SARRACENIA MINOR WALT. VAR. *OKEFENOKEENSIS* SCHNELL: A NEW VARIETY.

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Description

Sarracenia minor Walt. **var. *okefenokeensis*** Schnell, *var. nov.*

A var. minore ascidio tenero, longitudine 70-90 cm, habitu peruvido gaudenti, anthesi in vere plerumque aliquot hebdomadum seriore, circumscriptione proxima in regione paludis Okefenokee dictae rei publicae Georgiae differt.

Differs from var. *minor* in that the pitchers average 70-90 cm in length, prefers very wet habitat, flowers on average two weeks later in the spring, and is confined to the immediate region of the Okefenokee Swamp in Georgia, USA.

TYPE LOCALITY: United States. Georgia. Ware County, ca. 15.5 km southeast of Waycross, Georgia. Herbarium material collected from type location June, 2001, D. E. Schnell *s.n.* (HOLOTYPE: US).

ETYMOLOGY: Epithet *okefenokeensis* refers to range in immediate region of and within the Okefenokee Swamp.

RANGE: Okefenokee National Wildlife Refuge (ONWR) and immediate environs to an extent of roughly 1-5 km beyond the borders, particularly north and east.

HABITAT: Floating prairies in Refuge, or immediately on the edge of or in shallow water, or on low hummocks in shallow water in hemic or sapric soils.

CONSERVATION COMMENT: The rather large number of plants located within the Refuge on several prairies are legally secure. The plants are also ecologically secure due to the size and physiography of the Okefenokee Swamp. However, outside the ONWR boundaries (including the type location!), smaller populations are under the usual attack by drainage and timber operations.

Discussion

Sarracenia minor Walt. var. *okefenokeensis* Schnell is relatively well-known by students and aficionados of *Sarracenia*. Horticulturists have even established a cultivar name for the plant, i.e. *Sarracenia minor* 'Okee Giant' (D'Amato, 1998). However, there have been doubts concerning the genetic constancy of the variety. I have reasons to believe that the plants in the wet locations of the Okefenokee area are truly genetic entities rather than merely ecophenes, and accordingly am describing the variety here. The cultivar name *Sarracenia* 'Okee Giant' is coextensive with the taxon *Sarracenia minor* Walt. var. *okefenokeensis*

Harper (1918) was one of the earliest authors to note the variety. His paper included two photos: one of the plants with his hat for sizing on an Okefenokee prairie, and the other with him standing among them. He remarked on their size but had no further comment.

Bell (1949) approached the plants in the Okefenokee by boat. He noted that under his growing conditions the larger Okefenokee plants maintained their size

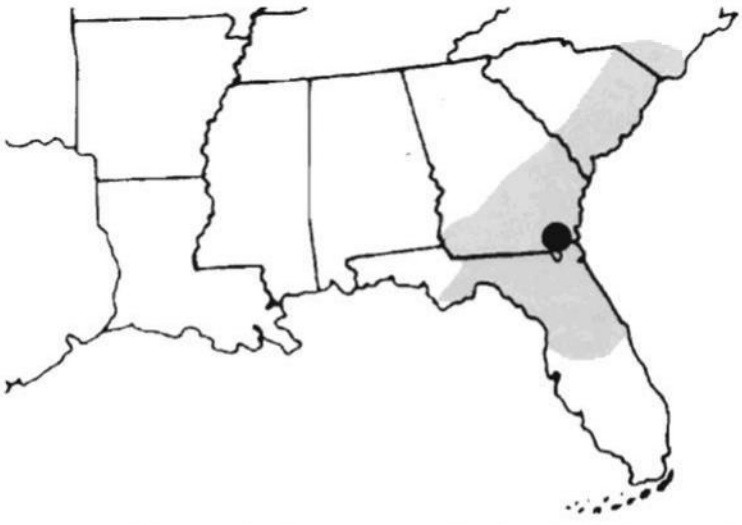


Figure 1: Range map of *Sarracenia minor* var. *minor*. The location for *Sarracenia minor* var. *okefenokeensis* is indicated by the filled dot.

over var. *minor* obtained from drier habitat. Still, he concluded that they were ecophenes.

McDaniel (1966) noted the two size variations of *S. minor* but after field and herbarium observations felt that there was gradation in the pitcher size making demarcation impossible. McDaniel did not, however, consider the use of pitcher head versus height proportions.

In addition to my own observations and growing experiments, I have discussed the matter with David Kutt and George Newman (*in litt.*) who have also grown the plants, including from seed, and they essentially agree with my conclusions.

Sarracenia minor var. *minor* has a stockier pitcher compared with var. *okefenokeensis* (see below), reaching an average height of 25-35 cm, although individuals to 45 cm are noted in wetter habitats. The variety seems to grow most vigorously in wetter natural and horticultural habitats, but in nature is found most often in dryish areas of savannas where there is presumably less competition with other pitcher plant species. The predominant prey is ants—I have opened many pitchers in the field and found this to be so. Plants of var. *minor* growing in the same latitude as var. *okefenokeensis* flower on the average two weeks earlier, and this remains consistent even in greenhouse grown plants here in Virginia.

When mature, *Sarracenia minor* var. *okefenokeensis* has a more slender, clearly taller pitcher than var. *minor*, being on the average 70-90 cm tall in prime habitat, but individuals to 130 cm are commonly noted (see Front Cover). The taller, mature pitchers of var. *okefenokeensis* have hoods and mouths about the same size as mature pitchers of the shorter var. *minor*, which contributes to the slender, "willowy" appearance. After studying the plants, one can rather quickly identify them in aspect without comparisons or measurements; as George Newman says, "They just look different." These differences are discernable even in one or two year old seedlings. A younger or dry-stressed, shorter pitcher of var. *okefenokeensis* when compared to a mature pitcher of var. *minor* of the same height has a smaller hood and mouth, still contributing to the slender appearance. Interestingly, I have also examined the contents of var. *okefenokeensis* pitchers in the field, and the predominant prey still consists of ants, in spite of the wet habitat! The plants occur on the margins of wet ditches or marshes, or even in shallow water, and of course on hummocks in open water and the floating "islands" (prairies) of the ONWR. Those plants

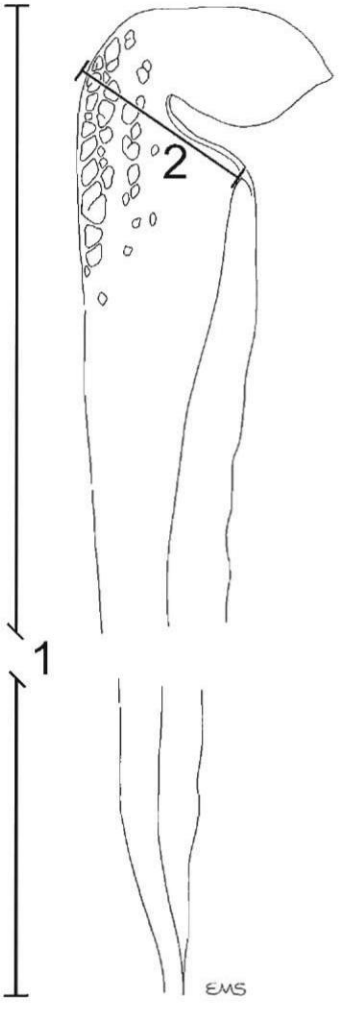


Figure 2: *Sarracenia minor* pitcher with the two dimensions from the text indicated. Drawing by Elizabeth Salvia.

left higher and drier due to habitat modification have shorter pitchers, but with the same proportions as described above. Flowering is about two weeks later than in var. *minor* growing in the same latitude.

Plants of *S. minor* var. *minor* and var. *okefenokeensis* have been growing side by side in my greenhouse for 10-20 years. They are both potted in *Sphagnum*, the pots set in trays of water 5-8 cm deep, and grown in full sunlight. Over this time, both varieties have maintained their characteristics, including the difference in flowering period. Seeds have been treated with the usual stratification prior to germination, and by the second year, seedlings are easily discerned one variety from the other.

A numerical index based upon the ratio of two leaf dimensions was devised—this index can be used to distinguish the two varieties of *Sarracenia minor*. I made measurements of some fifty pitchers of as many plants in each variety (plants of var. *minor* were originally from southeastern North Carolina, eastern Georgia and northern Florida) and concluded that the following two measurements (see Figure 2) and a simply calculated index is the easiest and most reliable to use for identification:

Measurement 1—Measure the total height of the pitcher from the base of its attachment to the rhizome up to the tallest part of the arching hood.
Measurement 2—"Head depth". Measure from the point where the mouth lip meets the upper portion of the ala along a line with the lip margin back to the most convex part of the arching hood (the hood may be flattened to facilitate this measurement).

Divide measurement 1 by measurement 2. If the resulting index is less than 10, the plant is var. *minor*; if greater than 10, var. *okefenokeensis*. (For S. *minor* var. *minor* the index ranged from 5.8 to 9.8 with a mean of 8.3, while for *S. minor* var. *okefenokeensis* the index ranged from 10.3 to 20.2 with a mean of 14.8.)[1] The index seems suitable for seedlings at least 3 years old.

I have chosen the infraspecific level of variety since the ranges of the two varieties abut without presently overlapping. If they were widely geographically separated, subspecies might have been indicated. To date, I have not spotted potential hybrids in the field.

[1]Results of the index calculations had a similar mean and mode for each taxon, indicating that distribution curves were not skewed and that specimen range and numbers were adequate. Frequency distribution indicated a small overlap so that accuracy is 97%. This is adequate for identification. However, multiple sample measurements of plants in the field are recommended if possible for greatest assurance.

Summary

I have concluded that certain plants of *Sarracenia minor* of the Okefenokee region in Georgia are sufficiently discontinuous in characters as well as ecologic and horticultural behavior to indicate genetic differences with var. *minor* and to warrant varietal status as var. *okefenokeensis*.

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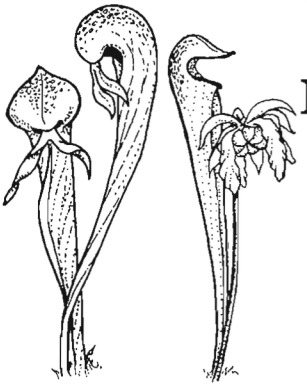
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Front Cover: *Sarracenia minor* var. *okefenokeensis* at type location in Ware County, Georgia, USA. Article on page 36.

Back Cover: *Triphyophyllum peltatum*. Note the distinct difference in the length of internodes and the hooked leaves on the elongated shoot, as the plant makes the transition from the rosetted growth of a juvenile plant to elongated growth of young liana. Article on page 44. (Photo: H. Rischer)

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