

NATURAL COMMUNITIES

by Linda Conway Duever

Practically any forested wetland can be called a swamp, and most of them have at least a few cypress trees, but this article will focus on those that occur in depressions in the landscape — the strands and domes of South Florida and the vast Okefenokee-type basin swamps further north. (Other articles in this series describe seepage swamps and those associated with bodies of water.)

Domes typically occur in limestone karst regions where sand has slumped around or over a sinkhole, creating a conical depression. Generally there is a pond in the deepest center area rimmed with concentric bands of herbaceous marsh vegetation and tall cypress trees where the peat is deepest, then progressively smaller cypress grading into wet prairie on the mineral soil around the periphery. This forest structure gives the dome a characteristic rounded profile. Sometimes blackgum, rather than cypress, is the dominant tree and the feature is termed a gum pond. The reason why one species or the other occurs on a specific site is often

obscure, but they are rarely, if ever, mixed together in the same dome.

Strand Swamps have the same cross-sectional profiles as domes, but they occupy elongated flowways across land too flat for streams to carve bare channels. Whereas domes dot the landscape throughout central and south Florida, conditions conducive to strand development are largely restricted to southwest Florida. Though somewhat degraded by logging and threatened by hydrological alteration, the giant Fakahatchee Strand is still the ultimate example of this ecosystem. There is a boardwalk into the unlogged remnant at Big Cypress Band, but the best place to see a strand interpreted is Corkscrew Swamp, where the National Audubon Society maintains a trail through an outstanding virgin tract.

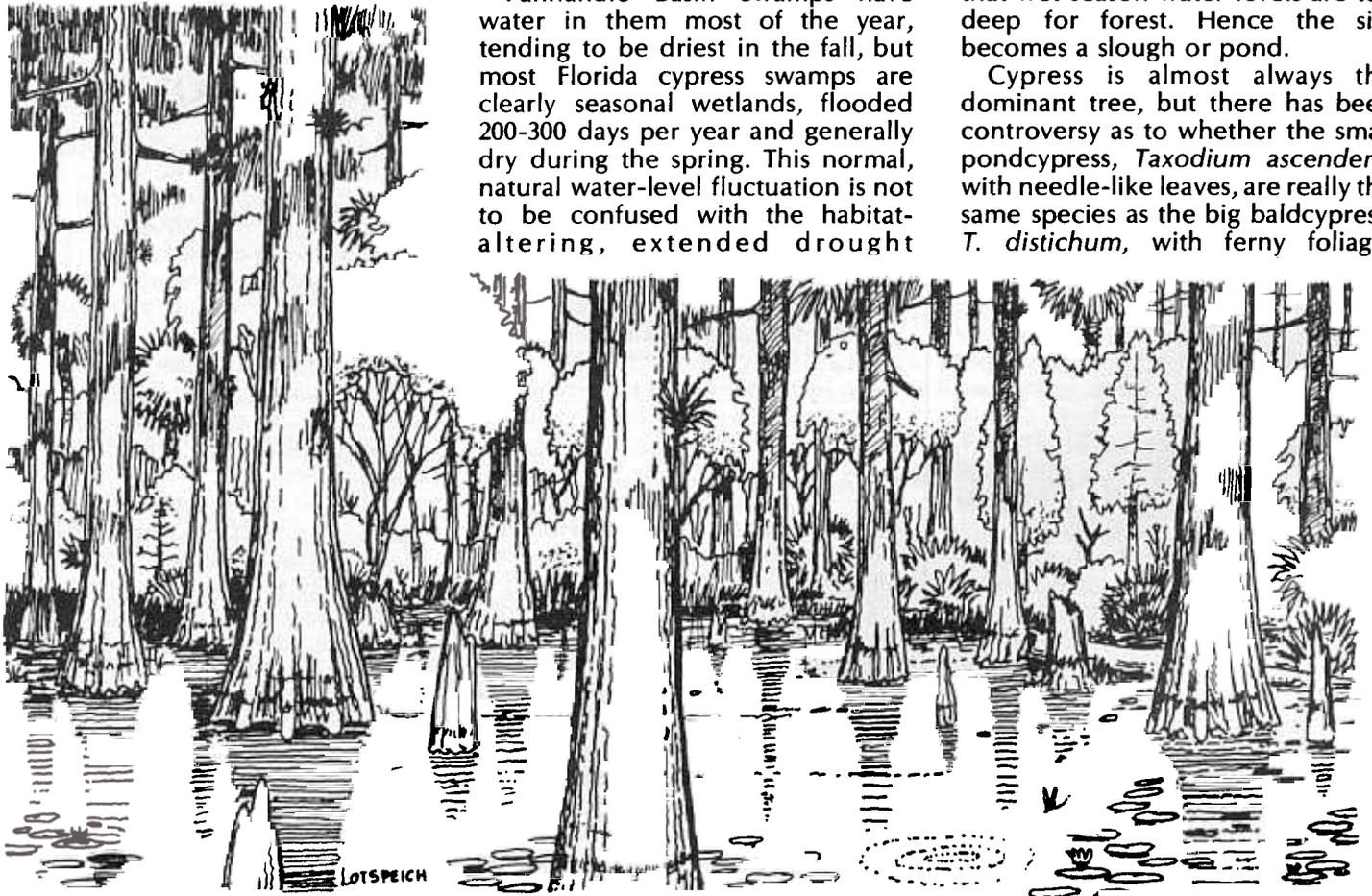
Basin Swamps are more characteristic of north Florida, where topographic relief is greater. Bradwell Bay in the Appalachicola National Forest is a good example: an extensive forested, peat-filled lowland without distinct major flowways.

Panhandle Basin Swamps have water in them most of the year, tending to be driest in the fall, but most Florida cypress swamps are clearly seasonal wetlands, flooded 200-300 days per year and generally dry during the spring. This normal, natural water-level fluctuation is not to be confused with the habitat-altering, extended drought

conditions produced by artificial drainage. Alternating periods of high and low water are critical to swamp ecosystem processes. Trees grow as early rains moisten the soil, then become less active as flooding decreases oxygen availability. Fish and insects breed and aquatic understory plants flourish during high water. Wading birds and other wildlife feast on fish trapped in drying pools as the water recedes, and a lush ephemeral flora of terrestrial species develops on the damp, exposed peat.

Every once in a while, the drought is prolonged enough that the vegetation becomes flammable and a fire sweeps through and cleans out the hardwood underbrush, leaving the fire-resistant cypress hardly affected. Such a light fire might occur as often as every three to five years at the edge of a dome or as seldom as once in 100-200 years deep in the heart of a big basin swamp. During an extreme drought, the peat may dry out and burn. When this happens — which is rare under natural conditions, but all too common on drained sites — the trees are killed and the ground surface lowered so that wet season water levels are too deep for forest. Hence the site becomes a slough or pond.

Cypress is almost always the dominant tree, but there has been controversy as to whether the small pondcypress, *Taxodium ascendens*, with needle-like leaves, are really the same species as the big baldcypress, *T. distichum*, with ferny foliage.



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of Florida's Cypress Swamps

There are good arguments for both viewpoints. However, regardless of taxonomy, pondcypress grow in domes, shallow basins, and around the edges of strands, whereas baldcypress are found in the deeper swamps. Other common trees include red maple, *Acer rubrum*; blackgum, *Nyssa biflora*; swamp bay, *Persea palustris*; sweet bay, *Magnolia virginiana*; and slash pine, *Pinus elliotii* var. *elliotii*. Palms typically grow on raised hummocks. Cabbage palm, *Sabal palmetto*, is widespread throughout Florida swamps, but royal, *Roystonea elata*, and paurotis, *Acoelorrhaphe wrightii*, palms grow only in the Fakahatchee Strand (although they are found in a few other non-swamp habitats).

The shrub layer often includes wax myrtle, *Myrica cerifera*; dahoon holly, *Ilex cassine*; shiny yonon, *Lyonia lucida*; pond apple, *Annona glabra*; pop ash, *Fraxinus caroliniana*; Virginia willow, *Itea virginica*; titi, *Cyrilla racemiflora*; buttonbush, *Cephalanthus occidentalis*; and myrsine, *Myrsine floridana*.

Especially in spots where the canopy is thin and sunlight

Royal fern, *Osmunda regalis*; cinnamon fern, *Osmunda cinnamomea*; Boston fern, *Nephrolepis exaltata*; swamp fern, *Blechnum serrulatum*; strap fern, *Campyloneuron phyllitidis*; leather fern, *Acrostichum* spp., and other ferns are frequently abundant.

Epiphytes thrive in the warm, humid atmosphere of South Florida swamps. Spanish moss, *Tillandsia usneoides*; wild pine, *Tillandsia fasciculata*; and butterfly orchid, *Encyclia tampense*, are well-adapted and plentiful, but many of the others are rare tropical species that cannot penetrate to the water surface, there may be a lush understory of emergent aquatic plants such as sagittaria, *Sagittaria lanceolata*; pickerel weed, *Pontederia cordata*; swamp lily, *Crinum americanum*; lizard tail, *Saururus cernuus*; lemon bacopa, *Bacopa caroliniana*; water smartweed, *Polygonum punctatum*; blue flag, *Iris virginica*; yellow canna, *Canna flacida*; red swamp hibiscus, *Hibiscus coccineus*; fire flag, *Thalia geniculata*; green arum, *Peltandra virginica*; maidencane, *Panicum hemitomum*; and sawgrass, *Cladium*

jamaicense.

survive this far north in less sheltered habitats. A number of these have become endangered because collectors have removed so many from the wild (which is illegal). The uncommon species include cowhorn orchid, *Cyrtopodium punctatum*; ghost orchid, *Polyrrhiza lindenii*; delicate ionopsis, *Ionopsis utricularioides*; clamshell orchid, *Encyclia cochleata*; night-blooming epidendrum, *Epidendrum nocturnum*; guzmania, *Guzmania monostachia*; nodding catopsis, *Catopsis nutans*; fuzzy-wuzzy airplant, *Tillandsia pruinosa*; cypress peperomia, *Peperomia glabella*; birdsnest fern, *Asplenium serratum*; and auricled spleenwort, *Asplenium auritum*. There are many more so extremely rare they are found in only one or two locations.

This is the seventh in a series of articles describing the Natural Communities defined by the Florida Natural Areas Inventory (FNAI). This classification system must be viewed as a system of mental constructs imposed upon an infinite variety of growing, changing, intergrading, natural environments. Hence, more often than not, a given site will not precisely fit the classic description of the appropriate natural community.