

# **Selected Plants of Coastal Mississippi & Alabama**

Grand Bay National Estuarine Research Reserve



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## Grand Bay National Estuarine Research Reserve



*Grand Bay*  
National Estuarine  
Research Reserve



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*The National Estuarine Research Reserve System is a protected network of federal, state and community partnerships which serve to promote informed management of the Nation's estuarine and coastal habitats through linked programs of stewardship, public education and scientific understanding.*

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# Selected Plants of Grand Bay National Estuarine Research Reserve

## A VISITOR'S FIELD GUIDE

### Note to Users

This guidebook was compiled in order to provide you, our visitors, with pictures and informative descriptions of several wetland and terrestrial plants found within the protected wildlands of the Grand Bay National Estuarine Research Reserve and the Grand Bay National Wildlife Refuge. We encourage you to cautiously explore these sensitive areas on foot when you are in search of these plants. Many of our coastal habitats, such as pine savannas and salt pannes, are extremely fragile in nature. Please do not remove or disturb the plants or their parts without proper permits, and do not consume any unfamiliar plants found in the reserve. Remember, just take photos, and leave as few footprints as possible as you travel through some of Mississippi and Alabama's most pristine coastal wetlands!

We would like to thank our partner agencies who were directly involved in the development of the previous and current editions of this guidebook. Many members of each of these agencies contributed photographs, digital images and technical expertise:

- University of Southern Mississippi's Marine Education Center
- U.S. Fish and Wildlife Service's Grand Bay National Wildlife Refuge
- Mississippi State University Coastal Research and Extension Center
- Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section and Weeks Bay National Estuarine Research Reserve

This guidebook is also available online at [www.grandbaynerr.org](http://www.grandbaynerr.org). Periodic updates and expansions to this document will be made as additional, quality subject material becomes available. Many common plant names listed in this guide are capitalized for stylistic purposes and readability.

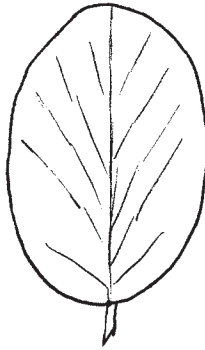
# LEAF SHAPES



Oblong



Elliptic



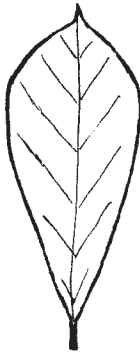
Ovate



Spatulate



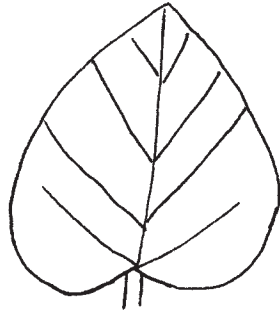
Lanceolate



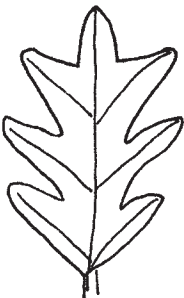
Oblanceolate



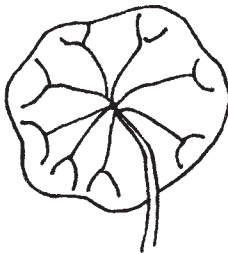
Linear



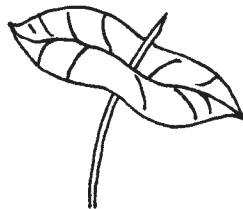
Cordate



Feather-lobed



Peltate

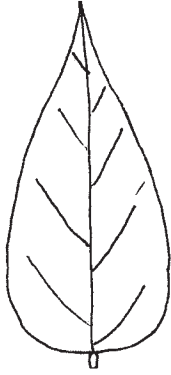


Perfoliate

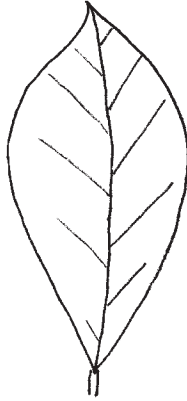


Scale

## LEAF SHAPES



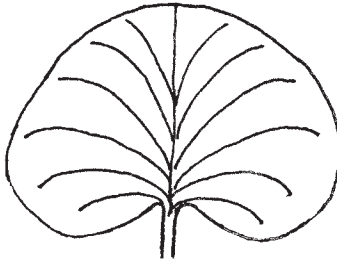
Ovate



Obovate



Sheath



Reniform

## Leaf Margins



Wavy



Toothed

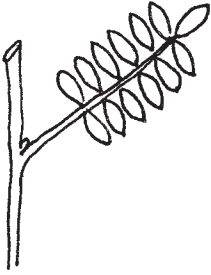


Entire



Divided

# COMPOUND LEAF TYPES



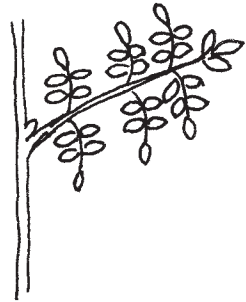
Pinnate



Palmate



Trifoliate



Bipinnate

## Leaf Arrangement



Alternate



Opposite



Whorl



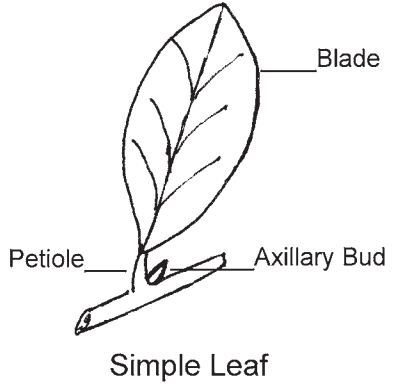
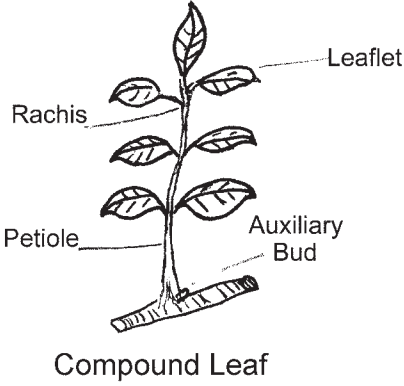
Sessile



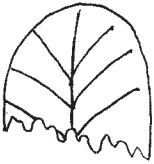
Basal



Leaf Structures



Leaf Apexes



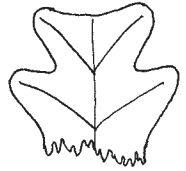
Round



Acute



Acuminate

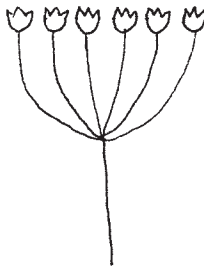


Blunt

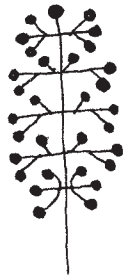
Flower Arrangement



Raceme



Umbel



Panicle



## HABITATS

### PINE SAVANNAS

With only 3-5% of the original acreage remaining, wet pine savannas are one of our most endangered ecosystems. These communities once extended along the coast from the western edge of Florida to Louisiana in a band approximately 62 miles wide. The Grand Bay reserve contains some of the best remaining examples of this habitat type along the northern Gulf of Mexico. Pine savannas are fire-maintained grasslands with scattered pines and shrubs and a sun-loving, species-rich ground cover. A layer of clay found below the surface prevents the water from draining from these sites and results in wet, acidic soils that are of poor nutritional quality.

Although poor in soil quality, these wetland habitats support some of the highest diversities (as many as 40 different species per square meter) of grass, sedge and wildflower species ever described in North America. Pine savannas are home to a large number of carnivorous plants. These plants, which include pitcher plants, sundews, bladderworts and butterworts, are adapted to attract, capture and digest prey, such as insects and other small animals. Also found in this habitat are beautiful orchids, such as the Grass Pink and Ladies' Tresses.

Animals, such as fox squirrels, gulf fritillary butterflies, bluebirds and gopher tortoises regularly visit or live in these habitats. Although not commonly found in the Grand Bay reserve, the endangered Mississippi sandhill crane is the most notable inhabitant of the wet pine savannas of south Mississippi.



## SALT AND BRACKISH MARSHES

The estuary of the reserve is dominated by the salt marsh community. Estuaries occur where freshwater from rivers and streams mix with the saltwater of the sea to form brackish water. Divided into three major wetland zones based on minor differences in elevation, the salt marshes are influenced by the rise and fall of the tides.

Along the fringes of many of the reserve's bayous is the narrowest zone called the low marsh. This zone is dominated by Smooth Cordgrass and is located where the brackish tidal waters reach every day. The tides regularly sweep into this zone, bringing with them small animals to feed in and among the vegetation. As the tides flush out of the area, they take with them tiny bits of food, called detritus, on which many important species of small coastal finfish and shellfish feed.

The mid-marsh is located above the mark of mean (average) high water, so it is not covered by water every day. Sandwiched between the low and high marsh, the mid-marsh zone (the largest salt marsh area) is dominated by Black Needlerush, Mississippi and Alabama's most common salt marsh plant. Several stands of these plants are found throughout the reserve, and most are hundreds of acres in size. Scattered within the mid-marsh are extremely salty areas of sparse vegetation known as salt pannes. These salt pannes form in shallow depressions into which tidal waters occasionally flow and become trapped. When the trapped water evaporates, the salt is left behind. Plants and animals living in these salt pannes must be extremely salt and heat tolerant. Common plants found in these salt pannes include Saltwort, Glasswort and Sea lavender. Animals frequently found here include fiddler

crabs, common buckeye butterflies and white-tailed deer that use these areas as salt licks.

Saltmeadow Cordgrass is the most common indicator species for the highest zone, the high marsh. This zone is covered with water only during unusually high water events such as hurricanes. This wetland zone serves as an interface with the adjacent terrestrial habitats. Other species of plants found in this zone include Southern Bayberry (Wax Myrtle), Yaupon Holly and Sea Ox-eye, a salt-tolerant wildflower that resembles a yellow daisy.

Salt marshes provide nursery, feeding and shelter habitats for many coastal species of fish, shellfish and other animals, buffer the mainland from powerful storm surges, filter pollutants flowing off the adjacent land and provide recreational opportunities for fishermen, hunters and birdwatchers. Diamondback terrapins, raccoons, American alligators, Oyster Catchers, Brown and White pelicans (migratory) and Clapper Rails are just a few of the animals that live here.



## WOODLAND HABITATS

The majority of the woodland habitats located within the reserve are dominated by Slash Pines and Wiregrass and are often referred to as wet pine flatwoods; however, there are a few habitats located on higher ridges or relic Native American shell middens (refuse piles) that support upland (non-wetland) hardwood species such as the evergreen Live Oak. The wooded areas located close enough to the saltwater bayous and bays periodically impacted by saltwater flooding or the salt spray are called maritime forests.

The overstory of the maritime forests is often dominated by trees that are stunted and disfigured due to the harsh conditions under which they exist. High winds associated with tropical and winter storms may cause these trees to snap in half or to become twisted. Extended saltwater flooding, such as the associated storm surges from hurricanes, may also kill many of the less salt-tolerant species.

During the early spring and fall months, these woodland habitats serve as critical “refueling” and resting stopover sites for birds migrating to and from Central and South America across the open water of the Gulf of Mexico. In the spring, it is not unusual to find Redstarts, Black and White Warblers, Wood Thrushes and other birds utilizing the reserve’s woodlands as they pass through this area on their way to their nesting habitats in the north. The Oak Grove Birding Trail leads through one of the Grand Bay reserve’s few accessible examples of a maritime oak forest.



## FRESHWATER MARSHES

The freshwater marshes in the reserve are either tidal or non-tidal depending on where they are located within the landscape. Most of these habitats are rarely, if ever, flooded by saltwater.

The vegetation in marshes is generally considered to be grasslike, although a few water-tolerant species of trees, such as Pond and Bald Cypress, may be found intermixed. A dominant freshwater marsh species found in the reserve is Sawgrass, which forms dense stands that provide habitat for nesting birds, alligators, frogs, otters and snakes. Ospreys, fish-eating birds of prey, nest in trees or other tall structures on the edges of freshwater marshes.

Tidal freshwater marshes are found upstream from brackish waterways. The ebb and flow of the tide move the water levels up and down in these streams, but there is very little movement of salt into these systems, except during periods of extreme drought or tidal surge. Common plants found in these marshes include Arrowhead, Pickerelweed, Cattail and Waterlilies.

These freshwater marshes serve to filter polluted runoff from adjacent uplands, store floodwaters to prevent flooding elsewhere, recharge ground water aquifers and provide nesting and over-wintering sites for recreationally important species of fish and waterfowl. Mammals, such as beavers, muskrats and invasive nutrias, also utilize these habitats throughout the year.



## SWAMPS AND BOTTOMLAND HARDWOODS

Located throughout the reserve are a few scattered swamps and bottomland hardwoods. These freshwater wetlands are characterized by the presence of standing water during part of the year and the presence of woody vegetation. It is the coastal swamp that many visitors to our area associate with the Deep South.

The most common trees found in these habitats include the Tupelo Gum and the Pond Cypress. These trees have special adaptations that allow them to live in standing water. Both have what is called a buttressed (swollen) base. Additionally, the cypress trees have "knees," structures that arise from the ground and are thought to help facilitate oxygen exchange in tree roots, which might help trees handle the variable conditions that occur in wet soils.

Many coastal species of wildlife, such as waterfowl and warblers,

utilize these habitats for water, food and protective cover. The swamps and the bottomland hardwoods may serve as rookeries for egrets, herons and other colonial nesting species of birds. These wetlands also provide important breeding sites for many of our coastal species of amphibians and reptiles, such as sirens (large, aquatic salamanders), frogs, toads, turtles and alligators.



## ROADSIDE HABITAT

The strip of land adjacent to the road, combined with the adjacent ditches, is considered roadside habitat. Although, at first glance, this habitat seems minimal, when all roadsides are added together, a significant amount of potential wildlife habitat is found. These strips of land also play an important role in stabilizing the roadsides and filtering the pollutants carried in storm waters that flow off the roads.

If left unmowed, these roadsides will be used by many species of wildlife as corridors to move from one habitat to another. Roadsides serve as feeding, breeding (especially for toads or frogs) and sheltering areas for animals to hide in until the “coast is clear” to cross the road. Many species of egrets and herons are often found feeding in these roadside ditches. In the winter, large flocks of American Robins (that have migrated here from the north) forage here.

Beautiful species of wildflowers will grow and bloom here, if given the chance to reach maturity. Some of the reserve's distinctive plants, such as the Wetland Sunflower, Saltmarsh Morning-glory and Dense Blazing Star, will sprout up in these areas, providing a refreshing roadside view.

## INVASIVE SPECIES

An “invasive species” is defined as a non-native species whose introduction or presence causes economic or environmental harm by outcompeting native species and utilizing their resources. Invasive plants often serve little to no use to native wildlife.

While invasive species management is ongoing at the Grand Bay NERR, several invasive plant species can be found on reserve lands. Some of the most common invasive plant species on the reserve are the Chinese Tallow Tree (*Triadica sebifera*), the Camphor Tree (*Cinnamomum camphora*) and Cogongrass (*Imperata cylindrica*). Invasive animal species, such as the feral hog (*Sus scrofa*) and nutria (*Myocastor coypus*) are present as well.

Invasive species contribute to losses in native biodiversity and changes in habitat structure, hydrology and productivity. Many states have established laws to prohibit the sale and distribution of these species, and across the United States, many actions are being taken to remove invasive species from terrestrial and aquatic ecosystems.







## FERNS AND FERN ALLIES

### *Lycopodiella alopecuroides*

Common name:	Foxtail Bog Clubmoss
Form:	Creeping perennial
Leaves:	Densely congested on stems; linear-lanceolate, to ½-inch long
Flowers:	None; a fern ally that reproduces by spores formed at the bases of leaves on erect fertile branches
Fruit:	None
Habitat:	Bogs, marshes, wet roadsides, moist sandy waste places
Comments:	Stems arch and root at points where they touch the soil. Spores are explosive in high densities and have been collected and sold as “flash powder.”



*Lygodium japonicum*

**INVASIVE**

- Common name: Japanese Climbing Fern
- Form: Herbaceous, climbing or twining perennial, up to 90 feet long
- Leaves: Opposite, compound, stalked, triangular; non-fertile leaflets lobed and dissected; fertile leaflets compressed with two rows of sporangia along the margin
- Flowers: None
- Fruit: None
- Habitat: Roadsides, upland forests, flatwoods, maritime forests
- Comments: Japanese Climbing Ferns often climb up and grow over other vegetation. Its growth can become dense enough to block out sunlight, which will eventually kill the plants underneath.



*Osmunda cinnamomeum*

- Common name: Cinnamon Fern
- Form: Large deciduous, rhizomatous fern
- Leaves: Basal; sterile leaves are up to 5 feet long, pinnately compound; leaflets have rounded teeth
- Flowers: None; fertile, spore-producing leaves, in spring; upright, up to 3 feet tall, densely covered with cinnamon-colored hairs
- Fruit: None
- Habitat: Swamps, bogs, moist forests, in sun or shade



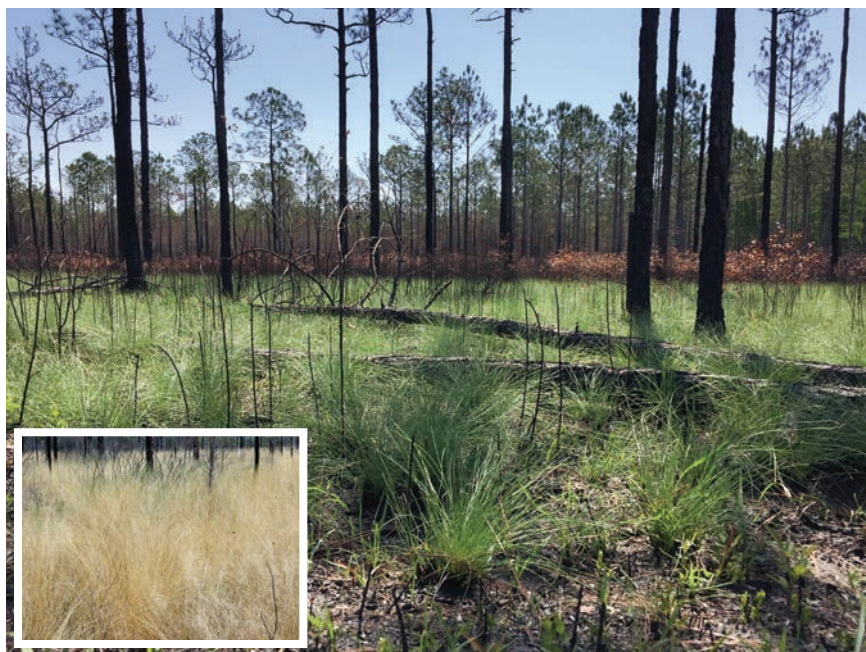
### ***Woodwardia areolata***

- Common name: Netted Chain Fern
- Form: Deciduous perennial, 1-½ to 2 feet tall
- Leaves: Bright waxy green, lanceolate, pinnatifid, wide wings along main axis; sterile fronds shorter than fertile fronds
- Flowers: None
- Fruit: None
- Habitat: Bogs, savannas, roadsides, upland, flatwoods, maritime forests
- Comments: Fertile fronds of the netted chain fern are taller than non-fertile fronds and have narrower pinnae with chain-like rows of sori containing sporangia.



### *Woodwardia virginica*

- Common name: Virginia Chain Fern; Giant Chain Fern
- Form: Deciduous, perennial, 2-5 feet tall
- Leaves: Pinnately divided almost to midrib, leathery; long, shiny purple-brown frond stalks; fronds tapering at the base and tip; sterile and fertile fronds similar
- Flowers: None
- Fruit: None
- Habitat: Bogs, marshes, roadsides, savannas, maritime forests and pine flatwoods
- Comments: Spores produced on the underside as fertile fronds mature from June to September.



## GRASSES - MONOCOTYLEDONOUS PLANTS

### *Aristida stricta*

- Common name: Wiregrass; Pineland threeawn
- Form: Erect perennial, 1-½ to 3 feet; forms dense, spreading tufts, bunch grass
- Leaves: Mostly basal, simple, long, thin, wiry or needlelike with tufts of fine white hairs at each leaf base; margins strongly inrolled
- Flowers: Tiny, close to stalk with three distinct hairlike awns protruding from each flower; **September - November**
- Fruit: Grain; yellow; **September - November**
- Habitat: Flatwoods, pine forests, newly burned sites
- Comments: Wiregrass is one of the most common grasses of the southern pine flatwoods. Seed stalks are rare and are observed only after fire.



### ***Ctenium aromaticum***

- Common name: Toothache Grass; Orange Grass
- Form: Erect perennial, 2-4 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), slender blades, attached near base, slightly hairy sheaths
- Flowers: Spikelets on one side of a curved axis; 3-6 inches long in two rows at right angles to axis; **June - August**
- Fruit: Grain; dark red, shiny, linear,  $\frac{3}{4}$ -inch long; **June - August**
- Habitat: Pine savannas, pine flatwoods, bogs
- Comments: Toothache grass emits a strong citrus aroma when crushed and produces a numbing sensation to lips tongue and mouth if chewed.



### *Echinochloa walteri*

- Common name: Coast Cockspur Grass
- Form: Erect, up to 5 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), blades flat, linear, smooth, up to 2 feet long,  $\frac{3}{4}$ -inches wide with stiff hairy sheaths
- Flowers: Inconspicuous, on erect or slightly sagging bristly stalks; spikelets full of bristles, pale purple; **June - November**
- Fruit: Grain; white, ellipsoid, up to  $\frac{1}{10}$ -inch long; **June - November**
- Habitat: Freshwater and salt marshes, ponds
- Comments: Coast Cockspur Grass is planted because of its use as food for many bird species.





*Imperata cylindrica*

INVASIVE

- Common name: Cogongrass
- Form: Perennial, 2-4 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), hairy on upper surface, hairless on lower surface; blades to 1 inch wide with finely toothed margins, off-centered white midribs, sharp point
- Flowers: Silvery, cylindrical, branching, 3-11 inches long, 1-½ inches wide; February - May
- Fruit: Grain; February - May
- Habitat: Roadsides, forests, pine savannas
- Comments: Cogongrass has white, plumelike feathery stalks when in bloom and seed. It is thought that this aggressive invasive plant entered the United States in the Grand Bay, AL area.



*Panicum repens*

**INVASIVE**

- Common name: Torpedo Grass
- Form: Erect or leaning perennial, 2-3 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), stiffly ascending, narrow, linear, 2-10 inches long, ¼-inch wide
- Flowers: Long, open, unbranched stalks, 3-9 inches long;  
January - December
- Fruit: Grain; January - December
- Habitat: Roadside ditches, brackish and salt marshes
- Comments: This invasive grass is thought to be native to Australia. Because it grows in both aquatic and terrestrial habitats, it is very difficult to control.



***Setaria parviflora* (*Setaria geniculata*)**

- Common name: Marsh Bristlegrass; Foxtail Grass
- Form: Perennial, 2-3 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), upright, up to 6 inches long,  $\frac{1}{4}$  -  $\frac{1}{2}$  inch wide, straight, glabrous with flattened sheaths, keeled, membranous and ciliated ligules (leaf nodes)
- Flowers: Panicle; cylindrical, terminal, yellow, 1-2 inches long;  
July - September
- Fruit: Grain; July - September
- Habitat: Salt marshes, roadsides, savannas
- Comments: Flower clusters resemble fuzzy foxtails.



### *Spartina alterniflora*

- Common name: Smooth Cordgrass
- Form: Stiff, erect, smooth grass 3-5 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), up to 2 feet long, up to  $\frac{3}{4}$ -inch wide, entire margins; hairy ligules
- Flowers: Spikes; open, branching, 5-20, loosely overlapping, loosely appressed or spreading; spikelets, 10-40 on a branch, flattened, smooth, pointed tips in two rows, twisting, only on branch undersides; **June - October**
- Fruit: Grain; **June - October**
- Habitat: Tidal marshes
- Comments: Smooth Cordgrass dominates the lowest salt marsh zone.



### ***Spartina patens***

- Common name: Saltmeadow Cordgrass; Saltmarsh Hay
- Form: Erect grass, 1-4 feet tall
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), blades hairless, grows 4-19 ½ inches long, 1/3 - 1 ½ inches wide at the base
- Flowers: 1-6 spikelets appressed to a stalk; **June - September**
- Fruit: Grain; linear-ellipsoid; **June - September**
- Habitat: Salt and brackish marshes, scrublands
- Comments: Saltmeadow Cordgrass forms dense, single species stands that appear matted and decumbent, similar to cowlicks. This species dominates the higher salt and marsh zone.



### *Andropogon glomeratus*

- Common name: Bushy Bluestem; Bushy Broom Grass
- Form: Erect perennial, up to 7 feet tall, green or blue with hairy white tops
- Leaves: Alternate, simple, on opposite sides of stems (2-ranked), flat or folded, up to 2 feet long, up to ½ inch wide; hairy leaf junctions (ligules)
- Flowers: Racemes; 2-3 bunches with 5-12 paired spikelets with long awns and dense hairs, expanded spathes;  
August - October
- Fruit: Grain; purple to yellow, linear-ellipsoid;  
August - October
- Habitat: Open forests, wet pinelands, wet roadsides, savannas, bogs, fresh and brackish marshes



## RUSHES - MONOCOTYLEDONOUS PLANTS

### *Juncus effusus*

- Common name: Soft Rush; Common Rush
- Form: Wetland perennial, smooth, upright, cylindrical, spire-like green stems, grow in spreading basal clumps 20-40 inches tall
- Leaves: Absent
- Flowers: Showy; July - September
- Fruit: Obovoid capsule
- Habitat: Ditches, bogs, swamps, marshes, wet pastures, lakes and rivers



### *Juncus roemerianus*

- Common name: Black Needlerush; Needlegrass Rush
- Form: Perennial, up to 5 feet tall
- Leaves: Erect, ridge, tightly rounded, appearance of a sharp-pointed stem, grayish green to black
- Flowers: Terminal to main axis or branches;  
late January - September
- Fruit: Capsule; late January - September
- Habitat: Brackish salt marshes
- Comments: Black Needlerush is the dominant salt marsh plant along the northern Gulf Coast and comprises the bulk of the biomass.





## SEDGES - MONOCOTYLEDONOUS PLANTS

### *Carex glaucescens*

- Common name: Southern Waxy Sedge; Clustered Sedge
- Form: Perennial, 2 ½ - 3 ½ feet tall
- Leaves: Alternate, 3-ranked, blades frosted or whitish, powdery coating imparts a gray-green color; blades ¼ - ½ inch wide, basal sheaths brown to purple
- Flowers: Inconspicuous, brown to cinnamon-brown; long solitary staminate (male) stalk extends beyond upper pistillate (female) spikes; July - September
- Fruit: Nutlet; oval, curved inward; July - September
- Habitat: Pinelands, savannas, roadside ditches
- Comments: *Carex* is an important food for wildlife.



## *Cladium jamaicense*

- Common name: Sawgrass; Jamaica Swamp Sawgrass
- Form: Perennial, 9-12 feet tall
- Leaves: Alternate, 3-ranked, large, stiff, flat to V-shaped, relatively narrow; 3 - 3 ½ feet long, ¾ inch wide; margins and midribs with sawlike teeth; growing from base
- Flowers: Spikelets reddish brown; extend several feet above leaves; July - September
- Fruit: Nutlet; olive-purple, pitted; July - September
- Habitat: Fresh and brackish marshes
- Comments: Midribs on the underside of the leaves have small, sharp teeth like a saw blade, and the stems are hollow.



***Rhynchospora latifolia* (*Dichromena latifolia*)**

- Common name: Whitetop Sedge; Sandswamp Whitetop
- Form: Herbaceous perennial, 2-3 feet tall
- Leaves: Basal, erect, smooth, less than ¼ inch wide, tapering to a tip
- Flowers: Tiny, dull, dingy-white flowers, clustered on the end of stem; surrounded by seven or more conspicuous, green-tipped, white bracts; **May - September**
- Fruit: Nutlet; curving inward on two sides, brown-yellow; **May - September**
- Habitat: Savannas, roadsides, any moist open areas
- Comments: The flowers and bracts together resemble a single white, star-shaped flower.



## VINES - MONOCOTYLEDONOUS PLANTS

### *Smilax laurifolia*

- Common name: Laurel Greenbrier; Bamboo Vine
- Form: High-climbing, woody evergreen vine; may form thickets
- Leaves: Alternate, simple, oblong to elliptical, 2-4 inches long, entire margins; leathery
- Flowers: Umbels; small, greenish yellow in leaf axils, bell shaped, tips separate; July - August
- Fruit: Berry; green the first year maturing to black the second year; September - October
- Habitat: Swamps, bogs, bottomland hardwoods
- Comments: Tendrils are present.



## VINES - DICOTYLEDONOUS PLANTS

### *Ampelopsis arborea*

- Common name: Peppervine
- Form: Woody vine; climbs by means of tendrils
- Leaves: Alternate, twice-compound; leaflets coarsely triangular-toothed
- Flowers: 5 greenish petals, to  $\frac{1}{8}$  inch long; April - June
- Fruit: Globose, shiny, to  $\frac{1}{2}$  inch; attractive pink, then red, ripening to shiny purple-black; June - August
- Habitat: Moist woods, marshes, wet margins
- Comments: Peppervine is a close relative of the American grape; however, the fruits are unpalatable.



*Ipomoea sagittata*

- Common name: Saltmarsh Morning-glory; Arrowleaf Morning-glory  
Form: Trailing or twining perennial vine  
Leaves: Simple, entire, sagittate, 2-4 inches long  
Flowers: Vivid rose to lavender, funnel-shaped, 3-4 inches long;  
June - September  
Fruit: Capsule; July - September  
Habitat: Brackish marshes, moist roadsides



*Ipomoea cordatotriloba (Ipomoea trichocarpa)*

- Common name: Tievine; Coastal Morning-glory  
Form: Twining, slightly hairy, herbaceous annual  
Leaves: Simple, ovate, cordate, entire or with two basal lobes  
Flowers: Pink to purple, rarely white, funnel-shaped;  
September - October  
Fruit: Capsule, September - October  
Habitat: Roadsides, disturbed areas, fields



*Lonicera japonica*

**INVASIVE**

- Common name: Japanese Honeysuckle
- Form: Woody, fast-climbing or trailing vine, up to 30 feet long
- Leaves: Opposite, simple, ovate to oblong, 2-3 inches long; often hairy
- Flowers: In pairs; tubular at the base, split into two lips at the opening; white the first day turning creamy yellow; April - June
- Fruit: Berry; blue-black, spherical, in pairs; August - September
- Habitat: Widespread in woodlands, fields, fencerows, thickets, abandoned buildings





### *Parthenocissus quinquefolia*

- Common name: Virginia Creeper; Woodbine
- Form: Climbing, woody, deciduous vine, up to 50 feet long
- Leaves: Alternate, palmately compound with five elliptic-ovate leaflets; coarsely toothed above the middle, up to 6 inches long; fiery red in the fall
- Flowers: Tiny and inconspicuous; in clusters, five petals;  
June - August
- Fruit: Drupe; dark blue, round; July - August
- Habitat: In woods and along banks
- Comments: Virginia Creeper is often mistaken for poison ivy, which has a tri-compound leaf.



### *Toxicodendron radicans*

- Common name: Eastern Poison Ivy
- Form: Perennial, small shrub, up to 4 feet tall or vine, up to 50 feet long
- Leaves: Alternate, pinnately compound with three elliptic to oval, irregularly toothed leaflets, 7-10 inches long
- Flowers: Greenish-white to yellowish-white clusters in lower leaf axils, 4-5 petals; April - May
- Fruit: Drupe; white; August - October
- Habitat: Thickets, open woods, sandy soils
- Comments: Many people experience an allergic reaction, i.e., itchy, blistering skin rash, when they come in contact with the oils of this plant.



### *Vitis rotundifolia*

- Common name: Muscadine
- Form: Deciduous, climbing or trailing, perennial vine, up to 100 feet long; climbing facilitated by tendrils
- Leaves: Alternate, simple, 2 ½ - 6 inches long, slightly lobed, rounded to broadly ovate with coarsely serrate margins, acuminate point; green above and greenish-yellow below
- Flowers: Panicles; small, inconspicuous, green to greenish-white; form along a branched axis, five petals; **May - June**
- Fruit: Greenish-bronze, pinkish-red, purple or black clusters of grapes, ½ - 1 inch in diameter; ripens **August - November**
- Habitat: Forests, thickets, sand dunes
- Comments: This wild grape is used to make jelly and wine.



## HERBACEOUS MONOCOTYLEDONOUS PLANTS

### *Aletris lutea*

- Common name: Yellow Colicroot; Star Grass
- Form: Erect perennial, 2-3 feet tall
- Leaves: Basal rosette, elliptical, green to yellow-green
- Flowers: Raceme; single stalk of yellow tubular to bell-shaped flowers, three petals; **May - July**
- Fruit: Capsule; up to  $\frac{1}{3}$  inch long; **August**
- Habitat: Flatwoods, pinelands, bogs, savannas, roadside ditches



### *Calopogon tuberosus* (*Calopogon pulchellus*)

- Common name: Tuberous Grasspink; Grass Pink Orchid
- Form: Perennial, 4-20 inches tall
- Leaves: Basal rosette; stem leaves alternate and lanceolate, entire margins
- Flowers: Raceme; bright pink or purple flowers, a lip petal stands above two side petals and three sepals; April - June
- Fruit: Capsule; April - June
- Habitat: Savannas, bogs, pinewoods, wet meadows
- Comments: The Grass Pink Orchid is one of the most common orchids at the reserve.



***Crinum americanum***

- Common name: Seven Sisters Lily; Swamp Lily  
Form: Bulbous perennial, 12-36 inches tall  
Leaves: Mostly basal, linear, entire margins  
Flowers: Umbel of 2-6 flowers, fragrant, six white petals with pink markings; leafless stalk; **March - November**  
Fruit: Capsule; **March - November**  
Habitat: Edges of fresh water and low saline wetlands, roadside ditches



### *Eriocaulon decangulare*

- Common name: Tenangle Pipewort; Hatpins; Hard Heads
- Form: Erect perennial, up to 5 feet tall
- Leaves: Basal rosettes, thin, linear, entire margins, grasslike; stems leafless
- Flowers: Solitary inflorescence of small, hard, white flower heads, 2-3 petals; March - October
- Fruit: Capsule; June - October
- Habitat: Roadside ditches, pine savannas, flatwoods



### *Lachnanthes caroliniana*

- Common name: Carolina Redroot; Redroot
- Form: Upright, hairy perennial with red rhizomes and roots
- Leaves: Mostly basal, linear, and overlapping at base, up to 1 inch wide
- Flowers: Panicle; round-topped, terminal, up to 5 feet tall; hairy, three grayish-white sepals, three petals similar; three yellow stamens; **June - October**
- Fruit: Capsule; round, hairy,  $\frac{1}{4}$  inch in diameter; **July - November**
- Habitat: Swamps, pine savannas, bogs, roadside ditches
- Comments: Roots contain red juice. Ducks use this plant as a food resource.





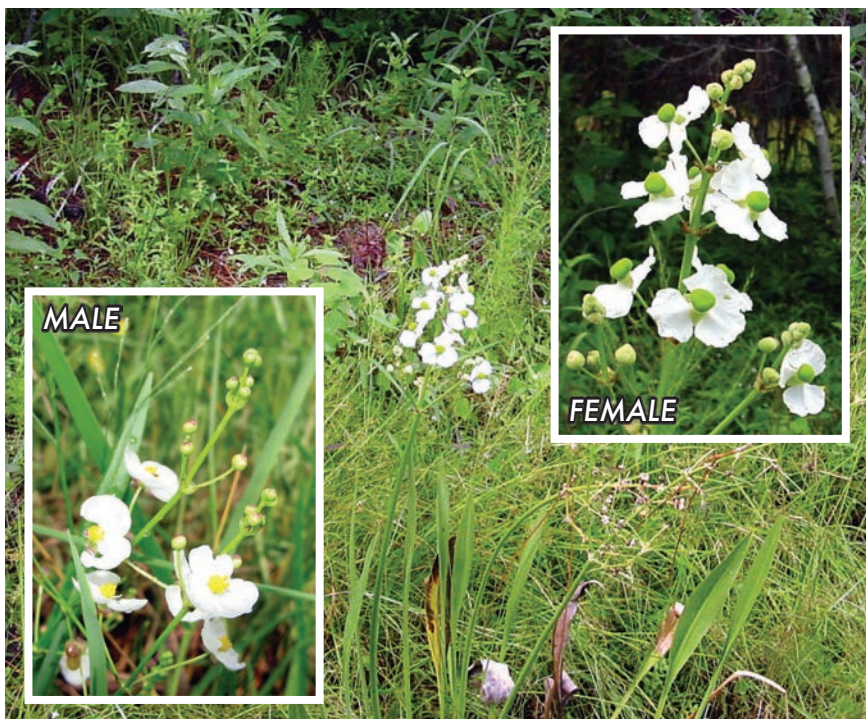
### *Lilium catesbaei*

- Common name: Pine Lily; Catesby Lily
- Form: Herbaceous perennial, up to 2 feet tall
- Leaves: Alternate, simple, narrow, ascending
- Flowers: Single, cup-shaped, deep yellow to scarlet; 5 inches across, three petals and three sepals with similar appearance; July - September
- Fruit: Capsule; September - November
- Habitat: Moist flatwoods, bogs, savannas
- Comments: This plant can be toxic to pets.



### *Pontederia cordata*

- Common name: Pickerelweed
- Form: Aquatic perennial, 2-3 feet tall
- Leaves: Basal, ovate to lanceolate, with cordate bases and obtuse tips
- Flowers: Spike, violet-blue, 6-8 inches long with a single subtending leaf; funnel-shaped, upper lip with three lobes, middle lobe with yellow spots; **May - September**
- Fruit: Achene; **May - September**
- Habitat: Variety of wet sites with shallow margins, including fresh marshes, roadside ditches, ponds
- Comments: Pickerelweed is noted as a butterfly nectar plant.



### *Sagittaria lancifolia*

- Common name: Bulltongue Arrowhead; Duck-potato
- Form: Erect, herbaceous, aquatic perennial, up to 3 feet tall
- Leaves: Blades lanceolate, elliptical to ovate, 8-24 inches long, entire margins
- Flowers: Flowers on scapes in whorls; white with three conspicuous petals; staminate flowers at top of scape, pistillate flowers below; **March - October**
- Fruit: Achene; **March - October**
- Habitat: Roadside ditches, ponds, marshes, other freshwater wetlands
- Comments: The plant is used as a food resource for wildlife and used by herbalists as a diuretic.



### *Sisyrinchium angustifolium*

- Common name: Narrowleaf Blue-eyed Grass; Blue-eyed Grass
- Form: Erect perennial, not a grass; 20 inches tall, in grasslike clumps
- Leaves: Basal rosette, linear, entire margins
- Flowers: Terminal, violet, blue, yellow or white with yellow throats, six petals; flowering stems winged, branched, flat, resembling leaves; **March - July**
- Fruit: Capsule; spherical, dark green or black, up to ¼ inch diameter; **May - August**
- Habitat: Roadsides, savannas, open woods, moist soils



### *Tradescantia ohiensis*

- Common name: Bluejacket; Ohio Spiderwort
- Form: Herbaceous perennial, up to 30 inches tall
- Leaves: Linear, sharp-pointed; up to 16 inches long,  $\frac{3}{4}$  inch wide
- Flowers: Blue to purple, occasionally white; 3 petals and 6 bright yellow stamens with prominent blue hairs; April - August
- Fruit: Round, papery capsule,  $\frac{1}{4}$  across; April - August
- Habitat: Open areas; meadows, lawns, roadsides, disturbed sites
- Comments: Blue staminate hairs are chains of single large cells. The flowers wilt after a single day.



## HERBACEOUS DICOTYLEDONOUS PLANTS

### *Agalinis maritima*

- Common name: Saltmarsh False Foxglove
- Form: Erect annual, 4-16 inches tall
- Leaves: Opposite, narrow, 1-1 ¼ inches long, ¾ - 1 inch wide; grasslike; succulent, blunt tips
- Flowers: Purplish pink, terminal, similar to a flaring, triangular tub, five-parted; June - September
- Fruit: Capsule; August - October
- Habitat: Salt marsh, salt flats
- Comments: Similar plants in this same genus can be found in the savannas.



### *Asclepias lanceolata*

- Common name: Fewflower Milkweed; Red Milkweed
- Form: Erect perennial, 16-48 inches tall
- Leaves: Opposite, short, petiolate, linear to lanceolate, 2  $\frac{3}{4}$  - 8 inches long,  $\frac{1}{2}$  -  $\frac{3}{4}$  inch wide, entire margins
- Flowers: Umbels; terminal with bright red corollas of five united petals, five sepals, orange to red hood; **May - August**
- Fruit: Follicle; **June - September**
- Habitat: Pinelands, savannas, brackish marshes, roadside ditches



### *Asclepias longifolia*

- Common name: Longleaf Milkweed
- Form: Upright, hairy perennial, 6-28 inches tall
- Leaves: Opposite to nearly alternate, sessile, linear, 3 ½ - 5 ¾ inches long 1/8 - 1/4 inch wide, entire margins
- Flowers: Umbels; greenish to white corollas tipped with rose; hoods greenish with purple tops; **May - June**
- Fruit: Follicle; **June - July**
- Habitat: Pinelands, savannas, bogs
- Comments: This plant serves as a larval host for monarch butterflies.





***Symphyotrichum dumosum (Aster dumosus)***

- Common name: Rice Button Aster; White Bushy Aster
- Form: Erect to arching perennial, 3-5 feet tall
- Leaves: Alternate, linear to narrowly elliptic, 1-4 inches long, entire margins, rarely serrate, stiff
- Flowers: Heads; white to lavender ray flowers, yellow disk flowers, up to 1 inch across; **June - September**
- Fruit: Achene; **June - September**
- Habitat: Dry meadows, thickets, pinelands, roadsides



### ***Balduina uniflora***

- Common name: Oneflower Honeycombhead; Savanna Honeycomb
- Form: Herbaceous perennial, 16-30 inches tall; stems ribbed
- Leaves: Alternate, simple, linear  $\frac{3}{4}$  - 3  $\frac{1}{4}$  inches long,  $\frac{1}{8}$  -  $\frac{1}{2}$  inch wide, entire margins, attenuated base; almost a basal rosette on young plants, reduced in size upward
- Flowers: Head; ray and disk flowers yellow, ray flowers tipped with teeth, 3-5 inches in diameter; July - September
- Fruit: Achene; July - September
- Habitat: Bogs, savannas, pinelands



***Bidens mitis***

- Common name: Smallfruit Beggarticks
- Form: Erect annual, up to 3 feet tall
- Leaves: Opposite, pinnately dissected, linear to lanceolate
- Flowers: Head; yellow; disk flowers yellow with some brown;  
August - October
- Fruit: Achene; ovate to oblong, flat, no wings, paired bars,  
less than ¼ inch long; August - October
- Habitat: Fresh and brackish marshes, wetlands
- Comments: Smallfruit Beggarticks have compound leaves.



### ***Bigelovia nudata***

- Common name: Pineland Rayless Goldenrod
- Form: Erect, glabrous, herbaceous perennial, 1-2 feet tall
- Leaves: Basal leaves, simple, spatulate; stem leaves alternate, simple, few, linear to oblanceolate to filiform, 3 inches long, entire margins
- Flowers: Corymb; terminal in flat-topped clusters of 3-5 yellow flowers; **September - October**
- Fruit: Achene; nutlet tapered to base; **September - October**
- Habitat: Pine flatwoods, savannas



***Senna obtusifolia* (*Cassia obtusifolia*)**

**INVASIVE**

- Common name: Java-bean; Sicklepod
- Form: Branched, herbaceous annual, up to 5 feet tall
- Leaves: Alternate, pinnately compound, 3-10 leaflets,  $\frac{3}{4}$  - 3 inches long, 1 - 2  $\frac{3}{4}$  inches wide, entire margins
- Flowers: Pealike; yellow; in clusters; July - September
- Fruit: Legume; August - October
- Habitat: Open woods, disturbed areas
- Comments: Seeds are toxic to some animals and plant may be poisonous if eaten in large quantities.



### ***Centella erecta* (*Centella asiatica*)**

- Common name: Erect Centella; Erect Spadeleaf
- Form: Herbaceous perennial with creeping stems that root at nodes, up to 2 feet long
- Leaves: Arise from a creeping stem, ovate to oblong,  $\frac{1}{2}$  - 2 inches long,  $\frac{1}{2}$  - 1  $\frac{1}{2}$  inches wide, margins with or without teeth; resembling a shovel; smooth or hairy stems
- Flowers: Umbel; white to pink, 1-4 inches in diameter;  
May - October
- Fruit: Schizocarp; flattened, ellipsoid, up to  $\frac{1}{4}$  inch long, ribbed; June - November
- Habitat: Wet pine flatwoods, wet roadside ditches, sandy shores, savannas



### *Chaptalia tomentosa*

- Common name: Woolly Sunbonnets; Pineland Daisy
- Form: Evergreen perennial, flower scapes 3-10 inches tall
- Leaves: Basal rosettes, elliptic to oblanceolate, 2-7 ¼ inches long, ½ - 1 ¾ inches wide, entire margins
- Flowers: Head; terminal, white with pink undersides, bright yellow centers; **March - May**
- Fruit: Achene; nutlets grayish brown, ellipsoid, tapered, up to ¼ inch long; glabrous, ribbed; **March - May**
- Habitat: Roadsides, bogs, stream banks, pine barrens
- Comments: Flower heads close in the shape of a sunbonnet at night and reopen to face the sun in the morning.



### *Cirsium lecontei*

- Common name: Le Conte's Thistle
- Form: Biennial, 1-4 feet tall
- Leaves: Basal rosette, narrowly elliptic-oblong, 6-8 inches long,  $\frac{2}{5}$  -  $\frac{3}{5}$  inches wide, dentately spine-lobed or spine-toothed; stem and lower surfaces of leaves pubescent, sometimes partially or wholly disappearing with age
- Flowers: Head; pink to magenta, 2-3 inches long;  
May - October
- Fruit: Achene; nutlets smooth; July - October
- Habitat: Wet meadows, moist woods, thickets
- Comments: Le Conte's Thistle has well developed spine tips and toothed leaves with the lower surface being loosely arachnoid (hairy/cobweb like).





### *Crotalaria spectabilis*

**INVASIVE**

- Common name: Showy Rattlebox
- Form: Erect, herbaceous perennial, 2-4 feet tall
- Leaves: Alternate, simple, ovate to obovate; 2-7 inches long, ¼ - ¾ inch wide
- Flowers: Pealike, yellow, in elongated clusters; July - September
- Fruit: Legume; August - October
- Habitat: Fields, roadsides, disturbed areas
- Comments: The rattling of dry seeds in the pod accounts for both the common and the genus names which are from the Greek word *crotalon*, meaning "rattle."



### *Eryngium integrifolium*

- Common name: Blueflower Eryngo
- Form: Upright, stiff perennial, 8-32 inches tall
- Leaves: Basal leaves lanceolate, elliptic, triangular or petiolate, usually toothed; stem leaves alternate, lanceolate, elliptic or linear with teeth or spines
- Flowers: Umbels; heads terminal, light blue, subtended by toothed bracts; August - October
- Fruit: Schizocarp; ovoid; August - October
- Habitat: Pine flatwoods, savanna



### *Eupatorium capillifolium*

- Common name: Dog Fennel; Yankee-weed; Cypress-weed
- Form: Herbaceous perennial, 6-8 feet tall
- Leaves: Alternate, often opposite at stem base, simple, pinnately to bipinnately dissected, filiform,  $\frac{1}{4}$  - 1 inch long; sharp, biting odor when crushed
- Flowers: Panicle; inconspicuous; heads small with few flowers occupying the top  $\frac{1}{2}$  to  $\frac{1}{3}$  of plant; **June - November**
- Fruit: Achene; nutlets less than  $\frac{1}{8}$  inch long; head small with few flowers occupying the top  $\frac{1}{2}$  to  $\frac{1}{3}$  of plant; **June - November**
- Habitat: Sunny, disturbed areas
- Comments: It is the pollen of this plant, not the goldenrods, that causes much of the fall hay fever reactions.



***Conoclinium coelestinum (Eupatorium coelestinum)***

- Common name: Blue Mistflower; Wild Ageratum
- Form: Erect to reclining perennial, up to 3 feet tall
- Leaves: Opposite, simple 2  $\frac{3}{4}$  to 3  $\frac{1}{2}$  inches long, 1 - 2  $\frac{1}{2}$  inches wide, round teeth on margins; blades have wrinkled surfaces, triangular in shape
- Flowers: Head; blue to purple; hairy; in flat, branched clusters;  
August - October
- Fruit: Achene; nutlet resinous, glandular; August - October
- Habitat: Disturbed areas, wet margins
- Comments: Stems are green to purple and occur in clumps.



### *Helianthus heterophyllus*

- Common name: Variableleaf Sunflower
- Form: Perennial herb, up to 3 feet tall
- Leaves: Basal leaves opposite, linear to lanceolate or oblong; upper leaves alternate, sometimes opposite; winged petioles
- Flowers: Heads; 3 inches wide, terminal, solitary; bright yellow ray flowers, brownish-purple disk flowers;  
August - October
- Fruit: Achene; August - October
- Habitat: Savannas, moist flatwoods



### *Hibiscus aculeatus*

- Common name: Pineland Hibiscus
- Form: Branched upright perennial, up to 6 feet tall
- Leaves: Irregularly palmately lobed, up to 5 inches long; scabrous (sandpapery) to the touch
- Flowers: Creamy-white with dark-red centers; 4 inches across; five petals; June - October
- Fruit: Hairy, oval capsule 1 inch long; June - October
- Habitat: Moist forest edges, pinelands, open roadsides



### *Hydrocotyle bonariensis*

- Common name: Largeleaf Pennywort; Seaside Pennywort; Coastal-plain Pennywort
- Form: Creeping, herbaceous perennial, spread horizontally by rhizomes, up to 7 feet long
- Leaves: Simple, large, coin-shaped, fleshy, peltate, 1 ¼ - 4 inches wide, toothed margins
- Flowers: Umbel; branched (compound), white, cream to green;  
April - September
- Fruit: Schizocarp; flattened, smooth, sharply ribbed;  
April - September
- Habitat: Roadsides; beach dunes; moist, open sandy areas; disturbed areas



### *Ludwigia octovalvis*

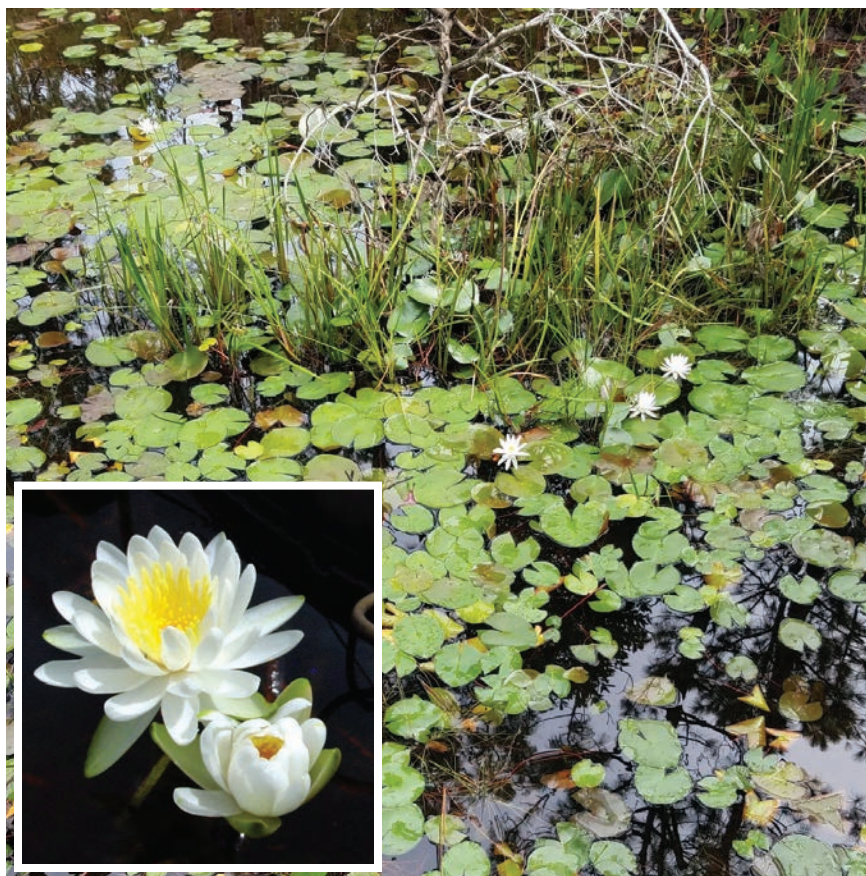
- Common name: Mexican Primrose-willow
- Form: Shrub-like herbaceous annual or perennial, glabrous or hairy, 3-6 feet tall
- Leaves: Alternate, simple, sessile, linear, lanceolate to oblanceolate, entire margins, 1 ½ - 6 inches long, 3/8 inches wide
- Flowers: Bright yellow with four petals; conspicuous ovaries 1 ½ - 2 inches long; June - October
- Fruit: Capsule; June - October
- Habitat: Wet ditches, marshes, stream edges, swampy woods





***Marshallia graminifolia* (*Marshallia tenuifolia*)**

- Common name: Grassleaf Barbara's Buttons; Narrowleaf Barbara's Buttons
- Form: Glabrous to hairy perennials, 18-24 inches tall
- Leaves: Alternate, simple, linear to lanceolate, entire margins, 3-8 inches long,  $\frac{3}{4}$  inch wide
- Flowers: Head; terminal, corolla white to purplish;  
July - September
- Fruit: Achene; July - September
- Habitat: Savannas, pinewoods, roadside ditches



## *Nymphaea odorata*

- Common name: American White Waterlily; Fragrant Waterlily
- Form: Herbaceous, aquatic perennial
- Leaves: Floating or emergent, orbicular, up to 12 inches in diameter, entire margins, purple undersides
- Flowers: Fragrant, showy white flowers, 17-40 petals and stamens: opening in the morning and closing in the afternoon; April - September
- Fruit: Berrylike; June - September
- Habitat: Ponds, stagnant pools, bog pools



### *Phyla nodiflora*

- Common name: Turkey Tangle Frogfruit
- Form: Creeping herbaceous perennial, up to 6 inches tall; rooting at nodes
- Leaves: Opposite, simple, ovate to lanceolate,  $\frac{1}{2}$  - 1  $\frac{1}{2}$  inches long,  $\frac{1}{4}$  -  $\frac{3}{4}$  inch wide, toothed margins; on four-angled, hairy stems
- Flowers: Heads; compact, white or pink; outside flowers bloom first; center flowers bloom last; **May - November**
- Fruit: Schizocarp; **May - November**
- Habitat: Open, moist sites, roadside



### *Pluchea rosea*

- Common name: Rosy Camphorweed
- Form: Erect, herbaceous, hairy annual or short-lived perennial, up to 3 feet tall
- Leaves: Alternate, simple, oblong to elliptic,  $\frac{3}{4}$  - 3  $\frac{1}{2}$  inches long,  $\frac{1}{4}$  - 1  $\frac{1}{2}$  inches wide, auriculate, clasping, sessile, hairy, aromatic
- Flowers: Corymb; terminal, disk flowers bright purplish-pink, ray flowers absent; **August - October**
- Fruit: Achene; hairy; **August - October**
- Habitat: Ditches, savannas, low woods
- Comments: Leaves give off a camphor-like odor when crushed.



### *Polygala cruciata*

- Common name: Drumheads; Purple Candyroot
- Form: Erect annuals, up to 12 inches tall
- Leaves: Whorled, simple, sessile; four leaves per whorl; linear to oblanceolate,  $\frac{3}{8}$  - 2 inches long,  $\frac{1}{16}$  -  $\frac{1}{4}$  inch wide, entire margins
- Flowers: Raceme; terminal, relatively small, purplish-pink or white, 2-3 inches long, three petals united into a tube;  
April - June
- Fruit: Capsule; April - June
- Habitat: Bogs, savannas, pinelands
- Comments: Roots smell like wintergreen candy.



### *Polygala cymosa*

- Common name: Tall Pinebarren Milkwort
- Form: Erect biennial, 1-4 feet tall
- Leaves: Basal rosette, lanceolate to linear, 2-3 inches long, less than ¼ inch wide; stem leaves smaller, linear, becoming reduced upward
- Flowers: Raceme; terminal dense, yellow, three petals united into a tube; May - July
- Fruit: Capsule; May - July
- Habitat: Bogs, savannas, pinelands



***Polygala lutea***

- Common name: Orange Milkwort; Orange Candyroot
- Form: Erect biennial, up to 12 inches tall
- Leaves: Mostly basal; stem leaves alternate, succulent, oblanceolate, up to 1 ¾ inches long, ¾ inch wide, entire margins
- Flowers: Racemes; dense, orange, three petals united into a tube;  
April - October
- Fruit: Capsule; April - October
- Habitat: Bogs, savannas, pinelands



## *Rhexia alifanus*

- Common name: Savanna Meadowbeauty
- Form: Glabrous, unbranched, wand-like stem; erect perennial up to 3 feet tall
- Leaves: Opposite, elliptical/lanceolate, strongly ascending, blueish-green, waxy-smooth and entire margins
- Flowers: Purplish pink, four petals, eight stamens with bright yellow curved anthers; **May - October**
- Fruit: Capsule; vase-shaped, glabrous; **May - October**
- Habitat: Meadows, roadside ditches, savannas
- Comments: The leaves taste like green apples when chewed.





### *Sabatia stellaris*

- Common name: Rose of Plymouth; Marsh Pink
- Form: Erect, glabrous annual, up to 18 inches tall
- Leaves: Opposite, simple, lanceolate to elliptic to linear to filiform,  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches long,  $\frac{3}{8}$  inch wide, entire margins
- Flowers: Terminal or axillary; five pink petals, yellow, star-shaped center outlined in maroon and bordered by white;  
June - October
- Fruit: Capsule; August - November
- Habitat: Beaches, brackish marshes, ditches, meadows



### *Salicornia depressa* (*Salicornia virginica*)

- Common name: Virginia Glasswort; Pickleweed
- Form: Smooth, fleshy perennial, trailing or arching stems, green to brown, sometimes woody; 8-24 inches tall
- Leaves: Reduced to scales, making stems appear leafless
- Flowers: Inconspicuous, sunken into pits along the succulent spikes; July - October
- Fruit: Utricle; July - October
- Habitat: Salt flats, brackish and salt marshes



***Sesbania herbacea***  
**(*Sesbania macrocarpa*, *Sesbania exaltata*)**

**INVASIVE**

- Common name: Bigpod Sesbania; Hemp Sesbania
- Form: Annual, smooth stem, 10-14 feet tall; little to no branching; whitish, waxy coating that rubs off
- Leaves: Alternate, even pinnately compound, up to 1 foot tall with 20-70 leaflets; leaflets oblong to linear to elliptic or linear with a pointed tip, 1 - 1 <sup>3</sup>/<sub>8</sub> inches long, entire margins; undersides waxy
- Flowers: Clusters; pealike, 2-6, axillary, 1 - 1 ½ inches long; yellow petals typically streaked or spotted with purple, pea (legume) shaped; **June - September**
- Fruit: Legume; **July - October**
- Habitat: Moist, disturbed areas
- Comments: The bean-like pod of this plant is long and slender like a pencil.



### *Solidago altissima*

- Common name: Tall Goldenrod
- Form: Herbaceous perennial, 2-7 feet tall
- Leaves: Alternate, simple, narrow to broad, lanceolate, up to 6 inches long, up to 1 inch wide, serrate margins toward blade tip; three major veins; upper-most leaves small sessile
- Flowers: Panicles; terminal, golden yellow, clustered on one side of a downward curving stem; forming a pyramid-like structure; **August - November**
- Fruit: Achene; sparsely hairy, soft bristles at tips; **August - November**
- Habitat: Open woods, thickets, roadsides, savannas, disturbed areas
- Comments: This species typically grows in colonies due to the extensive rhizome system that develops. The lowest leaves are absent when the plant flowers.



### *Solidago sempervirens*

- Common name: Seaside Goldenrod
- Form: Erect, herbaceous perennial, 2-8 feet tall, typically fleshy and waxy
- Leaves: Alternate, simple, upper leaves elliptic to ovate, appressed to stem; lower leaves petiolate, elliptic to linear, 2-8 inches long, ½ - 1 ½ inches wide, entire margins
- Flowers: Panicles; golden yellow flowers on one side of stem; August - November
- Fruit: Achene; August - November
- Habitat: Beaches, dunes, brackish and saltwater marshes
- Comments: The leaves of this species have evolved to make this plant more tolerant of salt spray.



## CARNIVOROUS - DICOTYLEDONOUS PLANTS

### *Drosera capillaris*

- Common name: Pink Sundew
- Form: Small, usually  $\frac{3}{4}$  - 2 inches in diameter, but can grow up to 3 inches in wet soil; flat on ground; basal rosette with glandular hairs
- Leaves: Spoon-shaped leaf blades rounding slightly at the petiole; bright green to red
- Flowers: Terminal; pink or white; five petals; **April - June**
- Fruit: Capsule; **April - June**
- Habitat: Savannas, wet ditches, pinelands
- Comments: The leaves are covered with stalked glands that appear as hairs. Insects, either by chance or by attraction to color and/or nectar, get stuck in the mucilage. Once insects are stuck on the leaves, long-stalked glands of the leaf margin bend to the leaf center to entangle the insects. Digestive enzymes are then released.



### *Pinguicula planifolia*

- Common name: Chapman's Butterwort, Swamp Butterwort, Red Butterwort
- Form: Upright perennial, glandular-hairy, 4-12 inches tall
- Leaves: Basal rosette, sessile, oblong to spatulate, acute to acuminate, ½ - 3 inches long, entire margins, typically curved inward, older leaves flat with slightly rolled edges, dull red to purple in sunlight, green leaves in shade; sticky, greasy mucilage
- Flowers: Terminal, irregularly shaped, white to pale violet, no veins, with deeply incised corolla lobes, 1 - 1 ½ inches; **January - April**
- Fruit: Capsule; round; **March - April**
- Habitat: Very wet savannas, bogs, low pinelands, acid soils
- Comments: The plant traps small insects on its sticky leaves by glandular hairs and consumes the softer parts. The reddish-purplish leaves and incised corolla lobes are distinguishing characteristics of this butterwort. This species is rare in Mississippi.



### *Pinguicula lutea*

- Common name: Yellow Butterwort
- Form: Upright perennial, stems glandular and hairy; less than 1 foot tall
- Leaves: Basal rosette; sessile, oval to elliptic, acute to acuminate,  $\frac{1}{2}$  -  $2\frac{3}{4}$  inches long,  $\frac{3}{8}$  - 1 inch wide, entire margins, typically curved inward, fleshy with a sticky, greasy mucilage
- Flowers: Terminal, solitary, irregularly shaped, bright yellow, five spurred lobes; **March - May**
- Fruit: Capsule, round; **April - May**
- Habitat: Savannas, bogs, low pinelands, acid soils
- Comments: The plant traps small insects on its sticky leaves. After trapping insects, the plant digests the soft parts of the insect.





## *Sarracenia alata*

- Common name: Pale Pitcher Plant; Yellow Trumpets
- Form: Upright, herbaceous perennial, up to 2 ½ feet tall
- Leaves: Erect, long, tapering, funnel or tubular shaped, dark red or purple venation; ovate hood overhanging opening; yellow-green; releases sticky nectar inside to attract insects
- Flowers: Solitary, nodding scapes taller than pitchers, five persistent sepals, five long, delicate, draping yellow petals resembling goat ears; flower production preceding leaf appearance; **March - May**
- Fruit: Capsule; brown, warty, five seams; **May - June**
- Habitat: Savannas, bogs, pinelands
- Comments: The pitchers (tubular leaves) have no white areas. The inner hood surfaces have no purple or purple spotted areas.



## *Sarracenia leucophylla*

- Common name: Crimson Pitcher Plant; Whitetop Pitcher Plant
- Form: Upright, herbaceous perennial, 1-4 feet tall
- Leaves: Erect, hollow tubes, greenish base, white top with red veins, open hood; exuding sticky nectar inside the leaf to attract insects
- Flowers: Reddish maroon, solitary, five persistent sepals, five long, delicate, draping, fiddle-shaped petals; flower production preceding leaf appearance; April - May
- Fruit: Capsule; five seams; June - July
- Habitat: Savannas, bog, pinelands
- Comments: This species appears to be hybridizing (cross breeding) with the other species of pitcher plants.



### ***Sarracenia psittancina***

- Common name: Parrot Pitcher Plant
- Form: Decumbent, herbaceous perennial, 2-6 inches tall
- Leaves: Basal rosette, decumbent, dark purple venation; tubular leaves end in a closed hood; hood with small circular opening for insects to enter; up to 10 inches long
- Flowers: Solitary, dark purple to reddish maroon, five persistent sepals, five long, delicate, draping petals resembling goat ears; up to 4 inches long; flower production preceding leaf appearance; **April - May**
- Fruit: Capsule; five seams; **June - July**
- Habitat: Savannas, bogs, pinelands
- Comments: The closed hood resembles a parrot's beak.



## ***Sarracenia rosea***

- Common name: Purple Pitcher Plant; Devil's Boot; Sidesaddle Pitcher Plant
- Form: Evergreen, partially decumbent, herbaceous perennial, 6-8 inches tall
- Leaves: Semi-erect, basal rosette, stout, funnel shaped with dark purple venation; widest in middle; hood erect, mouth not covered
- Flowers: Solitary, rose pink to dark red, five persistent sepals, five long, delicate, draping petals resembling goat ears; flower production preceding leaf appearance; **March - May**
- Fruit: Capsule, **May - July**
- Habitat: Savannas, bogs, pinelands
- Comments: This is the only pitcher plant in the reserve that actually catches and holds rain water. *Sarracenia rosea* was recently split from *Sarracenia purpurea*, a similar species located further north.



## SHRUBS - DICOTYLEDONOUS PLANTS

### *Baccharis halimifolia*

- Common name: Eastern Baccharis; Groundsel Tree
- Form: Deciduous shrub, up to 15 feet tall
- Leaves: Alternate, simple, oblong to obovate, up to 3 inches long, coarsely toothed, new leaves bright emerald green; if subtending flowers, elliptic, rounded or pointed at tip
- Flowers: Heads; tubular, light yellow to white, staminate and pistillate on separate plants; **August - November**
- Fruit: Achene, flattened, subtended by silver to white bristles; **August - November**
- Habitat: All marshes, disturbed areas



### ***Borrichia frutescens***

- Common name: Bushy Seaside Tansy; Sea Ox-eye
- Form: Perennial shrub, ½ - 4 feet tall
- Leaves: Opposite, simple, sessile, succulent and oblanceolate with rounded tips and narrow tapering bases, 1 ½ - 2 inches long, entire margins; gray-green
- Flowers: Head, solitary, terminal with both ray and disk flowers bright yellow; May - September
- Fruit: Achene; May - September
- Habitat: Salt and brackish marshes



### *Cyrilla racemiflora*

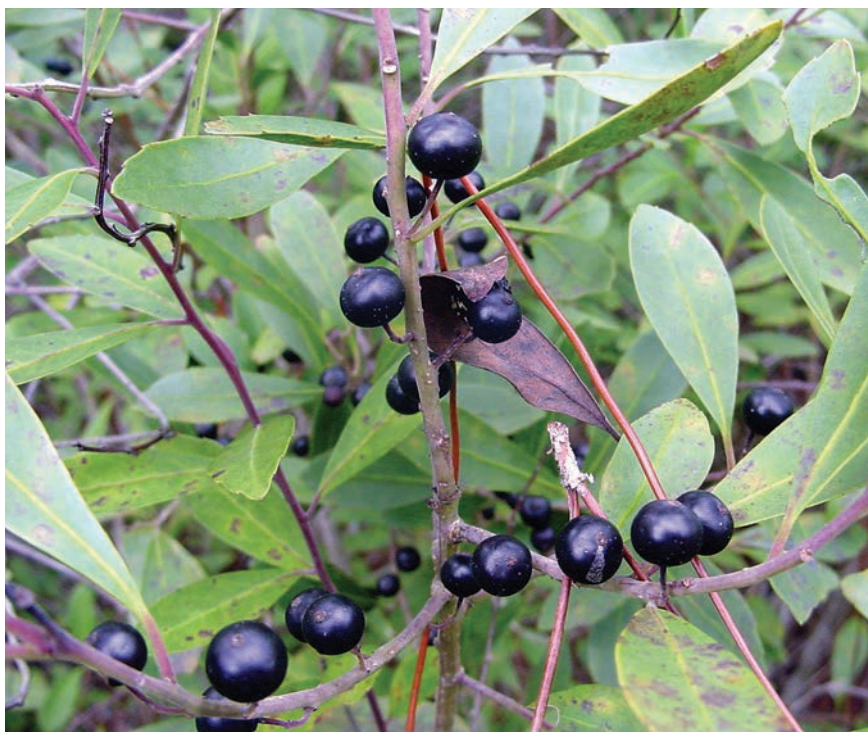
- Common name: Swamp Titi; Leatherwood
- Form: Evergreen to deciduous shrub or small tree up to 30 feet tall
- Leaves: Alternate, simple, willowlike, oblong to lanceolate to slightly obovate, 4 inches long, up to 1  $\frac{3}{4}$  inches wide, entire margins; yellowish green; normally clustered at ends of twigs
- Flowers: Racemes; white, crowded on previous year's twig, 3-6 inches long, five petals, fragrant and attractive to bees; May - July
- Fruit: Drupe-like; ovoid, dry; September - October
- Habitat: Swamps, streams, bogs, bayheads, pinelands, flat woods, pond margins
- Comments: Clustered racemes are the distinguishing characteristic for field identification because they persist on the plant during fall and winter. This is one of a few species of native plants whose leaves turn red or yellow in the fall.



### *Hypericum tetrapetalum*

- Common name: Fourpetal St. John's Wort
- Form: Perennial, shrub-like, 3-5 feet tall, reddish-brown peeling bark
- Leaves: Opposite, simple, clasping, heart-shaped, entire margins
- Flowers: Yellow flowers up to 1 inch with four petals and many stamens; June - October
- Fruit: Capsule; June - October
- Habitat: Pinelands, savannas





## *Ilex glabra*

- Common name: Inkberry
- Form: Evergreen shrub, up to 12 feet tall
- Leaves: Alternate, simple, obovate to elliptic, up to 2 inches long, entire margins with a few teeth near the apex; leathery, gray-green, often with red dots on lower surface, upper surface shiny; petiole hairy
- Flowers: Small, creamy white with five petals; staminate (male) and pistillate (female) on separate plants; in clusters in axils of leaves; **May - August**
- Fruit: Drupe; light green, black at maturity, round, up to ¼ inch in diameter; **September - November**
- Habitat: Sandy woods, swamps, savannas, bogs, thickets
- Comments: The berries have been used to make black ink. Leaves have been boiled for tea.



### *Ilex myrtifolia*

- Common name: Myrtle-leaved Holly; Myrtle Dahoon
- Form: Erect evergreen shrub or small tree, up to 8 feet tall
- Leaves: Alternate, simple, linear to lanceolate, about 2 inches long, entire margins; dark green above
- Flowers: Small, creamy white, inconspicuous, staminate and pistillate on the same or separate plants; May - August
- Fruit: Drupe; orange-red; October - November
- Habitat: Wet, acid soils near flatwoods, ponds and swamps



***Ilex vomitoria***

- Common name: Yaupon Holly
- Form: Evergreen shrub or small tree, up to 25 feet tall; spiny or hairy stems
- Leaves: Alternate, simple, oval or oblong, 1 - 1 ½ inches long, rounded teeth on margins; shiny; petioles hairy
- Flowers: Small, white with four petals; staminate and pistillate on separate plants; April - May
- Fruit: Drupes; bright red, round, shiny; October - November
- Habitat: Swamps, sandy woods, savannas, bogs, clearings, disturbed areas
- Comments: Native Americans supposedly made an infusion of the stems and leaves as a vomitive and spring tonic.



***Iva frutescens***

- Common name: Jesuit's Bark; Marsh Elder
- Form: Deciduous shrub, 6-10 feet tall
- Leaves: Opposite, simple, lanceolate to elliptic, 2-4 inches long, serrate margins; stems and both sides of leaves hairy
- Flowers: Racemes; terminal, green, tubular, staminate (male) and pistillate (female) in same cluster; August - October
- Fruit: Achene; obovate, flattened, purplish brown; August - October
- Habitat: Salt and brackish marshes



***Morella cerifera (Myrica cerifera)***

- Common name: Wax Myrtle; Bayberry
- Form: Evergreen to semi-evergreen aromatic shrub or small tree typically 3-8 feet tall (maximum 40 feet)
- Leaves: Alternate, simple, 2-3 inches long, serrate to entire margins, often with short hairs beneath; dark yellow-green; resinous; aromatic when crushed
- Flowers: Catkins, directly on stems; staminate and pistillate on separate plants; **April - June**
- Fruit: Berry; gray, waxy; **August - September**
- Habitat: Thickets, woods, high marsh regions, swamps
- Comments: Early settlers boiled the leaves and fruit to extract a wax used to make bayberry candles.



***Phoradendron leucarpum* (*Phoradendron serotinum*)**

- Common name: Oak Mistletoe
- Form: Shrub-like evergreen, hemiparasitic plant growing attached to and penetrating the branches of broadleaf deciduous trees; up to 3 feet tall
- Leaves: Opposite, simple, ovate to obovate to oblanceolate, entire margins yellow-green, thick (succulent), leathery
- Flowers: Raceme; small and yellowish; staminate or pistillate on separate plants; **October - January**
- Fruit: Berry; round, white with a sticky pulp; **November - February**
- Habitat: In broadleaf deciduous trees, especially water oaks
- Comments: All parts of this plant are toxic to humans. Birds wipe their beaks on twigs, transferring seeds.



### *Rhus copallinum*

- Common name: Winged Sumac
- Form: Deciduous shrub or tree, 20-25 feet tall
- Leaves: Alternate, pinnately compound with 7-27 leaflets per leaf; up to 12 inches long; leaflets lance-shaped and shiny, winged along main axis, entire margins; bright red in fall
- Flowers: Panicles; small, greenish-yellow terminal, pyramid-shaped clusters; July - August
- Fruit: Drupe; red; September - October
- Habitat: Prairies, thickets, open woods, roadsides
- Comments: Unlike *Rhus vernix* (poison sumac), *Rhus copallinum* does not cause a skin rash.



### ***Styrax americanus***

- Common name: American Snowbell
- Form: Deciduous shrub or small tree, up to 8 feet tall
- Leaves: Alternate, simple, elliptic, lanceolate to obovate, 3 inches long; minutely or slightly serrate margins
- Flowers: White, five lobed, bell-shaped, hanging in clusters of 2-4; April - May
- Fruit: Capsule; June - July
- Habitat: Moist soils on margins of cypress swamps, savannas and sandy streams

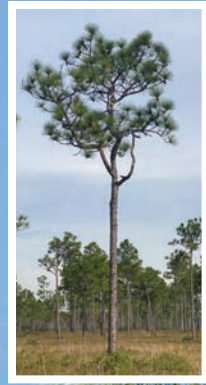




## GYMNOSPERM TREES

### *Pinus elliottii*

- Common name: Slash Pine
- Form: Large coniferous tree, 100- 120 feet tall; bark orange to purplish brown, furrowed and crosschecked with papery, scaly plates
- Leaves: Needles 6-12 inches long in bundles of two or three; stiff, shiny, green
- Flowers: Female (seed) cones reddish brown, shiny, up to 5 inches long with single prickle on scales; male cones purple, up to 3 inches long, up to ½ inch in diameter, pollen release **January - February**
- Fruit: None; seeds released from female cones; **October - November**
- Habitat: Flatwoods, thickets, bayheads
- Comments: The wood of the Slash Pine is used extensively in building because it is extremely hard and resistant to decay.



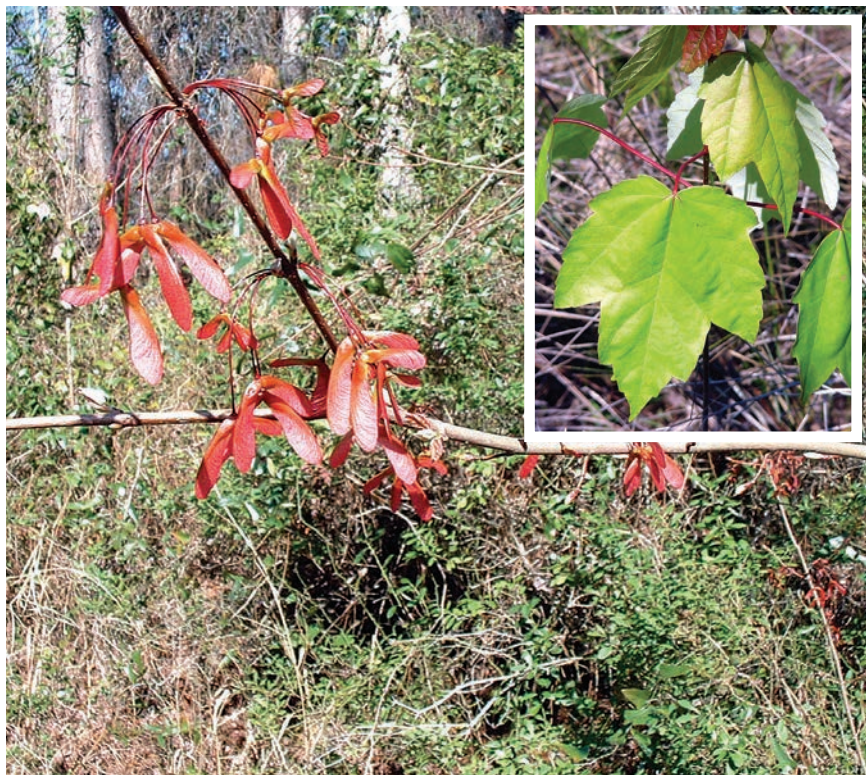
## *Pinus palustris*

- Common name: Longleaf Pine
- Form: Large coniferous tree, 100-120 feet tall; bark orange to brown to gray and coarsely scaly
- Leaves: Needles 8-19 inches long in bundles of three; dark green, shiny, stiff; in dense, spreading tufts at the ends of branches
- Flowers: Female (seed) cones dull brown at maturity, 5-10 inches long; mature in two years; pollen (male) cones, cylindrical, yellow-red; pollen release **March - April**
- Fruit: None; seeds released from female cone; **September - October**
- Habitat: Commonly found in sandy soil
- Comments: This pine is fire-resistant.



### *Taxodium ascendens*

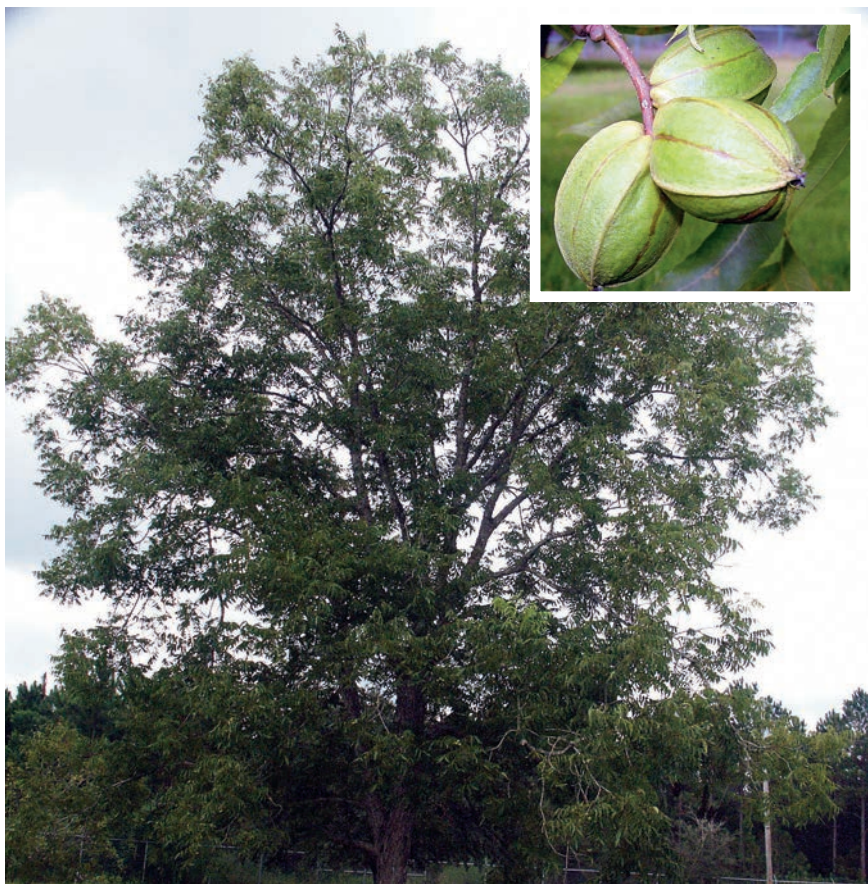
- Common name: Pond Cypress
- Form: Deciduous conifer, up to 60 feet tall
- Leaves: Linear or awl-like, small,  $\frac{3}{8}$  inch long, held close to the twig; green to yellow-green turning coppery yellow in the fall
- Flowers: Female (seed) cones nearly spherical, small,  $\frac{1}{2}$  -  $\frac{3}{4}$  inch, at tips of branches; male (pollen) cones in long hanging panicles, 3-5 inches long; pollen release; **March - April**
- Fruit: None; oval to nearly round female cone with peltate scales, blue-green turning brown at maturity,  $\frac{3}{4}$  - 1 inch in diameter; seeds shed; **October - December**
- Habitat: Stream banks, bays, ponds, swamps
- Comments: One difference between Pond and Bald Cypress is that the leaves of Pond Cypress point upwards.



## ANGIOSPERM TREES

### *Acer rubrum*

- Common name: Red Maple; Swamp Maple
- Form: Deciduous tree, 60-90 feet tall
- Leaves: Opposite, simple, cordate to palmate, 3-5 deep lobes, 3-5 inches long, serrate margins; white, tomentose below; red petioles; bright red foliage in fall
- Flowers: Umbelate fascicle; small, red to orange-red, crowded on twigs; **February - May**, before leaves appear
- Fruit: Samara; red turning brownish; **March - June**
- Habitat: Wet or moist areas, swamps, low woods, thickets
- Comments: The Red Maple is one of the first trees to bloom in spring.



## *Carya illinoensis*

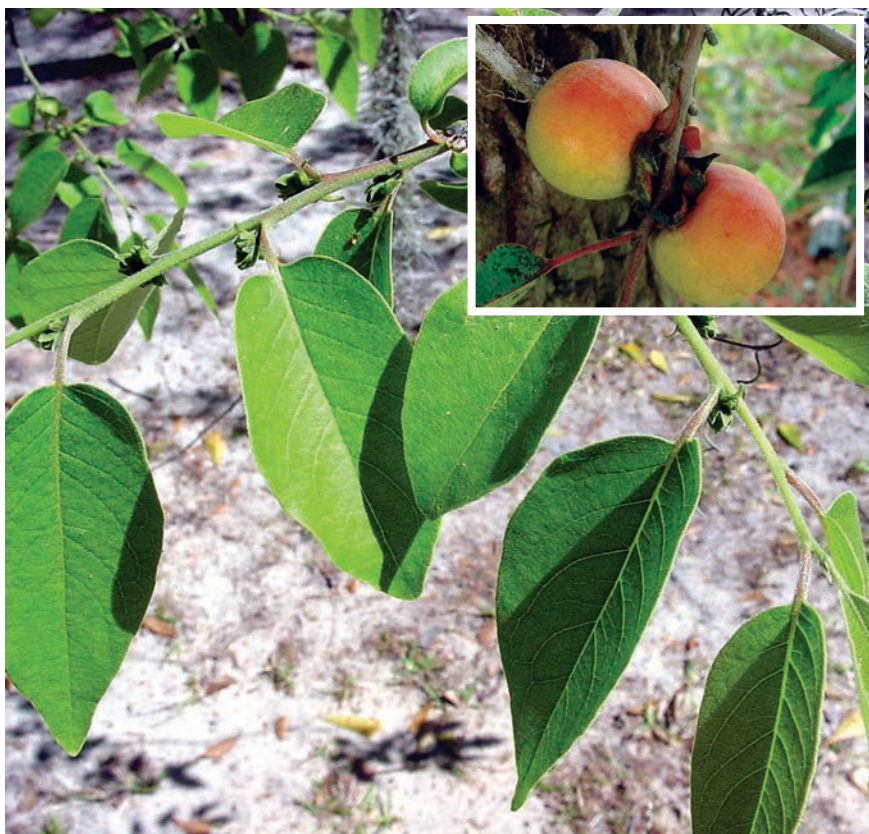
- Common name: Pecan
- Form: Deciduous tree, 100-150 feet tall; trunk gray and furrowed
- Leaves: Alternate, odd pinnately compound, 10-24 inches long
- Flowers: Catkins; yellowish green, staminate (male) and pistillate (female) on same tree; April - May
- Fruit: Nut; brown; edible; October - November
- Habitat: Deep, fertile, moist soils
- Comments: The local community of Pecan is name after this species.



*Cinnamomum camphora*

**INVASIVE**

- Common name: Camphor Tree
- Form: Broadleaved evergreen, 50-100 feet tall
- Leaves: Alternate, simple, oval to elliptic, up to 5 inches long, entire margins; pink on young growth with a pair or more of strong side veins; very aromatic when crushed
- Flowers: Panicles; shorter than leaves, cream-colored; **April**
- Fruit: Berry; black, pea-sized; **June - July**
- Habitat: Sandy soils
- Comments: Its allelopathy suppresses native plants' growth.



### *Diospyros virginiana*

- Common name: Common Persimmon
- Form: Slow growing deciduous tree, up to 50 feet tall
- Leaves: Alternate, simple, ovate, up to 6 inches long, larger on young seedlings, entire margins; dark green turning yellow in fall
- Flowers: Green and inconspicuous; staminate (male) and pistillate (female) on separate trees; **May - June**
- Fruit: Berry; plumlike, fleshy, orange, edible when ripe; **September - November**
- Habitat: Swampy areas, along stream banks, forests, fields, pinewoods



### *Ilex opaca*

- Common name: American Holly
- Form: Bushy evergreen shrub or small tree, up to 30 feet tall
- Leaves: Alternate, simple, oval or elliptic, 2-3 inches long, dentate or entire margins with several prominent spines in older leaves; leathery
- Flowers: White, small with four rounded petals; staminate or pistillate on separate plants; **April - June**
- Fruit: Berry; bright-red, persisting from autumn to spring; **September - October**
- Habitat: Fertile, moist bottomlands, dry slopes, margins of swamps





## *Magnolia grandiflora*

- Common name: Southern Magnolia
- Form: Broadleaved evergreen tree, up to 80 feet tall
- Leaves: Alternate, simple, broad, leathery, pinnately veined, 5-8 inches long; oval to oblong tapering to a point, entire margins; underside with rusty-colored wooly hairs
- Flowers: Large, white, showy, fragrant with 6, 9 or 12 petals, 7-10 inches across; **April - June**
- Fruit: Cone-like structure, 3-4 inches long, purplish turning rusty brown, oblong, hairy brown with bright red follicles embedded; **October**
- Habitat: Moist soils with other hardwoods
- Comments: This is the state flower and tree of Mississippi.



## *Magnolia virginiana*

- Common name: Sweetbay Magnolia
- Form: Small evergreen or semi-evergreen tree, up to 90 feet tall; bark gray, smooth
- Leaves: Alternate, simple, elliptic to oblong, occasionally obovate, 5-8 inches long, up to 3 inches wide; entire margins; leathery, bright, shiny green above, white hairs giving a silvery sheen below
- Flowers: Solitary, creamy white with 9 or 12 petals, 2-3 inches across; April - July
- Fruit: Follicles; dark red, smooth, crowded into a cone; July - October
- Habitat: Bayheads, swamps, savannas



## *Nyssa biflora*

- Common name: Swamp Tupelo; Blackgum
- Form: Large deciduous tree, up to 120 feet tall; bark grayish brown to black, exfoliating ridges on mature trees; trunk usually swollen at base
- Leaves: Alternate, simple, elliptical to obovate, narrow; 3-6 inches long, entire margins; dark green above, paler and slightly hairy below; turning maroon in fall
- Flowers: Staminate and pistillate on separate trees, staminate in spherical clusters; pistillate on elongate stalks arising from leaf axils; non-descript, green; **April - June**
- Fruit: Drupe; ellipsoid, purplish blue; **August - October**
- Habitat: Brackish swamps, bog, savannas, flatwoods, other areas periodically covered by water



## *Persea palustris*

- Common name: Swamp Redbay; Swamp Bay
- Form: Broadleaf evergreen tree or large shrub, 30-40 feet tall; bark reddish brown with irregular furrows and flat topped ridges
- Leaves: Alternate, simple, elliptic to lanceolate to broadly elliptic, 3-7 inches long, 1-2 inches wide, entire margins; rusty-red, curly hairs on the lower surfaces of leaf, petioles and twigs; thick and leathery; spicy odor when crushed
- Flowers: White to cream in clusters on long stalks, in leaf axils;  
May - June
- Fruit: Drupe; nearly round, shiny dark blue, thin pulp;  
maturing September - October
- Habitat: Pinewoods, wooded swamps, shorelines
- Comments: Most often the leaves have conspicuous, fleshy galls caused by tiny fly-like larvae. Galls are unsightly, but do not harm the tree. This tree is impacted by Laurel Wilt Disease.



## ***Quercus nigra***

- Common name: Water Oak
- Form: Medium-sized deciduous tree, up to 80 feet tall; bark smooth and brown in young trees, gray to black with rough ridges as tree ages
- Leaves: Alternate, simple, glabrous, obovate with three lobes at the apex, 2-4 inches long, 1-2 inches wide, entire to pinnately lobed margins, variable
- Flowers: Catkins; hairy; staminate (male) stalked; pistillate (female) solitary; **April**
- Fruit: Acorns;  $\frac{1}{2}$ -  $\frac{3}{4}$  inch long, elliptical; maturing second year; **September - November**
- Habitat: Margins of ponds, streams, and lakes and on low ground associated with hardwoods, pinelands
- Comments: The Water Oak is adapted to grow in wetter habitats, but it will grow almost anywhere despite its name.



## *Quercus virginiana*

- Common name: Live Oak
- Form: Wide-spreading, broadleaf evergreen tree, up to 50 feet tall; branches spread as much as three times the height; bark red to brown, furrowed, separated into cross-cracks
- Leaves: Alternate, simple, elliptic to oblong, 2-5 inches long,  $\frac{1}{2}$  - 2  $\frac{1}{2}$  inches wide, entire margins; dark, shiny green above and pale gray below; underside with hairs
- Flowers: Catkins; staminate (male) hairy, 3 inches long; pistillate (female) spikes of few flowers, 1-3 inches long;  
April - March
- Fruit: Acorns;  $\frac{3}{4}$  - 1 inch long; narrow and oblong; green becoming dark, glossy brown; matures first year;  
September - November
- Habitat: Moist to dry, sandy soils, often in pure stands



***Triadica sebifera* (*Sapium sebiferum*)**

**INVASIVE**

- Common name: Chinese Tallow Tree; Popcorn Tree
- Form: Fast-growing, short-lived deciduous tree, 30-40 feet tall; capable of forming dense thickets; milky sap
- Leaves: Alternate, simple, heart-shaped with tops tapering to a point, 1 ½ - 3 inches long, 1 ¼ - 2 ½ inches wide, entire margins; various colors in autumn
- Flowers: Panicle-like; tiny, yellow; in clusters or slender spikes at the ends of branches; **May - June**
- Fruit: Capsule; green ripening to brown; maturing in winter; opening to expose three white seeds that resemble popcorn, hence the name; very oily; **August - September**
- Habitat: Disturbed areas and forests
- Comments: The “popcorn” of this tree is often used in ornamental displays. However, this practice is not suggested because the seeds can be easily spread. Once these trees become established, they are almost impossible to remove from the habitat.

## GLOSSARY

- Achene** - a dry, closed indehiscent fruit containing a single seed
- Acuminate** - tapering to a short or long point, usually with side of point pinched in
- Alternate leaf arrangement** - one leaf per node
- Allelopathy** - when plants produce chemicals that influence the growth or health of nearby plants
- Angiosperm** - a flowering plant
- Annual** - plant growing from seed to fruit in one year and then dying
- Anterior** - front or upper
- Anther** - the pollen producing part of the stamen
- Apical** - at the tip
- Aromatic** - having a fragrant, sweet-smelling or spicy aroma
- Attenuated** - gradually narrowing to the base
- Auriculate** - shaped like an earlobe
- Awl** - a pointed tool used to mark surfaces or for punching small holes
- Awn** - a bristle or slender, stiff appendage, usually at the end of a stem
- Axil** - the angle between a leaf or stem and its axis
- Axillary** - on the side
- Basal rosette (basal)** - a cluster of leaves all arising at the base of the plant
- Berry** - a simple, fleshy indehiscent fruit with one or more seeds
- Biennial** - a plant requiring two years to produce flowers and seed
- Biodiversity** - the variety of life in all its forms, levels and combinations, including species diversity, genetic diversity and ecological diversity
- Bipinnately compound** - twice pinnate (see pinnate)
- Brackish water** - water intermediate in salinity between saltwater and freshwater
- Bract** - modified leaf at the base of a flower or inflorescence
- Capsule** - a dry dehiscent fruit that developed from two or more carpels, sometimes leathery
- Carnivorous** - acquires some of its nutrients from invertebrates or other small animals, such as worms or insects



- Catkin** - a spikelike flower cluster bearing either male or female flowers as in oaks and willows
- Ciliate** - with short, slender or fine hairs
- Clasping** - a leaf with base that entirely or partly wraps around or surrounds a stem
- Compound leaf** - leaf with the blade subdivided into two or more leaflets or pinnae
- Cone-bearing plant** - gymnosperm, such as the pine tree, that produces seed not enclosed by an ovary
- Conifer** - cone-bearing gymnosperm
- Coniferous** - cone-bearing plant
- Cordate** - heart-shaped
- Corolla** - all the petals of a flower
- Corymb** - short, broad, flat-topped cluster of flowers, outer flowers open first
- Cotyledon** - seed leaf of an angiosperm embryo
- Deciduous** - falling off, not persistent or evergreen
- Decumbent** - prostrate at or near the base with other parts erect or ascending
- Dehiscent** - opening and releasing contents
- Dentate** - toothed with teeth directed outward
- Dicotyledon (dicot)** - flowering plant characterized by seeds with two cotyledons, net-veined leaves, floral parts in fours, fives or multiples of four and five
- Disk or disc flower** - small tubular flower in the central part of a floral head; characteristic of members of the sunflower family
- Distal** - furthest away
- Drupe** - stone fruit; fleshy fruit with one hard, covered seed, such as cherries, plums, peaches and olives
- Ecosystem** - the biotic (living) community and the abiotic (non-living) environment functioning as a system
- Ecotone** - a transitional area between two different communities, having characteristics of both yet with a unique character of its own
- Elliptic (elliptical)** - being widest at the center
- Emergent** - aquatic plant with its lower part submerged and upper part extended above the water
- Entire** - leaf margin without lobes, divisions or teeth

**Epiphyte** - a plant growing on another plant and obtaining no nutrients from the other plant

**Estuary** - an area where salt-water and freshwater meet

**Evergreen** - bearing green leaves throughout the year; holding live leaves over one or more winters

**Exfoliating** - to come off or separate from

**Fascicle** - a small bundle or tuft of leaves

**Filiform** - slender and threadlike

**Flowering plant** - angiosperms; plants that produce seeds enclosed by an ovary (fruit)

**Follicle** - a dry fruit that splits along a suture at maturity and contains more than one seed

**Fron** - the leaf of a fern

**Glabrous** - smooth

**Glandular** - having glands; having secreting organs

**Glaucous** - surface with a very fine, white powdery substance that will rub off, as on many grapes and blueberries

**Grain** - a small dry seedlike fruit produced by grasses

**Gymnosperm** - a seed plant, as the pine, in which the seeds are not enclosed in an ovary

**Habit** - the way the plant grows

**Hammock (hummock)** - a small natural hill; a piece of land thickly wooded and usually covered with vines and bushes

**Hardwood** - the wood of broad-leaved dicotyledonous trees

**Hemiparasitic** - an organism that lives on and derives part of its nourishment from a different organism, and part through its own photosynthesis

**Herb** - having no persistent woody stem above ground or a plant used for seasoning food

**Herbaceous** - having characteristics of an herb

**Hydrology** - the science of water, its properties, phenomena and distribution over the earth's surface

**Indehiscent** - not opening

**Insectivorous** - acquires some of its nutrients by trapping and digesting insects

**Invasive** - a species native to one area, but living and reproducing in another area in such a way that it negatively impacts the new environment

**Keel** - a ridge

**Keeled** - with a ridge

**Lanceolate** - lance-shaped; widest at the base and several times longer than broad

**Leaflet** - one of the leaflike parts of a compound leaf

**Ligule** - strap-shaped structure; a membranous or hairy appendage on the axial surface of a leaf in grasses at the junction of the sheath and blade; located at leaf node

**Linear** - narrow with parallel sides

**Lobed** - having rounded segments of an organ; as in petal, sepal, leaf

**Maritime** - located on or close to the sea

**Marsh** - wetland dominated by emergent, herbaceous vegetation

**Monocotyledon (monocot)** - a flowering plant with one cotyledon in seeds, floral parts in threes or multiples of three, and parallel-veined leaves

**Mucilage** - substance produced in the cell walls of plants and that is hard when dry, and swelling and slimy when moist; composition varies

**Native plant** - one that originated in the area in which it grows

**Naturalized** - a non-native species that is reproducing in its adopted habitat

**Needle** - a stiff, narrow leaf

**Node** - the stem region where a leaf is attached or borne

**Nondeciduous** - evergreen; bearing leaves throughout the year

**Nutlet** - a small nut or nutlike fruit

**Oblanceolate** - narrowly oblong

**Obovate** - broadly oblong

**Obtuse** - nearly rounded, or blunt

**Opposite leaf arrangement** - two leaves attached at the same node

**Ovate** - egg-shaped and attached at the broad end

**Palmate** - looking like outspread fingers of a hand; having three or more lobes or divisions

**Panicle** - a compound raceme

**Parasite** - an organism that lives and feeds on or in a host organism for at least part of its life cycle; may or may not kill the host

**Perennial** - a plant that lives three or more years

**Petiolate** - having a petiole

**Petiole** - the stem portion of a leaf

**Pinnæ** - leaflets of a compound leaf

**Pinnate** - having a long axis, with branches, lobes, veins or leaflets

**Pinnatifid** - leaf margins that are cut to the midrib so that they appear compound but are actually simple

**Pistil** - central seed-bearing organ of a flowering plant (consists of stigma, style, ovary); female part of a plant

**Pistillate** - having a pistil or pistils, but not stamens

**Pollination** - transfer of pollen from an anther to a stigma

**Posterior** - lower or rear

**Prostrate** - lying flat on the ground

**Pubescent/pubescence** - downy with short hairs

**Raceme** - an unbranched inflorescence with stalked flowers borne on a single elongated axis

**Ray flower** - the regular flower around the edge of the head of plants in the sunflower family; each ray flower resembles a single petal

**Reniform** - shaped like a kidney

**Resinous** - with the appearance of resin; dotted with glands

**Rhizome** - horizontal underground stem

**Rosette** - arrangement of leaves radiating from a crown or center, usually close to the ground

**Sagittate** - like an arrowhead

**Samara** - dry, indehiscent, winged fruit (as in red maple)

**Savanna** - a flat area dominated by grasses with widely spaced trees

**Scape** - a leafless stem rising from the ground and bearing flowers

**Schizocarp** - a dry dehiscent fruit that splits into two parts

**Sepals** - a sterile part of a flower that forms the typically green outer series of structures that surround the petals

**Serrate** - having sharp, pointed teeth

**Sessile** - without a stalk or stem

**Simple leaf** - a leaf with a blade in a single part

**Sori** - clusters of sporangia (spore-bearing structures) of a fern (singular - sorus)

**Spathe** - a large, leafy bract that encloses one side of a flower or inflorescence

**Spatulate** - having a broad, rounded apex and narrow base

**Spike** - cluster of sessile flowers on an elongated axis in grasses

**Spikelet** - a small or secondary spike; one of the ultimate parts of a grass flower

**Sporangium (sporangia, plural)**

- a structure where spores are produced; a spore case or sac

**Spores** - small reproductive bodies produced by certain species of bacteria, algae, fungi and nonflowering plants

**Stamen** - the pollen-producing organ of a flower; the male part of a flower

**Staminate** - having stamens, but lacking pistils

**Submerged** - growing entirely under water

**Subtending** - standing below and close to

**Succulent** - fleshy or spongy, and filled with water

**Tendrils** - a clasping or twining structure derived from a modified stem, leaf or leaf part that is used for attachment and climbing

**Ternate** - arranged in threes

**Three-ranked** - leaves alternating on three sides of a stem

**Two-ranked** - leaves alternating on opposite sides of a stem

**Umbel** - a flower cluster in which the stalks arise from the same point, as in the ribs of an umbrella

**Utricle** - a small, thin-walled, one-seeded fruit

**Whorl** - all coming from the same point on the axis in a circular pattern

**Whorled leaves** - three or more leaves attached to the same node

**Venation** - the arrangement of veins in a leaf

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