

# Florida's Aquatic Orchids

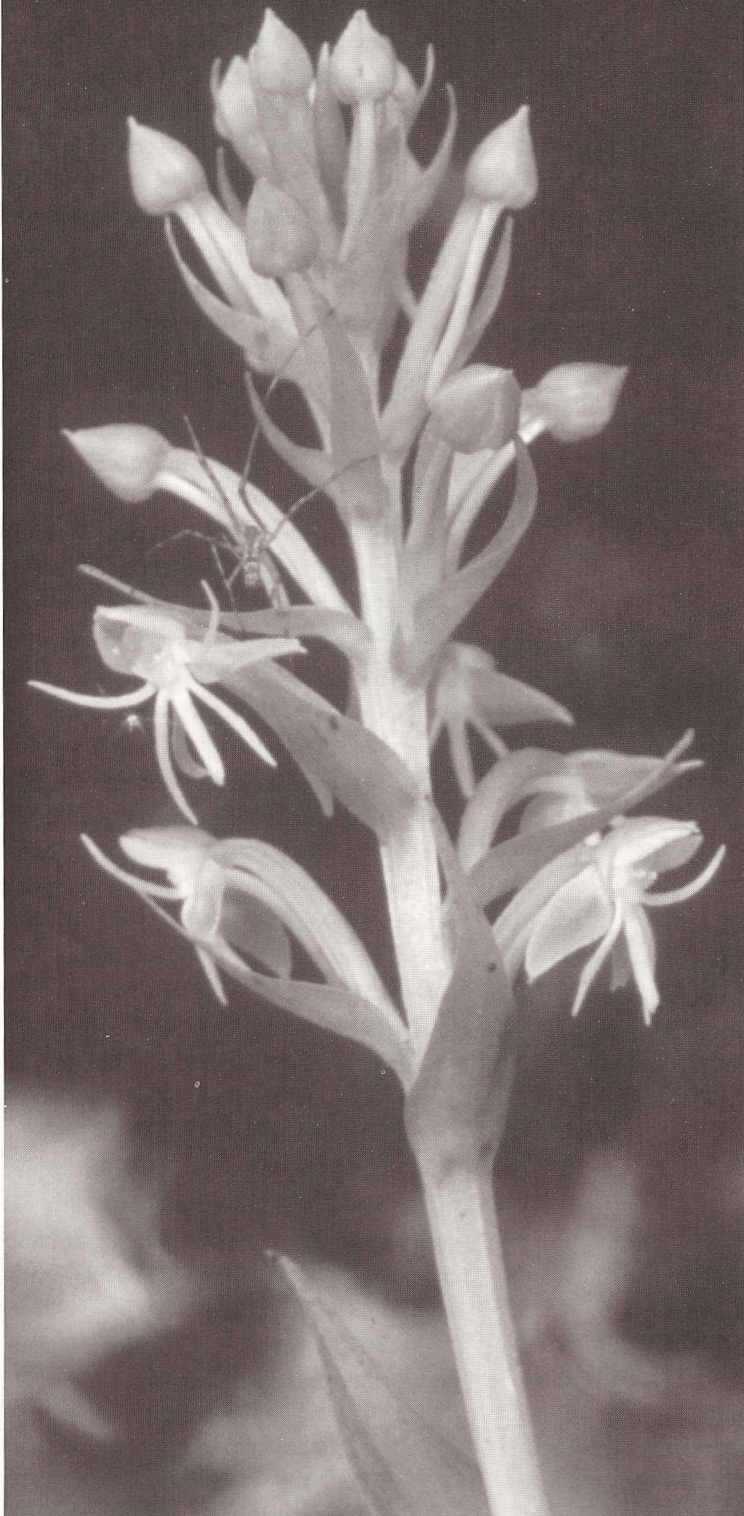
**T**he orchid family includes as many as 35,000 specimens by some estimates, making the ORCHIDACEAE the largest group of flowering plants. With this kind of species diversity and a distribution ranging from above the Arctic Circle to all continents but Antarctica, the orchids have adapted to almost every land-based ecological niche except extreme desert and permanent ice. But there is one habitat with which orchids normally are not associated: water.

Although aquatic orchids are rare, Florida, with its varied wetland ecosystems, is lucky enough to have several species adapted to this atypical habitat. To call these orchids "aquatic" may be a little misleading because most are rooted in the ground and merely tolerate seasonal inundation.

But there is one native species that truly merits the "aquatic" label. This most famous of Florida's aquatic orchids is *Habenaria repens*, one of our four native rein orchids in this mostly tropical genus. Even its common names — water spiders and water spider orchid — give a clue to the species' preferred haunts.

These apt common names also describe the look of the flowers, which give the appearance of a nest of little green spiders crawling along the top of a plant stem. In Florida, *Habenaria repens* produces its spidery flowers sporadically throughout the year, unlike our other three native rein orchids, which have a more specific bloom season (mostly late summer to early winter). The spider effect derives from the flower form typical of *Habenaria* orchids around the world and especially in the Western Hemisphere.

With only a few exceptions, the lip consists of three long, rather narrow lobes. The lateral petals generally are bilobed in the same manner, although the upper lobe of each may be partially hidden under the hood-like dorsal sepal. This gives the flowers of many *Habenaria* species the misleading appearance of having a five-lobed lip. These narrow petal lobes, coupled with the strap-like nectar spur that hangs down from the back of the lip in most species, account for the common name for the habenarias: rein orchids. In fact, the genus name comes from



Hidden among the green flowers of *Habenaria repens* is a green spider. Perhaps it feels at home among the spidery flowers of this species, often called the "water spider orchid." This specimen was photographed in swamp forests of the Fakahatchee Strand, where it grew on a floating log.

## Article and Photos by Chuck McCartney

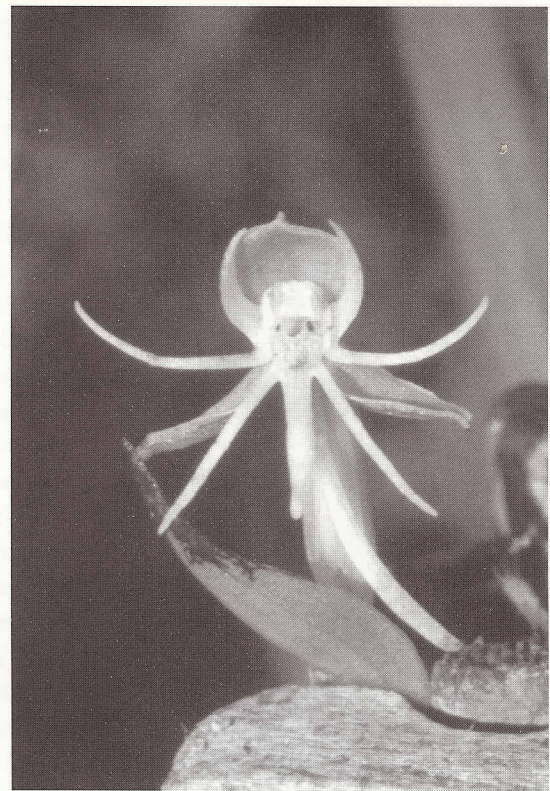
the Latin *habena*, meaning a strap, thong, or rein.

Although *Habenaria repens* often grows rooted in the ground, it is equally at home growing and flowering from floating mats of vegetation in lakes, ponds, ditches, and swamps nearly throughout the state. Ironically though, it is absent from the watery expanses of Everglades National Park, Florida's most famous wetlands, although it is present in the Fakahatchee Strand and the Big Cypress Swamp. The absence or near-absence of *Habenaria repens* from extreme subtropical Florida seems all the more unusual because it is reported from throughout Central America into parts of northern South America and from most of the Caribbean islands. In Florida, *Habenaria repens* is more common farther north in the state, with vast numbers of it reported for Payne's Prairie near Gainesville, in an intriguing article by John Beckner in the January 1972 issue of the *American Orchid Society Bulletin*.

The water spider orchid is the northernmost of the true *Habenaria* species in the Western Hemisphere, ranging up the Atlantic coast of the United States as far as eastern North Carolina. Other orchids formerly placed in the genus *Habenaria* grow northward into northern Alaska. These, though, have different flower forms and root structures and are north-temperate in distribution, where the true habenarias are generally tropical. Most of these former North American habenarias now have been transferred to the genus *Platanthera* and a few smaller satellite genera, and current taxonomic thinking is that the *Platanthera* group isn't really all that closely related to the true habenarias. Dr. Robert L. Dressler, in his important 1993 work, *Phylogeny and Classification of the Orchid Family* (Dioscorides Press, Portland, Oregon), even places the two groups in different subtribes of the tribe ORCHIDEAE.

At least one of the *platantheras* native to Florida also qualifies as an aquatic orchid. This is the snowy orchid, *Platanthera nivea*, a species aptly named, both scientifically and in the vernacular, for its pretty blue-white flowers, which glisten like little snowflakes.

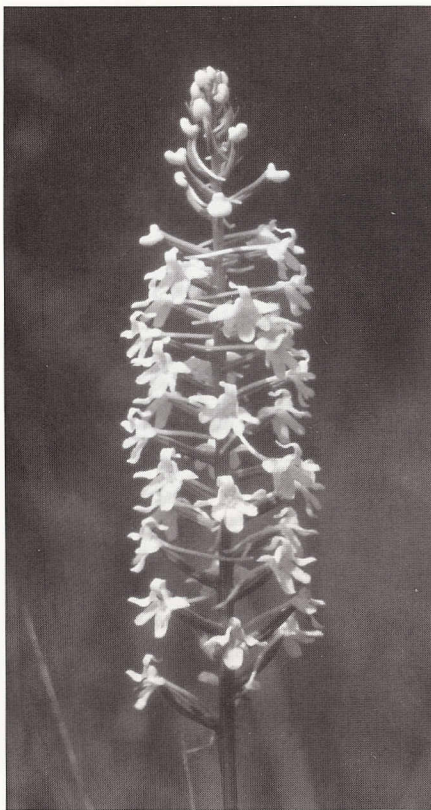
Because the lip of the flower is uppermost in this species (a condition called non-resupination), rather than pointing downward, as in most other *platantheras*, the snowy orchid is aberrant even in the *Platanthera* genus. Because of this, the species someday may be moved



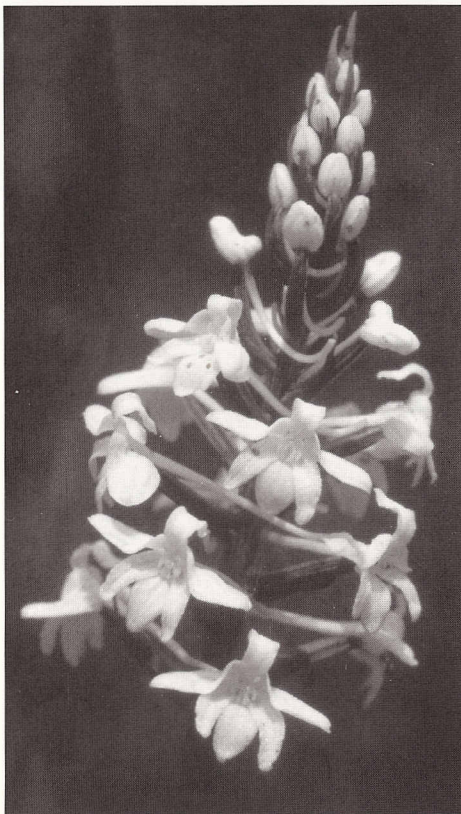
A *Habenaria repens* flower gives the impression of having a five-lobed lip. But only the lower three strap-like projections belong to the lip. The other two parts are actually the lower lobes of the two lateral petals. *H. repens* can bloom sporadically throughout the year.



Florida's water spider orchid is aptly named, with the flowers resembling a nest of spiders crawling up the stem. Close-up of the inflorescence above appears in upper left corner.



Because it flowers in May and June in Florida, which is the onset of the rainy season, *Platantthera nivea* often blooms out of several inches of standing water, qualifying it as an aquatic orchid – at least on a seasonal basis. Look for this plant in water-filled roadside swales in rural areas throughout Florida.



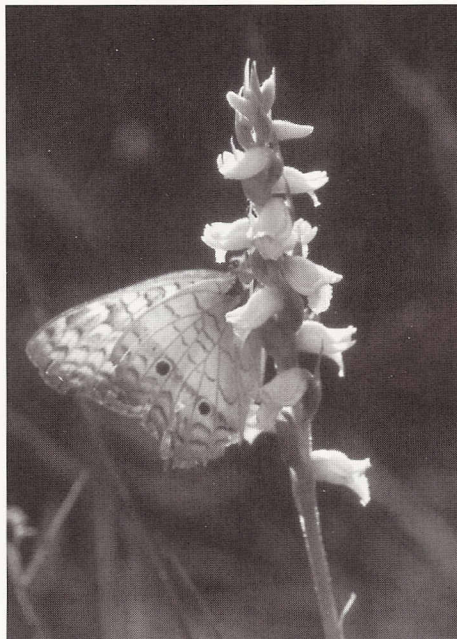
The glistening blue-white flowers of *Platantthera nivea* have earned it the common name, “snowy orchid.” The species name *nivea* means snowy in Latin.

by some taxonomist of a “splitter” bent into another genus, perhaps *Gymnadeniopsis*, where it has been placed in the past.

The aquatic nature of *Platantthera nivea* is as much due to when these plants bloom as where they grow. They like damp habitats, growing from the glades of the Big Cypress to what Dr. Carlyle A. Luer, in *The Native Orchids of Florida* (1972, The New York Botanical Garden), calls “open bogs and sunny, wet meadows.” But the little plants, with their blue-green stems and glistening, long-spurred flowers, are most noticeable when they’re in flower, which is May and June in Florida. That’s the onset of the rainy season, when daily downpours fill the glades, meadows, and roadside swales with water. It’s not uncommon at that time to see the flowering stems emerging from several inches of water in such locations.

Besides *Habenaria repens*, the other native Florida orchid which best deserves to be called aquatic is *Spiranthes odorata*, the fragrant ladies tresses. This robust southern variant of the widespread nodding ladies tresses, *Spiranthes cernua*, sometimes can reach surprising proportions, with plants growing to more than three feet tall.

These plants often grow and bloom out of as much as a foot of water in the open cypress forests of the Big Cypress Swamp. They also can be seen in such aquatic habi-

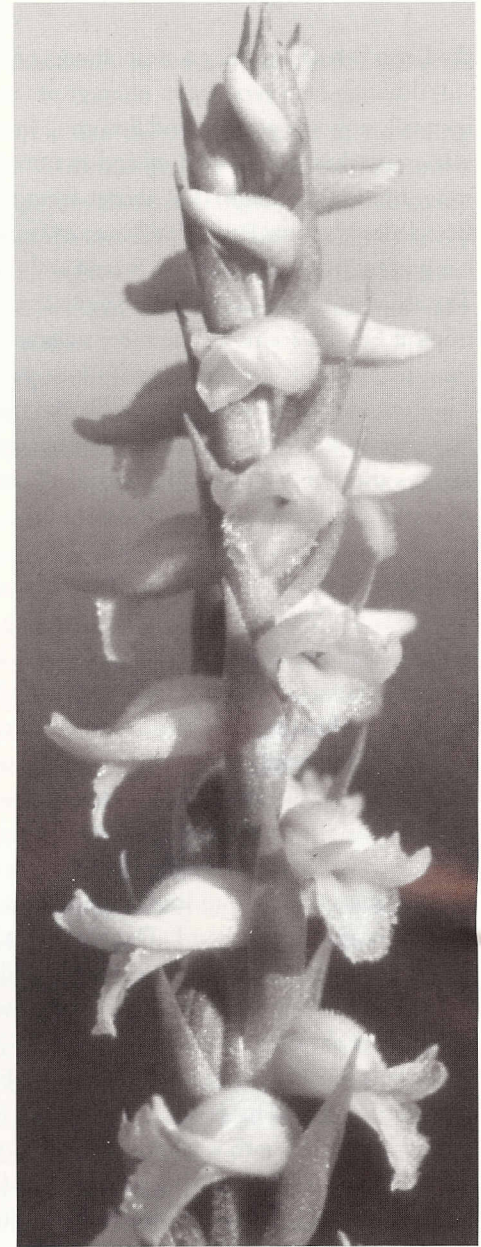


This white peacock butterfly visiting a spike of *Spiranthes odorata* flowers is caught in the death grip of a white crab spider. Such cryptically colored spiders are commonly encountered on spikes of *Spiranthes* flowers.

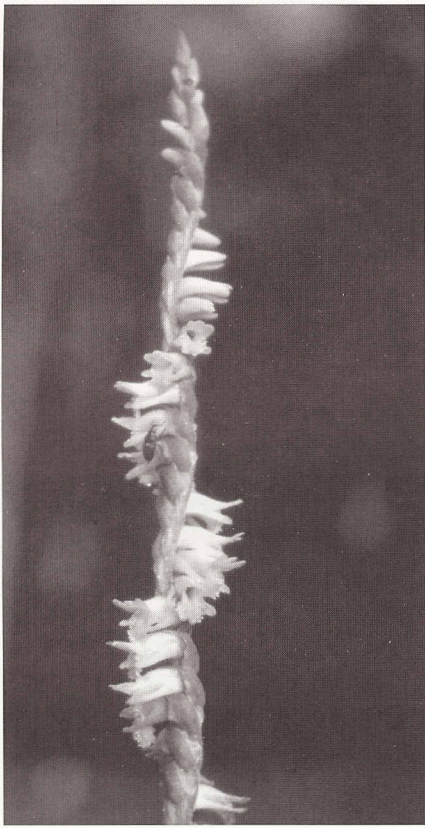
tats as the open marshes of Everglades National Park’s Taylor Slough. Plants even can be observed in water-filled roadside swales along major roadways like Florida’s turnpike.

These plants bloom in the autumn in South Florida, when water levels in such habitats are generally at their highest. The tubular white flowers have a yellow-marked lip. They are among the largest flowers in the genus *Spiranthes*, as this once over-broad genus now is delimited. The species name, *odorata*, comes from the pleasant citrus-like fragrance of the flowers.

One other *Spiranthes* species in Florida deserves the aquatic label – *Spiranthes*



Photographing *Spiranthes odorata* up close can easily explain both the scientific and common name for this orchid – fragrant ladies’ tresses. At close range, it’s easy to detect the flowers’ sweet, citrus-like smell.



*Spiranthes laciniata*, lace-lipped ladies' tresses, blooms at the onset of the summer rainy season, often in several inches of water. The genus name *Spiranthes* means "coiled flowers," aptly named as this specimen illustrates.



Sometimes, the spiral of flowers on the inflorescence of *Spiranthes laciniata* is very loose, making it appear as though they are all on one side of the stem.

*laciniata*, the lace-lipped ladies tresses. A near twin of the earlier flowering *Spiranthes vernalis*, in South Florida, *Spiranthes laciniata* blooms from late May through early July, the same time as *Platanthera nivea*. Like the snowy orchid, *Spiranthes laciniata* inhabits open glades and roadside swales. And, like the snowy orchid, its bloom stems emerge from the water that has been dumped on the land by the first deluges of the rainy season.

Although a few rare plants of *Spiranthes laciniata* have been measured to more than three feet tall, most are much smaller. At the tip of a wiry inflorescence, the tubular, yellowish-white flowers demonstrate the spiral arrangement which gives the whole genus its name. *Spiranthes* means "coiled flowers."

The blossoms of *Spiranthes laciniata* demonstrate varying degrees of spiraling. Most often, they are rather loosely spiraled around the stem, sometimes so much so that they appear to be all on one side of the inflorescence. This one-sided (or secund) arrangement gives the impression of a small toothbrush. However, tightly spiraled inflorescences also occur. The flowers of *Spiranthes laciniata* are much smaller than those of *Spiranthes odorata* and are more typical in size for the genus.

These four species are the most notable of our aquatic orchids. But other orchid species also have adapted to Florida's wetland habitats. In the sloughs and pond apple swamps of the Big Cypress and, especially, in the Fakahatchee Strand, it's not unusual to see normally terrestrial orchid species growing on tree bases, cypress knees, and floating logs, where their roots may be inundated for varying periods of the year. Species observed under these very wet conditions include *Bletia purpurea*, *Habenaria odontopetala*, *Liparis nervosa*, *Malaxis spicata*, *Platythelys querceticola*, and *Ponthieva racemosa*. The acquired aquatic lifestyle of all these orchids is a testament to the adaptability of this fascinating family of flowering plants.



ABOUT THE AUTHOR: Chuck McCartney is a third-generation South Floridian and copy editor with the Broward edition of The Miami Herald. He has been fascinated by orchids since childhood and has written extensively about orchids for a variety of publications. Thank goodness he writes for us.

## Champion Lyonia Discovered in Central Florida

Report from the  
Tarflower Chapter FNPS

On May 23, 1998, Mary Keim was on an Orange Audubon Society field trip at the Seminole Ranch Conservation Area near Christmas, Orange County, when she saw what looked like the largest rusty lyonia (*Lyonia ferruginea*) that she had ever seen. Mary immediately brought her discovery to the attention of fellow field-tripper Randy Snyder, and the two alertly took measurements of the tree in the manner prescribed by the Florida Division of Forestry for determining Florida champion trees (this is described also in Dan Ward's book, *Big Trees: the Florida Register*, published by and available from FNPS Subtropical Trader. To their surprise, the tree's measurements, which included a circumference of the trunk of 35 inches, made it the largest rusty lyonia ever recorded in Florida or the U.S.

Mary and Randy asked fellow members of the Tarflower Chapter to verify their measurements and identification of the tree. On Saturday morning, June 20, 1998, a team of crack FNPS naturalists joined Mary and Randy at the conservation area to inspect Mary's historic discovery. After an hour and a half of minute examination, detailed measurements, countless photographs, exhaustive review of scientific literature, and intense debate, the team concluded unanimously that the tree is a rusty lyonia and according to Ward's register, does appear to be the largest ever recorded.

Mary and Randy formally nominating the tree for Florida and national champion status with the Florida Division of Forestry and the American Forestry Association. If this tree is ultimately conferred champion status, it will be the first and only truly native tree in Orange County ever accorded that distinction.

Congratulations to Mary, Randy, and the Tarflower Chapter for your discovery! ✨