

## Re-introduction of *Marsilea vestita* into Florida

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Any area with a poorly documented flora inevitably accumulates in its list of presumed species an assortment of one-time horticultural escapes, ballast waifs, railroad travelers, agricultural relics, and other chance introductions that are incapable of persistence and hence are not properly full-fledged components of the area's flora. Such plants, once reported, tend to persist in listings long after they have disappeared in the field. Little acclaim is accorded the writer who omits a species that he feels is not adequately documented as a present member of his flora, while a degree of pride and even a measure of competitiveness accompanies the report of a species in an area where it has not previously been known. Thus it is satisfying to provide the first record of *Marsilea* as a current member of the Florida flora since it was reported for the state in the 1890's.

In 1891 L. M. Underwood traveled by rail through Florida, stopping at every opportunity to collect ferns and other vascular plants. In January and in March he paused at a depot known as Orange Bend, in Lake County, central peninsular Florida. Near the depot he found in abundance what he identified as "the *mucronata* form of *Marsilea vestita*." Underwood (1892) published a report of his discovery, noting that his specimens (now at PH, US, YU, and perhaps elsewhere) were the first for this species from east of the Mississippi River.

Guided by Underwood's account, G. V. Nash visited the same location on May 16, 1894. He remarked (1895, p. 161): "The plant occurs along the track on both sides of the depot for about one-quarter of a mile. It is confined to that limited area so far as I could find out. Its occurrence at such a distance from its ordinary range and its limitation to this small section point very strongly to its being introduced." Nash's specimens (PH, US) bear the location "Eustis," but are surely from the Orange Bend station.

A much earlier indication of *Marsilea* in Florida was published by D. C. Eaton (1872), a quarter century before Underwood's report, but has been wholly overlooked by later authors. Eaton possessed a plant from Florida labeled *Marsilea quadrifolia* L. (a European species sparingly introduced into northeastern North America), which he thought "more likely to be one of the western species, *M. uncinata* Braun, for instance." Two sheets in the Eaton herbarium (YU) provide the basis for this brief report. Both are *Marsilea vestita* (and are so annotated by D. S. Correll), and bear the printed label: "Plantae Floridanae: prope Apalachicola [Franklin County], coll. A. W. Chapman, M.D., 1860." Chapman (1897, p. 640), however, acknowledged *Marsilea* in the southeastern United States only near Vicksburg, Mississippi. The labels on the Eaton collections were prepared for his herbarium, and it is possible that an error occurred in the documentation of

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specimens received from Chapman. In any event, if *Marsilea vestita* did occur near Apalachicola, Florida, in 1860, it has not been collected or reported there since and is presumably not at present a member of the flora of panhandle Florida.

It is customary for modern floras such as those of Fernald (1950) and Steyermark (1963) to report Florida within the range of *Marsilea vestita* Hook. & Grev. or of its questionably recognizable segregate, *M. mucronata* A. Br.<sup>2</sup> Small (1931, 1938) reported *Marsilea* for Florida as occurring in "ponds, ditches, and moist places" ("ponds" being of course an invention), and in no way indicated that he had not seen living material from the state and that his entire basis was the Lake County report. Only the cautious C. V. Morton (*in* Gleason, 1952) excluded Florida, although the later condensation by Gleason and Cronquist (1963) restored the unquestioned Florida range. Ward (1968) accepted *Marsilea* for the state. Correll (1938, p. 95) listed *M. vestita* as having been collected in Dade County (*Underwood 66*, PH), as well as in Lake County (*Nash*, PH); this Dade County report, if legitimate, would have been a further range extension, but was not so noted. Wherry (1964) repeated the attribution of *Marsilea* to Dade as well as Lake County, and Lakela and Craighead (1965) again recorded *Marsilea* for Dade County. More recently, Long and Lakela (1971) omitted *Marsilea*. No listing of excluded species was provided, but O. Lakela (*pers. comm.*, 1974) explained that her manuscript was no longer available and conveyed the impression that the omission may have been fortuitous.

Although the Underwood and Nash reports of *Marsilea* in Lake County are documented by collections, the records for its occurrence in Dade County are wholly spurious. The Lakela and Craighead (1965) entry presumably was based on the earlier Wherry and Correll reports. At the request of the senior author, E. T. Wherry re-examined the specimens in the Academy of Natural Sciences upon which both he and Correll had based their reports. He found the Nash collection to be labeled "Eustis," as previously noted. But the other specimen, an Underwood collection of January 1891, was labeled "Orange Beach," a location Wherry assumed was in Dade County. Since there is no such location in Dade County, since Dade County in 1891 was not accessible by rail and was not visited by Underwood, and since Underwood in the same month was collecting *Marsilea* at Orange Bend, Lake County, it is apparent that the Dade County reports were based upon a misinterpreted (and uncritically copied) Lake County collection.

In April 1962, the senior author, with members of a University of Florida taxonomy class, made an effort to relocate the Underwood and Nash *Marsilea* station in Lake County. By the use of 1890 railroad maps and by local inquiry, the site of the Orange Bend depot was located, and has since been confirmed by a modern topographic map (U. S. Geol. Surv. Leesburg East, 1965). The long-since-destroyed depot once stood about one mile northwest of the present Orange Bend, a hamlet just south of the larger town of Lisbon. Remnants of the depot foundation alongside the Florida Coast Line tracks were still visible in 1962. But

<sup>2</sup>The view that *M. mucronata* A. Br. merited specific segregation from the older *M. vestita* Hook. & Grev. can be traced to C. A. Weatherby (*in* Johnston, 1943); the only consequential modern contrary opinion is that of Cronquist (1972, p. 220).



the adjacent ditch where Underwood and Nash had collected was largely filled with dry cinders, and no *Marsilea* could be located.

In the years since 1962, *Marsilea* has seemed destined for footnote status in any future Flora of Florida. In September 1975, however, fragmentary plants of *Marsilea* were sent to the Agricultural Experiment Station, University of Florida, with the request that they be identified and that control measures be recommended. This led to a collection made on 25 Sept 1975 from a very extensive stand on the moist to dry soil of lawns and flower beds in a residential area ninety miles southwest of the Orange Bend station: 1400 block, West College Avenue, Ruskin, Hillsborough County, Florida (D. W. Hall 414, FLAS (2), FSU, GA, GH, NY, PH, US, YU). The plants, although sterile, were identified tentatively by D. B. Lellinger as typical *M. vestita* Hook. & Grev. Residents in the area of the Ruskin station were of the opinion that the *Marsilea* had its origin in 1970 as an accidental inclusion with garden plantings brought from New Orleans. At first they were intrigued by its four-lobed "lucky clover" leaves, but more recently have found it to be a persistent and rapidly spreading weed.

*Marsilea vestita* thus is again definitely known in Florida, and its disappearance now seems unlikely. It appears that this western species, still, as in Nash's day, scarcely known east of the Mississippi River, may have passed from the status of a rare plant, through the limbo of a long-uncollected species, to become a botanical novelty of negative economic worth.

#### LITERATURE CITED

- CHAPMAN, A. W. 1897. Flora of the Southern United States, ed. 3. Cambridge Botanical Supply, Cambridge, MA.
- CORRELL, D.S. 1938. A county check-list of Florida ferns and fern allies. Amer. Fern J. **28**: 11-16, 46-54, 91-100.
- CRONQUIST, A. 1972. Vascular Cryptogams. In A. Cronquist, A. H. Holmgren, N. H. Holmgren, and J. L. Reveal, Intermountain Flora. Hafner, New York.
- EATON, D.C. 1872. Note 20. *Marsilea quadrifolia*, L. Bull. Torrey Bot. Club **3**: 19.
- FERNALD, M. L. 1950. Gray's Manual of Botany. American Book, New York.
- GLEASON, H. A. 1952. Illustrated Flora of the Northeastern United States and Adjacent Canada. Lancaster Press, Lancaster, PA.
- , and A. CRONQUIST. 1963. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. D. Van Nostrand, Princeton, NJ.
- JOHNSTON, I. M. 1943. Plants of Coahuila, eastern Chihuahua, and adjoining Zacatecas and Durango, I. J. Arnold Arb. **24**: 324-325.
- LAKELA, OLGA, and F. C. CRAIGHEAD. 1965. Annotated checklist of the vascular plants of Collier, Dade and Monroe counties, Florida. Fairchild Tropical Gardens, Coral Gables, FL.
- LONG, R. W. and OLGA LAKELA. 1971. A Flora of Tropical Florida. Univ. of Miami Press, Coral Gables, FL.
- NASH, G. V. 1895. Notes on some Florida plants. Bull. Torrey Bot. Club **22**: 141-161.
- SMALL, J. K. 1931. Ferns of Florida. Science Press. Lancaster, PA.
- . 1938. Ferns of the Southeastern States. Science Press. Lancaster, PA.
- STEYERMARK, J. A. 1963. Flora of Missouri. Iowa State Univ. Press. Ames, IA.
- UNDERWOOD, L. M. 1892. Distribution of tropical ferns in peninsular Florida. Proc. Indiana Acad. Sci. **1891**: 83-89.
- WARD, D.B. 1968. Checklist of the vascular flora of Florida, Part I. Florida Agr. Exp. Sta. Bull. 726.
- WHERRY, E. T. 1964. The Southern Fern Guide. Doubleday, New York.





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