

***Ophioglossum pendulum* L. Naturalized in Miami, Dade County, Florida.—**

Ophioglossum pendulum L. has been discovered separately by Adrian Tejedor and Craig Allen, growing on cultivated palm trees in Miami, Florida. *Ophioglossum pendulum* is an Old World epiphyte, which grows from Madagascar through tropical Asia and into Polynesia. It has been infrequently cultivated in tropical fern collections in Miami since the mid-1970s. This is the first report of established plants growing outside of strictly man-made, horticultural conditions in the New World. This is quite a surprising discovery due to the relative difficulty of maintaining this exotic species in cultivation.

Two populations are known in two separate sites in Coral Gables, a community located in southeast Miami. One population (discovered by Adrian Tejedor, in April, 1998) is growing in the persistent leaf bases of Canary Island date palms (*Phoenix canariensis*) along a public street. In this location, three colonies are on adjacent palms and a fourth is some distance away, in the same row of planted palms. A second, small population, is growing on a sugar palm (*Arenga pinnata*), inside of Fairchild Tropical Gardens. It was discovered during the summer of 1995, by Craig Allen. In both locations, mature, sporulating plants are growing among the old persistent leaf bases on the palm trunks. Two of the date palm colonies were relatively large and vigorous in 1998, the other two were smaller. The largest colony covered 1.5 square meters of the palm trunk, about ten feet from the ground, with an estimated number of 60 fronds. Considering the slow growth typical of *O. pendulum*, this largest colony is estimated to be in excess of 15 years old, and may be much older. In March 1999, only 12 fronds were observed. The majority of the fronds observed the previous year had died and remained in place, completely dried and shriveled. Only the largest fronds bore sporangia. One fertile appendage is borne on the undersurface of the large fronds, which are from 45 to 90 cm. long. Most of the fronds in all the colonies are small, infertile and average 45 cm. in length. Specimens have been taken from this population to document its occurrence and are on deposit at the Fairchild Tropical Garden Herbarium (A. Tejedor, Fairchild Herbarium #81775).

In *Phoenix* and other palm genera, a compact and spongy mass of old leaf bases remains attached to the palm's upper trunk for many years after the leaves are shed. This is where *O. pendulum* and other epiphytes become established. In the case of *Ophioglossum*, the dangling fronds are the only visible part of the plant. The rhizome and root system are hidden under the substrate of old leaf bases of the palm. Adventitious shoot buds that develop on the root system eventually produce a colony of plants on the south-east side of the trunk, sheltered by the leaf crown. The dead leaf bases have an ability to remain remarkably wet for days after a rain. The palm leaf-base habitat seems favorable for these ferns, which otherwise may not survive to South Florida's long, late winter and spring, dry season. During the dry winter of 1999 the colonies seemed to have suffered and appeared decidedly smaller. Other epiphytes that coexist with *O. pendulum* in this habitat are the Boston fern (*Nephrolepis cordifolia*) and young individuals of *Ficus aurea* (strangler fig) and

Brassaia actinophylla (schefflera). A young staghorn fern (*Platycerium* sp.) was observed among the other epiphytes.

The *Ophioglossum* population growing on a sugar palm inside Fairchild Tropical Garden was known to Craig Allen, the gardener in the Rare Plant House, since 1995. He told B. McAlpin, in June, 1998, about the location of this plant, and said that it has grown approximately five times larger, since he first discovered it. However, Fairchild Tropical Garden has never accessioned this plant into its collection. Nonetheless, plants of *O. pendulum* from private collections have been exhibited many times over the last fifteen years at the annual Fern Show sponsored by the South Florida Fern Society, on the premises of the Fairchild gardens. Innoculation by wind blown spores from mature, sporulating plants could have occurred during movement of plants into the fern shows, or during the fern show itself, which occurs for a full weekend. Established horticultural plants, growing in open-air, screened shade houses, could also release spores into the general environment of South Florida. It is still a mystery when these exotic colonies first became established, and, if in fact, the spores, and hence the adventative plants are from cultivated sources.

O. pendulum is grown in very few South Florida fern collections. Snails and poor watering practices usually are responsible for the demise of cultivated plants of this taxon. Successful growers use long-fiber *Sphagnum* moss, mounted on plaques, tied with wire or mono-filament fishing line, in which to grow this fern. Most successful growers also employ automated irrigation systems in shade houses to provide protection from drying winds and to maintain high humidity. In cultivation plants may achieve impressive size, having up to 100 fronds that may reach two meters in length. Plants in cultivation are relatively slow growing. They are seldom divided because sections could easily decay, leading to the death of the division and/or the parent plant. Less than six growers in the Miami area are presently known to have cultivated plants in their possession.—ADRIAN TEJEDOR, Biology Department, University of Miami, Miami, Florida, 33124 and BRUCE W. MCALPIN, Biology Department, Miami-Dade Community College, 11011 SW 104 Street, Miami, Fl. 33176.



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