Common Stream Plants to Know for the Linear Vegetation Survey

DEP Standards and Assessment Section
Spring 2013
Organized by growth form

• Emergent (arrow-leaved and other)
• Floating
• Submersed
• Grasses
Arrow-leafed Emergents

- **Pontedaria cordata**
  - From center
  - Parallel

- **Sagittaria latifolia**
  - Radiate

- **Colocasia esculenta**
  - Purple dot
  - Wavy leaf

- **Peltandra virginica**
  - Also radiates, but only at base
**Pontederia cordata**

Native relative to *Eichhornia*, erect habit, lance to heart shaped leaf, longer erect spike of flowers.
**Colocasia esculenta**

- Wild taro
- **FLEPPC CAT 1**
- Edges of streams, rivers, swamps
- Arum family; Peltate leaf
Sagittaria latifolia
Duck Potato

- Sagittate (arrowhead) leaf
- Flowers completely white
- Stalks of fruiting head ascending
Sagittaria lancifolia

Stalk of fruiting head ascending, not recurved
Hydrocotyle spp.
Pennywort

Several species, need flowers to speciate
C of C score at genus level
**Orontium aquaticum**

- Araceae family
- Golden-club or “neverwet”
- Flowers and fruit on a “club” or spadix
- Bluish-green leaves, sometimes floating, waxy surface.
Alternanthera philoxeroides

- Alligator weed
- **FLEPPC CAT 2**
- Opposite leaves
- Inconspicuous flwrs, white papery bracts
- Swollen and reddish at leaf nodes
- No teeth on leaves
**Ruellia simplex** (formerly brittoniana)

- Mexican petunia
- **FLEPPC CAT 1**
- Herbaceous perennial 3-4 ft.
- Wide variety of habitats incl. stream and river banks
- Flower color variable (white, pink, blue, purple)
Generic *Ludwigia* features

- Box-like capsules – various shapes
- Showy yellow flower (usually)
- Persistent calyx
- Leaves with entire margins and lovely venation

Many species have reddish tendencies
Most *Ludwigia* species are readily key-able, even in the field!

- Leaves opposite or alternate
- # petals or sepals
- # stamens
- Capsule shape
- Flowers stalked/not
Ludwigia repens

- Submersed/ floating plant
- Roundish lvs, undersides often red/reddish
- Leaves opposite
- Fruits/flowers sessile (no peduncle)
- Almost identical to *L. palustris* – look for fruits!

Ludwigia palustris

- Green bands on capsule
- Leaves not as round
- Glands sometimes on leaf margins
Ludwigia leptocarpa

- Capsule long and cylindrical
- 5-6 petals, sepals
- Stem appears minorly angled, not winged
Ludwigia peruviana

- Largest Ludwigia species, to 3 m tall
- FLEPPC CAT 1
- Capsules pyramidal
- 4-5 petals, sepals
- Stem pubescent
- May form large thickets on lake shores, along roadsides
Ludwigia peruviana
Polygonum spp. - Smartweeds

- Fairly easy to key out
  - Ocreae with or without bristles
  - Stems with hairs, barbs, or neither
  - Sepals and petals with or without glands
Various sizes, thin ones or large ones many look alike in field. Bring back to key out.
Punctate Glands - *Polygonum* spp.

Glands visible with 10x hand lens. Can appear yellowish on older plants.
<table>
<thead>
<tr>
<th>Bacopa caroliniana</th>
<th>Bacopa monnieri</th>
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<tbody>
<tr>
<td>• Lemon bacopa</td>
<td>• Does not smell like lemon</td>
</tr>
<tr>
<td>• Leaves clasping</td>
<td>• Leaves not clasping</td>
</tr>
<tr>
<td>• Stems hairy</td>
<td>• Stems not hairy</td>
</tr>
<tr>
<td>• Flowers purple 9-13 mm</td>
<td>• Flowers pink-white, 8-10 mm</td>
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</tbody>
</table>
Which one is this?
Bacopa

**Bacopa innominata**
- Does not smell like lemon
- Leaves clasping
- Leaves oval
- Flowers white, 3-4 mm long
- Occurs statewide

Like *B. caroliniana* except with much smaller white flowers and no lemony smell

**Bacopa repens**
- Not native
- Leaves clasping
- Leaves rounded
- Flowers white, 3-4 mm long
- Currently only known from Collier County
**Bidens - field ID**

*most common species with showy flowers with rays*

**Bidens mitis**
- Leaves opposite
- Leaves not sessile
- Leaves dissected or not

**Bidens laevis**
- Leaves opposite
- Leaves sessile
- Leaves not dissected
Bidens alba – native but much weedier
White flower, leaves with 3 leaflets

*There are other species of Bidens, so if you aren’t sure, key it out or send to your expert*
Micranthemum – field ID

**Micranthemum umbrosum**
- Leaves round
- Leaves usually 4-9 mm

**Micranthemum glomeratum**
- Leaves oblanceolate
- Leaves usually 2-4 mm
Triadenum virginicum

- Virginia marsh St. John’s wort
- Leaves opposite, sessile, egg-shaped, no teeth
- Stem and leaves with purple tint
- Small bushy herb, up to 70 cm tall
**Triadenum – field ID**

**Triadenum virginicum**
- Leaves broad at base, sometimes clasping

**Triadenum walteri**
- Panhandle only
- Leaves not clasping

Robert H. Mohlenbrock.
Nuphar luteum

- Cow-lily, spatter-dock
- Yellow bulbous flower
- Leaves pinnately-veined, with rounded edges, overlapping
- Leaf undersides green
- Leaves can protrude from water at low water levels
Nymphaea vs. Nuphar

Leaves palmately veined, non-overlapping, and pointed. White flower.

Leaves pinnately veined, rounded, overlapping. Yellow bulbous flower.
**Eichhornia crassipes**

- Water-hyacinth
- **FLEPPC CAT 1**
- Leaves elliptic, parallel-veined
- Petioles inflated, spongy
- Roots dark, fibrous
- Showy purple flower
- Floating units of leaves
**Limnobium vs. Eichhornia**
**Pistia stratiodes**

- Water lettuce
- FLEPPC CAT 1
- Leaves fleshy, water resistant
- Floating units of leaves
Little floating-leaved plants

- **Lemna** spp.: 5 spp., all native, genus level, all have 1 root
- **Landoltia punctata**
  FLEPPC CAT 2
  (formerly *Spirodela punctata*): usu. 2 leaves together, 2-5 roots
- **Spirodela polyrhiza**: native, bigger, rounder leaf, with red dot, usu 5+ roots, up to 9
Lemna ~ 1-2 mm  

Landoltia punctata ~ 2.5 mm

Spriodela polyrhiza  
~ 6 mm
Salvinia minima (water spangles)
FLEPPC CAT 1 (new in 2009)
Salvinia minima

FLEPPC CAT 1

Papillae on leaves are divided in *S. minima* but not on *S. molesta*
Submersed Plants – Strap-leaf style

- *Vallisneria americana*: tapegrass, eelgrass
- *Sagittaria kurziana*: springtape
Vallisneria vs. Sagittaria

Leaves: thick midsection
Leaf tips: rounded

Flowers: spiral peduncle,
single thick unit

5 distinct ridges
pointed
leaf size varies for both!
several white flowers
on straight peduncle
Floatby Sightings

Vallisneria americana

Sagittaria kurziana
Vallisneria americana

Lake Barton, Orlando
Sagittaria kurziana
Strap-leaf Sagittaria

- Occurs only in spring-fed systems (?)
- Leaves: - $\frac{3}{4}$” wide
  - Sharp, pointed tips (*Vallisneria* = rounded)
  - 3 to 5 prominent ridges that run the entire length of the leaf
- Flowers: - Emersed/floating on branched stalks
  - 3 white petals
  - Stalk of fruiting head recurved
Sparganium americanum
American burreed

- Occurs in standing or flowing water.
- Can be submersed
- Same family as Typha
Zizania aquatica
Wild Rice

- Large grass
- Can grow submersed in deeper areas (spring runs)
- Scabrous leaf margins
- “V” leaf cross section
Eleocharis spp.
Spikerushes

- Hair-like submersed stems
- Typically not fruiting
- Speciate if fruits available
- If spouting from stem tips, viviparous species
- C of C for viviparous Eleocharis at genus level

Photos from Ben Paswater and Ford Walton, DEP Ft. Myers
*Eleocharis* spp.
Spikerushes
Ceratophyllum demersum
Coontail

- Green stems, **plant holds shape out of water**
- Leaves: - dichotomously branched (tuning fork)
  - in whorls on stem
  - several teeth on midribs (rough feeling)
  - bright green to blackish color
- Flowers: - very small, at leaf base
Myriophyllum aquaticum (parrot feather)
Hydrilla verticillata
Hydrilla verticillata

- Hydrilla
- Flexible stems up to 25 feet long, frequently branched
- Whorled pointed leaves with teeth on edges and midrib
- FLEPPC CAT 1
Egeria densa
NON-NATIVE

• Rooted, submersed plants
• Stems: - slender, usually a foot or two long
• Leaves: - strap-shaped
  - in whorls of 3 to 6
  - saw-toothed leaf margins
• Flowers: - short stalks 1” above water
  - 3 white petals,
  - ¾” across
Hygrophila polysperma
East Indian hygrophila; green hygro
FLEPPC CAT 1

- 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
**Najas guadelupensis**

- Southern naiad
- Small **opposite** linear leaves
- No apparent teeth on leaves
- Common native, can be weedy
**Potamogeton illinoensis**
Illinois Pondweed

- **Common and visible**
- **Leaves:**
  - *Alternately* arranged
  - Floating and submersed lvs same
    - Elliptic in shape
    - Much longer than wide (8” long)
    - Petioles < 4 cm
    - Pointed tips and bases
- **Flower:** - greenish on spike
  - 1 to 3” long
Potamogeton diversifolius
Waterthread pondweed

- Small plant
- Leaves alternate, 2 styles
  - Small elliptic floating
  - Thin threadlike submersed
- Fruits on tight spike
- Grows in calm waters
- Can grow in large quantities


**Luziola fluitans** – Water Grass

- Slender grass growing in shallow water
- Leaves float
Panicum repens - Torpedograss

- Floating mats
- Bluish-green color
- Flowers purple and orange
- Rhizome tip pointed and white (torpedo-like)
- FLEPPC CAT 1
Torpedo grass, *Panicum repens* (center)
**Panicum hemitomon**

Maidencane

- Flowers/fruits appressed to stem, each seed has stalk
- Stems and nodes sometimes hairy
- Can create large stands of varying thickness
- Plants come higher out of the water than *P. repens*
- Ligule of long hairs, more obvious than in *Sacciolepis striata*
- Nodes may grow roots in water, but not typically in soil
Panicum hemitomon – typical habit
Sacciolepis striata
American cupscale

- Can form dense stands
- Conspicuous nerves on leaves
- Short hairs on sheath
- Short ligule, hairs 2-3 mm
- Spikelets not close against central axis of inflorescence
- Stems decumbent