

Common Freshwater Aquatic Grasses

by Dr. David W. Hall

Approximately three quarters of the land in Florida used to be covered by water and wetlands. Drainage and other development have drastically reduced Florida's wetlands, but many undeveloped areas are predominantly wet.

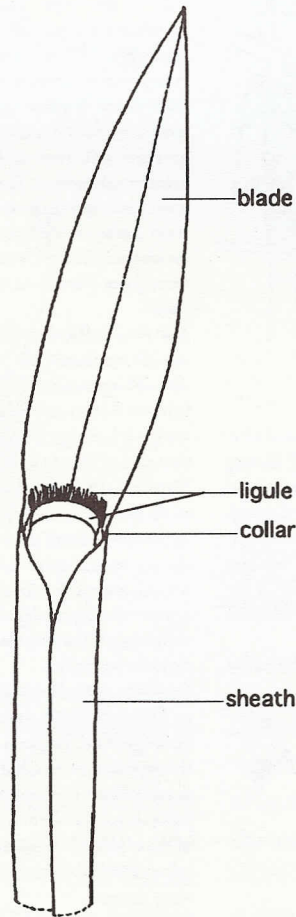
Grasses are a major component of aquatic and wetland habitats. The grass family is one of the major families in Florida — its 500 species comprise one-eighth of the total flora in the state. Grasses are quite distinct, but the large number of them in Florida and the small size of the definitive characters used for identification intimidate most people who try to put a name on them.

Gross vegetative and reproductive characteristics can be used to identify aquatic grasses. Intimate details of the reproductive and anatomical characters used to classify and separate subfamilies, sections, genera, and species can be left to the experts.

Grass stems grow singly, in clumps, or run. The running stems can be aboveground (*stolons*) or underground (*rhizomes*).

Leaves of grasses have three parts: a sheath, a blade, and a ligule (see figure). The *collar* is the name applied to the junction of the sheath and the blade. The collar can often be used to help with seedling identification.

A crucial character used to identify grass plants lacking seed heads is the *ligule*. The ligule is located at the top of the sheath, which is also at the base of the blade. The ligule is a small structure



Simple grass anatomy —D. Hall

composed of a translucent flap of tissue and a ring of hairs, or a flap of tissue with hairs on the top. The ligule of a majority of grasses is a tiny flap of tissue with hairs on top. This type of ligule is usually so small that it cannot be seen with the naked eye.

Membranous ligules are usually large enough to see with your naked eye, but very few kinds of grasses have

these visible membranes. This membrane can be used with other vegetative characters to separate several wetland grasses when a seed head is not present.

Aquatic and wetland grasses for which identification is frequently requested can be easily identified by using the key below. Brief vegetative descriptions are provided on the next page.

Key to Aquatic and Wetland Grasses

- Leaves lacking ligules.
 - Leaf sheaths smooth barnyard grass
 - Leaf sheaths with stiff hairs coast cocksbur
- Leaves with ligules.
 - Plants with under ground runners.
 - Plants woody.
 - Leaf sheaths and blades hairy switch cane
 - Leaf sheaths and blades smooth common reed
 - Plants herbaceous.
 - Plants with sharp leaf margins.
 - Plants large (to 10 ft tall) southern wild-rice
 - Plants small (to 18 in tall) southern cutgrass
 - Plants with smooth or hairy leaf margins—not sharp.
 - Leaf margins white, hard blue maidencane
 - Leaf margins green, thin.
 - Upper surface of blade hairy torpedo grass
 - Upper surface of blade smooth or the entire plant hairy maidencane
 - Plants with above ground runners or in clumps.
 - Plants with above ground runners.
 - Ligule a membrane.
 - Blades cordate clasping at base Trompetilla
 - Blades tapering at base knotgrass
 - Ligule a tiny membrane fringed with hairs.
 - Blades with marginal hairs to above midpoint big carpetgrass
 - Blades with a few marginal hairs at base common carpetgrass
 - Plants in clumps or rooting at lower nodes.
 - Ligule a membrane.
 - Plant in clumps, with a large pointed membrane Vasey Grass
 - Plant floating or erect in soft mud, with a lacerate membrane watergrass
 - Ligule a membrane fringed with hairs.
 - Blades round Baker's cordgrass
 - Blades flat.
 - Leaf sheaths extending past the next stem joint (node) covering the stem Egyptian Paspalidium
 - Leaf sheaths leaving some part of stems exposed.
 - Plants shelving outward at joints fall panic grass
 - Plants leaning and curved American cupscale

Aquatic and Wetland Grasses

BLUE MAIDENCANE, *Amphicarpum muhlbergianum*. Herbaceous, to two feet tall, leaning perennial with long, underground runners; leaf sheaths and blades smooth; leaf margins distinct, hard, and white; ligule a tiny membrane fringed with hairs; flowers both above- and underground, fruits only below ground, above ground flowers green, below ground flowers white. Common in wet flatwoods throughout Florida. Vast areas are covered by this grass.

SWITCH CANE, *Arundinaria gigantea*. Woody, to thirty-five feet tall, erect perennial with long, underground runners; leaf sheaths and blades hairy; ligule a tiny membrane usually fringed with hairs; flowering very irregularly. Common from central Florida northward in wetlands with deep organic soils. Canes are used for poles.

COMMON CARPETGRASS, *Axonopus affinis*. Herbaceous, to one foot tall, prostrate perennial with aboveground runners; leaf sheaths smooth, blades smooth except for a few long hairs on the margins at the base; ligule a tiny membrane fringed with hairs. Common in moist to wet habitats throughout Florida. Used as a forage and for turf.

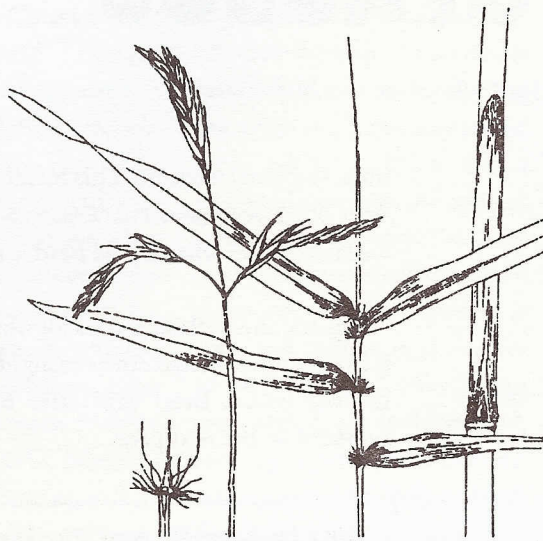
BIG CARPETGRASS, *Axonopus furcatus*. Herbaceous, to sixteen inches tall, prostrate perennial with aboveground runners; leaf sheaths smooth, blades smooth except for long hairs on the margins, hairs extend from base of blade to above the midpoint; ligule a tiny membrane fringed with hairs. Frequent in moist to wet habitats. Lake Okeechobee northward in Florida. Planted as a forage.

BARNYARD GRASS, *Echinochloa crusgalli* (*E. muricata*). Herbaceous, to four feet tall, erect annual; leaf sheaths smooth, blades smooth; ligule absent. Common throughout Florida in disturbed moist to wet habitats, often seen in ditches.

COAST COCKSPUR, *Echinochloa walteri*. Herbaceous, to three feet tall, erect annual; leaf sheaths hairy with stiff hairs, blades smooth; ligule absent. Common throughout Florida in moist to shallow wet habitats. A very weedy species often in cultivated fields on wet soils.

TROMPETILLA, *Hymenachne amplexicaulis*. Herbaceous, to four feet tall, leaning perennial, with aboveground runners and

rooting at joints; leaf sheaths smooth except for hairs on margin at top, blades smooth except for hairs on margin at base; ligule a membrane. Frequent from Orlando southward in wet pastures and shallow ponds. Planted as a forage. Not native in



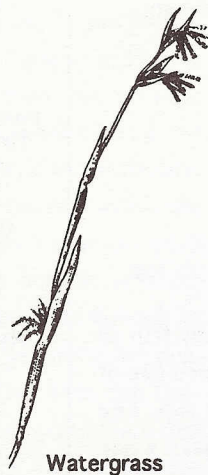
Switch Cane

Florida. **SOUTHERN CUTGRASS, *Leersia hexandra*.** Herbaceous, to eighteen inches tall, leaning perennial, with above and below ground runners; leaf sheaths and blades sandpaper, margins very sharp; ligule a membrane. Common throughout Florida in habitats with standing water. The sharpness of the blade margins give the plant its common name.

WATERGRASS, *Luziola fluitans* (*Hydrochloa caroliniensis*). Herbaceous, to six inches tall, floating or erect perennial; leaf sheaths and blades smooth; ligule a membrane. Frequent from Lake Okeechobee northward in still or standing water. The plant floats in water, but can be erect on muddy flats when water goes down.

FALL PANIC GRASS, *Panicum dichotomiflorum*. Herbaceous, to five feet tall, leaning annual, rooting at lower joints; stems shelving outward at each joint; leaf sheaths smooth or hairy, blades hairy; ligule a tiny membrane fringed with hairs.

Common throughout Florida in wetlands



Watergrass

with organic soil. Frequently weedy. **MAIDENCANE, *Panicum hemitomon*.** Herbaceous, to four feet tall, erect or occasionally leaning perennial, with underground runners; leaf sheaths and blades smooth or hairy; ligule a tiny membrane fringed with hairs. Common throughout Florida in areas with standing water. Sometimes planted for forage.

TORPEDO GRASS, *Panicum repens*. Herbaceous, to two feet tall, erect or usually leaning perennial, with underground runners; leaf sheaths usually smooth or sometimes with hairs, blades with fine hairs only on the upper surface; ligule a tiny membrane fringed with hairs. Common throughout Florida in moist to wet habitats. A very weedy species not native to Florida. **EGYPTIAN PASPALIDIUM, *Paspalidium geminatum* (*Setaria geminata*).** Herbaceous, to four feet tall, erect or leaning perennial, sometimes bending at base and rooting at the lower joints; leaf sheaths completely cover the stem between the joints; ligule a tiny membrane fringed with hairs. Frequent throughout Florida in all wet and aquatic habits.

KNOTGRASS, *Paspalum distichum*. Herbaceous, to eighteen inches tall, prostrate perennial, with aboveground runners; leaf sheaths with hairs on margin at top, blades with hairs on margin at base; ligule a membrane. Frequent throughout Florida in very wet habitats.

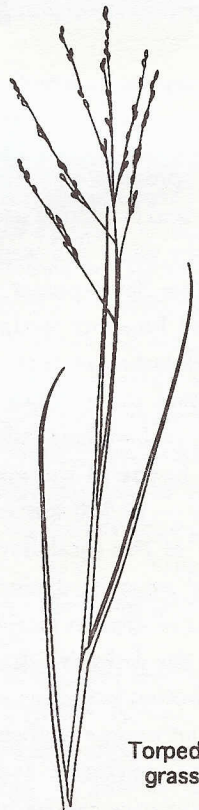
VASEY GRASS, *Paspalum urvillei*. Herbaceous, to six feet tall, erect perennial; leaf sheaths on the lower part of the stem with stiff hairs, sheaths on the upper stem smooth, blades smooth except for long hairs at the base against the ligule; ligule a large pointed membrane. Common throughout Florida in moist to wet habits.

COMMON REED, *Phragmites australis*. Woody, to fifteen feet tall, erect perennial, with underground runners and sometimes aboveground runners; leaf sheaths and blades smooth; ligule a tiny membrane fringed with hairs; ring of hair around the stem at the base of the seedhead. Frequent in south Florida, infrequent throughout the rest of Florida along shores.

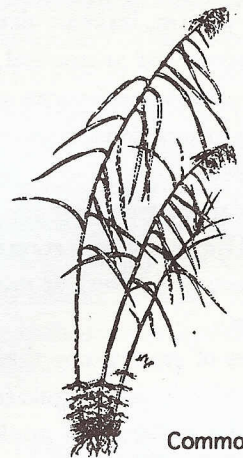
AMERICAN CUPSCALE GRASS, *Sacciolepis striata*. Herbaceous, to three feet tall, leaning perennial, rooting at the joints; leaf sheaths and blades usually hairy or rarely smooth; ligule a tiny membrane fringed with hairs; flower with a distinct bump on one side at the bottom. Common in habitats with standing water throughout Florida. Frequently misidentified when seedheads absent.

BAKER'S CORDGRASS OR SAND-CORDGRASS, *Spartina bakeri*. Herbaceous, three to six feet tall, erect perennial, in clumps; leaf sheaths and blades smooth; ligule a tiny membrane fringed with hairs. Locally common throughout Florida along shorelines and in disturbed marshes. This is the only species of *Spartina* which will also grow in fresh water. **SOUTHERN WILD-RICE, *Zizaniopsis miliacea*.**

Herbaceous, to ten feet tall, erect perennial, with underground runners; leaf sheaths and blades smooth, margins sharp; ligule a smooth or lacerate membrane. Infrequent, but locally common, throughout Florida along marshy shores.



Torpedo grass



Common reed

If your favorite grass or a difficult-to-identify grass is not mentioned in this article, please let us know for future features. 🌿

[Watergrass, torpedo grass, and common reed grass drawings provided courtesy of the Center for Aquatic Plants, University of Florida. Look for a review of their many information services, including videos and copyright-free line drawings, in a future issue -Editor.]