



**E**piphytes are plants that live upon other plants, but do not harm their hosts. Often called air plants, epiphytes attach to the bark of their host plants as a means of reaching sunlight or to avoid competition on the ground. The most common epiphyte seen in Florida is Spanish moss—not a true moss, but a member of the bromeliad family. Worldwide, epiphytes account for 10 percent of all plant species, and are found in many plant groups, including the aroids, begonias, bromeliads, heaths, nightshades, orchids, ferns and true mosses.

Epiphytes are most abundant and diverse in tropical rain and cloud forests. They even survive in near desert conditions where fog may be the only source of water. Having no roots in the ground, epiphytes use special adaptations to obtain and store water and nutrients. Many orchids have specialized water storage organs, called pseudobulbs, which help the plant survive drought. Other epiphytes, such as ferns, grow at the base of living or dead palm fronds, in trunk cavities or on branches where organic matter accumulates. Succulent stems and leaves that store water are also common features among many epiphytes.

Some epiphytes, particularly certain bromeliads, capture water at the bases of their overlapping leaves. These “tank epiphytes” also provide a source of water for forest canopy inhabitants. Other epiphytes absorb water and nutrients through their thick spongy roots (orchids) or through specialized scales on their leaves (many bromeliads). The thick covering of these scales cause the distinctive gray cast of ball moss and Spanish moss.

Epiphytes can be found throughout the state, though they are most diverse in the swamps of the Fakahatchee Strand State Preserve, Big Cypress National Preserve and in the tropical hammocks of Everglades National Park. Some Florida epiphytes are endangered as a result of wetland dredging, filling and other coastal development—all activities that reduce humidity levels. An introduced destructive beetle (the weevil *Metamasius callizona*) is causing severe damage to Florida bromeliads, particularly to the giant airplant (*Tillandsia utriculata*).

To learn more about epiphytes and see the most diverse collection of epiphytes in the world, visit the Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, FL 34236. Telephone: 941-366-5731. [www.selby.org](http://www.selby.org).



### EPIPHYTES ARE NOT PARASITES!

Do not remove them from your trees. They are an important part of the ecosystem and afford many ecological benefits, such as providing food, water and shelter to Florida animals. Trees that seem to be overrun with Spanish or ball moss are usually in a state of decline due to other reasons; the epiphytes are just taking advantage of the high perch that offers them the best sunlight.

**F**lorida has the richest epiphyte flora in the United States, with approximately 85 species of native “air plant” ferns and flowering plants. This field guide will help you identify the most common species from the three main epiphyte groups of Florida: ferns, orchids and bromeliads. The guide also provides common and scientific names, clues for identification and notes on the distribution of epiphytes in Florida.



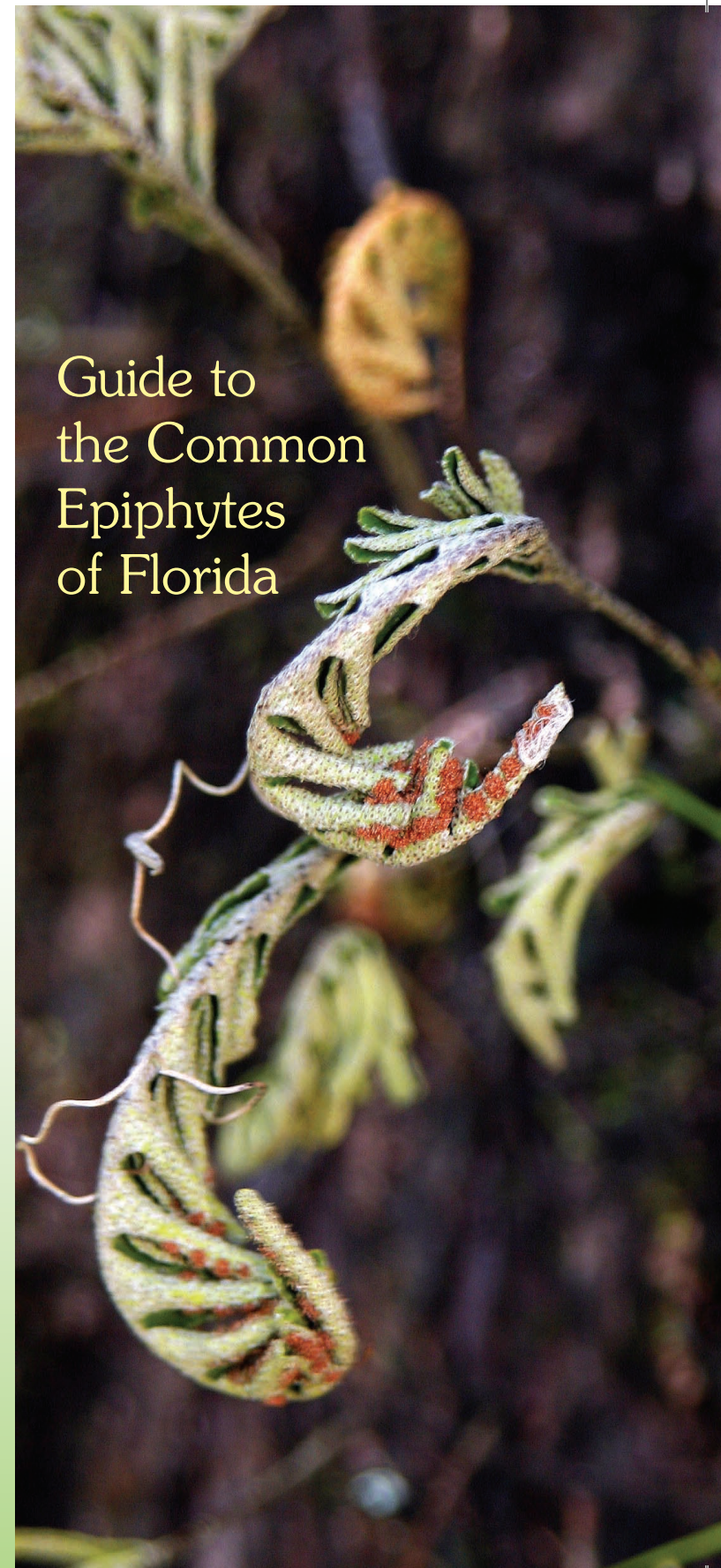
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Project Direction: Annemarie Post  
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## Guide to the Common Epiphytes of Florida



## BROMELIADS

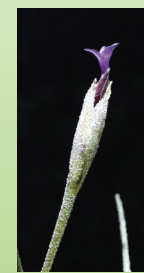
## ORCHIDS

## FERNS



**Ball-Moss**  
(*Tillandsia recurvata*)

Ball moss is extremely common in Florida, though it is not as conspicuous as Spanish moss. Ball moss is frequently found on the smaller twigs of trees and shrubs in bright sunlight.



Under the right conditions, it may also grow directly on tree trunks, fence posts and electric

wires. The clumping habit and purple petals easily distinguish ball moss from Spanish moss. Ball moss is found throughout the Florida Peninsula and scattered in the Panhandle.



**Cardinal Airplant**  
(*Tillandsia fasciculata*)

The cardinal airplant is one of the most conspicuous airplants in southern Florida, especially to travelers along the major byways. There you can see its dense, dark green-gray clusters on cypress or oak



trees. The leaves are usually stiff and erect-ascending. They have a longitudinal line—like the keel on a

boat—on the lower surface; this feature helps distinguish it from the similar-looking giant airplant. Several forms of the cardinal airplant occur in Florida, with varying color shades of the flower spike, ranging from green to red or rarely white. The cardinal airplant is found in the southern two-thirds of the Florida Peninsula, from Volusia County south.



**Giant Airplant**  
(*Tillandsia utriculata*)

The giant airplant is the largest of Florida's airplants. Its leaves resemble those of the cardinal airplant, but they are generally more recurved, of thinner texture and lack the keel-line on the lower surface. The



giant airplant is a solitary grower and dies after flowering, whereas the cardinal airplant commonly

grows in small colonies and reproduces vegetative offsets at the base. The flowering spike of the giant airplant protrudes well above the leaves, and has light green bracts and whitish petals. It is found in most of the Florida Peninsula, from Putnam County south.



**Reflexed Wild Pine**  
(*Tillandsia balbisiana*)

Common in southern Florida where it often grows with the cardinal airplant, the reflexed wild pine has leaf bases called sheaths that appear inflated, and together, form a bulbous structure. The red flower spike extends well beyond



the twisted and recurved leaves. Bulbous structures created by overlapping leaves are often home to ants or other small

animals that benefit the plant by providing an extra source of nutrients through their droppings and remains. In some cases, the resident ants aggressively protect the plant from leaf-feeding animals. The reflexed wild pine is found in the southern two-thirds of the Florida Peninsula, from Orange County south.



**Southern Needleleaf**  
(*Tillandsia setacea*)

Two species of airplant in Florida have thin "needle-leaves": the southern needleleaf and Bartram's airplant (*Tillandsia bartramii*). The former is more frequent south of Orlando, and the



latter more common to the north. The southern needleleaf is distinguished by grayish flower bracts with maroon

tips and lavender petals that open in the summer. Bartram's airplant, which blooms in the spring, has completely rose-colored flower bracts and blue-violet petals. The southern needleleaf is found in the southern two-thirds of the Florida Peninsula, from Volusia County south.



**Spanish Moss**  
(*Tillandsia usneoides*)

The long, draping silver curtains of Spanish moss on oak trees give much of Florida and the southeast its characteristic look. Spanish moss has been used as a stuffing for pillows and mattresses and as an element



in flower arrangements. The moss also serves as an important shelter and nesting material for Florida animals.



Its emerald-green, fragrant flowers often go unnoticed. Spanish moss is found throughout Florida.



**Florida Butterfly Orchid**  
(*Encyclia tampensis*)

The butterfly orchid, first discovered in the Tampa Bay area, is the most widespread of Florida's epiphytic orchids. Its strap-shaped leaves, distinctive pseudobulbs and long sprays of fragrant flowers distinguish it from



other epiphytic orchids. Butterfly orchids have several flower color forms; petals and sepals can range from



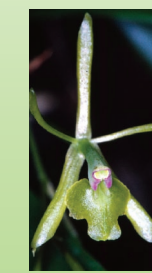
green to yellow or bronze, and while the purple spot on the lip is usually obvious, it is completely lacking in a white-lipped

form. The orchid is found in most of the Florida Peninsula, from Putnam County south.



**Green-Fly Orchid**  
(*Epidendrum magnoliae*)

The green-fly orchid is the most common orchid of northern Florida where it largely replaces the butterfly orchid. It is the only epiphytic orchid in the United States found outside of Florida, extending as far



north as North Carolina and as far west as eastern Texas. Its flowers are mostly all green or dull yellow green, and

frequently show a touch of lavender on the end of the column; the petals and sepals of some forms are suffused with a hint of bronze. Pseudobulbs are not present in this species. In Florida, the green-fly orchid is found throughout the Panhandle and south to Lee County on the Peninsula.

(Photographs by Carl Luer)



**Resurrection Fern**  
(*Pleopeltis polypodioides*)



Curled and gray when the air is dry, the fronds of the resurrection fern undergo a marked transi-

tion when rainfall is abundant, spreading out to become lush and dark green. The divided, scaly fronds bear few spore-bearing clusters (sori) on the lower surface. The fern is found throughout Florida.



**Golden Polypody**  
(*Phlebodium aureum*)



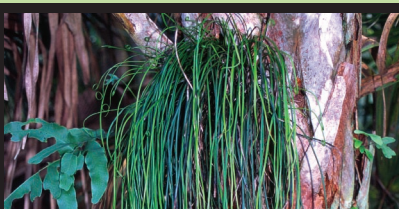
Large dissected fronds and a thick, orange, scaly rhizome (left) distinguish the golden polypody.

Spore-bearing clusters occur in widely spaced rows on the lower surface of its deciduous fronds. The fern is found throughout the Florida Peninsula, and rarely in the Panhandle.



**Long Strap Fern**  
(*Campyloneurum phyllitidis*)

The long strap fern prefers to grow close to the ground on cypress knees or fallen logs. The undivided fronds bear yellowish sori in many rows on the lower surface. This fern is found scattered in the southern two-thirds of the Florida Peninsula, from Orange County south.



**Shoestring Fern**  
(*Vittaria lineata*)

The shoestring fern is commonly found on cabbage palm trunks. The undivided, narrow fronds can be several feet long and have sori in two lines near the margins on the lower surface. The fern is found throughout the Florida Peninsula.