KEY FEATURES IN DETERMINING THE WEEDS FROM THE NATIVES

atural Areas

Dexter Sowell & Kim Gulledge Florida Natural Areas Inventory March 2018



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INTRODUCTION

- Land managers and contractors
- Active exotics removal in Florida and at same time high number of native/rare species that are very similar to exotics
- Avoiding non-target damage to our natives is KEY
- This presentation is a series of species comparisons to help us avoid non-target damage

Information Sources:

- Florida Natural Areas Inventory
- ISB Atlas of Florida Plants
- UF/IFAS Center for Invasive Plants



NATIVE

Don't let "mistaken identity" happen in your invasives control projects !!!

TREES AND SHRUBS

CHINESE TALLOW

Triadica sebifera





CORALBEAN

Erythrina herbacea







CHINESE TALLOW

Triadica sebifera

- Tree, unarmed
- Simple leaf
- Small yellow flowers
- Milky sap
- Capsule with white seeds

CORALBEAN

Erythrina herbacea



- Small shrub, armed
- Compound leaf
- Red tubular flower
- No milky sap
- Legume (bean pod) with red seeds



SHOEBUTTON ARDISIA

Ardisia elliptica



Ardisia escallonioides





SHOEBUTTON ARDISIA Ardisia elliptica Ardisia escallonioides



- Leaf margins revolute
- Flowers in stalked axillary clusters
- Shrub <2 meters tall



- Leaf margins flat
- Flowers in terminal clusters
- Shrub/small tree to 5 meters tall or more

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CORAL ARDISIA

Ardisia crenata



Ardisia escallonioides





Ardisia crenata

MARLBERRY

Ardisia escallonioides



- Leaves with crenate margins
- Flowers in stalked axillary clusters
- Bright red drupes



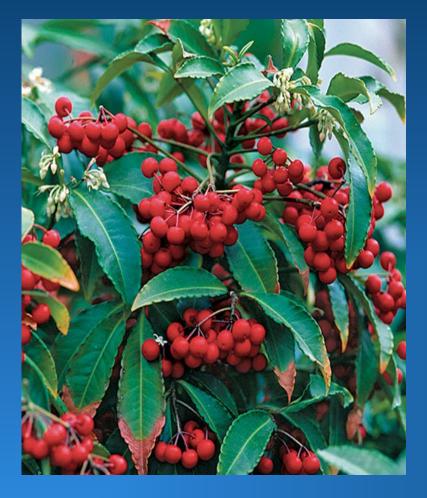
- Leaves entire
- Flowers in terminal clusters
- Drupes turning black

CORAL ARDISIA

Ardisia crenata

WILD COFFEE

Psychotria nervosa









- Alternate leaves
- Revolute, crenate leaf margin
- Leaf veins not prominent

- Opposite leaves
- Slightly revolute, entire to wavy leaf margin
- Leaf veins prominent



CHINESE PRIVET

Ligustrum sinense

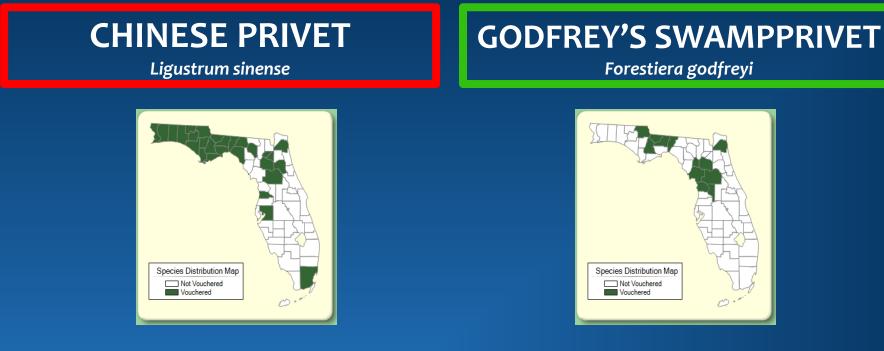
GODFREY'S SWAMPPRIVET

Forestiera godfreyi









- Terminal flower clusters
- Evergreen leaves
- Leaf margins entire
- Short petiole
- Underside of leaves with hairs along the midvein

- Axillary flower clusters
- Deciduous leaves
- Leaf margins toothed above the middle
- Longer petiole
- Underside of leaves uniformly hairy

CHINESE PRIVET

Ligustrum sinense

FLORIDA SWAMPPRIVET

Forestiera segregata







Ligustrum sinense

FLORIDA SWAMPPRIVET

Forestiera segregata



• Terminal flower clusters

Species Distribution Map

Not Vouchered

Vouchered

- Short petiole
- Leaves elliptic
- Underside of leaves with hairs along the midvein

- Axillary flower clusters
- Leaves sessile
- Leaves obovate
- Underside of leaves glabrous



CHINESE PRIVET

Ligustrum sinense

WALTER'S VIBURNUM

Viburnum obovatum

Viburnum obovatum photo by Gil Nelson, from his book Shrubs and Woody Vines of Florida



rnum obovatum



- Four petals/flower
- Leaf margin entire
- No short shoots
- Young stems hairy

WALTER'S VIBURNUM

Viburnum obovatum



- Five petals/flower
- Leaf margin entire or serrate
- Short shoots
- Young stems and leaves with rusty scales

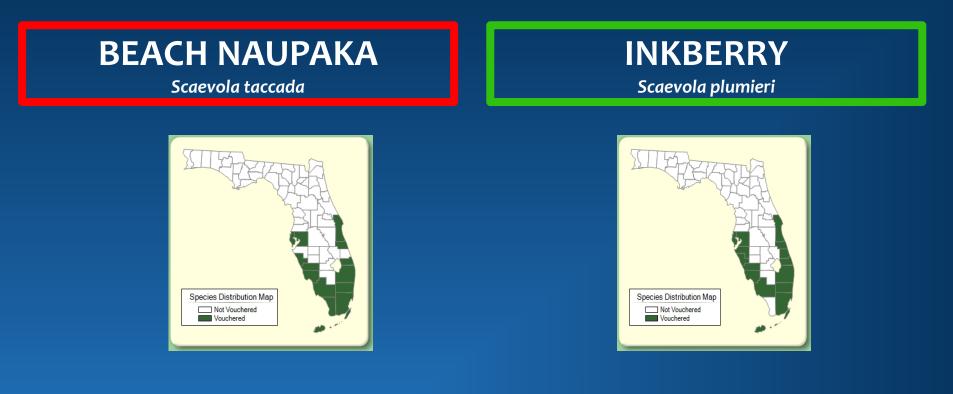


Scaevola taccada









- Leaves longer (to 21 cm)
- Leaves rolled
- Leaves less succulent
- White fruit
- Green foliage

- Leaves shorter (to 10 cm)
- Leaves flat
- Leaves more succulent
- Black fruit
- Yellow-green foliage

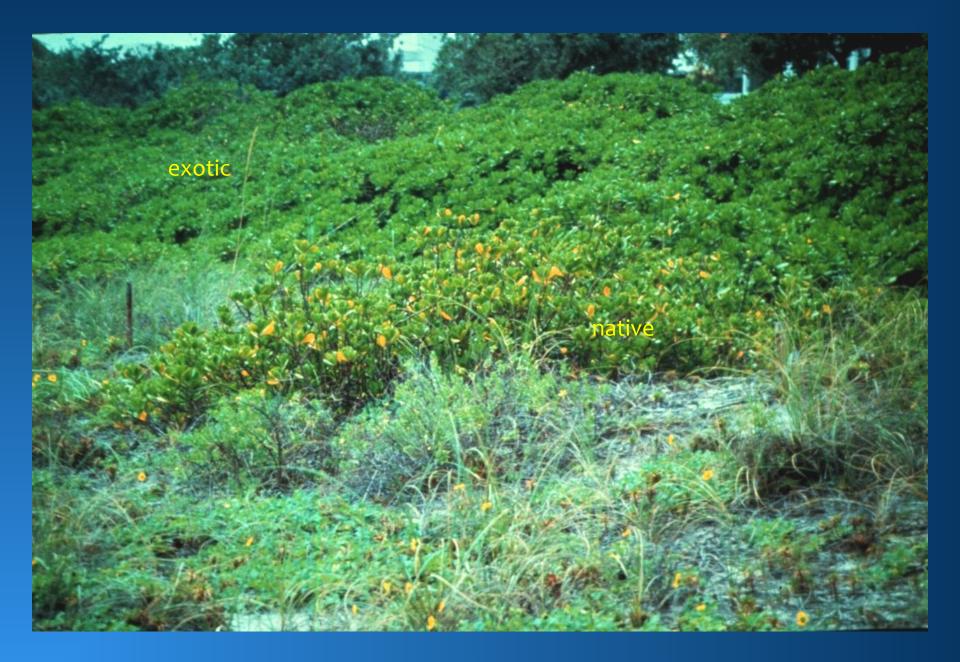


Scaevola taccada









Invasive, beach Naupaka (Scaevola taccada) growing with native Inkberry (Scaevola plumieri).

BEACH NAUPAKA

Scaevola taccada

BEACH NAUPAKA

Scaevola taccada

SEVENYEAR APPLE

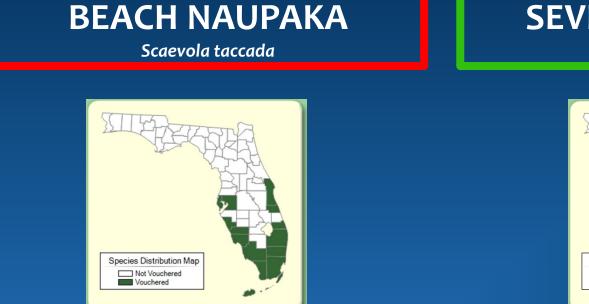
Genipa clusiifolia





BEACH NAUPAKA Scaevola taccada





- Leaves alternate (but densely clustered)
- White fruit
- Fruit smaller
- Flowers zygomorphic

SEVENYEAR APPLE

Genipa clusiifolia



- Leaves opposite
- Black fruit (green when immature)
- Fruit larger (6-10cm)
- Flowers actinomorphic



Lantana strigocamara

PINELAND LANTANA

Lantana depressa







LANTANA

Lantana camara

- Obtuse leaf base
- Leaves more or less flat
- Orange or multi-colored flowers

PINELAND LANTANA

Lantana depressa



- Acute leaf base
- Leaves folded along midrib
- All flowers yellow



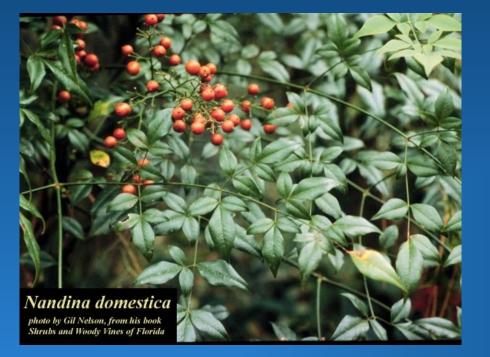


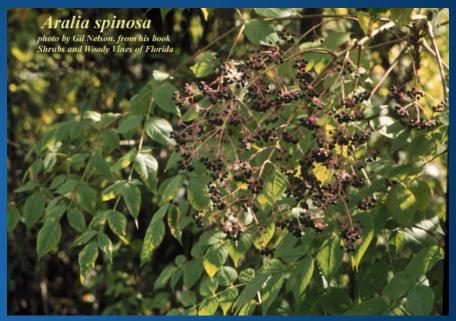
HEAVENLY BAMBOO

Nandina domestica

DEVIL'S WALKINGSTICK

Aralia spinosa



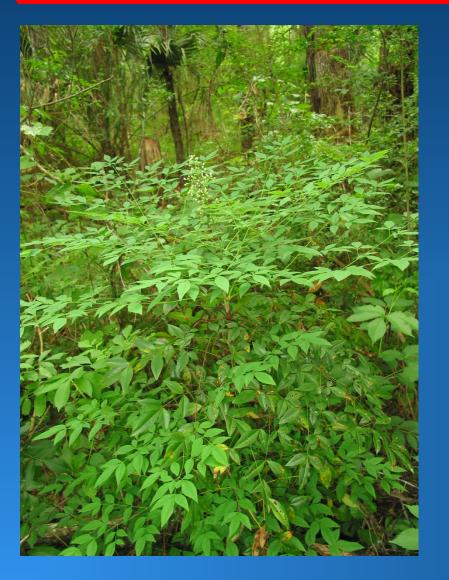


HEAVENLY BAMBOO

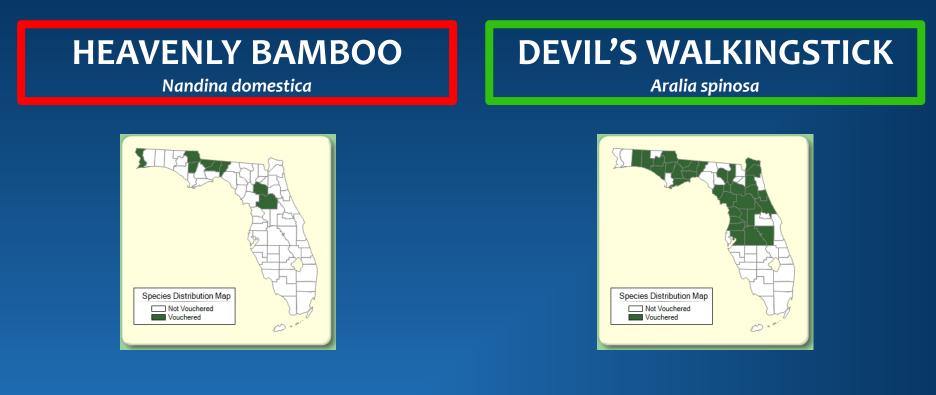
Nandina domestica

DEVIL'S WALKINGSTICK

Aralia spinosa



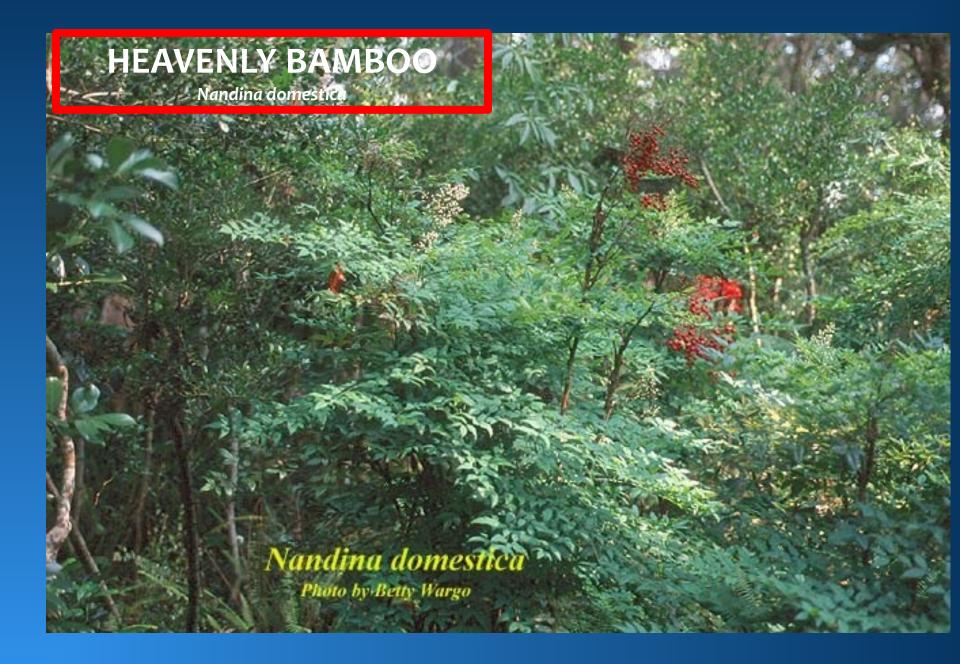




- Leaflet margin entire
- Stem and leaves unarmed
- Red berry

- Leaflet margin serrate
- Stem and leaves armed with prickles
- Purple/black drupe







Elaeagnus pungens

GUM BULLY

Sideroxylon lanuginosum







- Twigs and underside of leaf with silvery and rusty scales
- Fruit a large berry covered with scales
- No milky sap

GUM BULLY

Sideroxylon lanuginosum



- Twigs and underside of leaf with soft hairs
- Fruit a black berry
- Milky sap

JAVA PLUM

Syzygium cumini



FALSE MASTIC

Sideroxylon foetidissimum







Syzygium cumini



- Black fruit
- Entire leaf margin
- Opposite leaves
- Lateral leaf veins quite faint

FALSE MASTIC

Sideroxylon foetidissimum



- Yellow fruit
- Wavy leaf margin
- Alternate leaves
- Lateral leaf veins more apparent



JAVA PLUM Syzygium cumini

FALSE MASTIC

Sideroxylon foetidissimum





CARROTWOOD

Cupaniopsis anacardioides



Simarouba glauca







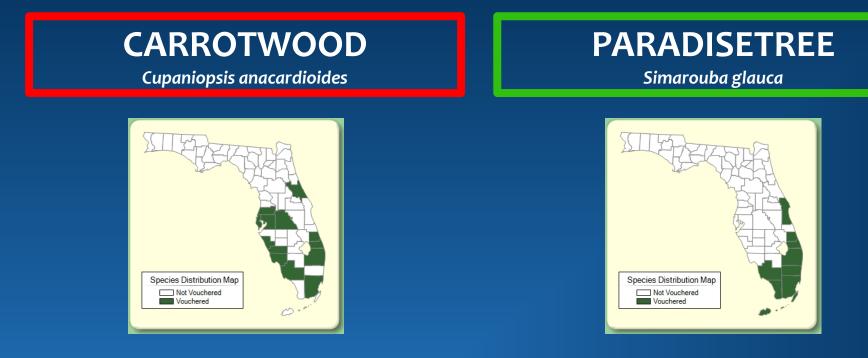
Cupaniopsis anacardioides

PARADISETREE

Simarouba glauca







- Leaves with 4-12 leaflets
- Leaves green when young
- Leaves yellowish-green
- Inner bark orange
- Orange, 3-lobed fruit

- Leaves with 9-21 leaflets
- Leaves red-orange when young
- Leaves dark green
- Inner bark not orange
- Purplish/black fruit



Cupaniopsis anacardioides

PARADISETREE

Simarouba glauca



Psidium cattleianum

POSSUMHAW

Viburnum nudum



Psidium cattleianum

| Species Distribution Map | |
|--------------------------|--|
| Not Vouchered | |
| Vouchered | |

- Crushed leaves fragrant
- Flowers/fruits axillary
- Berries yellow or red
- Berries with persistent, fleshy sepals at apex

POSSUMHAW

Viburnum nudum



- Leaves not fragrant
- Flowers/fruits terminal
- Drupes purplish black
- Drupes without sepals at apex

Psidium cattleianum

Environmental Weeds of Australia



WHITE STOPPER



Psidium cattleianum

WHITE STOPPER



- Yellowish to red berry
- Pedicels 1-2 cm long, stout
- Leaves mostly obovate
- Short acuminate leaf apex



- Black berry
- Pedicels <0.5 cm long
- Leaves ovate to elliptic
- Acute leaf apex

SURINAM CHERRY

Eugenia uniflora

WHITE STOPPER





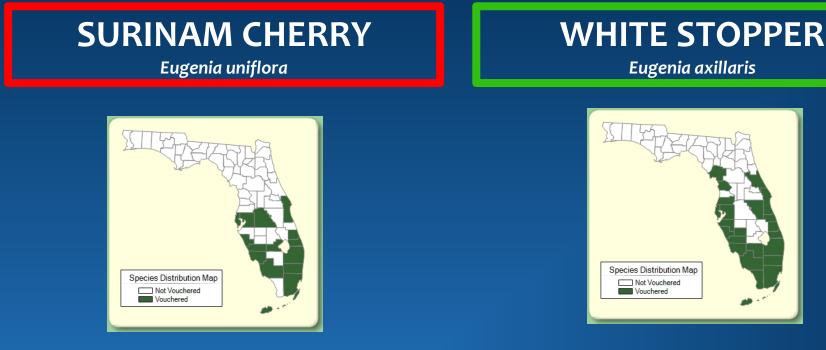


Eugenia uniflora



WHITE STOPPER





- Large, red 'ribbed' berry
- Pedicels >0.5 cm long
- Petiole very short (2-5 mm)

- Small, black berry
- Pedicels <0.5 cm long
- Petiole longer and reddish



POND APPLE

Annona glabra





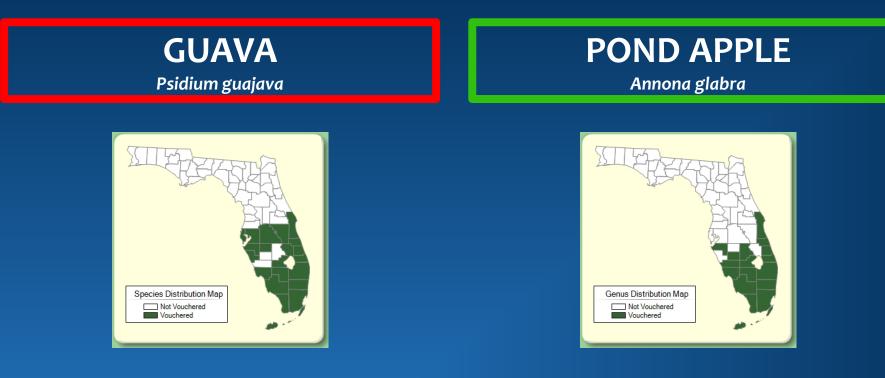
Annona glabra Photo and © by Roger Hammer Wildflowers of the Everglades



POND APPLE

Annona glabra





- Opposite leaves
- Leaf veins prominent
- Fruit with persistent, fleshy sepals at the apex
- Alternate leaves
- Leaf veins obscure
- Fruit without persistent sepals

CAMPHOR TREE

Cinnamomum camphora



Persea palustris







- Crushed leaves have a strong camphor smell
- Glaucous leaf underside
- Three veins at leaf base
- Fruit with a cupule

SWAMP BAY

Persea palustris



- Crushed leaves have a bay leaf smell
- Pubescent leaf underside
- One vein at leaf base
- Fruit lacking a cupule



STRANGLER FIG

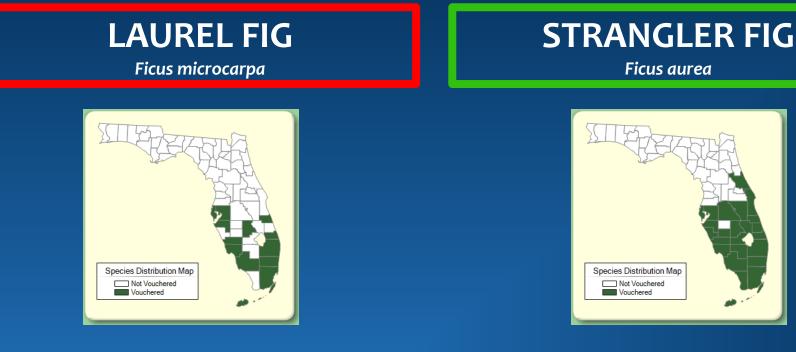
Ficus aurea











- Smaller leaves (4-6 cm long)
- Veins obscure
- Lowest pair of veins at a sharper angle than rest
- Figs ca. 1 cm long

- Larger leaves (6-12 cm long)
- Veins yellowish
- Lowest pair of veins not different
- Figs ca. 2 cm long



Ficus microcarpa



STRANGLER FIG

Ficus aurea



LEAD TREE

Leucaena leucocephala

WILD TAMARIND

Lysiloma latisiliquum



LEAD TREE

- Leaflet very asymmetrical
- Legume narrower
- 10 stamens/flower
- Stipules inconspicuous

WILD TAMARIND

Lysiloma latisiliquum



- Leaflet slightly asymmetrical
- Legume wider
- >10 stamens/flower
- Stipules conspicuous, large on new growth



Leucaena leucocephala

WILD TAMARIND

Lysiloma latisiliquum







Leucaena leucocephala



WILD TAMARIND

Lysiloma latisiliquum



• Gland at top of petiole (under first leaflets) on lead tree; stipules at base of new leaves on wild tamarind



BRAZILIAN PEPPER

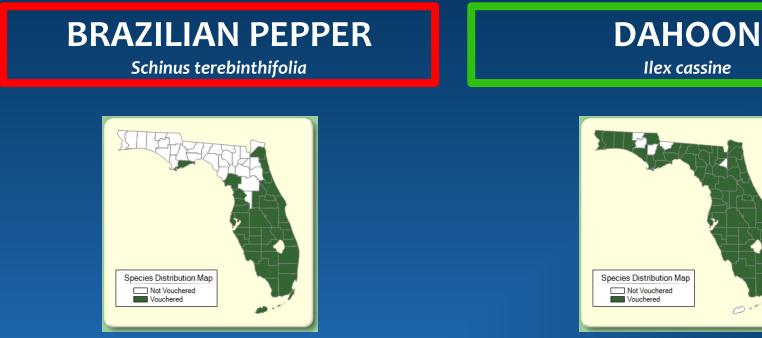
Schinus terebinthifolia*





- Recent name change to match latin gender of Schinus
 - ... folius to ... folia





- Compound leaf
- Crushed leaves have a pungent odor
- Drupes with a single seed
- Drupe without a black dot on top

- Simple leaf
- Crushed leaves are odorless
- Drupes with four seeds
- Fruit with a black dot on top (persistent stigma)

PAPER MULBERRY

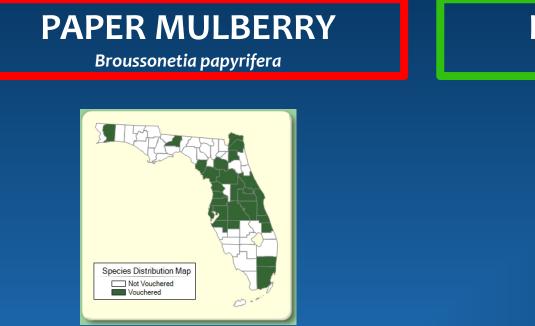
Broussonetia papyrifera

RED MULBERRY

Morus rubra







- Clonal, thicket forming
- Small twigs pubescent
- Petioles often longer, up to the length of the leaf
- Leaves usually dull green

RED MULBERRY

Morus rubra



- Solitary
- Small twigs glabrous, or with only a few hairs
- Petioles 2 to 2.5 cm long
- Leaves usually mid-green



Agave sisalana

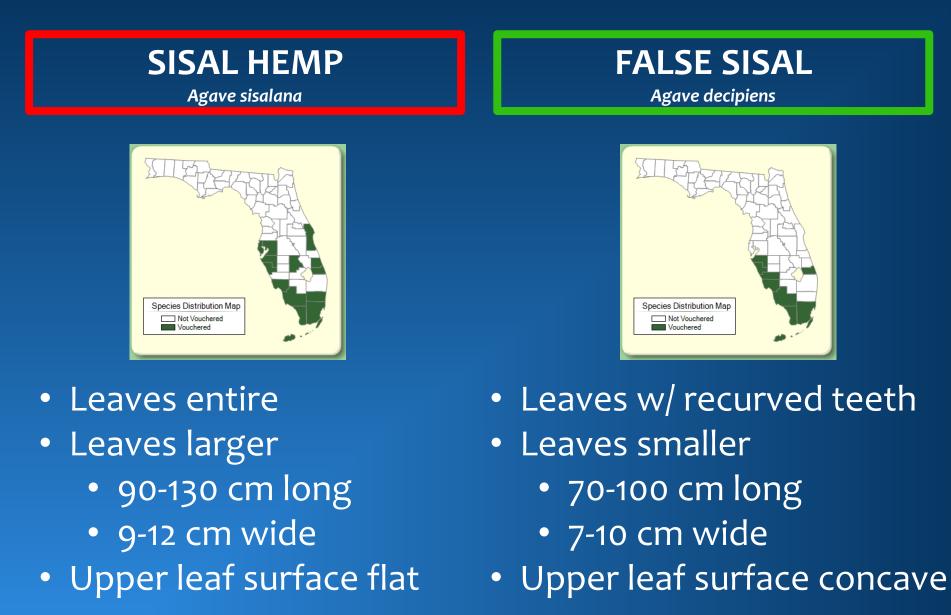
FALSE SISAL

Agave decipiens











Sesbania punicea



BLADDERPOD

Sesbania vesicaria





RATTLEBOX

- Plants woody
- Flowers yellowish in center, but without distinctive eye
- Fruit 4-angled

BLADDERPOD

Sesbania vesicaria



- Plants mainly herbaceous
- Flowers yellow to tricolored with a distinctive yellow eye
- Fruit flattened (2-angled)



Sesbania punicea





BLADDERPOD

Sesbania vesicaria







SWORD FERN

Nephrolepis cordifolia

WILD BOSTON FERN

Nephrolepis exaltata









Nephrolepis cordifolia

Species Distribution Map Vouchered

- Roots with tubers
- Scales on rachis two colors
- Pinnae (leaflets) blunttipped

WILD BOSTON FERN

Nephrolepis exaltata



- Roots lacking tubers
- Scales on rachis one color
- Pinnae more pointed at apex



Nephrolepis cordifolia

WILD BOSTON FERN

Nephrolepis exaltata







Nephrolepis cordifolia

PLUME POLYPODY

Pecluma plumula



SWORD FERN

Nephrolepis cordifolia



- Rarely epiphytic
- Pinnae serrate
- Kidney-shaped indusium

PLUME POLYPODY

Pecluma plumula



- Usually epiphytic
- Pinnae entire
- No indusium

SWORD FERN

Nephrolepis cordifolia

PLUME POLYPODY

Pecluma plumula



HERBS and GRASSES



Praxelis clematidea

Image: Contract of the contract

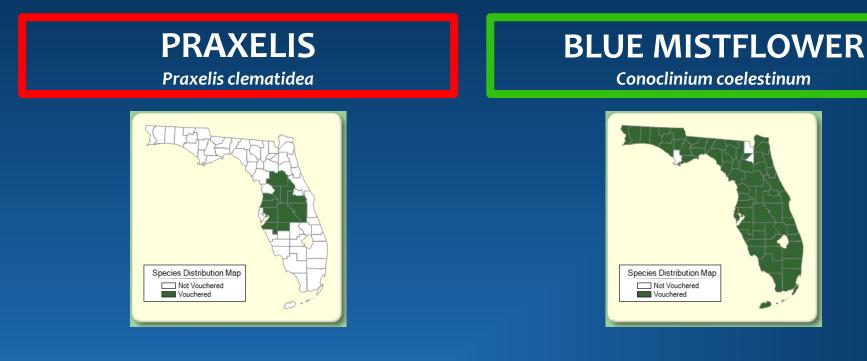


BLUE MISTFLOWER

Conoclinium coelestinum







- Crushed leaves have a pungent odor of cat urine
- Phyllaries deciduous (absent in fruit)
- Flower heads more than
 0.5 cm long

- Crushed leaves may be fragrant, but not of cat urine
- Phyllaries persistant (present in fruit)
- Flower heads less than
 0.5 cm long

PERUVIAN PRIMROSEWILLOW

Ludwigia peruviana

Ludwigia peruvian Photo by Matthew Merritt

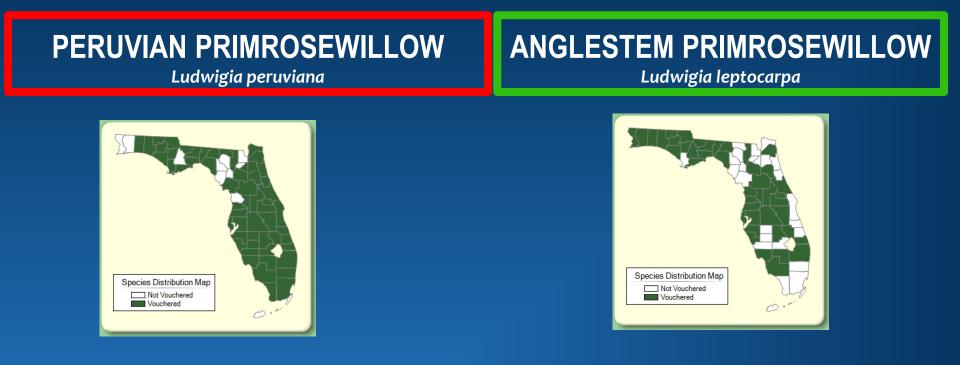


ANGLESTEM PRIMROSEWILLOW

Ludwigia leptocarpa







- Overall larger plant/shrub
- Larger flower
- Usually 4 petals
- Fruits square, broad, to 3 cm long

- Smaller plant/herb
- Smaller flower
- Usually 5 petals
- Fruits narrowly cylindrical, to 5 cm long

PERUVIAN PRIMROSEWILLOW

Ludwigia peruviana

ANGLESTEM PRIMROSEWILLOW

Ludwigia leptocarpa











BROOMSEDGE BLUESTEM

Andropogon virginicus







BROOMSEDGE BLUESTEM

Andropogon virginicus



- Rhizomatous
- Midvein of leaf white and often offset



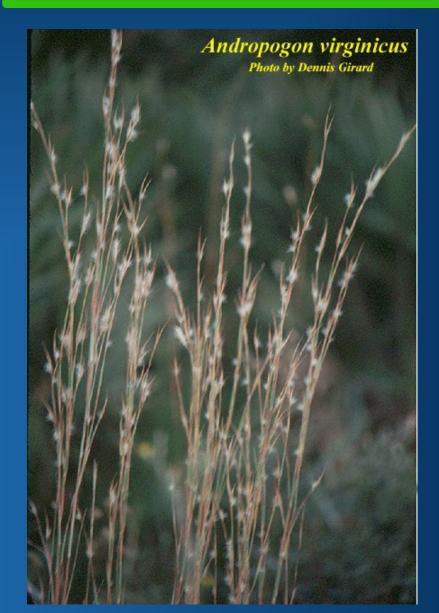
- Clumping
- Midvein of leaf usually centered





BROOMSEDGE BLUESTEM

Andropogon virginicus





Imperati

vlindrica

Solites



Sorghastrum nutans







YELLOW INDIANGRASS

Sorghastrum nutans



- Midvein of leaf white and often offset
- Ligule short (0.2-3.5 mm)
- Large fuzzy panicle of flowers, silvery white and cylindrical

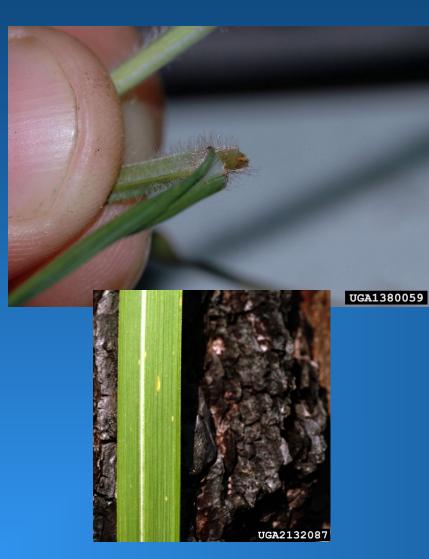


- Midvein of leaf usually centered
- Ligule long (2-6 mm)
- Plume-like panicle of flowers, bronze yellow



YELLOW INDIANGRASS

Sorghastrum nutans





TORPEDO GRASS

Panicum repens

Panicum repens

Photo by Betty Wargo







Panicum repens





- Plants shorter (20-90 cm tall), leaves narrower
- Rhizomes sharp-pointed
- Inflorescence broader



- Plants taller (50-200 cm tall), leaves broader
- Rhizomes not sharp
- Inflorescence narrow (to 1 cm wide)

Hymenachne amplexicaulis

MAIDENCANE





Hymenachne amplexicaulis

MAIDENCANE



- Ligules 1-2.5 mm long
- Internodes with solid white pith
- Base of leaf blade clasping



- Ligules <1 mm long
- Internodes without solid white pith
- Base of leaf cordate

Hymenachne amplexicaulis

MAIDENCANE





Hymenachne amplexicaulis

AMERICAN CUPSCALE

Sacciolepis striata



Hymenachne amplexicaulis

AMERICAN CUPSCALE

Sacciolepis striata





- Ligules 1-2.5 mm long
- Internodes with solid white pith
- Base of leaf blade clasping

- Ligules <1 mm long
- Internodes without solid white pith
- Base of leaf cordate



Neyraudia reynaudiana

COMMON REED







- Ligules on both sides of leaf
- Glabrous internodes

- Ligule only on inside of leaf
- Pubescent internodes

NAPIER GRASS

Pennisetum purpureum

COMMON REED







Pennisetum purpureum



- Ligules 1.5 to 5 mm long
- Inflorescence a dense terminal panicle

COMMON REED



- Ligules about 1 mm long
- Inflorescence a bushy panicle

NAPIER GRASS

Pennisetum purpureum

COMMON REED







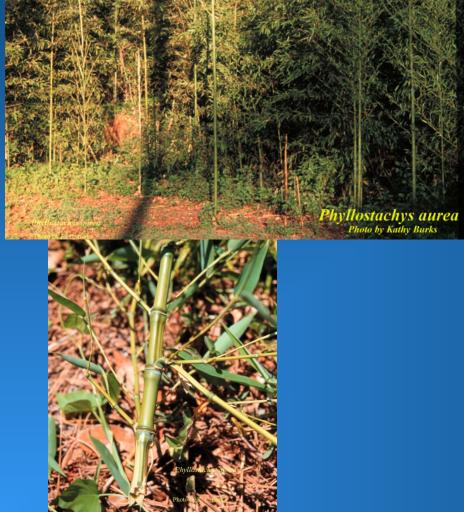
GOLDEN BAMBOO

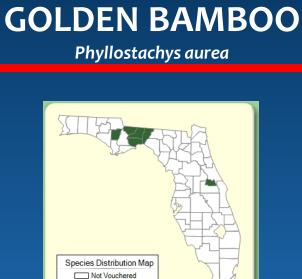
Phyllostachys aurea

SWITCHCANE

Arundinaria gigantea







 Stem flattened or grooved on one side just above the node

Vouchered

• Swollen band just below node

SWITCHCANE

Arundinaria gigantea



- Stem round
- Node may be swollen, but lacking a swollen band just below the node

TROPICAL NUTRUSH

Scleria microcarpa



TALL NUTGRASS

Scleria triglomerata





TROPICAL NUTRUSH

- Leaf sheath strongly winged
- Achenes in multiple lax racemes
- Achenes with a large "cupula" at base

TALL NUTGRASS

Scleria triglomerata



- Stem sharply angled, but leaf sheath not winged
- Achenes in 1 to several clusters
- Achenes with 3-lobed disk at base and subtended by bracts, but no "cupula"

TROPICAL NUTRUSH

Scleria nicrocarpa

TALL NUTGRASS

Scleria triglomerata









CHINESE WISTERIA

Wisteria sinensis

AMERICAN WISTERIA

Wisteria frutescens





Wisteria sinensis

| Species Distribution Map | |
|--------------------------|--|
| Vouchered | |

- Leaves longer (to 40 cm)
- Flowers just before or as leaves are emerging
- Inflorescence longer (up to 40 cm long)

AMERICAN WISTERIA

Wisteria frutescens



- Leaves shorter (to 30 cm)
- Flowers after leaves have appeared
- Inflorescence shorter (up to 25 cm long)



Wisteria sinensis

AMERICAN WISTERIA

Wisteria frutescens







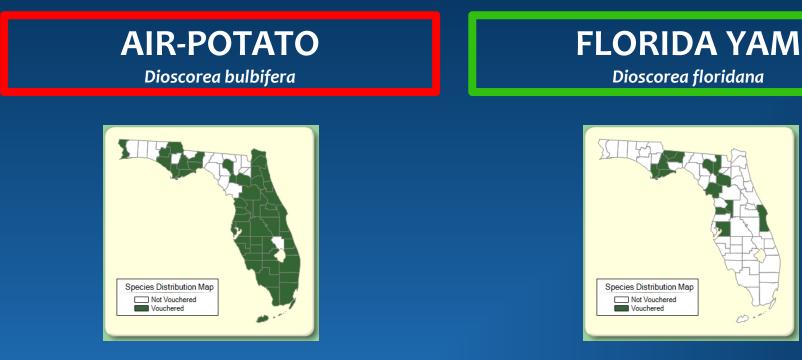
Dioscorea bulbifera

FLORIDA YAM

Dioscorea floridana



Dioscorea bulbifera Photo by Fred Nation



- Stems have aerial tubers
- Leaves larger
- Secondary veins often prominent

- Stems lacking tubers
- Leaves smaller
- Secondary veins less prominent

JAPANESE HONEYSUCKLE

Lonicera japonica

TRUMPET HONEYSUCKLE

Lonicera sempervirens



- 2



JAPANESE HONEYSUCKLE

Lonicera japonica

TRUMPET HONEYSUCKLE

Lonicera sempervirens



- Leaves pubescent or glabrous, but not glaucous
- Leaf apex acute to slightly acuminate
- Flowers white to creamy yellow



- Leaves with a glaucous underside
- Leaf apex rounded
- Flowers red

JAPANESE HONEYSUCKLE

Lonicera japonica

TRUMPET HONEYSUCKLE

Lonicera sempervirens





BEACH VITEX

Vitex rotundifolia





RAILROAD VINE

Ipomoea pes-caprae ssp. brasiliensis





- Opposite leaves
- Woody growth
- Panicles of smaller blue flowers

RAILROAD VINE

Ipomoea pes-caprae ssp. brasiliensis



- Alternate leaves
- Herbaceous
- Solitary, "morning glory" flowers

BEACH VITEX

Vitex rotundifolia

RAILROAD VINE

Ipomoea pes-caprae ssp. brasiliensis







THANK YOU!!

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