

Mrs. Britton's Shadow Witch

Ponthieva brittoniae

by Chuck McCartney

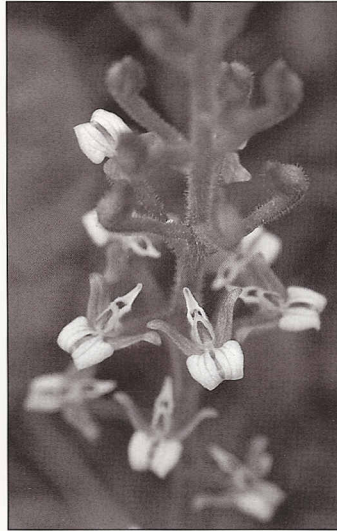
Growing in the harsh, sunlit world of subtropical Florida's dwindling pine rocklands is one of the rarest orchids of the southern United States. Because of a quirk of taxonomy, this orchid long went unrecognized on lists of the country's rare and endangered species — even as it teeters on the brink of extirpation within our borders.

This orchid is *Ponthieva brittoniae*, which is closely related to the widespread *Ponthieva racemosa*, sometimes called by the poetically mysterious common name, shadow witch. In southeastern Florida, *Ponthieva brittoniae* is so rare that it doesn't even have a common name. Perhaps it could be called "Mrs. Britton's shadow witch." Oakes Ames named the species in honor of Mrs. Gertrude Knight Britton in 1910 in *Torreyia*, when he first described the plant based on a specimen from New Providence Island near Nassau in the Bahamas. Mrs. Britton (1858-1934) was the wife of famed botanist Nathaniel Lord Britton and a botanist in her own right.

Although originally published as *Ponthieva Brittoniae* [sic] and treated at various taxonomic levels under that spelling in subsequent texts, the spelling of the species epithet is corrected here to *brittoniae* to confirm to the International Rules of Botanical Nomenclature.

Like the equally rare and endangered Carter's Orchid (*Basiphyllaea corallicola*), Mrs. Britton's shadow witch struggles for survival within the United States in the rapidly disappearing pine rocklands of Southeastern Florida, a habitat itself classed as a globally imperiled ecosystem.

This coastal rock ridge historically stretched from northern Dade County through Miami southward to Homestead, then westward into what is today Everglades National Park. Over centuries of exposure



Ponthieva brittoniae, close-up, in the Everglades National Park, 1986.

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to the elements, the surface of the exposed grainy oolitic Miami limestone weathered to jagged points called *pinnacle rock* and shallow to deep depressions called *solution holes*. The rocky land of this coastal ridge supported vast open forests with a canopy dominated by South Florida slash pine (*Pinus elliottii* var. *densa*) and an understory dominated by palms, especially saw palmetto (*Serenoa repens*). What little leaf litter there was burned off during fires that swept the region periodically. What little soil there was accumulated in the crevices and depressions in the limestone. It was there that orchids like *Basiphyllaea corallicola* and *Ponthieva brittoniae* clung to a meager existence.

Probably neither species was ever very plentiful in this habitat. But the massive destruction of the pine rocklands, first for agriculture and then for the inexorable march of urban expansion, left precious little habitat for these already rare orchids. Most of the pine rockland that exists today on the mainland of Southeastern Florida survives in the Long Pine Key region of Everglades National Park. And it is only in this area that

Ponthieva brittoniae is known to occur today in the United States, although the species also occurs in the similar pine rockland habitat of the nearby Bahama Islands, where it is said to be more plentiful.

One of the reasons that *Ponthieva brittoniae* is absent from lists of endangered species is that it has long been considered a synonym, or at best a mere variety, of *Ponthieva racemosa*, which has a wide range in the coastal plain of the southeastern United States and into the tropics of Central America, the Caribbean and northern South America.

Ames described *Ponthieva brittoniae* as a separate species in 1910. But mid-century, Ames' disciple, Donovan Stewart Correll, in *Native Orchids of North America North of Mexico* reduced it to synonymy under *Ponthieva racemosa*, mainly because he was working only from the pressed, dried herbarium sheets, which retain few of the characteristics that separate it from *Ponthieva racemosa*. Later, Carlyle Luer, in *The Native Orchids of Florida*, saw live wild plants and perceived enough differences to raise *Ponthieva brittoniae* to varietal level under *Ponthieva racemosa*. Finally, in their treatment of the Orchidaceae for Donovan S. Correll and Helen B. Correll's *Flora of the Bahama Archipelago* (1982), Ruben P. Saulea and Ralph M. Adams again recognized this "variety" as a species in its own right.

In more than twenty years of exploring for the native orchids of South Florida, I have seen only two populations of *Ponthieva brittoniae*.

One "population" consisted of a single plant thrusting its inflorescence above the fallen pine needles at the edge of a small solution hole in an area of Long Pine Key with particularly rugged pinnacle rock. This plant was seen and photographed on

February 15, which appears to be the peak of the bloom season for this species in South Florida. (*Ponthieva racemosa*, at least in South Florida, reaches its peak about a month earlier, mostly in late December and January.) Sauleda and Adams (1982) indicate that in the Bahamas, *Ponthieva brittoniae* blooms mainly from December to March.

The first and largest population of *Ponthieva brittoniae* that I encountered in South Florida was shown to me on February 24, 1983, by the late Florida native plant specialist George N. Avery. A few plants grew in a ridge of loose limestone thrown up at the edge of an old logging road now maintained as a firebreak and access road through the pineland of Long Pine Key. The Everglade Keys, surrounded by shallow freshwater marshes, are not to be confused with the marine environment of the islands of the Florida Keys.

I returned to this site on February 22, 1986, to take additional photographs.

Hoping for still better photographs, I returned the following year and could find no sign of these plants, nor have they shown up during searches in subsequent years.

What I did note in 1987 was that the surface of the fire road had been regraded ever so slightly since my last visit to the site. It appears that one pass of a bulldozer's blade may have wiped out Florida's biggest colony of *Ponthieva brittoniae*. That an orchid as rare as this one can be so easily destroyed in an area like Everglades National Park, where it is supposed to be protected, is proof of the precarious existence led by endangered flora.

The one bright spot in this story is that this rare orchid has now been offered at least nominal protection by the state of Florida. On September 19, 1995, Dade County naturalist Roger L. Hammer and I were able to persuade the Endangered Plant Advisory Council to add this species to the state's list of endangered orchids.

The reason *Ponthieva brittoniae* had not



Ponthieva brittoniae flower stalk, in the Everglades National Park, 1986.

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been included earlier was that the state's listing process does not recognize taxa at the subspecific level. By presenting evidence of acceptance of this orchid as a valid species separate from *Ponthieva racemosa*, that barrier was overcome.

The advisory council recommended to the Florida Game and Fresh Water Fish Commission, which monitors the state's rare plants and animals, that *Ponthieva brittoniae* be added to the list of

protected biota. That recommendation was accepted, and as of April 29, 1996, Mrs. Britton's shadow witch is officially listed as an endangered species by the state of Florida.

Now, if we can just rediscover this rare orchid within the state ...



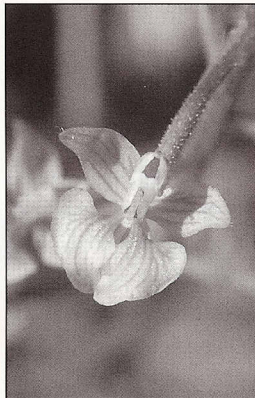
For Further Reading

- Correll, D.S. 1950. *Native Orchids of North America North of Mexico*. Chronica Botanica Co., Waltham, Massachusetts.
- and H.B. Correll. 1982. *Flora of the Bahama Archipelago*. J. Cramer, Vaduz, Liechtenstein.
- Luer, C.A. 1972. *The Native Orchids of Florida*. New York Botanical Garden, Bronx, New York.
- McCartney, C. 1985. "The Orchids of Everglades National Park" — 1. *American Orchid Society Bulletin* 54 (March): 265-276.
- . 1992. "Orchids of South Florida's Pine Rocklands." *Fairchild Tropical Garden Bulletin* 47 (April): 12-33.
- Myers, R.L. and J.J. Ewel (eds.). 1990. *Ecosystems of Florida*. University of Central Florida Press, Orlando.
- Small, J.K. 1933. *Manual of the Southeastern Flora*. Published by the author, New York.

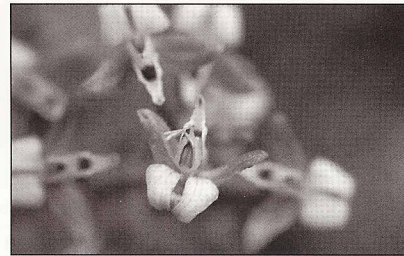
Chuck McCartney is a third-generation South Floridian and copy editor with the Broward edition of *The Miami Herald*. He has been fascinated by orchids since childhood and has written extensively about orchids for a variety of publications. A slightly different version of this article appeared in the *North American Native Orchid Journal*, Vol. 1, No. 2, June 1995. Thanks to Paul Brown, editor, for permission to reprint this material.

Related but Decidedly Different

Ponthieva racemosa and *Ponthieva brittoniae*



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LEFT: a flower of *Ponthieva racemosa*.

ABOVE: the flowers of *Ponthieva brittoniae*.

Anyone who has seen these orchids in the wild probably would agree with the decision of Sauleda and Adams. *Ponthieva brittoniae*, at least in the pine rocklands of Southeastern Florida, looks very different from *Ponthieva racemosa*.

The two orchids vary in their preferred habitat. While *P. racemosa* thrives in moist, shady areas, *P. brittoniae* grows in nearly full sun in the harsh limestone of the pineland understory, surviving by winding its thickened roots into soil-filled crevices in the rock or surviving the periodic fires by clinging to the very edges of the slightly damper solution holes.

But differences in the flowers are even more distinctive. John Kunkel Small accepted the two orchids as separate species in his *Manual of the Southeastern Flora* (1933), where he provided this key:

- Petal-blades about as long as wide;
 - lip 4 mm. long or more *P. racemosa*
- Petal-blades decidedly longer than wide;
 - lip 3.5 mm. long or less *P. brittoniae* [sic]

The flowers' size and floral segment shapes provide the basis for distinguishing these two species. The flowers of *P. brittoniae* are distinctly smaller than those of *P. racemosa*. The petals are narrower and curve downward at the apices. They also lack the conspicuous green veining that makes the individual flowers of *P. racemosa* so attractive.

Luer described other differences which distinguish the two species: "The leaves are smaller than those of var. *racemosa* and they have usually dried up before the flowering stalk matures. The whole plant is smaller and less robust. The flowers are tipped out only 30° from the rachis on short green ovaries, instead of about 60° by longer brown ovaries as in the woodland *Ponthieva* ... Instead of a broad platform created by the petals, as in var. *racemosa*, the petals are acutely reflexed along with the middle sepal beneath, creating a sail-like effect, while the lateral sepals are cocked more acutely upward, like a hands-over-head effect. The green color of the deeply concave, uppermost lip of var. *brittoniae* [sic] is modified into a large green blotch on either side."