flattened legume pod, irregularly oblong to oblanceolate, 2.5 to 6 inches (6 to 15 cm) long and 0.8 to 1.2 inches (2 to 3 cm) wide. Velvety hairy, greenish brown to golden, splitting on two sides to release one to eight flat round brown seeds, each 0.5 to 1 inch (1.2 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. Seeds water-dispersed along riparian areas. Large seed size a deterrent to animal dispersal.

Resemble native or naturalized American wisteria, *W. frutescens* (L.) Poir., which does not form extensive infestations, occurs in wet forests, flowers in June to August after leaves developed, and has 6-inch (15-cm) flower clusters, 9 to 15 leaflets, hairless pods, and slender old vines. **Also may resemble** trumpet creeper, *Campsis radicans* (L.) Seem. ex Bureau, which has leaflets with coarsely toothed margins.

History and use. Introduced from Asia in the early 1800s. Traditional southern porch vines.

States with suspected infestations are shown in gray.



Chinese wisteria April