

INVASIVE PLANT SPECIES

IDENTIFICATION GUIDE

SYMBOL KEY

D: deciduous

E : evergreen



: What? These plants are
still for sale?!?!



: tree



: shrub



: grass



: vine



: forb

Information compiled by Julian Wilson

Photos courtesy of Leigh Bragassa, Jason Kiser, and Julian Wilson

City of Raleigh Parks, Recreation, and Cultural Resources

Invasive Species Program

2020



CALLERY PEAR

Pyrus calleryana

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Pyrus calleryana

Callery Pear became a popular ornamental due to its rapid growth, which comes at the expense of a very weak branch structure. This often causes branches to split apart during storms and ultimately results in tree death. Callery pear invades native ecosystems in Raleigh, from forests to meadows.

Callery Pear can be identified by its finely serrated oval leaves and white blooms in spring. Some cultivars do not have thorns, but many are covered in large, painful thorns. The most well-known cultivar is the Bradford Pear.





KUDZU

Pueraria montana

KUDZU

Pueraria montana

Kudzu was intentionally planted in the United States in the 1930s in a misguided effort to control erosion in farm fields. Unfortunately, kudzu can grow a foot per day and tends to dominate landscapes, regularly engulfing entire trees, power lines, and buildings. Its tendency to quickly cover anything led to its nickname "the vine that ate the South."

Kudzu can be identified by its three broad leaflets with hairy margins. Leaf shape can vary, but most are 2-3 lobed.





JAPANESE HOP

Humulus japonicus

JAPANESE HOP

Humulus japonicus

Introduced in the 1880s, Japanese hop vine can grow up to 35 feet in a single growing season, leading to fast colonization of disturbed sites. It is often found in riparian sites, and forms dense mats of vegetation that make land difficult for other plants to grow and inaccessible to people.

The leaves of Japanese hop vine have toothed edges and 5-7 lobes. Both stems and leaves have coarse prickly hairs which can cause itchiness, cuts, and blisters when in contact with skin.





CHINABERRY TREE

Melia azedarach

CHINABERRY TREE

Melia azedarach

Introduced in the late 1700s, the Chinaberry tree became a very popular shade tree across the South. The leaf litter from the Chinaberry tree has been documented to change the chemical composition of the surrounding soil, having a negative effect on native plants nearby. It spreads by seeds and can re-sprout from the roots.

The Chinaberry tree can be identified by its serrated bi-pinnate leaves and noticeable three-lobed leaf scars. Its berries are a light yellow/beige color and remain after leaves are lost in the winter.





TREE OF HEAVEN

Ailanthus altissima

TREE OF HEAVEN

Ailanthus altissima

Tree of Heaven was introduced in the 1700s and has spread aggressively into natural areas. It is found often along roadways and other disturbed sites. When cut or injured, it sends up an abundance of sprouts, which can produce seed as young as two years. Bark is smooth when young, becoming mottled as it matures and eventually resembling the skin of a cantaloupe.

The easiest way to distinguish tree of heaven from native tree species such as sumac and black walnut is to crush a leaf. Tree of heaven has a very distinctively rancid smell, sometimes compared to spoiled peanut butter.





MULTIFLORA ROSE

Rosa multiflora

MULTIFLORA ROSE

Rosa multiflora

Likely introduced in the 1800s, multiflora rose's spread was hastened in the 1900s when it was used as an erosion control and a form of "living fence" to contain livestock. It tends to form dense hedges, shading out native plants, and can colonize a multitude of different habitats including woodlands, pastures, and swamps.

Stems on multiflora rose can be anywhere from red to green, and are covered in many thorns. Leaves are pinnate and compound with saw-toothed leaflets and fringed stipules.





MONKEY-GRASS

Liriope spicata and Liriope muscari

MONKEY-GRASS

Liriope spicata and *Liriope muscari*

Also called lilyturf, monkey-grass is regularly used in landscaping as a ground cover due to its ability to spread quickly even in poor soil. *Liriope muscari* tends to form dense clumps, *Liriope spicata* is more likely to grow into an even mat, and tends to have slightly thinner leaves. Both species will prevent the growth of native plants in the area and have a tendency to spread aggressively. Monkey-grass flowers range from white to purple, and berries are dark and blackish. Its leaves are grass-like.





WINTER CREEPER

Euonymus fortunei

WINTER CREEPER

Euonymus fortunei

Winter creeper can reach heights of 70 feet, winding up into trees over time. It grows aggressively, and has been known to kill shrubs and small trees. It can also form dense growth on the forest floor, blocking sunlight and preventing the germination of native plants.

Winter creeper can be identified by its oval leaves which are slightly toothed. Its leaves are glossy and opposite one another on the stem, often with small white veins visible on the leaf surface.





SWEET AUTUMN CLEMATIS

Clematis terniflora and *Clematis*
paniculata

SWEET AUTUMN CLEMATIS

Clematis terniflora and Clematis paniculata

Sweet autumn clematis puts out masses of seeds each year, making it very difficult to remove from a landscape once it is established. Its seeds are spread by birds, small animals, and water. It is often found along roadways and near creeks or other waterways. It can grow up to 30 feet tall, winding its way up into the tree canopy.

In late summer to fall, sweet autumn clematis can be identified by its fragrant masses of small white flowers with four petals.



The background of the image is a collage of several photographs showing the Creeping Charlie plant. The plants are characterized by their low-growing, creeping stems and small, rounded, green leaves. They are shown in various natural settings, including on the ground, in a grassy area, and near some thin tree trunks. The text is overlaid on this background.

CREeping CHARLIE

Glechoma hederacea

CREEPING CHARLIE

Glechoma hederacea

Often referred to as ground ivy, Creeping Charlie can spread very rapidly. It commonly grows in the moist soil of lawns and floodplains, and can be toxic to horses and some other vertebrates.

Creeping Charlie can be identified by its square stems, scalloped leaf edges, and musky scent when leaves are crushed. The scent is often described as minty or balsamic. However, it can be easily confused with other herbaceous purple flowering plants in the mint family.





CHINESE HOLLY

Ilex cornuta

CHINESE HOLLY

Ilex cornuta

An evergreen invasive shrub introduced to the landscape industry from China and Korea, Chinese holly is still very popular despite its ability to escape cultivation. This spiky menace can reach 15-25' in height while shading out native plants below it, starving them of sunlight.

The inkberry holly (*Ilex glabra*) is a native evergreen that makes a beautiful substitution.

Chinese holly can be identified by the tip of its leaf, which has a spike that points downward, making the spines on either side resemble bull horns.





LEATHERLEAF MAHONIA

Mahonia bealei

LEATHERLEAF MAHONIA

Mahonia bealei

Leatherleaf mahonia is an evergreen shrub that can grow up to 10 feet tall. Originally brought to the United States as an ornamental in the 1800s, it has spread into the wild and is rapidly invading the native woods of the Piedmont. Instead of the Leatherleaf mahonia, consider planting the Winterberry holly (*Ilex verticillata*), a beautiful low-maintenance native evergreen with bright red berries. Leatherleaf mahonia has large spiky leaves and corky bark that is bright yellow inside. It has blue berries in the winter and yellow flowers in late winter or early spring.





CREPE MYRTLE

Lagerstroemia spp.

CREPE MYRTLE

Lagerstroemia spp.

Crepe myrtles are an incredibly popular tree in the South, due to their showy blooms and their tolerance to drought. However, some native birds have begun to eat their seeds, leading to introduction into our natural areas by crepe myrtles and the exclusion of native plant species.

Crepe myrtles can be identified by their smooth, velvety bark that sheds yearly. Leaves are small, dark green, and oval-shaped. Brightly colored, showy blooms last for several months in the summer.





QUEEN ANNE'S LACE

Daucus carota

QUEEN ANNE'S LACE

Daucus carota

A native of Europe, this invasive member of the carrot family infests disturbed areas and can often be found in ditches and along roadsides in Raleigh. The seeds "hitchhike" on clothing, fur, and equipment, easing the spread of the plant. It is difficult to eradicate and adaptable to many habitats.

Small white flowers bloom in flat circular bundles from May to October. Queen Anne's Lace can also be identified by its hairy stem.





ORIENTAL BITTERSWEET

Celastrus orbiculatus

ORIENTAL BITTERSWEET

Celastrus orbiculatus

Often found growing along roadways or other disturbed sites, Oriental bittersweet spreads rapidly from its root system and can be distributed over long distances by birds eating its seeds. It crowds out native plants and twines tightly around trees, eventually killing them. Leaves are broad, ovular, and finely toothed. Female vines produce bright red fruit inside of a yellowish golden capsule. Native bittersweet vines (*Celastrus scandens*) fruit and flower at the ends of branches while Oriental bittersweet fruits and flowers at the axils of leaves.





ROSE OF SHARON

Hibiscus syriacus

ROSE OF SHARON

Hibiscus syriacus

Rose of Sharon can grow up to 12 feet tall and 10 feet wide, and spreads by seed easily, outcompeting native plants such as our native Hibiscus species. Its showy flowers and tolerance of poor soil made Rose of Sharon a popular ornamental, but its easily germinating seeds make it a dangerous invasive.

It can be identified by its 5-petaled crepe-like flowers in a variety of colors. Its leaves are 3-lobed and coarsely toothed on the margins. It tends to grow in a distinctive vase-like shape.





WHITE MULBERRY

Morus alba

WHITE MULBERRY

Morus alba

The white mulberry was introduced in an ineffective effort to start a commercial silk industry in America. However, it quickly escaped cultivation and invaded natural areas, out-competing the native red mulberry (*Morus rubra*). It has also begun crossing with the native mulberry, creating a new hybrid species.

White mulberry trees can be identified by the shiny, waxy appearance of their leaves. Unlike red mulberries, the underside of their leaves are not hairy. Leaf shape varies widely from a simple heart shape to a single lobed "mitten" shape to more deeply lobed variations.





PAPER MULBERRY

Broussonetia papyrifera

PAPER MULBERRY

Broussonetia papyrifera

The paper mulberry is not technically a "true" mulberry, as it is not in the genus *Morus*. However, its appearance is very similar in many ways to that of the native red mulberry. It spreads rapidly, shading out native plants, and its shallow root system makes it prone to falling over and becoming hazardous.

Both red and paper mulberries have hairy undersides to their leaves, yet only paper mulberries have hairy stems. Leaf shape can vary from a simple heart shape to a single lobed "mitten" shape to more deeply lobed variations.





SHRUB LESPEDeza

Lespedeza bicolor

SHRUB LESPEDEZA

Lespedeza bicolor

Originally introduced as an ornamental in the 1850s, shrub lespedeza soon was used for erosion control and mine reclamation. In the 1940s, USDA wildlife managers spread seed and promoted plantings, hastening its invasive spread. Although shrub lespedeza has spread through most of the country, its invasive potential is most clearly realized in the Southeast.

Shrub lespedeza can grow to 10ft, and has alternate leaves comprised of 3 oval leaflets and pea-like flowers in shades of pink to purple. It can vary in appearance due to the existence of many cultivars.





SERICEA LESPEDeza

Lespedeza cuneata

SERICEA LESPEDEZA

Lespedeza cuneata

Introduced in the late 1800s, the invasive spread of sericea lespedeza was hastened by attempts to use it to control erosion and feed livestock. Unfortunately, it spreads rapidly by seed and out-competes native grasses and wildflowers. Sericea lespedeza can be found in abundance along roadways and other disturbed sites. Sericea lespedeza grows 3-6ft tall, and has alternate leaves comprised of many clusters of 3 oval leaflets and pea-like flowers (often white with a purple center). Stems are often a grayish green.





AUTUMN OLIVE

Elaeagnus umbellata

AUTUMN OLIVE

Elaeagnus umbellata

Introduced in 1830 as an ornamental plant, autumn olive's spread was hastened in the mid-1900's due in part to well-meaning but misguided efforts to provide habitat for wildlife and control erosion. Autumn olive can grow up to 10 feet tall and spreads rapidly by seed dispersal as each plant can produce up to 200,000 seeds.

Silvery scales on backside of leaves aid in easy identification of both autumn and thorny olive.





THORNY OLIVE

Elaeagnus pungens

THORNY OLIVE

Elaeagnus pungens

Introduced as an ornamental, thorny olive is planted along roadways and medians to form a dense evergreen hedge. It can grow up to 40 ft and extend into the canopy of trees, blocking light from the forest floor and preventing native plant growth. Thorny olive spreads by seeds.

Silvery scales on backside of leaves aid in easy identification of both thorny and autumn olive.





ASIAN WISTERIA

Wisteria sinensis & *Wisteria floribunda*

ASIAN WISTERIA

Wisteria sinensis & Wisteria floribunda

Vine

Wisteria was introduced as an ornamental plant due to its fragrant and showy purple flowers. It quickly became invasive, shading out native plants and wrapping itself tightly around trees. Wisteria can spread by seeds, rooting at the nodes, or from small root fragments left during removal. Asian wisteria is so invasive that nurseries now only offer our native wisteria for purchase.

Japanese wisteria has light bark and will wrap clockwise, while Chinese wisteria wraps counter-clockwise with darker grey bark.





PERIWINKLE

Vinca minor

PERIWINKLE

Vinca minor

Evergreen vine

Often planted as a ground cover, periwinkle was introduced in the 1700s. Periwinkle can form dense mats, preventing native plant germination. Because it spreads by underground rhizomes, periwinkle can be incredibly difficult to get rid of, as it can re-sprout from root matter left behind during removal.

Periwinkle can be identified by its dark green, glossy leaves with smooth edges. Flower color can be purple, blue, or white. Leaves are ~1 inch across.





GREATER PERIWINKLE

Vinca major

GREATER PERIWINKLE

Vinca major

Evergreen vine

Greater periwinkle, also called large periwinkle, is similar to periwinkle with larger leaves that are ~2 inches long. Often planted in ornamental beds for its large showy flowers, greater periwinkle will root at the node and spread rapidly and can regenerate from improperly disposed of cuttings. It can form dense mats that prevent native plants from germinating.

Greater periwinkle can be identified by its large leaves and its flowers which come in a broad variety of colors.





LARGE LEAF PRIVET

Ligustrum japonicum and *Ligustrum
lucidum*

LARGE LEAF PRIVET

Ligustrum japonicum and *Ligustrum lucidum*

Evergreen Shrub

Although it is a shrub, large leaf privet can grow to be 30 feet tall. It forms impenetrably dense thickets in the understory of forests that prevent native plant growth. Privet spreads primarily by seed dispersal but can also spread by sprouting from its roots. Japanese privet and glossy privet are two of the more common large leaf privets in the City of Raleigh.

Privet can be identified by its waxy, opposite leaves with a pointed tip. White flowers form in clusters at the end of its branches. Leaves are 2-6 inches long.





SMALL LEAF PRIVET

Ligustrum sinense and *Ligustrum
vulgare*

SMALL LEAF PRIVET

Ligustrum sinense and *Ligustrum vulgare*

Evergreen Shrub

Although it is a shrub, small leaf privet can grow to be 20 feet tall. It forms impenetrably dense thickets in the understory of forests that prevent native plant growth. Privet spreads primarily by seed dispersal but can also spread by sprouting from its roots. Chinese privet and common/European privet are two of the more common small leaf privets in the City of Raleigh.

Privet can be identified by its waxy, opposite leaves with a wedge-shaped base. White flowers form in clusters at the end of its branches. Leaves are 1-3 inches long.





ENGLISH IVY

Hedera helix

ENGLISH IVY

Hedera helix

Evergreen Vine

Introduced in the early 1700s, English ivy's ability to grow in full shade made it a popular ground cover. Not only does English ivy block the growth of native plants on the forest floor, it grows into the tree canopy where it matures, produces berries, and spreads by seed. By catching wind during storms, it can lead to tree failure. English ivy can also spread by rooting at the node.

English ivy can be identified by its waxy leaves which are often 3-5 lobed with white veins. Vines are often covered in light brown hairs.





PORCELAIN VINE

Ampelopsis brevipedunculata

PORCELAIN VINE

Ampelopsis brevipedunculata

Vine

Porcelain vine is a major invasive threat to our ecosystem. It blocks sunlight from the native plants it rapidly covers, killing them and preventing new growth. Porcelain vine is spread by seeds in its brightly colored blue and purple berries. It can also regenerate from root fragments.

Leaf shape often varies in lobe number and intricacy. Porcelain vine can be distinguished from native grape vines by berry color and upward direction of berry cluster.





JAPANESE HONEYSUCKLE

Lonicera japonica

JAPANESE HONEYSUCKLE

Lonicera japonica

Vine

Often mistaken for a native plant due to its proliferation throughout the landscape, Japanese honeysuckle regularly displaces native plant communities. It can spread by seeds, above-ground runners, and underground rhizomes. Japanese honeysuckle is one of the most common invasive plants in the City of Raleigh.

Unlike the native honeysuckle's vibrant red flowers, Japanese honeysuckle has white flowers that fade to yellow with age.





HEAVENLY BAMBOO

Nandina domestica

HEAVENLY BAMBOO

Nandina domestica

Evergreen shrub

Heavenly bamboo became popular in landscaping for businesses and private homes alike due to its bright red berries, which unfortunately are toxic to several bird species. It can grow up to 8 feet tall and displace native vegetation by forming dense hedges, and spreads rapidly into natural areas. Nandina spreads through seed dispersal, suckers, and rhizomes.

Nandina can be identified by its bi- or tri-pinnate evergreen leaves and by its bright red berry clusters in the winter.





FIG BUTTERCUP

Ficaria verna

FIG BUTTERCUP

Ficaria verna

Herbaceous perennial

Also known by the name lesser celandine, Fig buttercup was introduced as an ornamental in the 1800s. It is toxic to many animals, making it a hazard to humans and livestock. It spreads primarily through its bulblets and tubers, which can grow into their own plant if separated. Fig buttercup displaces native plants, and can actually inhibit their growth.

Fig buttercup can be identified by its yellow flowers with 7-12 petals and its tendency to grow in dense mats. Aboveground portions of the plant die back by early June.





MIMOSA

Albizia julibrissin

Tree

Introduced as an ornamental plant in 1745 from China, mimosa quickly became popular throughout the American South for its showy flowers. A fast-growing colonizer of disturbed sites, this species can grow to 40 feet. Mimosa seeds can remain viable for 25 years and the stumps resprout easily once cut.

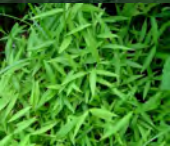
Mimosa can be identified by its fern-like leaves and fragrant puffy flowers, which are most often pink.





JAPANESE STILTGRASS

Microstegium vimineum



JAPANESE STILTGRASS

Microstegium vimineum

Grass

Likely introduced as a packing material for porcelain shipments, Japanese stiltgrass can grow up to 3.5 feet in height and is common along rivers and in floodplains.

Mowing is not an effective control because Japanese stiltgrass will still set seed at 1.5 inches. Each plant can produce up to 1,000 seeds, leading to rapid colonization of an area. When the plants die in the winter, they form a dense mat that prevents native seed germination.

Stiltgrass can be identified by its tapered leaf blades and reflective hairs along the center of the upper leaf surface.





GOLDEN BAMBOO

Phyllostachys aurea

GOLDEN BAMBOO

Phyllostachys aurea

Grass

Introduced in the 1800s, bamboo quickly became widespread due to its popularity as a "screen" in landscaping. It forms dense stands, preventing native plant growth. Bamboo spreads rapidly through rhizomes and regrows quickly when damaged.

Bamboo species are best identified in early spring by new shoot growth. Golden bamboo is one of the most widespread invasive bamboo species. There are 500 bamboo species that grow in the United States. Of these, only three are native bamboo in the family *Arundinaria*.





JOHNSONGRASS

Sorghum halepense

JOHNSONGRASS

Sorghum halepense

Grass

Although it was introduced in the early 1800's as a forage crop for livestock, many hybrid versions of johnsongrass can be toxic to cattle. The tendency of johnsongrass to spread by seed and by underground stems has caused it to become a major nuisance for agricultural crop production. It is considered one of the top 10 most noxious weeds in the world.

Johnsongrass can be identified by its football-shaped dark seeds and open, angular seed-head. The leaves have a prominent whitish midvein.

