



Everglades CISMA

Cooperative Invasive Species Management Area

Early Detection, Rapid Response Plant Species



Photo: Jennifer Possley



Photo: Chris Evans

UGA5125049



Photo: Christen Mason



Photo: <http://pza.sanbi.org/> Chrostachys-cinerea



5562478

Photo: Keith Bradley, Bugwood.org



Photo: Broward County Parks and Recreation

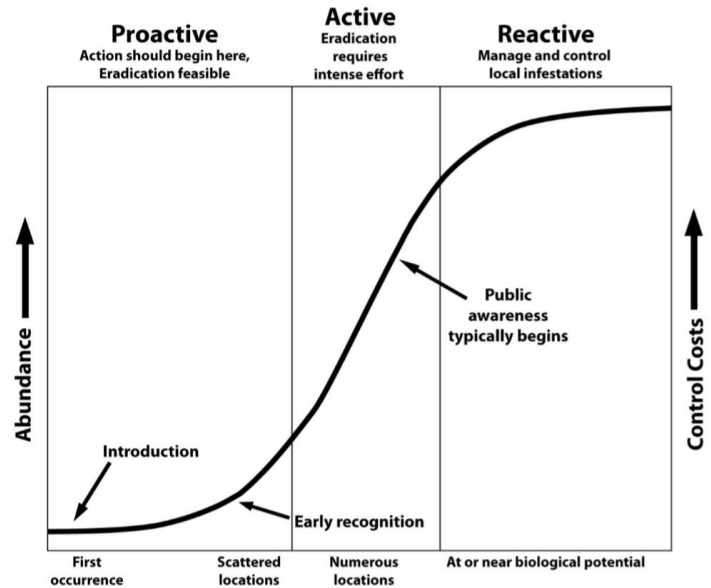
PURPOSE OF THIS GUIDE

Early Detection, Rapid Response (EDRR) plants are those that have a limited range within the ECISMA footprint (image on bottom left of page), or are not present but are considered a reasonable threat to the region.

The EDRR species in this guide are specific to the ECISMA footprint and may be common in other parts of the state.

Rapid response efforts are only effective within the Proactive column of the invasion curve on the right.

The purpose of this publication is to provide clear, detailed descriptions of ECISMA's priority early detection species to help facilitate rapid response.



Invasion curve adaptation by Florida Natural Areas Inventory

If you think you have spotted one of these species in our area:

1. Take a picture!

2. Report it on EDDMapS



1-888-IVE-GOT1



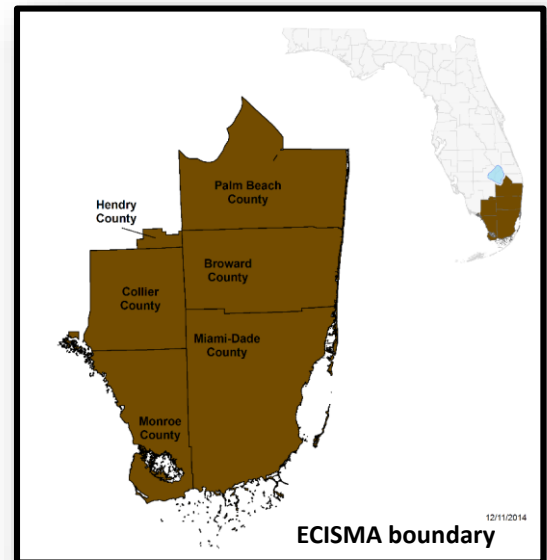
www.IveGot1.org



iPhone app



Android app



EDDMapS
Early Detection & Distribution Mapping System



THE UNIVERSITY OF GEORGIA
CENTER FOR INVASIVE SPECIES
AND
ECOSYSTEM HEALTH
WARREN SCHOOL OF
FORESTRY AND NATURAL RESOURCES COLLEGE OF AGRICULTURAL
AND ENVIRONMENTAL SCIENCES

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Red Sandalwood

Adenanthera pavonina



Photo: Forest & Kim Starr

Description

Habit: Medium sized tree, 15-25 meters tall

Leaves: Large (to > 0.5 m x 0.5 m), alternate, bipinnate (usually even), with relatively large, oval leaflets (Fig.1).

Flower: Branching, spike-like at branch tips, to 15 cm with small, cream flowers (Figure 2).

Seeds: Pods thin and curved, turning black and **coiling up before splitting** with 8-12 **shiny, red seeds** (Figures 1, 2).

Could be confused with: Rosary pea produces smaller red **seeds with black bases**. Blackbeads (*Pithecellobium* spp.) have similar fruits, but pods are lighter when mature, **seeds are black with fleshy, red appendages** (Figure 3) and 2 leaves per stem.



Photo: Jennifer Possley

Figure 1. Even-bipinnate leaves.



Photo: J. Pati



Adenanthera pavonina
Photo by Keith Bradley

Figure 2. **Top:** Flowers.
Bottom: Mature and immature pods with seeds.



Rosary Pea
FLEPPC Category I

Photo: Christen Mason



Blackbead (native)

Pithecellobium keyense
Photo by Keith Bradley

Photo: Bradley

Figure 3. **Middle:** Blackbead seeds are black with a red coat.
Bottom: Blackbead flowers are round.

Red sandalwood is a FLEPPC Category II invasive species.

Feathered Mosquito Fern

Azolla pinnata



Description

Habit: Small, free-floating fern, typically found in clusters or large mats. Each plant is 1-2.5 cm in diameter with a feathered **triangular shape** (Fig. 1).

Leaves: Leaves overlap and are 1-2 mm long. Leaves can be green, brown-green, or reddish (Figure 1).

Roots: Have a feathery appearance in the water (Figure 2).

Could be confused with: American water fern (native) but mosquito fern is much larger and American water fern is **not triangular** (Figure 3).

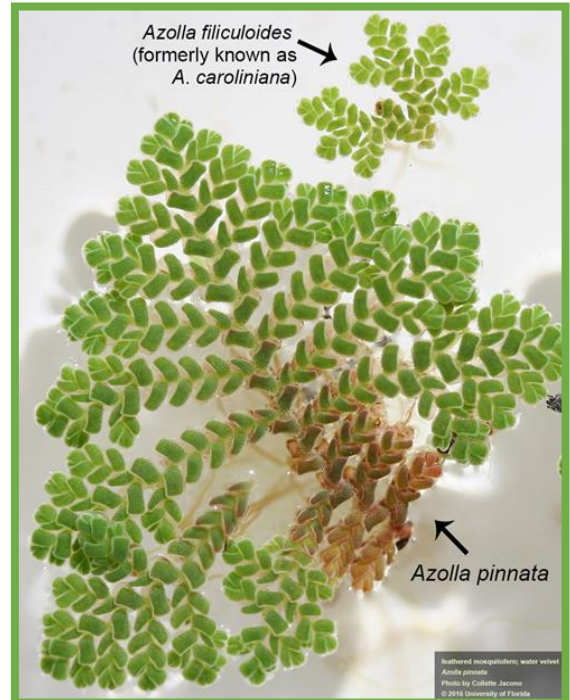
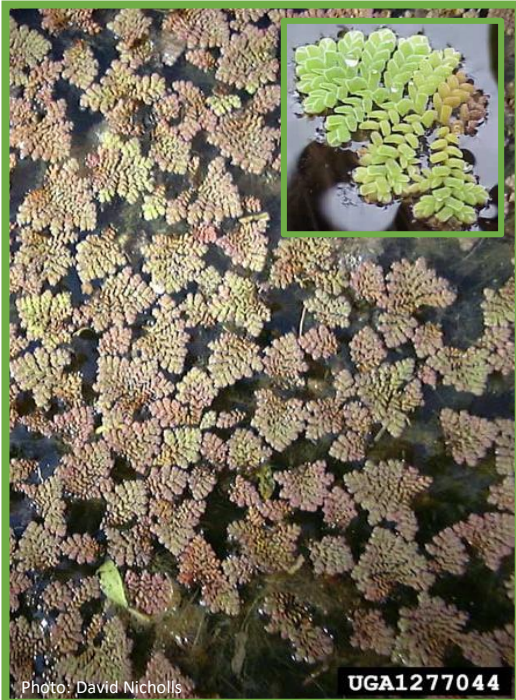


Figure 1. Branches get progressively longer towards the base of each plant, giving it a triangular shape.

Figure 2. Roots extend into the water column.

Figure 3. Comparison of American water fern (*Azolla filiculoides*) and mosquito fern

Additional information: Feathered mosquito fern is on the US Department of Agriculture Noxious Weed List.

In some parts of the world mosquito fern is used as green manure to add nitrogen and organic matter to rice fields.

Sisal Hemp

Agave sisalana



Description

Habit: Shrub, up to 2 m high.

Leaves: Simple, up to 1.5 meters long and 10 cm wide, somewhat fleshy, green to dark green, sword shape, **margins generally smooth**, but may have minute teeth (Figure 1).

Flower: Large, leafless stalk up to 6 meters, yellowish green flowers to 7 cm (Figure 2).

Seeds/Fruits: Black/oblong capsule to 6 cm.

Could be confused with: Native false-sisal (*Agave decipiens*) but false-sisal grows a trunk and has curved, **prickly hooks** on the leaf edges (Fig. 3).



Figure 1. Leaves can vary in color and thickness.



Figure 2. Flower stalks can be quite tall.

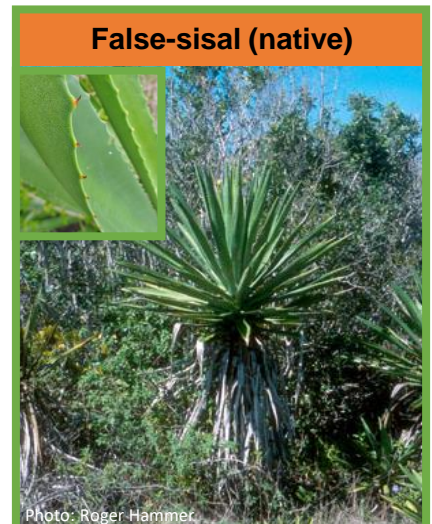


Figure 3. False-sisal leaves have spines and mature plants form a trunk.

Sisal hemp is a FLEPPC Category II invasive species.

Sisal hemp is cultivated for its tough leaf fibers, used to make rope, nets, hammocks, rugs and other items.

Coral Ardisia

Ardisia crenata



Description

Habit: Upright shrub, to 2 meters in height, often multi-stemmed.

Leaves: Dark green, glossy, thick leaves, about 20 cm long with **scalloped edges** (Figure 1).

Flower: White or pale pink in clusters at points where leaf stems meet the main stem.

Fruit: Bright coral red, **hanging** (Figure 2).

Could be confused with: Marlberry (native) but marlberry fruits are dark purple/black and are clustered at the **terminal ends of branches**. Shoebutton ardisia (not native) is similar but the leaf edges are **not scalloped** and the fruits are purple/black (Figure 3).



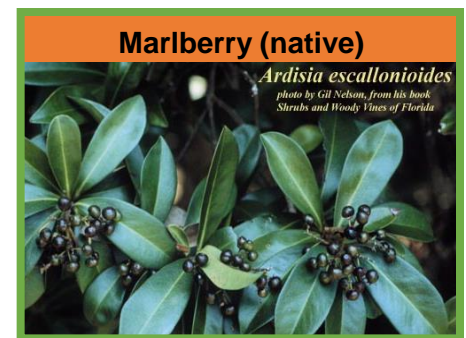
Figure 1. Leaf edges are wavy.



Figure 2. Flowers and fruits typically hang below branches.



Shoebutton ardisia
FLEPPC Category I



Marlberry (native)

Figure 3. Both shoebutton ardisia and marlberry have dark fruits.

Coral ardisia is a FLEPPC Category I invasive species.

Additional information: Coral ardisia is on the Florida Department of Agriculture and Consumer Services Noxious Weed List.

Oriental Mangrove

Bruguiera gymnorhiza



Description

Habit: Tree to 21 meters, bark rough, gray-brown, base often buttressed, roots often produce knees.

Leaves: Opposite, oval to lance-shaped, 20 x 7.5 cm, dark green above, light green below, **pointed tip** (Figure 1).

Flower: Hanging, single at axils, calyx light pink to dark red, petals hairy, white to light orange (Figure 2).

Seeds/Fruits: seed develops inside calyx tube, cigar-shaped, green to purple, **grooved**, 8" x 0.5" (Fig. 2).

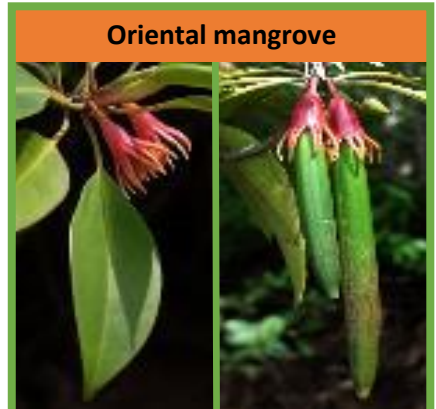
Could be confused with: Native red mangrove (*Rhizophora mangle*) has **rounded leaf tip** and white flowers, and the seed is smooth, not grooved (Fig. 3).



Figure 1. Leaves have pointed tips and are darker above, lighter below.



Figure 2. Flower color variation and maturing fruits. The arrow points to the calyx.



Oriental mangrove



Red mangrove (native)

Oriental mangrove is a FLEPPC Category II invasive species

Figure 3. Comparison of flowers and fruits.

Missiongrass

Cenchrus polystachios



Photo: Christen Mason

Description

Habit: Large, clumping grass to >2 meters tall.

Leaves: 5-45 cm long, 3-18 mm wide, sometimes tinged with purple, **very hairy** (Figure 1).

Inflorescence: Cylindrical spike, often slightly drooping, to 26 cm long with densely crowded seeds (Figure 2).

Seeds: Yellow-brown, surrounded by long bristles.

Could be confused with: Napiergrass (*Cenchrus purpureus*), not native, which is more robust and has a very obvious **white mid-rib** or bristleglass (*Setaria*) species which are generally smaller and have **more rounded, less “hairy” seeds** (Figure 3).

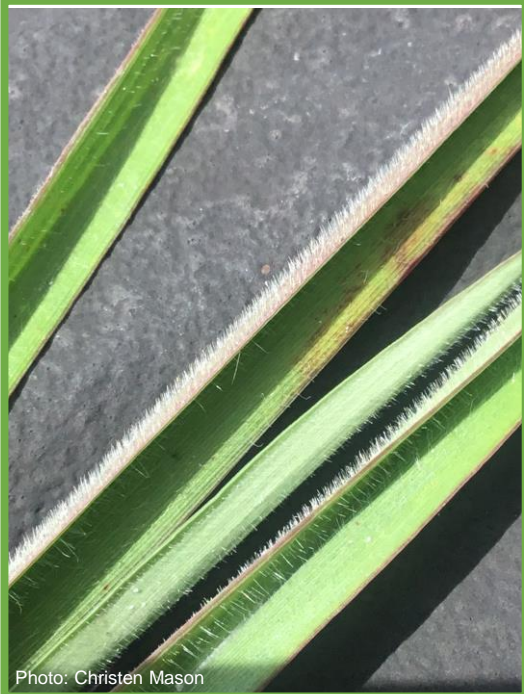


Photo: Christen Mason

Figure 1. Leaf surface is covered in dense, soft hairs.



Photo: Christen Mason

Figure 2. Dense inflorescence either erect or slightly drooping.



Bristleglass



Napiergrass
FLEPPC Category I

Photo: Christen Mason

Figure 3. Napiergrass has a distinct white mid-rib. Bristleglass seeds are more rounded and less hairy.

**Missiongrass is a
FLEPPC Category II
invasive species**

Additional information: Missiongrass is on the State of Florida and US Department of Agriculture Noxious Weed Lists.

Fountaingrass

Cenchrus setaceus



Description

Habit: Perennial bunchgrass up to 1.5 m in height.

Leaves: **Blades are narrow** (60 cm long, 0.2-0.4 cm wide) and may appear flat or rolled inward. Leaf ligule has dense white hairs (Figure 1).

Inflorescence: Pale pink-purple cylindrical spike, from 8-35 cm long (Figure 2). Spikelets are shed from the inflorescence intact along with the bristle.

Seeds: Seeds are small with showy bristles.

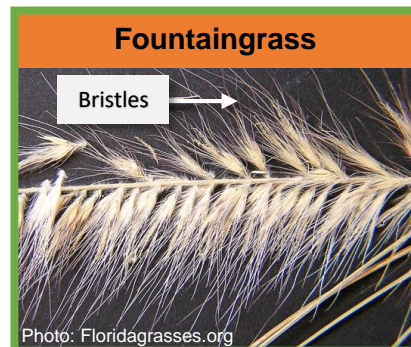
Could be confused with: Coral bristlegrass (*Setaria macrosperma*), native, has **wider blades**, a less dense seed head, large seeds and **spikelets that fall free of the bristles** (Figure 3).



Figure 1. Thin leaf blades with hairy ligules



Figure 2. Pink-purple cylindrical inflorescence



Coral bristlegrass (native)



Figure 3. Coral bristlegrass has larger seeds, broad leaves.

Fountain grass is a FLEPPC Category II invasive species.



Fountaingrass often escapes from landscaping and can be found growing in sidewalk cracks as seen in photo on left.

Golden False Beardgrass

Chrysopogon aciculatus



Description

Habit: Perennial grass that spreads by stolons (above-ground lateral roots) and shallowly buried roots (Figure 1).

Leaves: Blades are 2-8 cm long, 3 mm wide and have rough edges (Figure 2).

Seeds: *Sharply pointed seeds*, 3-4 mm long

Inflorescence: Upright seed head, 3-6 cm long with a *red-purple color*.

Could be confused with: Florida false beardgrass (native) but the seeds on the native species have *extremely long awns* (Figure 3).



Photo: Tony Rodd

Figure 1. Vigorous spread is accomplished through stolons.



Photo: Sarah Martin

Figure 2. Leaf blades are narrow.



Golden false beardgrass

Photo: Jim Space



Florida false beardgrass (native)

Awn

Additional information: Golden false beardgrass is on the State of Florida and US Department of Agriculture Noxious Weed Lists.

Figure 3. Florida false beardgrass has long awns.

Foxtail Flatsedge

Cyperus alopecuroides



Description

Habit: Very large wetland sedge, growing to 3.5 m tall.

Leaves: Blades are broad and up to 1.3 meters long. Edges are serrated and sharp.

Stems: Triangular, smooth (Figure 1).

Inflorescence: Branched with ***densely clustered spikes***, surrounded by wide bracts that can be up to 1.8 meters long (Figure 2).

Could be confused with: Umbrella plant (not native) which is also a large sedge with bracts surrounding the inflorescence but the seeds are clustered differently and umbrella plant has ***no obvious leaves*** (Figure 3).

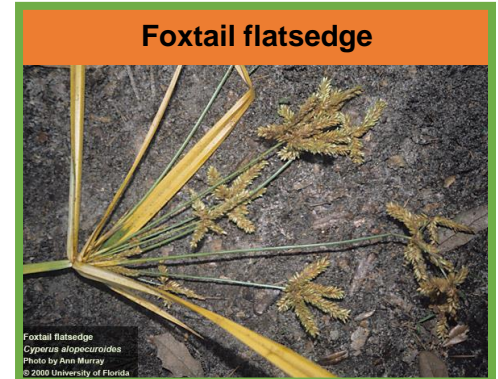


Figure 1. Thick, triangular stem.

Figure 2. Seeds are crowded together and surrounded by long bracts.

Figure 3. Umbrella plant seeds are surrounded by bracts but the seed clusters are shaped differently than foxtail flatsedge.

Foxtail flatsedge is native to Egypt and has been found in art such as this image from a pillar in the tomb of Qenamun, dating to 1400 B.C.

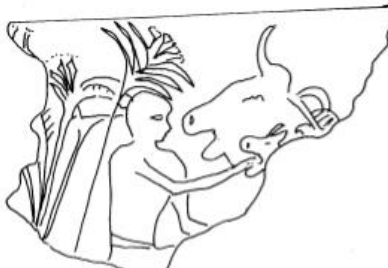


Fig. V.6

Spurgecreeper

Dalechampia scandens



Description

- Habit:** Slender vine, stems to 5 meters in length.
- Leaves:** 5-7 cm long, 6-12 cm wide; **deeply trilobed** with hairy margins and stem (Figure 1).
- Flower:** Yellow-green, trilobed bracts, 2 x 2.5 cm enclose non-showy flowers (Figure 2).
- Seeds/Fruits:** Brown-gray, globe-like, typically 3 mm in diameter, and held in place by appendages covered with **stinging hairs**.
- Could be confused with:** Pineland passionvine has **shallowly trilobed** leaves with rounded tips, along with showy multilayered white flowers (Figure 3).

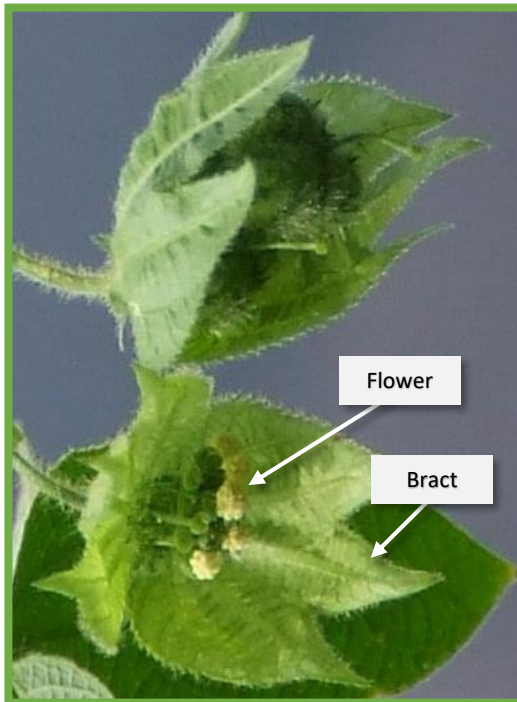


Figure 1. Slender vine with hairy 3-lobed leaves.

Photos by Broward County Parks and Recreation

Figure 2. Pale bracts (leaf-like structures) subtend small flowers.

Figure 3. Passionvine has shallowly trilobed leaves.

Spurgecreeper is a FLEPPC Category II invasive species.

Spurgecreeper seed capsules burst when mature, scattering seeds up to several meters away. In Costa Rica, spurgecreeper leaves were once rubbed on the cheeks as a remedy for a toothache!

Trees and shrubs of Mexico. Contributions from the United States National Herbarium 23(3): 517-848.

Cerulean Flaxlily

Dianella ensifolia



Description

Habit: Evergreen, perennial herb with grass-like leaves. Up to 1 meter in height.

Leaves: Tapered leaves with parallel veins and finely serrated edges (Figure 1).

Flower: White/yellowish with 3 petals (Figure 2).

Fruits: Fleshy, bright, violet-blue berries up to 1.5 cm wide (Figure 3). Primarily in warm months.

Could be confused with: No known look-a-likes except some cultivated varieties used in Florida landscaping.



Figure 1. Leaves begin to taper towards the tip.

Figure 2. Flowers are simple, white.

Figure 3. Fruits are shiny and contain 5 seeds.

Additional information: The University of Florida IFAS evaluated cerulean flaxlily using the Assessment Tool and found this species to be invasive across the entire state of Florida.

Marabú, Sicklebush

Dichrostachys cinerea



Figure 1. Branches, leaves, flower and growth form

Description

Habit: Spiny, shrubby tree, 4.5-7.5 meters tall, semi deciduous to deciduous, forms dense thickets.

Branches: Ash grey with strongly alternate thorns to 7.5 cm.

Leaves: 5-19 pairs of pinnae, leaflets 9-41 pairs (Figure 1).

Flower: fragrant, hanging cylindrical spikes, 3.8 -7.5 cm, **purplish above, yellowish below** (Figure 2).

Seeds/Fruits: Twisted pods 7.5 x 1 cm, mustard to brown in color (Figure 3).

Could be confused with: Sweet acacia, (*Vachellia farnesiana*), native, which has completely **round yellow flowers** and white thorns (Figure 4).



Figure 2. Marabú flower close up

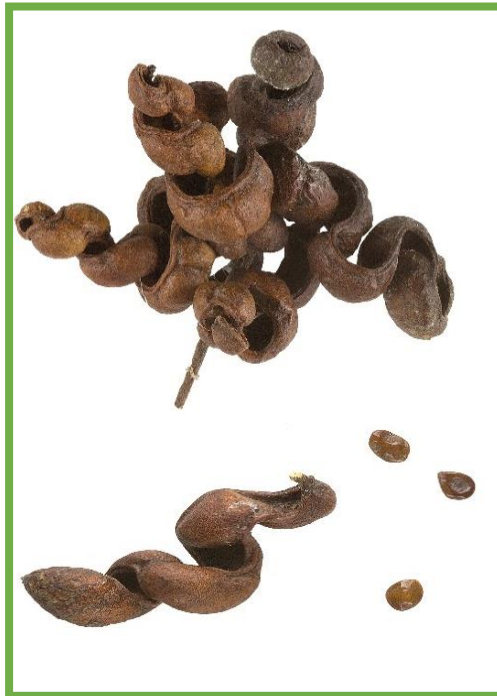


Figure 3. Seed pods, seeds



Marabú, Sicklebush



Sweet acacia (native)

In Africa, Marabú limbs are planted in the ground and used as a living fence. Its roots are known for their anesthetic properties.

Figure 4. Sweet acacia has all yellow, round flowers.

Nealley's Sprangletop

Dinebra nealleyi



Description

Habit: Large, clumping grass to >2 meters tall.

Leaves: 5-45 cm long, to 1.2 cm wide.

Inflorescence: Upright, tight seed head, up to 50 cm long with seeds growing on one side of stem (Figure 1).

Seeds: Oblong, somewhat flattened, 2-3 mm long, attach directly to the rachis (no stem).

Could be confused with: Vaseygrass (not native) which has "**hairy**" seeds and often has crinkled leaf margins or smutgrass (also not native) which has skinnier leaves and much **smaller seeds** (Figure 3).



Figure 1. Upright, compact, tall inflorescence.



Figure 2. Seeds are attached to one side of the rachis (stem).



Figure 3. Vaseygrass seeds are hairy; smutgrass seeds are very small.

Nealley's sprangletop is native to Texas and Louisiana but is becoming a problematic weed of rice fields in both states.

Rooted Water Hyacinth

Eichhornia azurea



Description

Habit: *Rooted*, perennial aquatic plant.

Leaves: Alternate. Underwater leaves with no stalk.

Emergent leaves are on a stalk. **Stalk not inflated** (Figure 1).

Flowers: Showy, purple flowers born on stalks above the water. Flowers summer through fall. 7-50 flowers per stem (Figure 2).

Could be confused with: Water hyacinth (*Eichhornia crassipes*), also not native, but water hyacinth has **bulbous (inflated) stems** and is a **floating** plant (Figure 3).



Figure 1. Above-water leaves grow on a long stalk.

Figure 2. Purple flowers grow above the water.

Additional information: Rooted water hyacinth is on the State of Florida Prohibited Aquatic Plant List and the US Department of Agriculture Noxious Weed List.



Figure 3. Water hyacinth has bulbous stems that are visible at the water surface.

Rose Gum Eucalyptus

Eucalyptus grandis



Description

Habit: Tall to very tall tree, 45-55 m high at maturity.

Leaves: Highly variable, glossy, **darker green top of leaf than bottom**, 4–14 cm long, 2–8.5 cm wide, opposite, ovate (juvenile), 8–18 cm long, 1.5–4 cm wide, alternate, lanceolate (adult) (Figure 1).

Flower: White, off-white, 1–1.8 cm long, form in a cluster at the leaf stalks, flowers mid-August through late September (Figure 2).

Seeds/Fruits: Brown or yellow, 1–1.7 mm, capsules remain closed on the tree for at least 1 yr. after maturity (Figure 3).

Could be confused with: No known look-a-likes. Rose gum eucalyptus is superficially similar to other eucalyptus species but none are native.



Figure 1. Top & bottom of rose gum leaves

Figure 2. Rose gum flower cluster

Figure 3. Seed capsules of rose gum

Additional information: The University of Florida IFAS evaluated rose gum eucalyptus using the Predictive Tool and found this species to have a high invasion risk across the entire state of Florida.

Torell's Eucalyptus

Eucalyptus torelliana
(syn. *Corymbia citridora*)



Photo: Bruce Gray, <http://keyserver.lucidcentral.org>

Description

Habit: Tall tree, up to 30 meters in height

Bark: Rough bark on the lower part of the trunk and smooth greyish-green bark on the top (Figure 1).

Leaves: Alternate or opposite leaves, relatively large, 20 cm long, 11 cm wide, **ovate with wavy margins**, roughly hairy (Figure 2).

Flower: White, in small groups of 3-7 flowers. Oval to egg-shaped buds (7-12 mm long). Flowers can bloom all year (Figure 3).

Seeds/Fruits: Large woody capsule, 9-13 mm long, 10-14 mm wide, with many reddish seeds (Fig 2).

Could be confused with: Other eucalyptus species but **Torell's has wider leaves**.



Photo by M. Fagg, Australian National Botanical Garden



Photo: Jardí Botànic de Barcelona <https://commons.wikimedia.org>



Photo: Consultaplantas <https://commons.wikimedia.org>

Figure 1. Trunk with rough lower and smooth upper bark

Figure 2. Woody capsules and leaves of the Torell's eucalyptus

Figure 3. Torell's Eucalyptus flower cluster

Additional information: The University of Florida IFAS evaluated Torell's eucalyptus using the Predictive Tool and found this species to have a high invasion risk across the entire state of Florida.

Mauritius Hemp

Furcraea foetida



Description

Habit: Large, succulent rosette (similar to Agave or century plant), occ. with stem <1 m and flower spike to 6 m.

Leaves: Light green, 1-2 m long, to 20 cm wide, **no prickles** (occasionally a few) with a spine at the tip (4-8 cm). Softer than Agaves (Figure 1).

Flower: Very large (6 m) panicle with many branches of cream-yellow, bulbous, **dangling flowers** (Figure 2).

Seeds/Fruits: Rarely fruits. Produces hundreds of small plantlets ~4 cm in diameter.

Could be confused with: Agave species which have stiffer leaves, often with **prickles along leaf margin** (Figure 1), **flowers erect**, tubular, and may produce capsules (though sisal hemp [*A. sisalana*] often produces plantlets). False sisal (*A. decipiens*), a native also found in coastal habitats of S. FL forms a large trunk (Figure 3).



Photo: Franck

Figure 1. Left: Mauritius hemp has smooth margins.
Right: Sisal hemp has prickled margins.



Photo: Navie

Figure 2. Cream-colored, bulbous, drooping flowers of Mauritius hemp; (inset) plantlets.



Sisal hemp
FLEPPC Category II

Photo: Pat Howell



False sisal
State endangered

Photo: Franck

Fig 3. Top: Tubular, erect flowers of sisal hemp
Bottom: *A. decipiens* has a trunk.

Mud Plantain

Heteranthera limosa



Description

Habit: Low growing plant ~25 cm tall; can form a dense stand in shallow water and mud, sprouting at nodes.

Leaves: Variable, most growing from base, on 2-13 cm stems, ovate 1-6 cm long with blunt tip (Figure 1).

Flower: Single blue or white **6-petaled flower** at the tip of stalk. About 2.5 cm across. Upper 3 petals yellow at base. Blooms in morning, May-Nov (Figure 2).

Seeds/Fruits: Capsules containing winged seeds.

Could be confused with: If not blooming, water hyacinth (not native) but it has **swollen stems** (Figure 3) and purple flowers. Also upright burrhead but its leaves are **deeply veined** (Figure 4), or pondweed but it has **delicate leaf stems**.



Figure 1. Rosette of stemmed ovate shiny mud plantain leaves.



Figure 2. Mud plantain has white or blue 6-lobed flowers.



Water hyacinth
FLEPPC Category I
Figure 3. Water hyacinth has swollen stems.



Burrhead (native)
Echinodorus berteroi
Figure 4. Burrhead has prominent leaf veins.

West Indian Marsh Grass

Hymenachne amplexicaulis



Description

Habit: Perennial wetland grass to 3.5 m tall, robust stems >1 cm thick; forms dense mats.

Leaves: 15-35 cm long, 1.2-2.5 cm wide; blades flat and smooth, with long hairs on the lower blade margin. **Base of blade heart-shaped** (Figure 1).

Inflorescence: Spike-shaped inflorescence, 10-40 cm long; yellow-green at maturity (Figure 2).

Stem: Stem with **whitish pith—not hollow** (Figure 3)

Could be confused with: Maidencane and American cupscale (both native) but the natives have a **hollow stem** (Figure 3).



Figure 1. Heart-shaped leaf base



Figure 2. Spike-like inflorescence

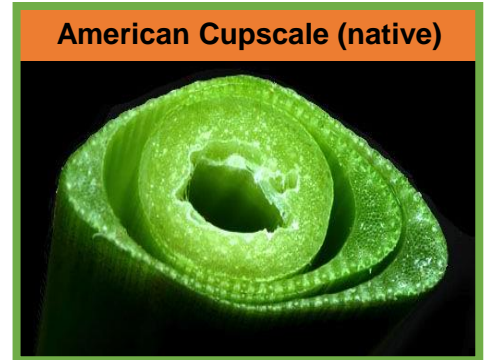


Figure 3. Pithy versus hollow stem

West Indian marsh grass is a FLEPPC Category I invasive species.



West Indian marsh grass reproduces via seed and by vegetative spread, as seen in the photo on the left.

Coolatai Grass

Hyparrhenia hirta



Description

Habit: Wiry perennial grass to **1.2 meters tall**

Leaves: Green to bluish-green, 2-35 cm long, 1-5 mm wide.

Inflorescence: Up to 30 cm long with only 2-10 sets of seeds (Figure 1).

Seeds: Reddish with **white hairs** and long (15-25 mm) awns (Figure 2).

Could be confused with: Jaragua (*Hyparrhenia rufa*), also not native, which grows to **2.5 meters** tall, its awns are somewhat shorter (16-22 mm), and its seeds have **rust-colored hairs** (Figure 3).



Figure 1. Sparse seed head with long awns and prominent hairs.



Figure 2. Each seed has a very long awn.

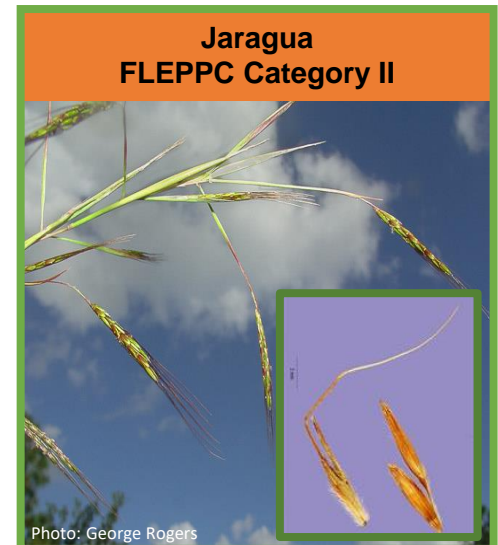


Figure 3. Jaragua is similar to coolatai but has slightly shorter awns.

Coolatai grass is native to Southern Africa where it is used as livestock forage and thatch, as seen in the photo on the right.



Water Spinach

Ipomoea aquatica



Description

Habit: Trailing vine with *hollow stems* and *milky sap*. Stems float on water surfaces with leaves held above it.

Leaves: Alternate, arrowhead-shaped but variable, tips pointed to 17.5 cm (Figure 1).

Flower: Showy, funnel-shaped, solitary or in clusters at leaf axils; petals white or pink-lilac (Figure 2).

Seeds/Fruits: Oval or spherical capsule, woody at maturity, 1.2 cm wide, holding 1-4 grayish seeds.

Could be confused with: Smartweed (*Persicaria* spp.) but smartweed is not a vine, has *different flowers* and swollen nodes. (Figure 3).



Figure 1. Typical vegetative growth and leaf shape.



Figure 2. Variation in flower color.



Figure 3. Superficially similar but growth form and flowers differ.

Water spinach is a FLEPPC Category I invasive species.

Additional information: Water spinach is on the Florida Dept. of Agriculture and the USDA Noxious Weeds Lists. At least 24 other species of *Ipomoea* are naturalized in Florida but the milky sap, hollow stems & aquatic growth habit make water spinach unique.

Lumnitzera

Lumnitzera racemosa



Description

Habit: Mangrove tree to 5 m tall or more.

Leaves: *Alternate*, 4-5 cm long, lacking petioles (defined stem connecting a leaf to a branch), semi-succulent (Figure 1).

Flower: Small white flowers (to 1.5 m across). Flowers appear in summer/fall (Figure 2).

Seeds/Fruits: Inconspicuous green single-seeded fruit falls off easily when shaken (Figure 2 inset).

Could be confused with: White mangrove, which has *opposite leaves* and pronounced petioles (Figures 3 and 4).



Figure 1. Alternate leaves. Leaf blade extends to main stem.



Figure 2. Lumnitzera flowers and fruits.

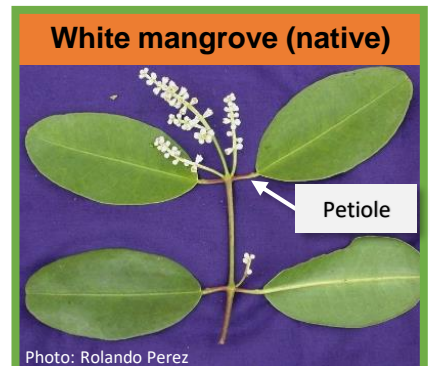


Figure 3. White mangrove has opposite leaves, pronounced petioles and long flower spikes.



Figure 4. White mangrove fruit is similar to Lumnitzera fruit.

Lumnitzera is a FLEPPC Category I invasive species.

Japanese Climbing Fern

Lygodium japonicum



Description

Habit: Climbing fern, to 27.5 meters in length.

Leaves: Opposite, lacy, finely divided, **twice compound** (Figure 1). Fertile leaflets are contracted and have finger-like projections containing spores (Figure 2).

Vine: Wiry, new vines are green; older vines turn orange to black.

Could be confused with: Old World climbing fern (not native) which has **unlobed leaflets** that are once compound and generally smaller than Japanese climbing fern (Figure 3).



Figure 1. Leaflets are triangular and deeply lobed.

Figure 2. Plants often have both fertile (foreground) and non-fertile (background) leaflets.

Figure 3. Comparison of fertile and non-fertile leaflets of both climbing fern species

Japanese climbing fern is a FLEPPC Category I invasive species.

Additional information: Japanese climbing fern is on the Florida Department of Agriculture and Consumer Services Noxious Weed List.

Mile-A-Minute Vine

Mikania micrantha



Description

Habit: Aggressive, fast-growing vine that can overtop adjacent vegetation. **Prefers dry ground.**

Leaves: Heart-shaped, 5-12.5 cm long (Figure 1).

Flower: Clusters of small white flowers form in late summer/early fall (Figure 2).

Seeds: White, fluffy wind-borne seeds are produced in the fall.

Could be confused with: Two native species, climbing hempvine (*M. scandens*), which grows in **wet areas**, and Florida Keys hempvine (*M. cordifolia*) which has **dull leaves** with more rounded tips (Fig. 3).



Figure 1. Heart-shaped leaves have points along margin and at tip.



Figure 2. Clusters of white flowers form in late summer/fall.



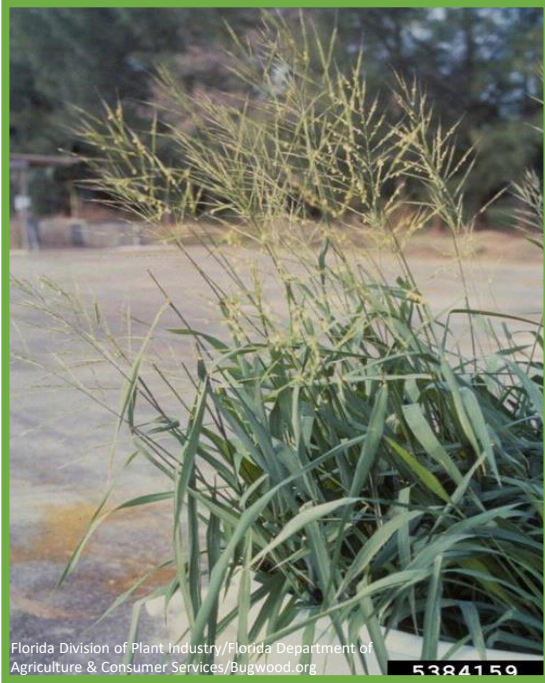
Figure 3. Keys hempvine leaves are less shiny/pointy.

Mile-a-minute vine is a FLEPPC Category II invasive species.

Additional information: Mikania is on the State of Florida and the USDA Noxious Weed Lists and is also on the International Union for Conservation of Nature's 100 Worst Alien Invasive Species List.

Red Rice

Oryza rufipogon



Description

Habit: Scrambling grass to 1-5 m, lower stems somewhat spongy.

Leaves: Linear, flat, 15-18 cm long, 10-25 mm wide. Distinct auricle (ear-like structure) where the leaf meets the blade (Figure 1).

Inflorescence: Seeds grow in a much-branched seed head (panicle), up to 20 cm long (Figure 3).

Seeds: Brown, seeds 4.5-10.6 mm long, each with a **long bristle (awn)** 4-10 cm long (Figure 2).

Could be confused with: Guinea grass (not native) but leaf blade and **not awned seed** are different (Figure 4).



Figure 1. Ear-like structure at leaf base.



Figure 2. Seeds with long awns



Figure 3. Closed seed head showing seeds with awns.

Red rice is closely related to commercially cultivated rice and is a weed in many parts of the world where it has naturalized and easily crosses with rice crops.

It is also on the FDACS & USDA Noxious Weed lists.

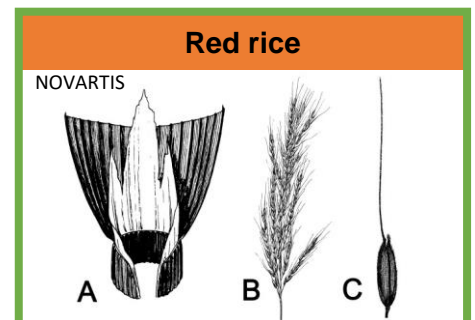
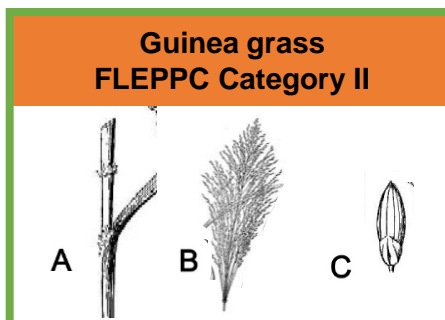
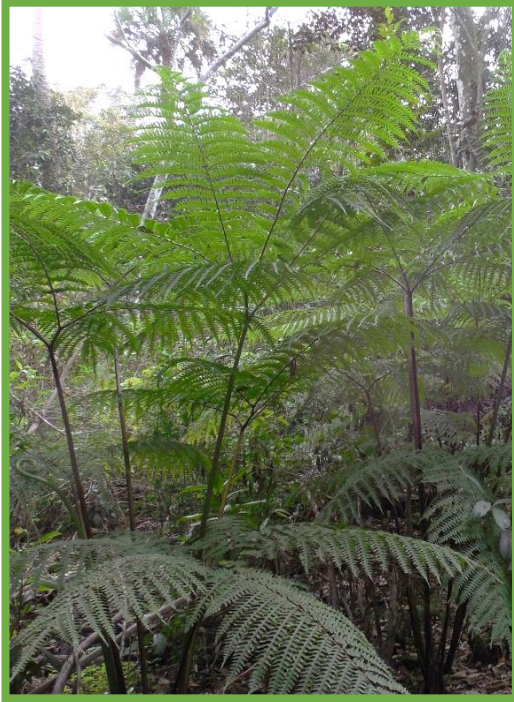


Figure 4: (A) leaf base and ligule; (B) inflorescence; (C) spikelet.

Giant Brake

Pteris tripartita



Description

Habit: Fast-growing fern to 2.1 meters tall, most aggressive in moist habitats (Figure 1).

Leaves: Young leaves branch into 3 parts from base of leaf blade (Figure 3); this becomes 5-7 branches in mature leaves. Pinnate-pinnatifid (sufficiently connected so that they are not separate leaflets).

Spores: Lacks flowers and fruits; reproduces by tiny windborne spores that form in ***sporangia along leaf margins*** (Figure 2).

Could be confused with: Florida tree fern, especially when young but leaf structure and spore arrangement are different (Figures 2 & 3).



Figure 1. Giant brake on Everglades tree island.



Figure 2. Sporangia in lines along the edge of the underside of leaf.

Giant brake (young)



Florida tree fern (young)
State endangered

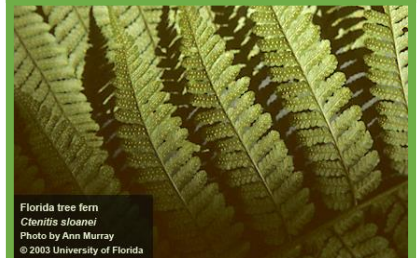


Figure 3. Fl. tree fern leaves are lacey and the sporangia are along the pinnule mid-veins.

- When growing in full sun giant brake is often less than 2' tall and yellowish.
- Pteris is from the Greek word "pterid" which means "fern." Tripartita means "divided into three segments", referring to the three-part fronds.

Giant Salvinia

Salvinia molesta



Description

Habit: Floating aquatic fern that forms dense mats at the surface of the water.

Leaves: Rounded to elliptic, about 2 cm long and covered with **egg-beater shaped hairs** (Fig 1,3) which cause them to repel water (Figure 2).

Reproduction: Reproduces by spores contained in a nut-like sporocarp.

Could be confused with: Common salvinia (*Salvinia minima*), another invasive aquatic fern with opened, **4-pronged hairs** as opposed to egg-beater hairs (Figure 3).

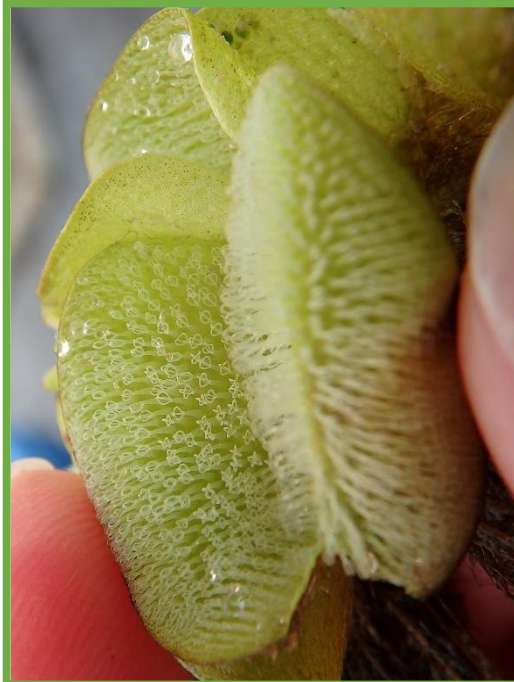


Figure 1. Eggbeater hairs on giant salvinia leaves

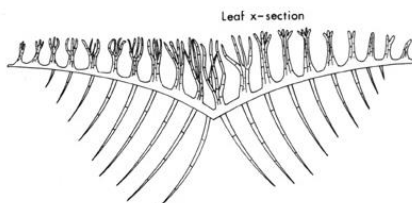


Figure 2. Giant salvinia repelling water

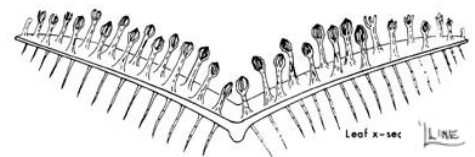


Figure 3. Eggbeater hairs vs 4-pronged hairs

Additional information: Giant salvinia is on the Florida Prohibited Aquatic Plants list, the USDA Noxious Weed list and the International Union for Conservation of Nature 100 Worst Alien Invasive Species List.



Common salvinia



Giant salvinia

Tropical Nutrush

Scleria microcarpa



Description

Habit: Sedge that spreads through underground roots. Prefers shade and moist soil.

Leaves: Blades to 20 cm long and 0.5-1 cm wide, with toothed edges. Leaf stems are triangular with **winged sheaths**. (Figure 1).

Inflorescence: Sparse seed heads rise from upper leaves in spring and mature through summer. (Fig. 2).

Seeds/Fruits: Seeds are green then turn white and harden once mature (Figure 2 inset).

Could be confused with: Tall nutgrass (*Scleria triglomerata*), a common native that does **not have prominently winged leaf sheaths** and its seeds grow in more dense clusters (Figure 3). Wright's nutrush (*S. lacustris*), not native, has a **spongy, reddish lower stem** (Figure 4).



Figure 1. Leaf sheath is winged and wider than the stem.



Figure 2. Seed heads grow from the base of the leaves as well as the tip.



Figure 3. Tall nutrush seeds grow in clusters.



Figure 4. Wright's nutrush has a red stem base when mature

Tropical nutrush is a FLEPPC Category I invasive species.

Black Sage

Varronia curassavica



Description

Habit: Multi-branched shrub up to 3 m in height.

Leaves: 5-12 cm long, 1.5-6 cm wide; top side of leaves are **coarse to the touch**, underside are finely hairy and pale grayish-green; serrated margins; **alternate** leaf arrangement (Figure 1).

Flower: A spike of small white flowers at branch ends (Figure 2).

Fruits: Fleshy **red** fruits.

Could be confused with: Beautyberry (native) which has **opposite leaves, pink fruits** and **pink flower clusters** at leaf axils (Figure 3).



Figure 1. Alternate leaves with a pale underside

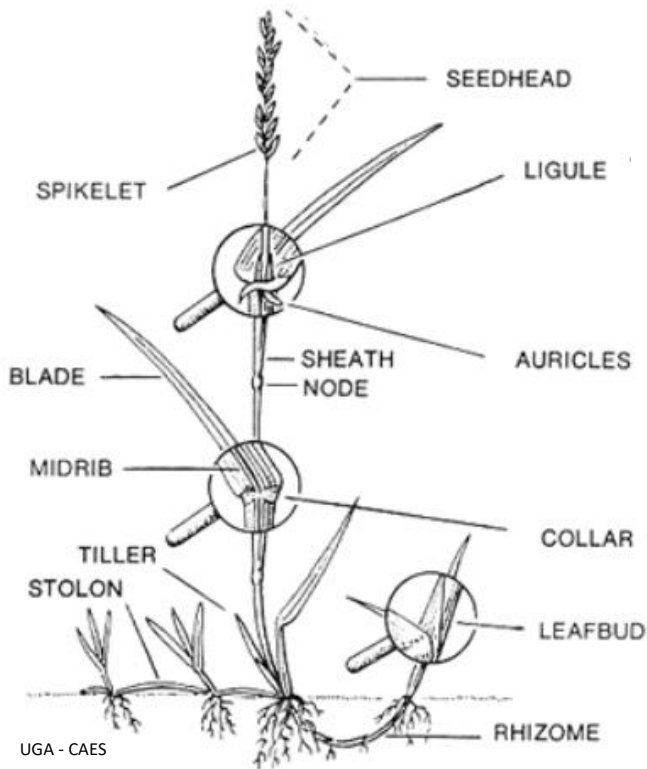


Figure 2. White flowers arranged in terminal spikes



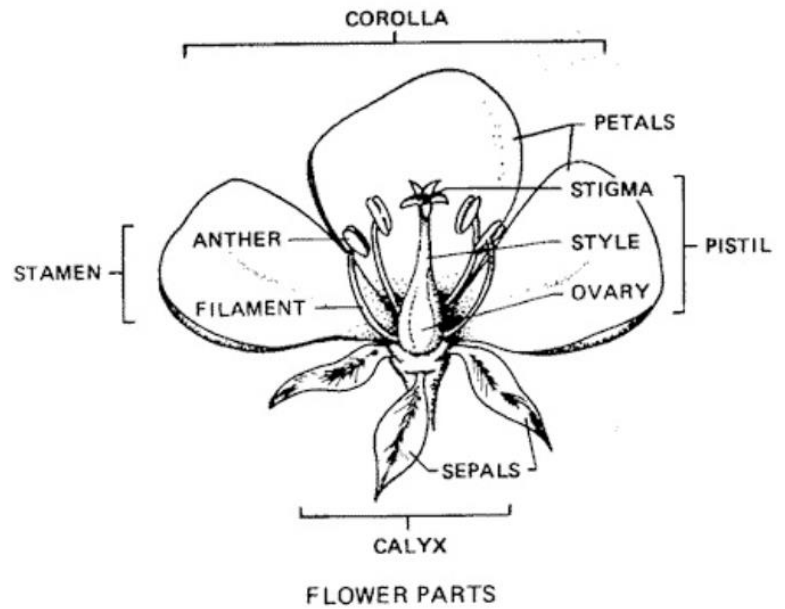
Figure 3. Beautyberry has opposite leaves and pink fruits.

PARTS OF A GRASS PLANT



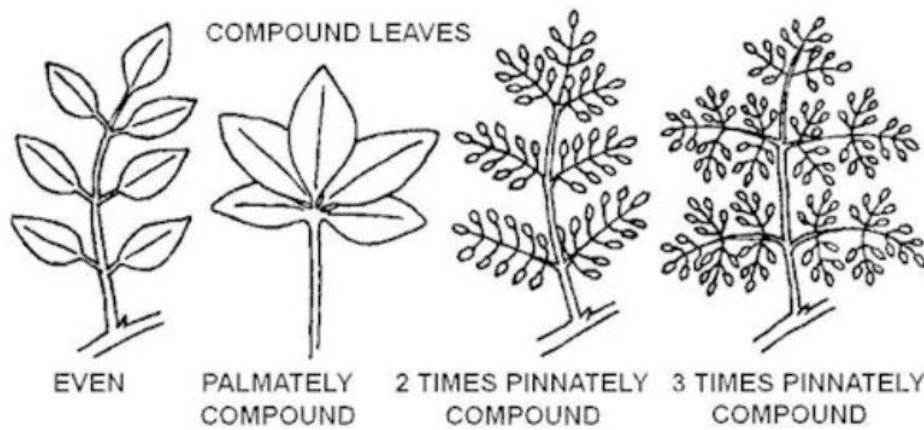
UGA - CAES

PARTS OF A FLOWER



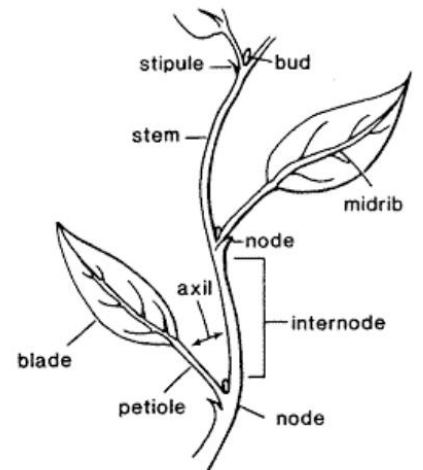
<https://awkwardbotany.com/2014/07/27/14-botanical-terms-for-flower-anatomy/>

COMPOUND LEAF ARRANGEMENTS



By Paul Noll

SIMPLE LEAF & PLANT PARTS



[y/gisresources/lakes/AquaticPlantGuide/drawings/leafParts.html](http://gisresources/lakes/AquaticPlantGuide/drawings/leafParts.html)

