



# **Aquatic/Wetland Plants on the Florida Exotic Pest Plant Council (FLEPPC) 2017 List**

**FLMS Workshop #2, June 2017**

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**FDEP**

# “Wet” FLEPPC Invasive Exotics – Category I

- *Casuarina equisetifolia* and *C. glauca* (Australian pine)
- *Colocasia esculenta* (wild taro)
- *Eichornia crassipes* (water hyacinth)
- *Hydrilla verticillata* (hydrilla)
- *Hygrophila polysperma* (green hygro)
- *Hymenachne amplexicaulis* (West Indian Marsh Grass)
- *Ipomoea aquatica* (water spinach)
- *Ludwigia hexapetala* (Uruguay waterprimrose)
- *Ludwigia peruviana* (Peruvian primrosewillow)
- *Luziola subintegra* (tropical American watergrass)
- *Melaleuca quinquenervia* (melaleuca)
- *Nymphoides cristata* (crested floating heart)
- *Panicum repens* (torpedo grass)
- *Pistia stratiodes* (water lettuce)
- *Salvinia minima* (water spangles)
- *Sapium sebiferum* (*Triadica sebifera*; Chinese tallow)
- *Schinus terebinthifolius* (Brazilian pepper)
- *Scleria lacustris* (Wright’s nutrush)
- *Urochloa mutica* (*Brachiaria mutica*; para grass)

## “Wet” FLEPPC Invasive Exotics – Category II

- *Alternanthera philoxeroides* (alligator weed)
- *Casuarina cunninghamiana* (Australian pine)
- *Cyperus involucratus* (*C. alternifolius*; umbrella plant)
- *Landoltia punctata* (spotted duckweed)
- *Limnophila sessiliflora* (Asian marshweed)
- *Myriophyllum spicatum* (Eurasian water-milfoil)
- *Rotala rotundifolia* (roundleaf toothcup)
- *Sesbania punicea* (rattlebox)
- *Sphagneticola trilobata* (*Wedelia trilobata*; creeping oxeye or wedelia)

A photograph of a lush green plant with large, heart-shaped leaves growing near a body of water. The text "Herbaceous Non-Graminoid" is overlaid on the image.

**Herbaceous Non-Graminoid**

# *Alternanthera philoxeroides*

## alligator weed

- Opposite leaves
- White flowers
- Swollen and reddish with white line at leaf nodes
- No teeth on leaves
- Stem often spongy



# *Alternanthera philoxeroides*

## alligator weed

- Biological control success



photos courtesy of Ken Espy

# *Colocasia esculenta*

## wild taro



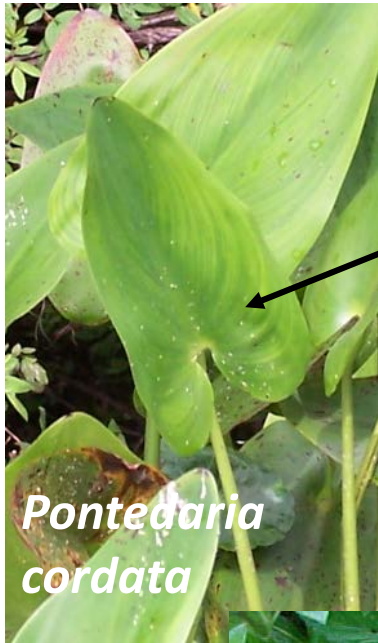
- Arrow-shaped leaf
- Deep green, velvet appearance
- Wide pinnate leaf venation
- Purple spot on top side at stem (sometimes)
- Rarely flowers

# ***Colocasia vs. Peltandra***



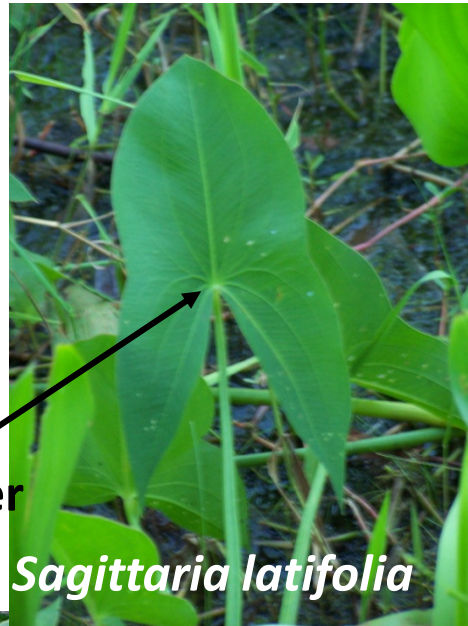


# Arrow-leafed Emergents



Parallel

Radiate  
From center



Also radiates, but  
only at base



# *Cyperus involucratus*

## umbrella plant

- Large showy sedge
- Very large bracts subtending inflorescence
- No basal leaves



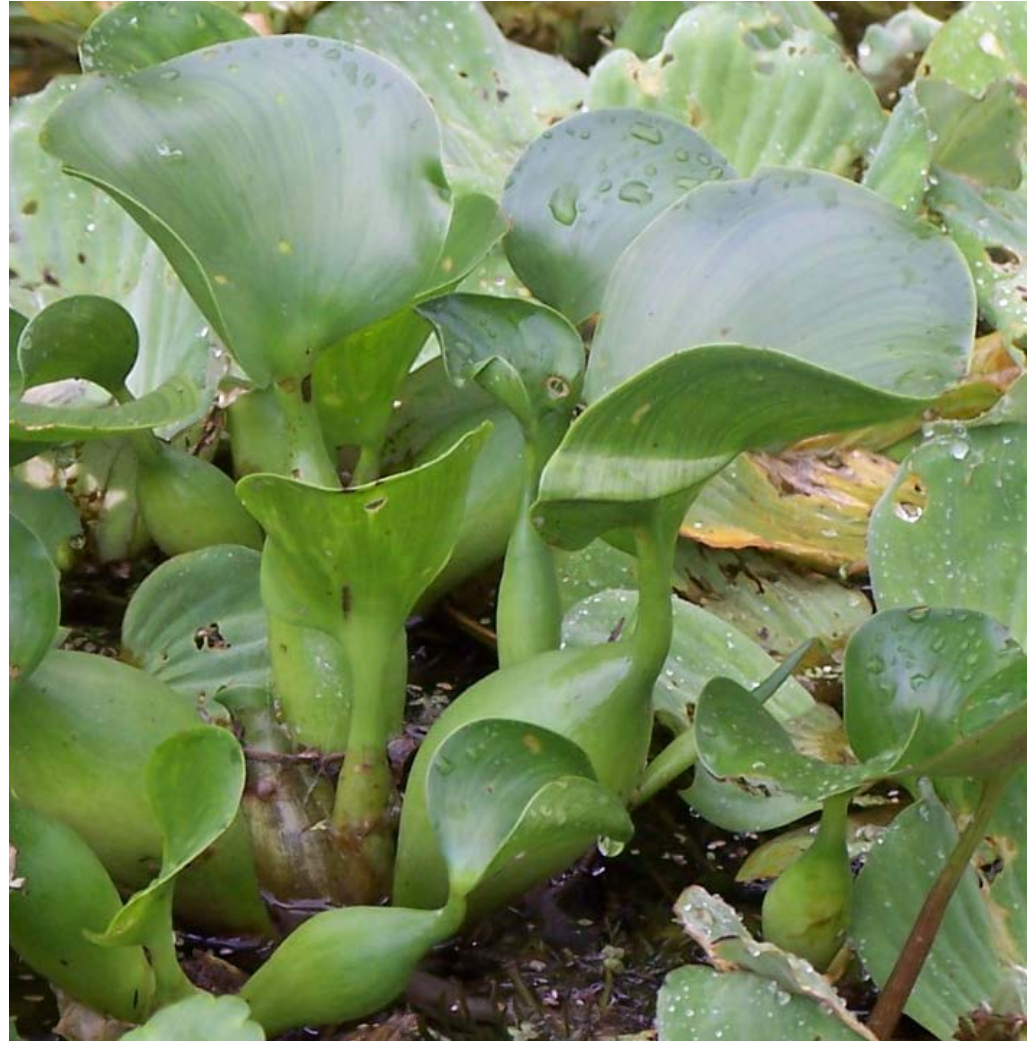
# ***Eichhornia crassipes***

## **water hyacinth**



- **Leaves elliptic, parallel-veined**
- **Petioles inflated, spongy**
- **Roots dark, fibrous**
- **Showy purple flower**
- **Floating units of leaves**

# *Limnobium* vs. *Eichhornia*



# Eichhornia crassipes



# *Hydrilla verticillata*

## hydrilla

- **Stems:** slender, branched and up to 25 feet long. Often grows to water surface and shades out others.
- **Whorled pointed leaves** with teeth on edges and midrib
- **Turions:** greenish bud-like at leaf axils
- **Tubers:** potato-like attached at the roots



# Hydrilla, Lake Seminole, 9/2010



# *Hygrophila polysperma*

## East Indian hygrophila

- Found in streams and slowly moving waters
- Submersed with few inches sometimes emerged
- Stems: - square, up to 6 feet long
- Leaves: - opposite, pointed
  - 1 ½" long, ½" wide
- Flowers: - at leaf axils
  - bluish-white to white
  - 2 lips



East Indian hygrophila  
*Hygrophila polysperma*  
Photo by Ann Murray  
Copyright 1999 Univ. Florida



# *Hygrophila polysperma*



*Hygrophila polysperma* @ Little Econ



# *Ipomoea aquatic* water spinach

- Aquatic vine
- Leave sagittate, no teeth (differs from *Mikania scandens*)



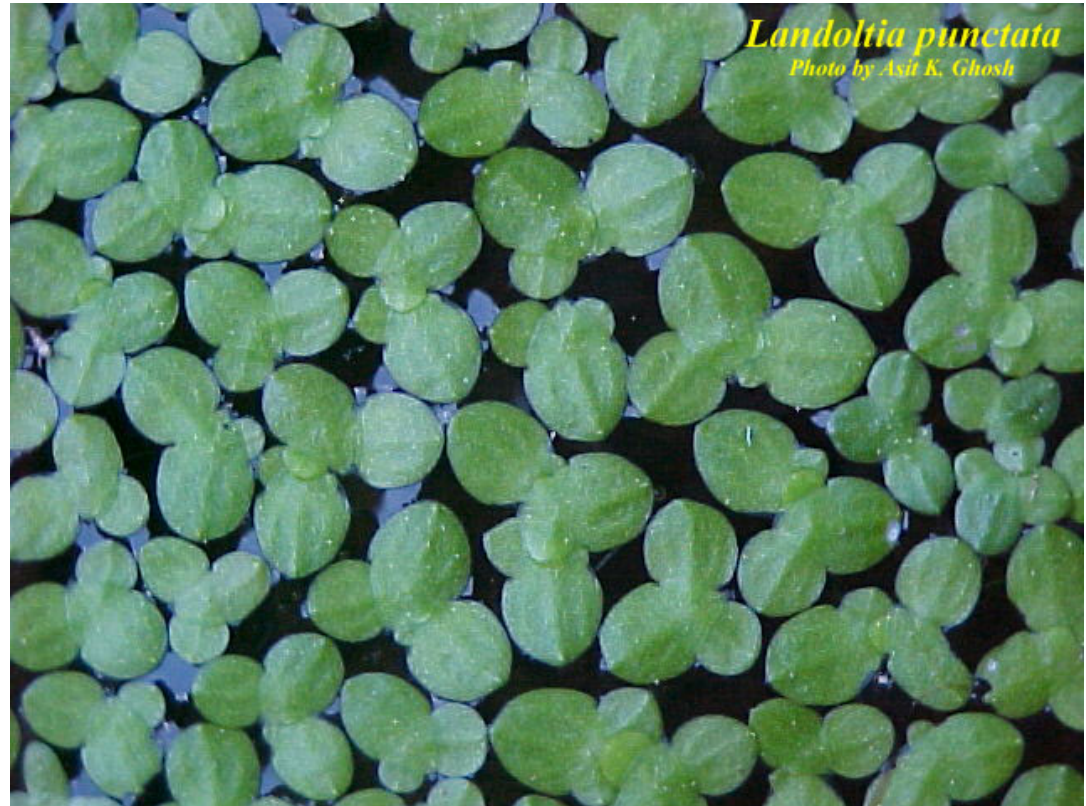
# *Ipomoea aquatica*



Small flowers could be *Mikania scandens*...?

# ***Landoltia punctata*** **spotted duckweed**

- Roots >1 (2-5)
- Native *Lemna* = 1 root
- Smaller than *Spirodela polyrhiza* and does not have red dot on leaf surface



# *Ludwigia peruviana*

## Peruvian primrosewillow

- Largest *Ludwigia* species, to 3 m tall
- Capsules pyramidal
- 4-5 petals, sepals
- Stem pubescent
- May form large thickets on lake shores, along roadsides



# *Ludwigia peruviana*



Photo by Dave Scharr

# *Ludwigia hexapetala*

## *Uruguay waterprimrose*



- Truly aquatic, floating habit in open water
- Produces horizontal runners and floating rosettes of big, rounded leaves early in the season
- Stem leaves oblanceolate to elliptic
- Big flowers, petals ~2.7 cm long (larger than *L. grandiflora*)
- Softer stems than *L. grandiflora*, lax from the base

# *Ludwigia grandiflora*

**NOT FLEPPC**



- Similar to *L. hexapetala*
- Shoreline plant, or forming floating islands/tussocks
- Produces horizontal runners and floating rosettes of more elongated leaves early in the season
- Stem leaves lanceolate to elliptic
- Stiffer stems, upright from the base
- Smaller flowers, petals ~2 cm long



# *Limnophila sessiliflora*

## Limnophila

- Stems up to 12 feet long, with a few inches emerged
- Submersed leaves whorled, finely divided and feathery, 1" long
- Floating leaves whorled, lance-shaped, dissected
- Flowers single pink, violet, or blue flower on emerged part of stem



# *Limnophila sessiliflora*



# *Limnophila* vs. *Hydrilla*



***Limnophila* (emergent)**

Emergent portions can look like  
*Myriophyllum aquaticum*!

**Hydrilla  
(submersed)**

# *Myriophyllum spicatum*

## Eurasian water milfoil

- Submersed stems and leaves
- Flower structures emergent but not typically seen, small bracts
- Stems branched, dark green to grayish
- Leaves deeply divided, soft, feather-like, 2" long, whorls of 3 to 6 around stem



# ***Myriophyllum spicatum***

**Eurasian water milfoil**



# ***Myriophyllum spicatum***

**Eurasian water milfoil**

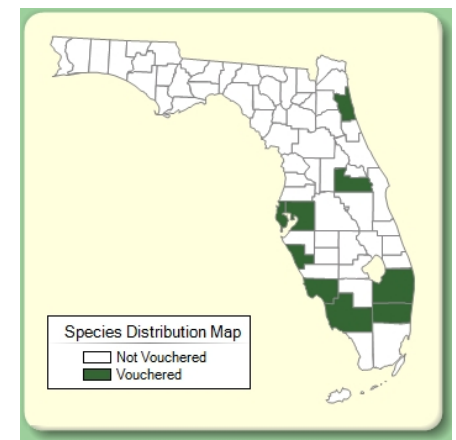


# *Nymphoides cristata*

## crested floating heart



- Smooth underside of leaves
- Petals white, not fringed, with median longitudinal crest



# ***Pistia stratiodes***

## **water lettuce**



- **Water lettuce**
- **Leaves fleshy, water resistant**
- **Floating units of leaves**



# *Rotala rotundifolia*

## rattlebox



- Creeping reddish stems
- Leaves rounded, opposite
- Pink/purple flowers in racemes, prolific

# *Salvinia minima*

Papillae on leaves are divided in *S. minima* but not on *S. molesta*



Juvenile

Mature



# *Salvinia molesta*

**NOT FLEPPC**

**Juvenile**

*Salvinia molesta*  
Giant salvinia



**Mature**

*Salvinia molesta*  
Giant salvinia



# *Sphagneticola trilobata* (*Wedelia trilobata*) creeping oxeye

- Leaves fleshy with large teeth; forms thick groundcover
- Showy yellow flowers
- Aster family



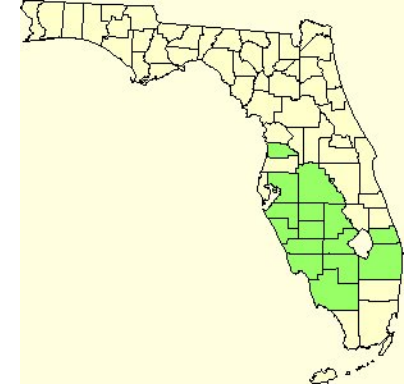


# Graminoids

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# *Hymenachne amplexicaulis*

## West Indian Marsh Grass, Trompetilla



- 1-2.5 m high
- Perennial, stoloniferous
- Leaf blades up to 4 cm wide, cordate at the base
- Stems glabrous, white pith
- Panicles narrow, pressed against axis, **VERY DENSE**



West Indian marsh grass  
*Hymenachne amplexicaulis*  
Photo by A. Murray  
Copyright 2000 Univ. Florida

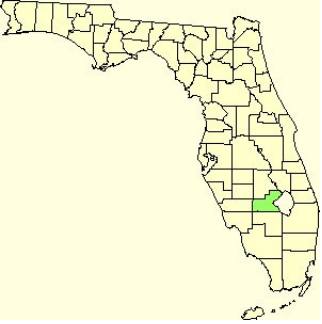


West Indian marsh grass  
*Hymenachne amplexicaulis*  
Photo by A. Murray  
Copyright 2000 Univ. Florida

# *Hymenachne amplexicaulis*

## Trompetilla or West Indian Marsh Grass

- Not native, Perennial, stoloniferous
- Stems decumbent, roots at nodes
- Leaf blade margins at the base with long hairs
- Leaves **cordate clasping**
- Flowers in dense cylindric spikes
- Leaves to 33 cm long and **25 mm wide**
- **Ligule a brownish membrane**, to 2.5 mm long



# *Luziola subintegra*

- **Robust emergent grass**
- **Thick spongy leaf sheaths**
- **Leaves > 7 mm wide, ligules 1-4 cm long**
- **Occurs in Fisheating Bay**



From Kunzer & Bodle, 2008  
J. Bot. Res. Inst. Texas 2(1)



# *Luziola subintegra*

*Luziola subintegra*  
Photo by John Kunzer



# *Panicum repens*

## Torpedograss

- Floating mats
- Bluish-green color
- Flowers purple and orange
- Rhizome tip pointed and white (torpedo-like)



**Torpedo grass, *Panicum repens***





**Torpedo grass, *Panicum repens* (center)**

# *Scleria lacustris*

## Wright's nutrush

- Large annual
- Emerges under non-flooded conditions
- Much larger than natives
- Seeds smooth



*Scleria lacustris*  
Photo by Peter Collins



Photo credit: SS-AGR-342, C. Jacono

# *Urochloa (Brachiaria) mutica*

## Pará grass

- Sprawling, medium-height, mat-forming grass
- Swollen nodes with *dense* hairs
- Sheaths loose, overlapping
- Inflorescence and open panicle, 8-20 alternate branches
- Spikelets purplish



# *Urochloa mutica*

para grass

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A photograph of a tree with reddish-brown leaves in a wetland area. The tree is the central focus, with its branches spreading out. The background features tall grasses and a line of trees under a cloudy sky. In the foreground, there are lily pads on a body of water. A semi-transparent white box is overlaid on the image, containing the text "Trees/Shrubs".

# **Trees/Shrubs**



# *Casuarina equisetifolia*

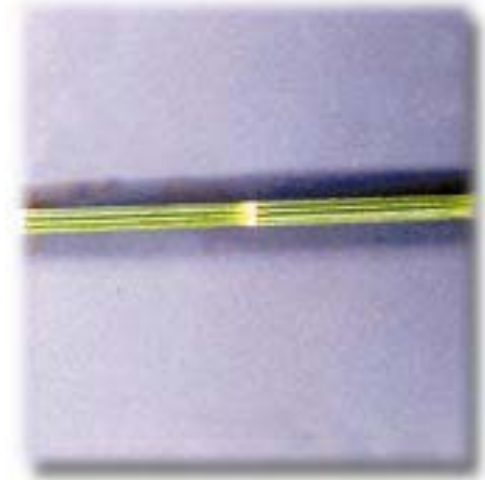
## Australian pine

- Large evergreen to 40+m, single trunk, irregular crown; gray rough, brittle bark
- Lvs are tiny scales whorled around pine-needle like branchlets, 6-8 lvs/node
- Flwrs inconspicuous; frt a nutlet in a woody, cone-like cluster
- *C. glauca* and *C. cunninghamia* have 7-14 lvs/node, brown transverse bands, plants dioecious



# *Casuarina equisetifolia*

## Australian pine



# *Melaleuca quinquenervia*

## Melaleuca, punk tree

- Evergreen, potentially large (30 m) tree, narrow, with whitish peeling bark.
- Lvs alt, simple gray-green, smell like camphor when crushed
- Flwrs white in bottle-brush like spikes; frt a a round, woody capsule
- Prefers saturated soil, but does well inundated or well-drained. Stump and root sprouts. Introduced 1906.



*Melaleuca quinquenervia*  
Photo by Keith Bradley

# *Melaleuca quinquenervia*

## Melaleuca, punk tree



# **Sapium sebiferum**

## **Chinese tallow, popcorn tree**

- Deciduous tree with red fall color; fruit a 3-lobed capsule 3 white seeds
- Euphorb family
- Invades wet to dry, disturbed to undisturbed



# *Sapium sebiferum*

## Chinese tallow, popcorn tree



# *Schinus terebinthifolius*

## Brazilian Pepper

- Evergreen shrub or tree, multi-stemmed, arching, tangled habit
- Pinnately compound leaves, dk green, lt green veins, margins toothed; peppery smell when crushed
- Small white flwrs clustered in leaf axils, fruit a bright red round drupe
- Anacardiaceae family (poison ivy, poison sumac) introduced 1840s



# *Schinus terebinthifolius*

## Brazilian Pepper





# *Sesbania punicea*

rattlebox, purple sesban

- Small tree, shrub
- Pea family, orange-red flowers
- Lvs pinnately compound
- Fruit 4-winged oblong pod

