Field Guide to Common Legume Species of the Longleaf Pine Ecosystem

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Ichauway

In Partnership With:

Georgia Native Plant Society

National Fish and Wildlife Foundation

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Nomenclature follows Wunderlin and Hansen's Guide to the Vascular Plants of Florida, second edition (2003).

Front cover: Sampson's snakeroot (*Orbexilum pedunculatum*) by Heather Norden.

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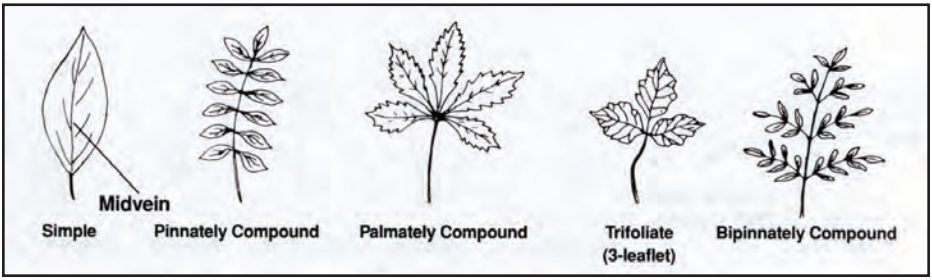
Introduction

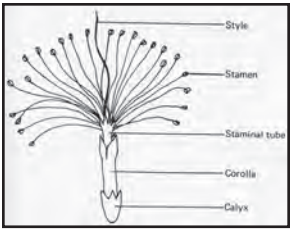
What is a legume?

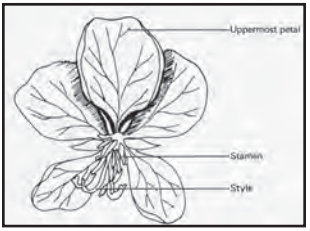
A legume is any one of many plant species in the family Fabaceae (also called Leguminosae). There are over 15,000 species of legumes worldwide, and over 100 of these legume species occur in the southeastern United States. Legumes can usually be identified by several physical characteristics, including leaf type, floral structure, and, most importantly, fruit type.

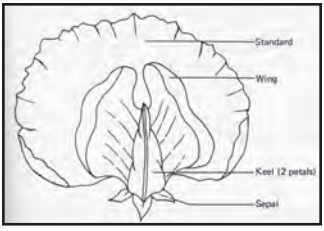
Leaf types:
Most species of legumes in the southeastern United States have either trifoliate or pinnately compound leaves, with a few species exhibiting other leaf types as shown in the diagram below.



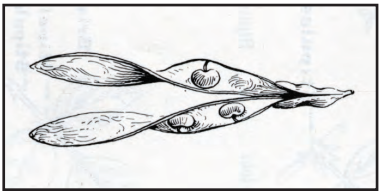
Floral structure:
Legume flowers can be one of three types. One type (below, left) has reduced petals and numerous stamens on thin filaments, appearing like a "pom-pom" (as in the genus *Mimosa*). The second type (below, middle) has an open flower with five obvious petals (as in the genus *Chamaecrista*). The third floral structure is the most common legume flower (below, right) with five petals that are fused at the base (as in the genus *Lespedeza*).

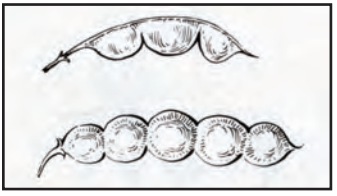






Fruit type:
The most distinguishing characteristic of all species in the legume family is the fruit, also called a legume. A legume is a dry fruit that usually splits along two edges (below, left). A legume can have a single seed or multiple seeds within it, and the seeds usually have a hard seed coat. A loment (below, right) is a legume with the seed coat constricted between each seed.





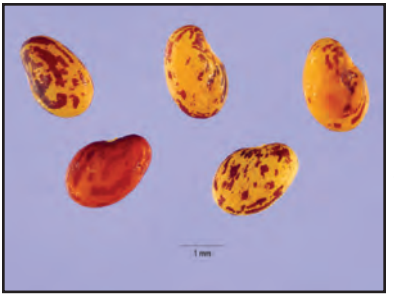
Species Biology of Legumes

Legume species are often found in high abundance in fire-dependent ecosystems, such as the longleaf pine ecosystem of the southeastern United States. These legume species are incredibly fire-tolerant and have adapted specific traits which help them persist through frequent fire return intervals. Most native legume species are relatively long-lived perennials that persist for many years after establishment. Legumes are also some of the first ground cover species to re-sprout after fire, allowing them to effectively compete with other native vegetation for light, moisture, and nutrients.

Many legume species have evolved traits to persist through frequent fire.

Although legume species do not require fire to flower, several species experience a burst of flowering following fire, which may help attract pollinators and increase seed production. All species of legumes are insect pollinated, with the majority of species requiring a bee pollinator for successful pollination. After pollination, many legume species produce abundant seeds, which typically have a hard seed coat that is impermeable to water and enables them to stay viable in the soil for many years, or until conditions become favorable for germination.

Bee pollinating partridge pea
(*Chamaecrista fasciculata*)



Hard-coated seeds of hairy lespedeza
(*Lespedeza hirta*)

Ecological and Biological Importance of Legumes

Native legumes are an important component of the longleaf pine ecosystem, comprising more than 10% of the vascular plants within such communities. They are also one of the most diverse vascular plant families within longleaf pine communities, and they are critical to the ecology and biology of the longleaf pine ecosystem by providing a food source for wildlife and replenishing nitrogen to the soil.

Wildlife benefit:

Many species of native legumes have high nutrient and protein contents, which makes them a preferred forage for many herbivores, including white-tailed deer, gopher tortoises, rabbits, and pocket gophers. Legumes also tend to be abundant seed producers, and these seeds are an important component of the diets of bobwhite quail, wild turkey, seed-eating songbirds, and small mammals. In addition to providing food for wildlife, some species of native legumes also provide cover for ground-nesting birds and small mammals. Legumes re-sprout quickly after fire, and often grow low to the ground, offering protection from predators.

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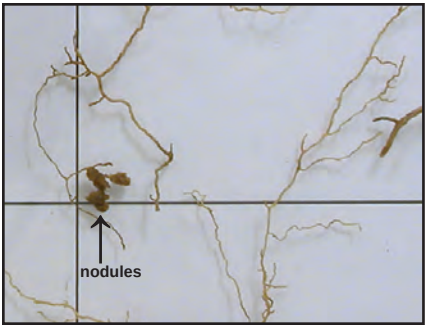
Legume seeds are an important component in the diet of the bobwhite quail.

© Heather Norden, JWJERC

Goat's rue (*Tephrosia virginiana*) is a native legume that provides good cover for ground-nesting birds.

Nitrogen fixation:

Legumes have the unique ability to fix nitrogen, which means they can convert atmospheric nitrogen into forms usable by plants. Legumes have a mutualistic relationship with special types of soil bacteria, called rhizobia, that penetrate legume roots and create small growths, called nodules. The legume provides the rhizobia with energy and nutrients, and in return the rhizobia transform atmospheric nitrogen into usable nitrogen compounds that are eventually returned to the soil. This process is particularly important in the fire-dependent longleaf pine ecosystem, where frequent burning leads to the loss of significant amounts of organic nitrogen from the soil.



© Photo by Dwan Williams, JWJERC

Nodules on the roots of goat's rue (*Tephrosia virginiana*).

Impact of Non-Native and Invasive Species

A non-native plant species is one that has been introduced into an ecosystem to which it is not native. Although some non-native species have been accidentally introduced on ships from overseas, the vast majority of non-native plant species are brought to North America for use in the commercial nursery trade, for erosion control, or as food and forage crops. A non-native invasive plant species is a non-native species that has the potential to spread quickly through natural areas, significantly disturbing the native vegetation and altering community composition, structure, and function.

© John McGuire, The Longleaf Alliance

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Kudzu (*Pueraria montana,* above, left) and shrubby lespedeza (*Lespedeza bicolor*, above,right) are two non-native, invasive legumes that can quickly displace native vegetation.

It is important to remember that not all non-native species are considered invasive. Some non-native species are unable to tolerate environmental conditions outside of their natural ranges and compete poorly with native species. However, there are many non-native species that can tolerate a wide range of conditions and have life history traits, such as the production of large quantities of seed and the ability to reproduce vegetatively, that enable them to outcompete native plants. Invasive species can be devastating to natural ecosystems and can contribute to the decline and extirpation of rare and endangered species.

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Control of kudzu (*Pueraria montana*) requires repeated application of herbicides.

It is often difficult to control or remove invasive plants once they become established. Mechanical methods followed by chemical treatments with herbicides are often necessary to destroy the extensive root systems and prevent re-sprouting, and the financial cost of such intensive treatments can be very high. Additionally, these techniques may not be sufficient if the invasive plant is able to reproduce and set seed before being treated.

In the southeastern United States, invasive species, including several legume species such as kudzu, are a well-known component of the landscape. Although some of these invasive legumes are still available commercially, their use should be discouraged. In many cases, there are native legumes that can serve as appropriate substitutes for invasive non-natives.

Native Ground Cover Restoration

Importance of Restoration

The longleaf pine ecosystem was once the dominant ecological community of the southeastern Coastal Plain, but is now one of the most endangered ecosystems in North America. With less than 3% of its original extent remaining, longleaf pine communities have largely been cleared and planted to off-site pines, as well as converted to agricultural fields. Restoration of the longleaf pine ecosystem is both of local and regional concern due to the high species diversity harbored within these communities.

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While past restoration efforts have largely focused on restoring the overstory, growing landowner participation in the USDA's Conservation Reserve Program (CRP), which subsidizes the planting of longleaf pine seedlings in former agricultural fields, has led to increasing interest in the restoration of native ground cover species associated with the longleaf pine ecosystem. Because of the important role of native ground cover in fire management and value to wildlife, financial incentives are also available to plant native ground cover as part of the CRP program. Native legumes, in particular, are ideal candidates for restoration because of their abundance, contribution to biodiversity, and importance to wildlife.

Native Ground Cover Partners

Although seeds of native legume species with high wildlife habitat and site restoration values are in demand, they are generally unavailable commercially. In order to create a market for native legumes and their stimulate commercial production, basic information is still needed about their reproductive biologies, techniques for producing seed at a commercial scale, and practical approaches to restoration across a range of conditions.

The Native Ground Cover Partners (NGCP) was initiated in 2001 as a collaboration of researchers, practitioners, and private landowners, who are working together to provide direction for development of cost-effective techniques for restoring wildlife-friendly ground cover species and ecosystem functions in longleaf pine forests. Current participants in the NGCP include the Joseph W. Jones Ecological Research Center at Ichauway, The University of Georgia National Environmentally Sound Production Agriculture Laboratory (NESPAL), the Georgia Department of Natural Resources Wildlife Resources Division (GA DNR), and several private landowners in southwest Georgia.

© Kim Coffey, JWJERC

This site is in the early stages of restoration, with planted longleaf pine saplings.

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Flats of native legumes for use in restoration projects.

Seed Production Garden

One project funded through the NGCP and the National Fish and Wildlife Foundation is a seed production garden at Ichauway, which explores the re-establishment potential of native legumes, as well as several other native ground cover species (including grasses and composites). This seed garden is maintained by the staff of the Jones Ecological Research Center, and serves as both a source of native seed for future restoration efforts and a demonstration area to encourage the commercial production of native seed. Species are selected for propagation in the garden based on several characteristics, including feasibility of large-scale production and seed harvest, abundance in the native ground cover, and functional importance as fuels, nitrogen fixers, and wildlife value. To determine the best ways to grow these legumes, maximize seed production, and efficiently collect and clean seed, several planting and maintenance techniques are being explored in the garden, such as planting seed vs. greenhouse-grown plugs, planting in rows vs. plots, burning, and application of various herbicides and fertilizers.

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Florida ticktrefoil (*Desmodium floridanum*) planted in rows can be plowed to eliminate weedy competition.

© Nancy Newberry, JWJERC

A combination of hand weeding and herbicide application in a plot of planted hairy lespedeza (*Lespedeza hirta*) helps eliminate weedy competition.

© Michelle Creech, JWJERC

Hairy small-leaf ticktrefoil (*Desmodium ciliare*) and hairy lespedeza (*Lespedeza hirta*) in the seed production garden.

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Plots of native legumes are burned to stimulate vigorous growth, flowering, and seed production.

Species Accounts

Native Species

Bastard False Indigobush

Amorpha fruticosa L.

© Dan Tenaglia, missouriplants.com

© Dan Tenaglia, missouriplants.com

Species Description

Habitat Note: This species occurs in riparian hammocks and along stream banks within the range of the longleaf pine ecosystem.
Plant: deciduous shrub or small tree, approximately 4-15 feet tall
Leaves: pinnately compound, with an odd number of leaflets (usually 9-15)
Leaflets: approximately ½-2 inches long, elliptic, oblong, or lanceolate with smooth margins
Flowers: spring-summer; light or dark purple, arranged in a raceme that is approximately 2-8 inches long
Fruit: legume, curved with one seed, approximately ¼ inch long

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Wildlife Benefit

Seeds are eaten by bobwhite quail and other birds, however, the leaves provide poor forage value for wildlife. The flowers attract butterflies, and the southern dog face butterfly larvae uses the leaves of this plant for food.

Similar Species

Young, vegetative individuals of black locust (*Robinia pseudoacacia*) can look very similar to immature bastard false indigobush individuals. However, mature black locust plants have drooping racemes of white flowers, while bastard false indigobush flowers are purple, and in an erect raceme.

American Hogpeanut

Amphicarpaea bracteata (L.) Fernald

Species Description

Habitat Note: This species occurs in riparian hammocks and along stream banks within the range of the longleaf pine ecosystem.
Plant: annual or perennial, twining vine, up to 6 feet long, stems slightly hairy
Leaves: trifoliate, with a prominent petiole
Leaflets: broadly ovate to diamond-shaped, smooth margin, 1-3 inches long
Flowers: summer-fall; 2 flower types: 1) flowers on aerial stems, white to purple, in clusters and 2) flowers from low branches, resting on or under the ground, with reduced petals
Fruit: 2 legume types: 1) from upper flowers, flat, straight to sickle-shaped with 2-4 seeds, ½-1 inch long and 2) from lower flowers, ¼-½ inch long with 1 seed, inflated

Wildlife Benefit

The seeds of hogpeanut are eaten by bobwhite quail and the foliage provides good forage for white-tailed deer. *Amphicarpaea* species are also host plants for several species of butterfly larvae, including the little yellow butterfly, long-tailed skipper, and the golden-banded skipper.
Note: It is well documented that Native Americans prized the legumes produced from the lower flowers (called “hog peanuts”) as food.

Similar Species

The loose clusters of purple flowers make hogpeanut unmistakable in flower, yet young vegetative individuals might be mistaken for poison ivy, which also has trifoliate leaves.

Groundnut

Apios americana Medik.

© Dan Tenaglia, missouriplants.com

© Dan Tenaglia, missouriplants.com

Species Description

Habitat Note: This species occurs in riparian hammocks and along stream banks within the range of the longleaf pine ecosystem.
Plant: perennial vine, up to 10 feet long
Leaves: pinnately compound, with an odd number of leaflets (usually 5-7)
Leaflets: obovate to lanceolate, gradually tapering to the tip, 1½-3 inches long with smooth margins
Flowers: summer-fall; pinkish-red to deep maroon, multiple flowers in a loosely clustered raceme approximately 2-6 inches long
Fruit: legume, straight to sickle-shaped with 2 or more seeds, 2-5 inches long

© Larry Landers, JWJERC

Wildlife Benefit

The potential wildlife value of groundnut is undocumented, however Native Americans and early settlers relished both the roots and seeds, which were boiled, fried, roasted, and even used to make bread.

Similar Species

The leaves of groundnut resemble those of wisteria species, but wisteria usually has more leaflets (7-20) per leaf (photo, near right), and the flowering raceme is blue to purple in color (photo, far right).

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© Chris Evans, Southern Weed Science Society, www.forestryimages.org

White Wild Indigo

Baptisia alba (L.) Vent

Species Description

Plant: perennial herb, bushy in shape, up to 4 feet tall
Leaves: trifoliate, with a ½ inch petiole
Leaflets: elliptic, obovate, or oblanceolate, ¾-2 inches long
Flowers: spring-summer; numerous white flowers loosely clustered in a raceme that is approximately 12-18 inches long
Fruit: legume, inflated oblong black pod, 1-2 inches long, with numerous seeds

Wildlife Benefit

Although white wild indigo serves as both a nectaring and host plant for several butterfly species, the foliage is known to be poisonous, or even fatal, to livestock and other mammalian herbivores if ingested. The wildlife value of the seeds is undocumented.

Similar Species

Vegetatively, white wild indigo looks similar to many other *Baptisia* species, but the long, white flowering racemes are relatively distinct. Spiked wild indigo (*Baptisia albescens*) also has white flowers and is similar in appearance and stature, but its fruits are slightly smaller (½-1 inch long) and yellow-brown, compared to the black fruits of white wild indigo (photo, right).

Gopherweed

Baptisia lanceolata (Walter) Elliott

Species Description

Plant: perennial herb, bushy, 1-3 feet tall
Leaves: trifoliate
Leaflets: obovate, elliptic, lanceolate, or oblanceolate, 1-4 inches long, smooth margins
Flowers: spring-summer; yellow, singly in leaf axils or several in short, loosely clustered racemes
Fruit: legume, inflated spherical black pod, ½-1 inch long

Wildlife Benefit

The wildlife value of gopherweed is undocumented.

Similar Species

Pineland wild indigo (*Baptisia lecontei)* also has yellow flowers, but the flowers, fruits, and leaves are considerably smaller than those of gopherweed.

Spurred Butterfly Pea

Centrosema virginianum (L.) Benth

© Kim Coffey, JWJERC

© Heather Norden, JWJERC

Species Description

Plant: perennial herb, twining or trailing vine, up to 5 feet long
Leaves: trifoliate, with petioles ½-2 inches long
Leaflets: ovate, lanceolate, or linear shaped with prominent veins on the bottom, ½-2 inches long, smooth margins
Flowers: summer-fall; blue to violet, approximately 1 inch wide, occur singly or in pairs
Fruit: flat, linear legume, 2½-5 inches long, with 10-20 seeds, legume halves split and twist upon ripening

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Wildlife Benefit

The seeds of spurred butterfly pea are eaten by bobwhite quail, as well as seed-eating songbirds, and the foliage is considered moderate to high quality forage for white-tailed deer. There is limited evidence that gopher tortoises eat the foliage of this species. Spurred butterfly pea is an important nitrogen fixer (see page 3).

Similar Species

Atlantic pigeonwings (*Clitoria mariana*) is very similar in appearance, however, Atlantic pigeonwings is a more erect, fleshy plant, in contrast to spurred butterfly pea, which is a vine. The flowers of Atlantic pigeonwings also tend to be scoop-shaped, with the petals curled inward (photo, right).

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Eastern Redbud

Cercis canadensis L.

© Kay Kirkman, JWJERC

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Species Description

Habitat Note: This species occurs in riparian hammocks and along stream banks within the range of the longleaf pine ecosystem.
Plant: deciduous, small to medium tree, up to 15 feet tall
Leaves: unifoliate, ovate to heart-shaped, approximately 2-4 inches long
Leaflets: N/A
Flowers: spring; small pink to purple flowers, ¼-½ inch in length, arranged in tight clusters along the branches, flowers appear before the leaves
Fruit: flattened legume, 1½-4 inches long, brown when mature, with several seeds

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Wildlife Benefit

The wildlife benefit of eastern redbud is undocumented.

Similar Species

There are no other species that resemble eastern redbud. This is one of the first trees to flower in spring, and is one of the best known trees of the eastern U.S.

Partridge Pea

Chamaecrista fasciculata (Michx.) Greene

Previously recognized name: *Cassia fasciculata*

© Heather Norden, JWJERC

Species Description

Plant: annual herb; erect, up to 3 feet tall, a single branched stem per plant, slightly hairy
Leaves: pinnately compound, 1-3 inches long with a small flat gland at the base of the petiole, 5-20 pairs of leaflets
Leaflets: oblong, ¼-½ inch long, smooth margin
Flowers: summer-fall; yellow with red center and yellow anthers, approximately 1 inch wide, occur singly in leaf axils
Fruit: flattened legume, 1-3 inches long, with several seeds

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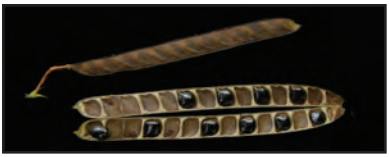

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Wildlife Benefit

The seeds of partridge pea are an important food for bobwhite quail, wild turkey, and small mammals, and the foliage is a moderate white-tailed deer forage. There is limited evidence that gopher tortoises eat the foliage of this species. Partridge pea is the host plant for the larvae of several species of butterflies, including the orange sulphur and the sleepy orange.

Similar Species

Partridge pea looks very similar to sensitive pea (*Chamaecrista nictitans*). Sensitive pea has smaller leaves (less than 2 inches long) and flowers (approximately ¼ inch wide), and also has a stalked gland (instead of a flat gland) at the base of the petiole.

Atlantic Pigeonwings

Clitoria mariana L.

© Kim Coffey, JWJERC

© Heather Norden, JWJERC

Species Description

Plant: erect perennial herb, up to 3 feet tall, can become sprawling with size
Leaves: trifoliate
Leaflets: ovate to lanceolate, ½-2 inches long, smooth margins, somewhat fleshy in texture, lower side slightly whitish-green
Flowers: spring-summer; light blue to lavender, 1½-2 inches long, occur singly or in pairs, margins sometimes curl inwards
Fruit: inflated legume, oblong shaped, 1-2 inches long, with several sticky seeds

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Wildlife Benefit

The seeds of Atlantic pigeonwings have a sticky seed coat, and are only occassionally eaten by bobwhite quail and seed-eating songbirds. The foliage is a low quality forage for white-tailed deer, and there is limited evidence that gopher tortoises eat the foliage of this species. This plant serves as the host plant for the larvae of several butterfly species, such as the golden-banded skipper. Atlantic pigeonwings is an important nitrogen fixer (see page 3).

Similar Species

Spurred butterfly pea (*Centrosema virginianum*) is similar in appearance, but Atlantic pigeonwings is a more erect, fleshy plant with leaves that feel thicker than those of the viny spurred butterfly pea.

Pursh's Rattlebox

Crotalaria purshii DC.

© Heather Norden, JWJERC

Species Description

Plant: erect perennial herb, up to 2 feet tall, with a "winged" stem
Leaves: unifoliate, oblong-lanceolate to linear, 1-3 inches long, smooth margins
Leaflets: N/A
Flowers: spring-summer; yellow, approximately ½ inch wide, occur singly or in loose groups
Fruit: inflated legume, ½-1 inch long, with numerous seeds that detach from the inside wall of the legume when ripe and "rattle" when shaken

© Heather Norden, JWJERC

Wildlife Benefit

Rattlebox seeds are occasionally eaten by bobwhite quail, and there is limited evidence that gopher tortoises eat the foliage of this species. Pursh's rattlebox is an important nitrogen fixer (see page 3).

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Similar Species

The flowers and fruit of Pursh's rattlebox look nearly identical to those of rabbitbells (*Crotalaria rotundifolia*), but the latter usually grows along the ground and has oval or round leaves.

Rabbitbells

Crotalaria rotundifolia J.F. Gmel

© Kim Coffey, JWJERC

© Kim Coffey, JWJERC

Species Description

Plant: low, spreading perennial herb, with hairy stems up to 2 feet long
Leaves: unifoliate, ovate to elliptic-oblong, ¼-2 inches long with smooth margins
Leaflets: N/A
Flowers: spring-fall; yellow, approximately ½ inch wide, occur singly or in loose groups
Fruit: inflated legume, ½-1 inch long, with numerous seeds that detach from the inside wall of the legume when ripe and "rattle" when shaken

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Wildlife Benefit

Rattlebox seeds are occasionally eaten by bobwhite quail, and there is limited evidence that gopher tortoises eat the foliage of this species.

Similar Species

The flowers and fruit of rabbitbells look nearly identical to those of Pursh's rattlebox (*Crotalaria purshii*), but the latter usually grows upright and has narrow, linear leaves.

Whitetassels

Dalea carnea (Michx.) Poir.
Previously recognized name: *Petalostemon albidum*


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Species Description

Plant: perennial herb, spreading or erect, up to 3 feet long
Leaves: pinnately compound, with an odd number of leaflets (usually 3-9)
Leaflets: elliptic, oblong, or lanceolate, ¼-½ inch long, smooth margins, occasionally folded in half along midrib
Flowers: summer-fall; white to pale pink, less than ½ inch wide, tightly arranged in a small cylindrical spike that is up to 1½ inches long on a long stalk
Fruit: tiny legume, less than ⅛ inch long, with 1 seed

Wildlife Benefit

The wildlife benefit of whitetassels is largely undocumented. However, a variety of butterflies use *Dalea* species as nectaring plants, and the southern dogface butterfly also uses these species as larval host plants.

Similar Species

Summer farewell (*Dalea pinnata*) looks similar to whitetassels, but the leaflets of summer farewell are thinner and the flowers are arranged in a sessile head-like structure.

Summer Farewell

Dalea pinnata (J.F. Gmel.) Barneby
Previously recognized name: *Petalostemon pinnatum*

Species Description

Plant: erect perennial herb, up to 3 feet tall
Leaves: pinnately compound, with an odd number of leaflets (usually 3-9)
Leaflets: linear to filiform, up to ¼ inch long, smooth margins, often folded in half along midrib
Flowers: summer-fall; white, less than ½ inch wide, tightly arranged in a small sessile head-like structure
Fruit: tiny legume, less than ⅛ inch long, with 1 seed

Wildlife Benefit

The wildlife benefit of summer farewell is largely undocumented. However, many butterfly species use the genus *Dalea* for nectar, and the southern dogface butterfly uses *Dalea* species as larval host plants.

Similar Species

Whitetassels (*Dalea carnea*) looks similar to summer farewell, but the leaflets of whitetassels are wider and the flowers are arranged in a cylindrical spike on a long stalk.

Hairy Small-Leaf Ticktrefoil

Desmodium ciliare (Muhl. ex Willd.) DC.


© Heather Norden, JWJERC


© Heather Norden, JWJERC

Species Description

Plant: erect perennial herb, up to 5 feet tall, stems and leaves covered with short hooked hairs that make the plant feel rough or sticky
Leaves: trifoliate
Leaflets: ovate to elliptic-ovate, ½ - 1 inch long
Flowers: summer-fall; lavender to purple, less than ¼ inch long, arranged in a loose open cluster at the top of the plant
Fruit: flattened pod (loment), ¼-¾ inch long, with 1-3 segments, curved with a wavy margin on the upper side, notched along the bottom side


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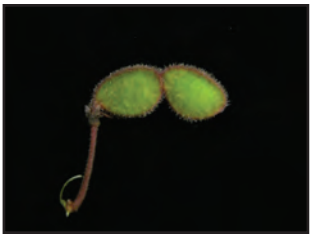
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Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of bobwhite quail, dove, wild turkey, small mammals, and songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

Similar Species

Stiff ticktrefoil (*Desmodium obtusum*) looks and feels similar to hairy small-leaf ticktrefoil, but the terminal leaflet of the former is typically much longer than the other 2 leaflets (photo, near right). Smooth small-leaf ticktrefoil (*Desmodium marilandicum*) is also very similar, but is relatively hairless and has long petioles (photo, far right). These three species also hybridize, making identification difficult.


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Florida Ticktrefoil

Desmodium floridanum Chapm.

© Heather Norden, JWJERC

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Species Description

Plant: perennial herb, erect or trailing, up to 3 feet tall, stems and leaves covered with short hooked hairs that make the plant feel rough or sticky
Leaves: alternate, trifoliate, with ⅘-1½ inch petiole
Leaflets: ovate to diamond-shaped, 1-3 inches long, smooth margin, with bluntly pointed tips
Flowers: summer-fall; small, pink-purple, in a loose, open cluster at the top of the plant
Fruit: flattened pod (loment), ½-1 inch long, with 2-4 segments, straight or slightly curved, deeply notched along the bottom side

Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of bobwhite quail, dove, wild turkey, small mammals, and other songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

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Similar Species

Velvetleaf ticktrefoil (*Desmodium viridiflorum*) looks nearly identical to Florida ticktrefoil, but the bottom sides of its leaflets are covered with dense, soft hairs (photo, below left) that make the leaflet feel velvety in texture. Dixie ticktrefoil (*Desmodium tortuosum*), a non-native species found in ruderal areas, has relatively smooth leaflets, and typically has more segments on the fruit (4-6), with both sides of the fruit being equally notched (photo, below right).

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Smooth Ticktrefoil

Desmodium laevigatum (Nutt.) DC.

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Species Description

Plant: erect perennial herb, up to 5 feet tall, smooth with no hairs
Leaves: trifoliate
Leaflets: ovate-shaped with a bluntly pointed tip, 1-3 inches long, smooth margin, lower surface pale greenish to white
Flowers: late summer to fall, lavender to purple, just over ¼ inch long, arranged in a loose open cluster at the top of the plant
Fruit: flattened pod (loment), ¼-1½ inches long, with 2-5 segments, straight with a smooth margin on the upper side, notched along the bottom side

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Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of bobwhite quail, dove, wild turkey, small mammals, and songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

Similar Species

The fruits of smooth ticktrefoil look similar to that of panicledleaf ticktrefoil (*Desmodium paniculatum*), but the leaflets of the latter are much narrower.

Sand Ticktrefoil

Desmodium lineatum DC.

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Species Description

Plant: perennial herb, trailing and vine-like, stems up to 3 feet long with a few short, hooked hairs
Leaves: trifoliate
Leaflets: ovate to round, ½-1 inch long
Flowers: summer-fall; white to purple, less than ¼ inch long
Fruit: flattened pod (loment), ¼-1 inch long, with 2-4 segments, curved with a wavy margin on the upper side, notched margin on the bottom side

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Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of bobwhite quail, dove, wild turkey, small mammals, and songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

Similar Species

Sand ticktrefoil is distinctive in its vine-like habit and small, round leaflets. Prostrate ticktrefoil (*Desmodium rotundifolium*) is a similar vine-like species in this genus, but it has much larger leaflets (1-2 inches long) and more segments per loment (3-7).

Panicledleaf Ticktrefoil

Desmodium paniculatum (L.) DC.

© Dan Tenaglia, missouriplants.com

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Species Description

Plant: perennial herb, erect with stems up to 5 feet tall, mostly without hairs
Leaves: trifoliate
Leaflets: narrowly oblong to lanceolate, ¾-2 inches long, with a sharply pointed tip
Flowers: summer-fall; pink to purple, approximately ¼ inch long
Fruit: flattened pod (loment), ¼-1½ inches long, with 3-5 segments, straight or slightly curved with a wavy margin on the upper side, notched margin on the bottom side

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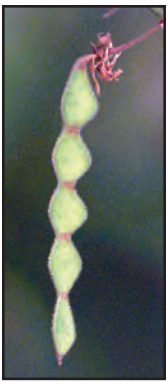

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Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of bobwhite quail, dove, wild turkey, small mammals, and songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

Similar Species

Panicledleaf ticktrefoil is distinctive in its narrow, pointed leaflets and is perhaps the most abundant of all species in the *Desmodium* genus. Pinebarren ticktrefoil (*Desmodium strictum*) also has narrow leaflets, but the leaflets have rounded tips and are often folded in half along the midrib.

Pinebarren Ticktrefoil

Desmodium strictum (Pursh) DC.

© Heather Norden, JWJERC

© Heather Norden, JWJERC

Species Description

Plant: perennial herb, erect up to 3 feet tall
Leaves: trifoliate
Leaflets: oblong to linear, 1-3 inches long, often folded in half along the midrib
Flowers: summer-fall; pink to purple, less than ¼ inch long
Fruit: flattened pod (loment), ¼-¾ inch long, with 1-3 segments, straight with a slightly wavy margin on the upper side, notched margin on the bottom side

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Wildlife Benefit

The seeds of all species within the genus *Desmodium* are an important component of the diets of the bobwhite quail, dove, wild turkey, small mammals, and songbirds. Many species of *Desmodium* are also considered high preference white-tailed deer forage. Additionally, *Desmodium* species are host plants for the hoary edge butterfly larvae.

Similar Species

Slimleaf ticktrefoil (*Desmodium tenuifolium*) also has narrow leaflets and can look nearly identical to pinebarren ticktrefoil, but it can be distinguished from the latter by its strongly curved loment segments. Additionally, slimleaf ticktrefoil tends to occur in more moist and marshy habitats. Narrowleaf lespedeza (*Lespedeza angustifolia*) also looks similar to pinebarren ticktrefoil, but it is covered with silvery hairs and has parallel veins on the leaflets.

Coralbean, Cherokee Bean

Erythrina herbacea L.

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Species Description

Habitat Note: This species occurs in open, sandy areas and along woodland edges within the range of the longleaf pine ecosystem. It has been cultivated as an ornamental, and can also be found along roadsides.

Plant: perennial herb, spreading to a small shrub, up to 5 feet tall, stems usually with prickles

Leaves: trifoliate

Leaflets: broadly deltoid or spade-shaped with 3 lobes and a sharply pointed tip, ¾-4 inches long

Flowers: spring; red or scarlet, 1-2 inches long, flowers appear on separate stems before the leaves appear

Fruit: legume, oblong-shaped, 2-7 inches long, turns brown, swells and splits when mature to expose several bright red seeds

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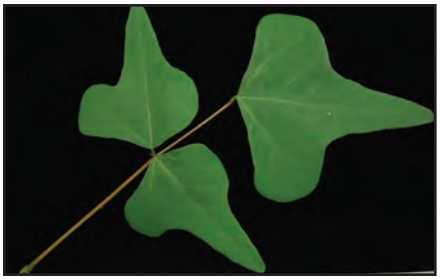

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Wildlife Benefit

The flowers of coralbean attract hummingbirds and many butterfly species. While the leaves and fruit are toxic to humans, birds and small wildlife can consume the seeds.

Similar Species

The showy red flowers and uniquely lobed leaflets are distinguishing characteristics of this species, and no other species resembles coralbean.

Erect Milkpea

Galactia erecta (Walter) Vail

Previously recognized name: *Galactia brachypoda*

Species Description

Plant: perennial herb, erect with stems up to 1 foot tall
Leaves: trifoliate, with a long petiole (up to 2 inches long)
Leaflets: oblong or elliptic shaped, ¾-2 inches long, smooth margins, sometimes folded in half along midrib
Flowers: spring-summer; white to lavender, ¼-½ inch long, several flowers loosely clustered in leaf axils
Fruit: legume, somewhat flattened, oblong-shaped, ¾-1 inch long with several seeds

Wildlife Benefit

The seeds of all species within the genus *Galactia* are an important component of the diet of the bobwhite quail and wild turkey, and are also consumed by songbirds and small mammals. The foliage is occassionally consumed by white-tailed deer, and there is limited evidence that gopher tortoises eat the foliage.

Similar Species

Erect milkpea is distinguished from all other species in the genus *Galactia* by its upright, erect habit and flowers that arise from the leaf axils.

Eastern Milkpea

Galactia regularis (L.) Britton et al.
Previously recognized name: *Galactia microphylla*

Species Description

Plant: perennial herb, trailing or twining vine with stems up to 10 feet long, stem covered with short, appressed hairs
Leaves: trifoliate
Leaflets: ovate to elliptic, ¼-2 inches long, smooth margins
Flowers: summer; pink to light purple, approximately ½ inch long, few to several flowers loosely clustered
Fruit: legume, somewhat flattened, 1-2 inches long, with several seeds

Wildlife Benefit

The seeds of all species within the genus *Galactia* are an important component of the diet of the bobwhite quail and wild turkey, and are also consumed by songbirds and small mammals. The foliage is occassionally consumed by white-tailed deer, and there is limited evidence that gopher tortoises eat the foliage.

Similar Species

Eastern milkpea looks similar to both soft milkpea (*Galactia mollis,* photo, right) and downy milkpea (*Galactia volubilis*) but typically has smaller leaflets, and more crowded leaves and flower clusters. Additionally, eastern milkpea and downy milkpea hybridize, making identification difficult.

Downy Milkpea

Galactia volubilis (L.) Britton

Species Description

Plant: perennial herb, twining or trailing vine with stems up to 6 feet long; stems, leaves, and fruits covered with fine silvery hairs
Leaves: trifoliate
Leaflets: ovate to oblong, ½-2 inches long
Flowers: summer-fall; pink to purple, ¼-½ inch long, flowers occur singly or in small clusters, usually on a long pedicel
Fruit: legume, somewhat flattened, ¾-2 inches long, with several seeds

Wildlife Benefit

The seeds of all species within the genus *Galactia* are an important component of the diet of the bobwhite quail and wild turkey, and are also consumed by songbirds and small mammals. The foliage is occassionally consumed by white-tailed deer, and there is limited evidence that gopher tortoises eat the foliage.

Similar Species

Soft milkpea (*Galactia mollis*, photo, right) has more rounded leaflets that usually have hairs on the upper surface. The flowers of soft milkpea are usually on shorter pedicels, and the fruits have shorter hairs than those of downy milkpea.

Carolina Indigo

Indigofera caroliniana Mill.

© Shirley Denton, Atlas of Florida Vascular Plants

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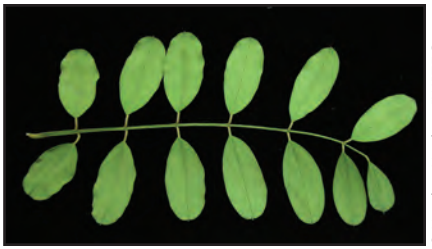
Species Description

Plant: perennial herb, erect and often bushy in appearance, up to 5 feet tall
Leaves: pinnately compound, with an odd number of leaflets (usually 7-13)
Leaflets: obovate to oblanceolate, ¼-1 inch long, smooth margins
Flowers: spring-fall; peach, tan, or pale yellow, just over ¼ inch long, numerous flowers on a slender raceme
Fruit: legume, oblong, ¼-½ inch long, with 2-3 seeds



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Wildlife Benefit

The wildlife benefit of Carolina indigo is largely undocumented, however, it is likely that both the foliage and seeds are eaten by birds and mammals. Its bushy stature might also make it valuable as cover for small mammal and ground-nesting bird species. Carolina indigo is also the host plant for the ceraunus blue butterfly and zarucco skipper larvae.

Similar Species

Carolina indigo is distinguished from other species in the genus *Indigofera* by its bushy appearance and short, oblong fruits.

Narrowleaf Lespedeza

Lespedeza angustifolia (Pursh) Elliot

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Species Description

Plant: perennial herb, erect with stems up to 5 feet tall, entire plant covered with appressed silvery hairs
Leaves: trifoliate
Leaflets: elliptic to narrowly oblong, ¾-1½ inches long, with distinctive parallel veins
Flowers: summer-fall; white to cream with a pinkish-purple center, less than ¼ inch long, numerous flowers arranged in tight clusters in the leaf axils
Fruit: legume, flattened with a pointed tip, less than ⅛ inch long, more than halfway covered by the persistent calyx, 1 seed

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Wildlife Benefit

The seeds of all species within the genus *Lespedeza* are an important component of the diet of the bobwhite quail, dove, and wild turkey, and the foliage is moderate to high quailty white-tailed deer forage. There is limited evidence that the foliage of *Lespedeza* species is consumed by gopher tortoises. Additionally, *Lespedeza* species often provide good cover for small mammals and ground-nesting birds.

Similar Species

Narrowleaf lespedeza has the most narrow leaflets of any other *Lespedeza* species. Pinebarren ticktrefoil (*Desmodium strictum,* photo, right) looks similar to narrowleaf lespedeza, but lacks silvery hairs and parallel veins on the leaflets.

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Hairy Lespedeza

Lespedeza hirta (L.) Hornem.

© Heather Norden, JWJERC

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Species Description

Plant: perennial herb, erect with stems up to 6 feet tall, entire plant covered with fine silver hairs
Leaves: trifoliate
Leaflets: ovate-elliptic to obovate, ½-2 inches long, with distinctive parallel veins
Flowers: summer-fall; white to pale yellow, approximately ¼ inch long, numerous flowers arranged in tight clusters in the leaf axils
Fruit: legume, flattened with a pointed tip, approximately ¼ inch long, almost completely covered by the persistent calyx, 1 seed

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Wildlife Benefit

The seeds of all species within the genus *Lespedeza* are an important component of the diet of the bobwhite quail, dove, and wild turkey, and the foliage is moderate to high quailty white-tailed deer forage. There is limited evidence that the foliage of *Lespedeza* species is consumed by gopher tortoises. Additionally, *Lespedeza* species often provide good cover for small mammals and ground-nesting birds.

Similar Species

Roundhead lespedeza (*Lespedeza capitata*) has dense silver hairs and can look similar to hairy lespedeza, but its flowering heads are much more congested, with calyces that exceed both the flower and fruit. Narrowleaf lespedeza (*Lespedeza angustifolia*) is also covered with silver hairs but has much narrower leaflets.

Creeping Lespedeza

Lespedeza repens (L.) W.P.C. Barton.

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Species Description

Plant: perennial herb, trailing vine, occasionally mat-forming, stems up to 3 feet long, leaves and stems with appressed hairs
Leaves: trifoliate
Leaflets: ovate to elliptic shaped, ¼-1 inch long, with distinctive parallel veins
Flowers: spring-fall; pale pink to purple, approximately ¼ inch long, 2-10 flowers clustered loosely on a thin wiry stalk arising from the leaf axils
Fruit: legume, flattened with a pointed tip, less than ¼ inch long, about halfway covered by the persistent calyx

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Wildlife Benefit

The seeds of all species within the genus *Lespedeza* are an important component of the diet of the bobwhite quail, dove, and wild turkey, and the foliage is moderate to high quailty white-tailed deer forage. There is limited evidence that the foliage of *Lespedeza* species is consumed by gopher tortoises. Additionally, *Lespedeza* species often provide good cover for small mammals and ground-nesting birds.

Similar Species

Trailing lespedeza (*Lespedeza procumbens*) looks nearly identical to creeping lespedeza but has spreading, curved hairs instead of appressed, straight hairs. These are the only *Lespedeza* species that are vine-like.

Slender Lespedeza

Lespedeza virginica (L.) Britton

Species Description

Plant: perennial herb, erect with stems up to 2½ feet tall, stems somewhat hairy
Leaves: trifoliate, usually crowded on the stem
Leaflets: oblong to linear, ½-1 inch long, with distinctive parallel veins
Flowers: summer-fall; pink to purple; usually less than ¼ inch long, flowers tightly clustered in upper leaf axils
Fruit: legume, flattened with a pointed tip, less than ¼ inch long, about halfway covered by the persistent calyx

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Wildlife Benefit

The seeds of all species within the genus *Lespedeza* are an important component of the diet of the bobwhite quail, dove, and wild turkey, and the foliage is moderate to high quailty white-tailed deer forage. There is limited evidence that the foliage of *Lespedeza* species is consumed by gopher tortoises. Additionally, *Lespedeza* species often provide good cover for small mammals and ground-nesting birds.

Similar Species

Tall lespedeza (*Lespedeza stuevei,* photo, right) looks very similar to slender lespedeza, but its leaflets are slightly broader and densely hairy on both sides. Slender lespedeza hybridizes with nearly all native *Lespedeza* species, making identification difficult.

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Sundial Lupine

Lupinus perennis L.

© Dan Tenaglia, missouriplants.com

© Dan Tenaglia, missouriplants.com

Species Description

Plant: perennial herb, erect with stems up to 2½ feet tall, sprouts from rhizomes and often forms patchy clumps
Leaves: palmately compound, with 7-11 leaflets
Leaflets: obovate to oblanceolate, ¼-1 inch long
Flowers: spring; blue or purple, ¼-½ inch long, several flowers arranged in a loose raceme
Fruit: legume, oblong, 1-2 inches long, covered with fine hairs, few to several hard-coated seeds

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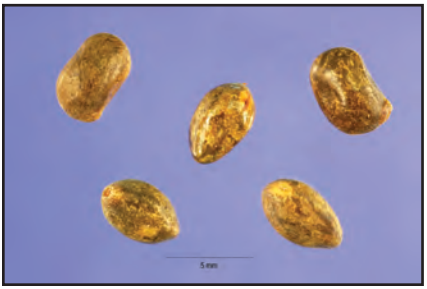

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Wildlife Benefit

While the seeds of lupines are high in alkaloids and can be toxic to humans and livestock if eaten raw, they can be nutritionally valuable to small mammals and songbirds. All species of lupines are good nectar sources for butterflies. Additionally, many lupines, including the sundial lupine, are host plants for the larvae of several rare and endangered butterfly species, such as the frosted elfin butterfly.

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Similar Species

Texas bluebonnet (*Lupinus texensis,* photo, right) is an introduced lupine that looks somewhat similar. It also has palmately compound leaves, but has fewer leaflets, as well as blue and white flowers.

Lady Lupine

Lupinus villosus Willd.

© Kim Coffey, JWJERC

Species Description

Plant: perennial herb, stems up to 2 feet long; stems, leaves, and fruits covered with long, dense, silvery hairs
Leaves: unifoliate, occur mainly in basal clumps on the ground, elliptic to oblong, 2-6 inches long
Leaflets: N/A
Flowers: spring-summer; pink to purple with a red to maroon "eyespot", ¼-½ inch long, numerous flowers tightly clustered on a 4-7 inch long raceme
Fruit: legume, oblong, 1-1½ inches, with several seeds

© Heather Norden, JWJERC

Wildlife Benefit

While the seeds of lupines are high in alkaloids and can be toxic to humans and livestock if eaten raw, they can be nutritionally valuable to small mammals and songbirds. All species of lupines are good nectar sources for butterflies. Additionally, many lupines, including the lady lupine, are host plants for the larvae of several rare and endangered butterfly species, such as the frosted elfin butterfly.

Similar Species

Lady lupine is easily identified by its long pink flowering stalks, dense silver hairs, and unifoliate leaves. Skyblue lupine (*Lupinus diffusus,* photo, right) also has unifoliate leaves and silvery hairs, but the flowers are blue with a white "eyespot." Sundial lupine (*Lupinus perennis*) is another common native lupine species, but it has palmately compound leaves instead of unifoliate leaves.

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Sensitive Brier

Mimosa quadrivalvis L.

Previously recognized name: *Schrankia microphylla*

© Kim Coffey, JWJERC

Species Description

Plant: perennial herb, trailing and vine-like, stems up to 10 feet long and covered with small thorns

Leaves: bipinnately compound, with 3-11 pairs of pinnae and 9-12 pairs of leaflets per pinnae

Leaflets: oblong, less than ¼ inch long, leaflets will fold up when touched

Flowers: summer-fall; pink "pom-poms" with yellow anthers, ¼-¾ inch in diameter

Fruit: legume, oblong to linear in shape, 1-4 inches long with several seeds, covered with prickles

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Wildlife Benefit

The seeds of sensitive brier are eaten by bobwhite quail and songbirds, as well as gopher tortoises. There is evidence that the foliage is consumed by gopher tortoises and wild turkey. Sensitive brier is an important nitrogen fixer (see page 3).

Similar Species

Sensitive brier is closely related to silktree (*Albizia julibrissin*), but there are no other herbaceous species that resemble this thorny vine-like legume.

Piedmont Leatherroot

Orbexilum lupinellus (Michx.) Isley
Previously recognized name: *Psoralea lupinellus*


© Kim Coffey, JWJERC


© Heather Norden, JWJERC

Species Description

Plant: perennial herb, spreading or erect with stems up to 2 feet long
Leaves: palmately compound, usually with 5 leaflets
Leaflets: linear to filiform, ¾-3 inches long
Flowers: spring-summer; purple to blue, less than ¼ inch long, arranged in a loose terminal raceme 1½-4 inches long
Fruit: legume, oval-shaped and curved, somewhat flattened with 1 seed, approximately ¼ inch long, covered with transverse ridges that give the fruit a "wrinkled" appearance


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Wildlife Benefit

The fruits of Piedmont leatherroot are eaten by bobwhite quail and wild turkey. It has been reported that the foliage of species in the genus *Orbexilum* contains chemicals that are poisonous to livestock and can cause photosensitivity in humans.

Similar Species

The palmately compound leaves and linear leaflets of Piedmont leatherroot are distinctive.

Sampson's Snakeroot

Orbexilum pedunculatum (Mill.) Rydb.
Previously recognized name: *Psoralea psoralioides*

Species Description

Plant: perennial herb, erect with stems up to 3 feet tall
Leaves: trifoliate
Leaflets: elliptic to lanceolate, 1-2½ inches long
Flowers: spring-summer; purple to lavender, approximately ¼ inch long, many flowers tightly clustered in a 1-2 inch long raceme
Fruit: legume, approximately ¼ inch long, oval to round with a slight notch in the top, somewhat flattened with 1 seed, transverse ridges give the fruit a "wrinkled" appearance

Wildlife Benefit

The fruits of Sampson's snakeroot are eaten by bobwhite quail and wild turkey. It has been reported that the foliage of *Orbexilum* species contains chemicals that are poisonous to livestock and can cause photosensitivity in humans.

Similar Species

There are no species that resemble Sampson's snakeroot.

Buckroot

Pediomelum canescens Michx. (Rydb.)

Previously recognized name: *Psoralea canescens*

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Species Description

Plant: perennial herb, erect with stems up to 3 feet tall, stems often branched and appearing bushy
Leaves: trifoliate
Leaflets: cuneate-obovate to elliptic, ¾-2 inches long
Flowers: summer; blue to violet, just less than ½ inch long, flowers occur singly or in small loose clusters in leaf axils
Fruit: legume, oval to round with a pointed tip, just over ¼ inch long, almost completely covered by the persistent calyx, flattened with 1 seed

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Wildlife Benefit

The fruits of buckroot are eaten by bobwhite quail and wild turkey. It has been reported that the foliage of species in the genus *Pediomelum* contains chemicals that are poisonous to livestock and can cause photosensitivity in humans.

Similar Species

The round, trifoliate leaves and bushy nature of buckroot are distinctive. The leaves and stems will turn brown in late summer, and the stems will easily break off, giving the plant a tumbleweed-like appearance.

Thicket Bean

Phaseolus polystachios (L.) Britton et al.
Previously recognized name: *Phaseolus sinuatus*


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Species Description

Plant: perennial herb, trailing or twining vine with stems up to 20 feet long
Leaves: trifoliate
Leaflets: oval, rhombic, or deltoid, 1-4 inches long, occasionally with 3 lobes
Flowers: summer-fall; white to pink or purple, ¼-½ inch long, several flowers clustered loosely on a long, thin, wiry stalk
Fruit: legume, oblong, 1-2½ inches long, flattened with several seeds

Wildlife Benefit

While the forage value of thicket bean is undocumented, the fruits and seeds are eaten by bobwhite quail. Many bean species in the genus *Phaseolus* are larval host plants for several butterfly species, including the gray hairstreak and the silver-spotted skipper.

Similar Species

Particularly when lobed, the leaves of thicket bean (photo, top right) can resemble those of kudzu (*Pueraria montana,* photo, bottom right). However the flowers of kudzu are much larger and arranged in a tight raceme. Thicket bean can also resemble American hogpeanut (*Amphicarpaea bracteata*), but the flowers of the latter are more tightly arranged in a shorter raceme. Thicket bean is closely related to the cultivated beans that are commonly grown in gardens, such as snap beans and lima beans, but it can be distinguished from these species by its long, thin flowering stalk.


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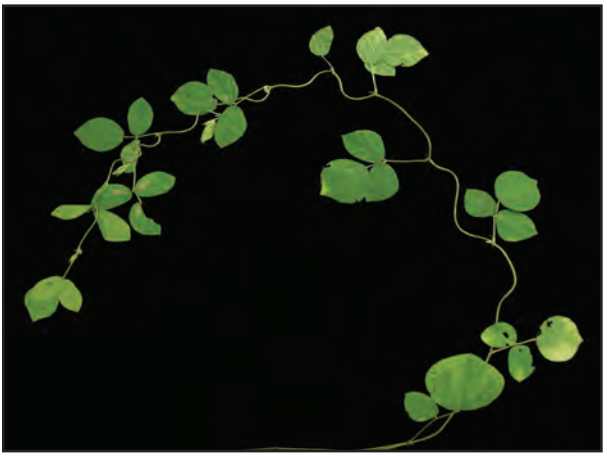
Doubleform Snoutbean

Rhynchosia difformis (Elliot) DC.



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Species Description

Plant: perennial herb, trailing or twining vine with stems up to 5 feet long, entire plant covered with soft spreading hairs
Leaves: trifoliate
Leaflets: round to elliptic shaped, ¾-2 inches long with a bluntly pointed tip
Flowers: spring-summer; yellow, approximately ¼ inch long, several flowers arranged in a tight cluster in the leaf axils
Fruit: legume, oblong, ½-¾ inch long, flattened with 1-2 seeds

Wildlife Benefit

The seeds of doubleform snoutbean are likely eaten by bobwhite quail, as well as songbirds and small mammals, and there is evidence that the foliage is eaten by gopher tortoises and white-tailed deer.

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Similar Species

Twining snoutbean (*Rhynchosia tomentosa,* photo, right) looks somewhat similar to doubleform snoutbean but is an erect herb instead of a twining vine. The leaves of thicket bean (*Phaseolus polystachios*) can also look similar, but they are not covered with soft hairs.

© Kim Coffey, JWJERC

Dollarleaf

Rhynchosia reniformis DC.

© Kim Coffey, JWJERC

Species Description

Plant: perennial herb, stems up to 8 inches tall
Leaves: unifoliate, round to kidney-shaped, 1-2 inches long
Leaflets: N/A
Flowers: spring-summer; yellow, approximately ¼ inch long, several flowers arranged in a tight cluster in the terminal leaf axils
Fruit: legume, oblong to elliptic shaped, approximately ½ inch long, flat with 1-2 seeds

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Wildlife Benefit

The seeds of dollarleaf are eaten by bobwhite quail, as well as songbirds and small mammals, and evidence suggests that the foliage is eaten by gopher tortoises and white-tailed deer.

Similar Species

Dollarleaf is easily identified by its short, erect growth form and round, unifoliate leaves. Twining snoutbean (*Rhynchosia tomentosa,* photo, right) looks somewhat similar to dollarleaf, but it can grow up to 3 feet tall and has trifoliate leaves that are covered with fine hairs, making them velvety to the touch.

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Black Locust

Robinia pseudoacacia L.


© Kay Kirkman, JWJERC


© Kay Kirkman, JWJERC

Species Description

Habitat Note: This species occurs in riparian hammocks and along stream banks within the range of the longleaf pine ecosystem.
Plant: deciduous tree, up to 50 feet tall, stems armed with paired spines
Leaves: pinnately compound, with an odd number of leaflets (usually 7-21)
Leaflets: oblong to elliptic-shaped, ½-2 inches long
Flowers: spring; white, ½-¾ inch long, many flowers clustered loosely in a raceme that is 4-6 inches long and fragrant
Fruit: legume, oblong, 2-4 inches long, flattened with several seeds


© Kay Kirkman, JWJERC


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Wildlife Benefit

The seeds of black locust are eaten by bobwhite quail, songbirds, and squirrels, and the foliage provides forage for white-tailed deer. As trees age, they often become infected with heart rot, making it easy for woodpeckers and flickers to build cavities in them.

Similar Species

The large clusters of white flowers and paired thorns on the stems are identifying characteristics of black locust.

Note:

Native to the Appalachian and Ozark Mountains, black locust has been widely planted as an ornamental and for mine reclamation because of its high nitrogen fixation rates. It has escaped cultivation and has become naturalized throughout the eastern United States. Black locust grows very quickly, will re-sprout from roots, and is difficult to eliminate once established. For these reasons, it is considered invasive in some areas.

Bladderpod, Bagpod Sesbania

Sesbania vesicaria (Jacq.) Elliott
Previously recognized name: *Glottidium vesicarium*

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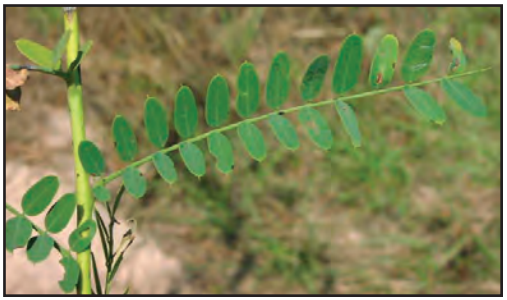
Species Description

Plant: annual herb, with stems up to 16 feet tall
Leaves: pinnately compound, with an even number of leaflets (usually 16-36)
Leaflets: elliptic to oblong, ½-1½ inch long, tipped with a short sharp point (mucro)
Flowers: spring-fall; orange or red, just over ¼ inch long, several flowers arranged loosely in an axillary raceme
Fruit: legume, oblong and somewhat flattened, 1½-2 inches long, tapering to a point, 1-2 seeds



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Wildlife Benefit

The leaves of bladderpod are unpalatable to wildlife, and the seeds are poisonous and can kill livestock and other animals.

Similar Species

The leaves of bastard false indigobush (*Amorpha fruticosa*) can look similar to bladderpod leaves, but they have an odd number of leaflets (with a terminal leaflet present) and the leaflets lack a sharp pointed tip.

Note:

Although bladderpod is native to the United States, it is considered invasive in some areas. Bladderpod is a weedy species that usually occurs in moist, disturbed areas and can spread aggressively.

Pink Fuzzybean

Strophostyles umbellata (Muhl. ex Willd.) Britton

© Heather Norden, JWJERC

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Species Description

Plant: perennial herb, vine-like with trailing or twining stems up to 5 feet long
Leaves: trifoliate
Leaflets: oblong to lanceolate (sometimes linear), ¾-1½ inches long
Flowers: summer-fall; pink to white, ¼-½ inch long, flowers occur singly or in small tight clusters on a long, thin stalk
Fruit: legume, 1-2 inches long, oblong with a pointed tip, with several hairy seeds

Wildlife Benefit

The seeds of pink fuzzybean are eaten by bobwhite quail and mourning dove, as well as many species of songbirds. The foliage is considered a moderate to high quality white-tailed deer forage.

Similar Species

The leaves of pink fuzzybean can sometimes resemble those of spurred butterfly pea (*Centrosema virginianum*), however, the leaves of spurred butterfly pea typically have more pointed tips than the more round-tipped leaves of pink fuzzybean. Additionally, the bright pink, showy flowers on long stalks distinguish pink fuzzybean from any other species.

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Sidebeak Pencilflower

Stylosanthes biflora (L.) Britton et al.

Species Description

Plant: perennial herb, erect with stems up to 1 foot tall, stems and leaves usually covered with stiff bristle-like hairs
Leaves: trifoliate
Leaflets: elliptic to lanceolate, ½-1 inch long, with distinct veins parallel to the leaf margin
Flowers: summer; yellow, approximately ¼ inch long, flowers occur in small clusters in the upper leaf axils (but only open one at a time)
Fruit: legume, oval-shaped, with a curved "beak," approximately ⅛ inch long with 1 seed

Wildlife Benefit

The seeds of sidebeak pencilflower are eaten by bobwhite quail and songbirds, as well as gopher tortoises. There is evidence that the foliage is consumed by gopher tortoises and white-tailed deer.

Similar Species

Sidebeak pencilflower is unique in its distinctly veined trifoliate leaves and bristle-like hairs. It is relatively common within the longleaf pine ecosystem, and there are no other species that resemble it.

Florida Hoarypea

Tephrosia florida (F. Dietr.) C.E. Wood


© Heather Norden, JWJERC


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Species Description

Plant: perennial herb, spreading with stems up to 3 feet long; stems, leaves, and fruits covered with short, gray hairs
Leaves: pinnately compound, with an odd number of leaflets (usually 5-15), on long petioles up to 3 inches long
Leaflets: oblanceolate, obovate, or elliptic, ½-2 inches long
Flowers: spring-fall; white to pale pink, ¼-½ inch long
Fruit: legume, oblong to linear, 1-1½ inches long, flattened with several seeds


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Wildlife Benefit

The seeds of species in the genus *Tephrosia* are eaten by bobwhite quail and seed-eating songbirds. The foliage is considered a low to moderate quality white-tailed deer forage, and there is evidence that gopher tortoises eat the leaves.

Similar Species

Spiked hoarypea (*Tephrosia spicata,* photo, right) looks very similar to Florida hoarypea, but it has dense, rust-colored hairs on the stems and leaves. The leaves of spiked hoarypea also have shorter petioles (up to ½ inch long), with leaflets that are wider and more oval in shape than those of Florida hoarypea.


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Spiked Hoarypea

Tephrosia spicata (Walter) Torr. & A. Gray

Species Description

Plant: perennial herb, spreading with stems up to 3 feet long, stems, leaves, and fruits covered with dense rust-colored hairs
Leaves: pinnately compound, with an odd number of leaflets (usually 7-17)
Leaflets: elliptic to obovate, ¼-1½ inches long
Flowers: spring-fall; initially white but turns red overnight, ½-¾ inch long
Fruit: legume, oblong to linear, ¾-1½ inches long, flattened with several seeds

Wildlife Benefit

The seeds of species in the genus *Tephrosia* are eaten by bobwhite quail and seed-eating songbirds. The foliage is considered a low to moderate quality white-tailed deer forage, and there is evidence that gopher tortoises eat the leaves.

Similar Species

Sprawling hoarypea (*Tephrosia hispidula*) looks nearly identical to spiked hoarypea, but the hairs that cover the upper stems and leaves are appressed to the plant. Florida hoarypea (*Tephrosia florida,* photo, right) looks very similar to spiked hoarypea, but it has short, sparse gray hairs on the stems and leaves, and the leaves have much longer petioles.

Goat's Rue

Tephrosia virginiana (L.) Pers.

Species Description

Plant: perennial herb, erect with stems up to 2 feet tall, often forming bushy clumps of several individuals, stems, leaves, and fruits covered with fine gray hairs
Leaves: pinnately compound, with an odd number of leaflets (usually 11-23)
Leaflets: oblong to elliptic, ½-1 inch long
Flowers: spring-fall; yellow and pink, ½-¾ inch long, clustered in a terminal raceme that is 1-3 inches long
Fruit: legume, oblong to linear, 1-2 inches long, flattened with several seeds

Wildlife Benefit

The seeds of species in the genus *Tephrosia* are eaten by bobwhite quail and seed-eating songbirds. The foliage is considered a low to moderate quality white-tailed deer forage, and there is evidence that gopher tortoises eat the leaves. Additionally, goat's rue provides excellent cover for ground nesting birds due to its clumped, bushy nature.

Similar Species

Goat's rue can be distinguished from other species of *Tephrosia* by its clumps of bicolored flowers and its dense, bushy nature.

Buffalo Clover

Trifolium reflexum L.

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Species Description

Habitat Note: This species occurs along woodland edges and stream banks within the range of the longleaf pine ecosystem.
Plant: annual (or short-lived perennial) herb, erect or spreading with stems up to 1½ feet tall
Leaves: trifoliate
Leaflets: obovate, oblong, oblanceolate, ½-1 inch long
Flowers: spring; white to pale pink, ¼-½ inch long, numerous flowers arranged in a tightly clustered spike that is spherical in shape and ¼-1½ inches in diameter
Fruit: legume, oval-shaped, approximately ⅛ inch long, with 1-4 seeds

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Wildlife Benefit

Both the seeds and foliage of species in the genus *Trifolium* are eaten by bobwhite quail and wild turkey, and the seeds are eaten by a variety of songbirds and small mammals. The foliage is considered a high quality white-tailed deer forage.

Similar Species

Buffalo clover can be distinguished from other clover species by its relatively large flower with a distinct pedicel and hairy calyx.

Viperina

Zornia bracteata J.F. Gmel.

© Kim Coffey, JWJERC

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Species Description

Plant: perennial herb, trailing with stems up to 2 feet long
Leaves: palmately compound, with 4 leaflets
Leaflets: oblong to lanceolate, ¼-1 inch long
Flowers: all year; yellow with red stripes, ¼-½ inch long, flowers occur singly in leaf-like bracts
Fruit: flattened pod (loment), with 2-4 segments protruding from the leaf-like bracts, each segment oval with 1 seed and covered with bristle-like hairs

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Wildlife Benefit

The wildlife benefit of viperina is largely undocumented, but there is limited evidence that both the foliage and seeds of viperina are eaten by gopher tortoises.

Similar Species

The palmately compound leaves with 4 leaflets, and flowers and prickly fruits that are subtended by large, leafy bracts make viperina unlike any other species.

Species Accounts

Non-Native Species

Silktree, Mimosa

INVASIVE NON-NATIVE

Albizia julibrissin Durazz.

© Heather Norden, JWJERC

Species Description

Plant: deciduous, spreading tree, approximately 10-25 feet tall, but can grow up to nearly 50 feet tall
Leaves: alternate, bipinnately compound, 6 to 20 inches long with 20-30 pairs of leaflets and 5-15 pairs of pinnae
Leaflets: oblong, asymmetric, each leaflet ¼-¾ inch long, smooth margins
Flowers: spring-summer; pink "pom-poms" with white bases
Fruit: legume, flat with numerous seeds, 6-8 inches long

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Other Information

Introduced from Asia as an ornamental, silktree forms dense colonies of individuals from root sprouts and abundant seeds, which are water and animal dispersed and can remain viable for years. Silktree can be controlled with several commercially available herbicides.

Showy Rattlebox

NON-NATIVE

Crotalaria spectabilis Roth

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Species Description

Plant: erect annual herb, up to 5 feet tall, with waxy stems
Leaves: unifoliate, obovate to elliptic, 2-6 inches long
Leaflets: N/A
Flowers: summer-fall; yellow, approximately ½-1 inch long, several clustered in a loose raceme 4-19 inches long
Fruit: inflated legume, 1-1¾ inches long, with numerous seeds

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Other Information

Showy rattlebox was introduced from Asia as a forage crop and for soil improvement, however, the entire plant was later discovered to be poisonous to livestock and humans. It spreads by seed and is the most abundant of the non-native *Crotalaria* species.

Hairy Indigo

NON-NATIVE

Indigofera hirsuta L.

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Species Description

Plant: annual or biennial herb, erect or spreading, up to 3 feet tall, entire plant covered with brown hairs
Leaves: pinnately compound, 1-8 inches long, with an odd number of leaflets (usually 5-9)
Leaflets: obovate to elliptic shaped, ¾-1½ inches long, the terminal leaflet is slightly larger than the other leaflets
Flowers: all year; pink to maroon, approximately ¼ inch long, many flowers arranged tightly in a raceme that is 2-8 inches long
Fruit: legume, straight and oblong in shape, ½-¾ inch long, densely hairy and bent downwards with several seeds

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Other Information

Hairy indigo was introduced from the Old World tropics (Australia, Africa, and southern Asia) for use in the indigo dye industry, as a forage crop, and for soil improvement. It has escaped cultivation and is often locally abundant in woodlands, old fields, and waste areas.

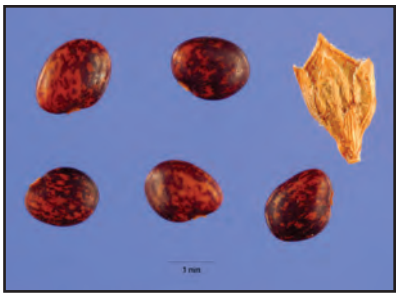
Japanese Clover

NON-NATIVE

Kummerowia striata (Thunb.) Schindl.
Previously recognized name: *Lespedeza striata*

Species Description

Plant: annual herb, erect or spreading, stems up to 1 foot long with downward pointing appressed hairs
Leaves: trifoliate
Leaflets: obovate to elliptic, ¼-½ inch long, with distinctive parallel, unbranched veins
Flowers: summer-fall; pink, less than ¼ inch long, occur singly in leaf axils
Fruit: legume, flattened with a pointed tip, less than ⅛ inch long, more than halfway covered by the persistent calyx, 1 seed



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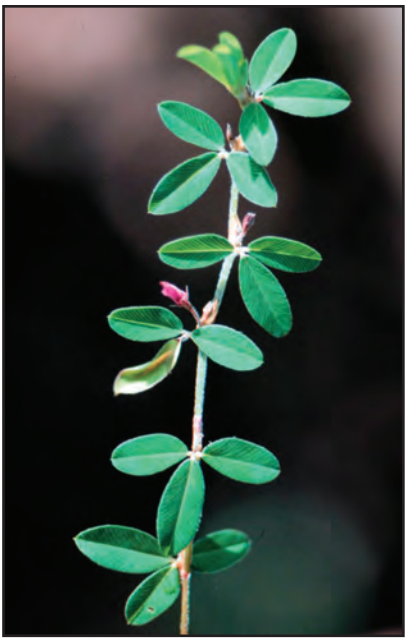

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Other Information

Japanese clover was introduced from Asia as a forage and cover crop. It has escaped from cultivation and has become well established and abundant in old fields, pastures, and disturbed areas. Japanese clover is very similar in appearance to species in the genus *Lespedeza*, but it can be distinguished by a small pair of bract-like appendages (stipules) at the base of the leaf petioles. Japanese clover is also an annual, whereas *Lespedeza* species are perennial.

Shrubby Lespedeza, Lespedeza Bicolor

INVASIVE NON-NATIVE

Lespedeza bicolor Turcz.

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Species Description

Plant: perennial herb, becoming shrubby, stems up to 10 feet tall, can appear woody in texture
Leaves: trifoliate
Leaflets: oval to elliptic shaped, ¾-1 inch long, lower surface pale greenish to white, with distinctive parallel veins
Flowers: summer-fall; pink to purple, ¼-½ inch long, several flowers in a loosely clustered raceme that is up to 5 inches long
Fruit: legume, flattened with a pointed tip, approximately ¼ inch long, with 1 seed

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Other Information

Native to Asia, shrubby lespedeza has been widely planted as a forage and cover crop for bobwhite quail, as well as for soil improvement and erosion control. However, this species has become an aggressive invader of natural areas and displaces native vegetation by forming large thickets (photo, below). Once established, shrubby lespedeza is very difficult to eliminate because of its ability to resprout from root crowns and the large amount of bird-dispersed seeds, which can remain viable for years in the seed bank. Shrubby lespedeza is fire-tolerant, but can be controlled with several commercially available herbicides.

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Chinese Lespedeza, Sericea

INVASIVE NON-NATIVE

Lespedeza cuneata (Dum. Cours.) G.Don

Species Description

Plant: perennial herb, erect, becoming shrubby, up to 6 feet tall
Leaves: trifoliate
Leaflets: oblanceolate to oblong-cuneate, with a bluntly pointed tip, ¼-1 inch long, with distinctive parallel veins
Flowers: summer-fall; white to cream with streaks of purple, approximately ¼ inch long, 1-3 flowers arranged loosely in the leaf axils along the mid portion of the stem
Fruit: legume, flattened, approximately ⅛ inch long, with 1 seed

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Other Information

Chinese lespedeza was introduced from Asia for soil improvement and erosion control, as well as for wildlife forage and cover. The leaves of Chinese lespedeza contain high levels of phytochemicals, such as tannins, that are unpalatable to livestock and native wildlife. These defense compounds also inhibit the growth of other plants, often resulting in dense stands of pure Chinese lespedeza (photo, above left). Like shrubby lespedeza, Chinese lespedeza is very difficult to eliminate once established because of its ability to sprout back from root crowns and due to the large amount of tiny seeds, which can remain viable in the seed bank for years. Chinese lespedeza can be controlled by a combination of mechanical and chemical methods, such as mowing or burning followed by herbicide application.

Kudzu

INVASIVE NON-NATIVE

Pueraria montana (Lour.) Merr.
Previously recognized name: *Pueraria lobata*

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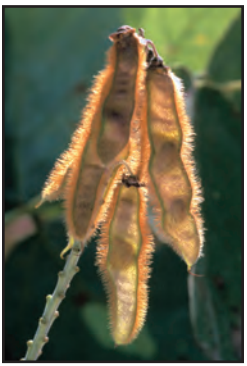
Species Description

Plant: perennial woody vine, stems up to 70 feet long
Leaves: trifoliate
Leaflets: ovate, occassionally lobed, with pointed tips, 2-7 inches long
Flowers: summer-fall; red to purple, ½-¾ inch long, arranged in a densely clustered raceme that is 2-8 inches long
Fruit: legume, 1-2 inches long, covered with dense brown hairs, flattened with several seeds



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Other Information

Kudzu was introduced in the 19th century from Asia as an ornamental and a forage crop and was later extensively planted by the Civilian Conservation Corps to reduce soil erosion. Kudzu is now known as a “noxious weed” and has aggressively spread along roadsides, old homesites, and streambanks. It has become known as the “vine that ate the south,” and once established is very difficult to control. Mechanical methods, such as mowing, must be followed by repeated chemical treatment with herbicide in order to destroy the extensive root system.

Sicklepod, Coffeeweed

NON-NATIVE

Senna obtusifolia (L.) H.S. Irwin & Barneby

Previously recognized name: *Cassia obtusifolia*

© Larry Landers, JWJERC

Species Description

Plant: annual herb, stems up to 3 feet tall
Leaves: pinnately compound, with 3 pairs of leaflets
Leaflets: obovate, ½-3 inches long
Flowers: summer-fall; yellow, ½-1 inch in diameter, flowers occur singly or in pairs in upper leaf axils
Fruit: legume, 2-8 inches long, arching with many seeds

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Other Information

Sicklepod is native to the tropical regions of North, Central, and South America, and is considered a weedy non-native species because of its ability to re-seed with abundant amounts of long-lived seeds. It occurs along roadsides, abandoned fields, forest edges, and other disturbed areas. All parts of sicklepod are poisonous and will cause sickness and death in wildlife and livestock. Septicweed (*Senna occidentalis*, photo, right) looks very similar to sicklepod but has leaflets with a slender, pointed tip. Septicweed is less common, but more toxic, than sicklepod.

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Field Clover, Hop Clover

NON-NATIVE

Trifolium campestre Schreber

Species Description

Plant: annual herb, erect or mat-forming, stems up to 1 foot long
Leaves: trifoliate
Leaflets: obovate, ¼-½ inch long
Flowers: spring; yellow, less than ¼ inch long, 20-40 flowers arranged in a tightly clustered head that is spherical to oval in shape and ½ inch wide
Fruit: legume, elliptic-shaped, less than ⅛ inch long, with 1 seed

Other Information

Field clover was introduced from Eurasia as a forage crop and for soil improvement, but it has become naturalized throughout the eastern United States. It can be found along roadsides, pastures, and other disturbed areas.

Crimson Clover

NON-NATIVE

Trifolium incarnatum L.

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Species Description

Plant: annual herb, erect with stems up to 2 feet tall
Leaves: trifoliate
Leaflets: obovate-cuneate to heart-shaped, ¼-1 inch long
Flowers: spring; red, ¼-½ inch long, numerous flowers arranged in a tightly clustered spike that is cylindrical in shape and ½-2 inches long
Fruit: legume, oval-shaped, approximately ⅛ inch long, with 1 seed

© Maureen Mulligan, JWJERC

Other Information

Crimson clover was introduced from Europe as a forage crop and for soil improvement, but it has become naturalized throughout the eastern United States. It can be found along roadsides, pastures, and other disturbed areas.

Common Vetch

NON-NATIVE

Vicia sativa L.

Previously recognized name: *Vicia angustifolia*

Species Description

Plant: annual herb, erect or spreading, stems up to 3 feet tall

Leaves: pinnately compound with an even number of leaflets (usually 6-14), tipped with a branched tendril

Leaflets: obovate-cuneate, oblong, or lanceolate, ½-1 inch long

Flowers: spring; pink or purple, ¼-1 inch long, paired in the upper leaf axils

Fruit: legume, oblong, 1-2 inches long, somewhat flattened with 4-7 round seeds

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Other Information

Introduced from Europe, common vetch has become naturalized and can be found in old fields, along roadsides, and in other disturbed areas. It often forms dense mats, with entangled stems and tendrils that shade and choke out other vegetation. Even though common vetch is an annual, it can become widespread by means of its animal dispersed seeds.

Another non-native vetch species, hairy vetch (*Vicia villosa*, photo, right), looks similar to common vetch but can be distinguished by its long, well developed racemes and dense hairs covering the stems and leaves.

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Chinese Wisteria

INVASIVE NON-NATIVE

Wisteria sinensis (Sims) Sweet

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Species Description

Plant: woody vine (occasionally cultured to be a shrub), twining with stems up to 50 feet long
Leaves: pinnately compound, with an odd number of leaflets (usually 7-13)
Leaflets: ovate to elliptic, 1½-4 inches long, with a tapering pointed tip
Flowers: spring; purple or white, ¾-1 inch long, many flowers clustered in a dangling raceme that is up to 1 foot long; fragrant
Fruit: legume, oblong, 2-6 inches long, flattened with several seeds

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Other Information

Native to Asia, Chinese wisteria was introduced in the early 19th century as an ornamental. It has escaped cultivation and is often found along roadsides, forest edges, and old home sites. It is an aggressive competitor and can form dense thickets, strangling and shading out native shrubs and trees. Once established, Chinese wisteria can become difficult to control. A combination of mecanical and chemical treatments, such as cutting or mowing followed by herbicide application, is necessary to stop the growth of existing vines and prevent future resprouts.

American wisteria (*Wisteria frutescens*, photo, right) is a native species that is a suggested alternative to the ornamental use of Chinese wisteria because it does not form dense infestations.

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Glossary

Annual- a plant that completes its entire life cycle in one year.

Biennial - a plant that completes its entire life cycle in two years, usually forming a basal rosette of leaves the first year and flowering and fruiting the second year.

Bipinnately compound - a compound leaf that is divided into leaflets (pinnae) with each leaflet again divided into more leaflets.

Calyx - collective term for all of the sepals of a flower.

Carpel - a simple pistil (female reproductive part of a flower), in which the seeds develop after fertilization.

Compound - with two or more parts.

Cuneate - wedge-shaped, tapering to a point at the base.

Deciduous - falling off at the end of the growing season, not persistent; used to describe leaves that are not evergreen.

Deltoid - triangle-shaped.

Elliptic - shaped like a narrow oval, broadest at the middle and narrower at the ends.

Filiform - thin, thread-like.

Inflated - swollen or expanded, puffed up.

Inflorescence - the flowering cluster of a plant.

Lanceolate - lance-shaped, considerably longer than wide, with the attachment point at the wider end.

Leaflet - a single division of a compound leaf.

Legume - a dry fruit with one to many seeds that has one carpel and usually splits along two margins; a general term also used to describe a plant in the pea (Fabaceae) family.

Linear - long and narrow, resembling a line.

Loment - a legume which is constricted between each seed.

Midrib - the central vein of a leaf or leaflet.

Oblanceolate - inversely lance-shaped, with the attachment point at the narrow end.

Oblong - several times longer than wide with nearly parallel sides.

Obovate - inversely egg-shaped in outline, with the attachment point at the narrow end.

Ovate - egg-shaped in outline, with the attachment point at the wider end.

Palmately compound - a compound leaf that is divided into leaflets that originate from a common point, like fingers on a hand.

Pedicel - the stalk of a flower.

Perennial - a plant that completes its life cycle in three or more years, even though the above ground stems may die back during the dormant period.

Petiole - the stalk of a leaf.

Pinna (pl. **pinnae**) - one of the primary leaflets of a pinnately compound leaf.

Pinnately compound - a compound leaf that is divided into leaflets (pinnae) that are arranged on opposite sides of the leaf axis

Raceme - an elongated, unbranched inflorescence with stalked flowers that mature from the bottom upwards.

Rhizome - a horizontal underground stem that usually forms roots at the nodes.

Rhombic - diamond-shaped.

Sepal - a bract that is a single unit of the calyx, subtending the lower-most whorl of flower petals.

Sessile - attached directly, without a stalk.

Simple - single, undivided, not compound; a leaf that is not separated into leaflets.

Spike - an elongated, unbranched inflorescence with sessile flowers that mature from the bottom upwards.

Spreading - extending nearly horizontal.

Terminal - at the end or tip.

Trifoliate - with three leaves or leaflets (as in a **trifoliately compound** leaf).

Unifoliate - with a single leaf.

Vegetative - the non-floral parts of a plant, including the stems and leaves.

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Index of Scientific Names

(Previously recognized scientfic names in italics)

Index of Common Names