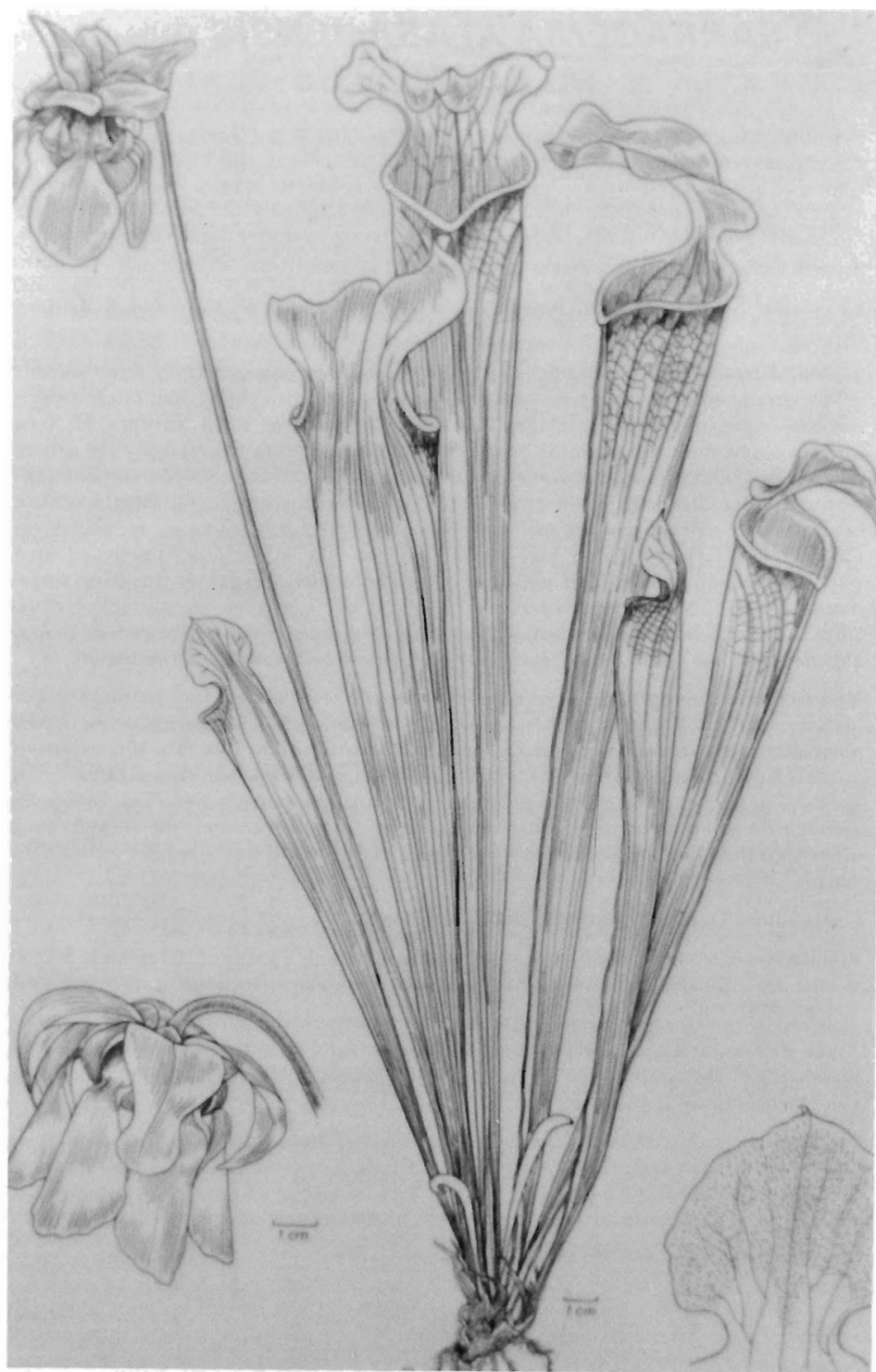




Sarracenia alabamensis

SARRACENIA ALABAMENSIS subsp. **ALABAMENSIS**

Scientific Name: *Sarracenia alabamensis* F.W. Case and R.B. Case, subsp. *alabamensis*. *Rhodora* (1974) 76:653.

Common Names: Alabama canebrake pitcher plant (Case and Case, 1974), canebrake pitcher plant (Lucas & Synge, 1978).

Species Convention Status: Placed on Appendix I in 1983.

Synonyms: *Sarracenia rubra* Walter subsp. *alabamensis* (F.W. Case and R.B. Case) Schnell.

Technical Description: Spring leaves dimorphic or trimorphic (pitchers), clear green to yellow-green, suffused strawberry-red in the upper-third when young, and often strongly maroon-veined only on the basal one-third (inside) of the hood, small, glabrous, 17-50 cm long, recurved; mouth of pitcher 0.7-3 cm wide; summer leaves (pitchers) finely and densely pubescent, 55-72 cm long, not recurved, mouth of pitcher 1.7-6.7 cm wide, soft and thin-textured, often distinctly bright gold-colored or yellowish-green; hoods large, undulate, conspicuously reflexed margins with maroon veins as present in spring leaves; pitcher rim loosely rolled, lacking maroon; juncture of the rim and the lateral wing strongly indented; phyllodia seldom produced or not at all; rhizome densely branched; flowering scapes numerous, 27-57 cm long; sepals 2-3 cm x 1.2-2.0 cm, ovate, maroon-green streaked; petals 2.6-4.2 cm x 1.6-2.3 cm, often erose-denticulate on the margin, maroon of various shades; anthesis from late April to early June; fruit a capsule, 0.6-1.0 cm wide when mature.

Non-technical Description: Leaves of two or three different kinds, there are mainly small and large pitchers. The small pitchers arise in the early spring, they are hairless on the outside and have distinct maroon veins on the upper inside portion of the tube. The summer leaves are covered with dense short hairs, they have a golden tint with maroon veins as in the spring leaves. The pitcher rim is slightly rolled and lacks the maroon venation. The flowers are elevated on unbranched stalks that arise directly from the ground, the flowers point downward (nodding), their petals are maroon, and often have fine, irregular teeth on the ends.

Distribution: Open bogs of Alabama, United States.

Population: Colonies range from small clumps to reportedly a group of 100 plants in a 7 x 15 m area. An estimated 500 plants existed in a total of six known localities in 1976 (Lucas & Synge, 1978).

Trade Relevance: Local newspaper advertisements wanting to buy the plants caused the plundering of one locality in 1975 (Folkerts, 1977; Gibson, 1976). Commercial dealers ship these plants mostly as rhizomes.

Propagation: Horticulturists grow this species successfully from seed and tissue culture is employed for large scale clonal reproduction. Division of crowns and rhizomes has been used, although this is not a preferred method because a large amount of plant material is needed.

Similar Species: As observed by McDaniel (1966) and Kral (1983), the taxonomic status of these Alabama plants is controversial. Some researchers, such as D. Schnell, believe it is a shade variant or semispecies of a highly variable superspecies, *S. rubra*. Case and Case (1974) emphasized, however, that *S. alabamensis* subsp. *alabamensis* differs from all other taxa of *Sarracenia* by producing dimorphic leaves (recurved, short spring pitchers, and longer summer pitchers) and also phyllodia (reduced foliar organs).

"The spring pitchers of *S. alabamensis* ssp. *alabamensis* differ markedly in developing a curved form and in lacking the external dark maroon coloring of the veins, pitcher rim and hoods found in *S. rubra* and *S. jonesii*. The summer pitchers, straight and usually much larger and more tapered than those of *S. rubra* (not *S. jonesii*), differ from those of both taxa in possessing a softer texture, a visibly fine pubescence and a paler yellow-green color. The veins are maroon colored primarily only on the inside of the pitcher tube. The greater expansion of the hood, the stronger reflexion of the hood neck margins, the strongly coiled orifice rim, and overall yellowish-green coloration are also good distinguishing characters (of subsp. *alabamensis*)" (Office of Endangered Species. 1980. U.S. Fish and Wildlife Service).

Other similar species within the genus *Sarracenia* are *S. flava*, *S. oreophila*, and *S. alata*.

Members of the Asian genus *Nepenthes* are similar because they produce pitchers; although they are easy to distinguish because they form vines and the pitchers are usually suspended and pipe-shaped.

References:

- Case, F.W. and R.B. Case. 1974. *Sarracenia alabamensis*, a newly recognized species from central Alabama. *Rhodora* 76: 650-665.
- Folkerts, G.W. 1977. Endangered and Threatened Carnivorous plants of North America, pp. 301-313, in France, G.T. and T.S. Elias, eds., *Extinction is Forever*. New York Botanical Garden, Bronx, New York.
- McDaniel, S.T. 1966. A Taxonomic Revision of *Sarracenia* (Sarraceniaceae). *Bull. Tall Timbers Research Station* 9:1-36.
- Office of Endangered Species. 1980. Status Report-*Sarracenia alabamensis*. U.S. Fish and Wildlife Service, Dept. of the Interior.

References For Additional Illustrations:

- Case, F.W. and R. Case. 1976. The *Sarracenia rubra* Complex. *Rhodora* 78(814): 293, 314.
- Schnell, Donald E. 1977. Intraspecific Variation In *Sarracenia rubra* Walt. Some Observations. *Castanea* 42: 154, 156, 157, 158, as *S. rubra* subsp. *alabamensis*.

SARRACENIA OREOPHILA

Scientific Name: *Sarracenia oreophila* (Kearny) Wherry, *Bartonia* 15: 7-8 (1933).

Common Names: Pitcher plant, green pitcher plant, trumpets, bugle grass, bog-bugles, dumbwatches, watches, buttercups, Eve's cups, frog bonnets.

Species Protection Status: Placed on Appendix I in 1981 and on U.S. Endangered Species List in 1979.

Scientific Synonyms: *Sarracenia flava* var. *oreophila* Kearny.
Sarracenia catesbaei Mohr et al.

Technical Description: Leaves dimorphic; phyllodial leaves falcate to linear 5-18 cm long, 0.50-3.5 cm broad with a thin clasping base, more numerous than the pitchers, persistent, developing before and after the flowers; pitchers green to yellow-green, 20-75 cm high, 6-10 cm wide at the orifice; the orifice subtended by a hood with a blade, suberect, reniform to obovate, apiculate, slightly constricted and strongly revolute at the base, adaxial surface glabrous, internally glandular pubescent, acute to caudate at the apex; internal pitcher veins maroon; rhizome 1-1.5 cm thick; flowers greenish-yellow, pleasant smelling, nodding, 5-merous; scape 45-70 cm long, 3-4 mm thick; petals 4-5.5 cm long, yellow; apical portion 1.4-1.7 cm wide, obovate to elliptic; sepals 3-5 cm long, 2.4-3 cm wide; style disk 5-8.5 cm



Sarracenia oreophila

wide; fruit a 5-valved loculicidal capsule; seeds 1.8-2.0 mm long, irregularly obovoid-pyriform, strongly tuberculate-areolate.

Non-technical Description: There are two types of leaves. One type, the pitchers, are numerous, 20 to 74 cm high by 6 to 10 cm broad, erect, and form a hollow space that traps insects. The other type are smaller basal leaves, between 5-18 cm long and sword-shaped. The pitchers are covered at the top by a hood that is suspended over the opening, the hood is slightly constricted at the place where it is joined to the pitcher. Within the pitcher there are distinct maroon veins. The flowers are greenish-yellow, pleasant smelling, and on a long stalk that projects from the ground. The flower stalks are about as long as the pitchers.

Distribution: South-east United States in Alabama and Georgia.

Population: These plants are restricted to moist mountainous areas, where they are isolated in small populations, and are alarmingly rare. The main threats are habitat destruction and commercial exploitation.

Trade Relevance: Pitcher plants have become extremely desirable ornamental plants. The volume of world trade is unknown but it is thought that trade among private collectors is most detrimental to remaining wild populations. Commercial dealers ship this species mostly as rhizomes.

Propagation: Propagation of the green pitcher plant is difficult. Horticulturists can divide the rhizome successfully. This species has narrow tolerance limits and is difficult to maintain in cultivation.

Similar Species: Identification of most members of the genus *Sarracenia* require considerable expertise. The most similar species are *Sarracenia flava*, *S. alabamensis* ssp., *S. jonesii*, *S. alata* and *S. rubra*. Controversy exists over the taxonomy of these taxa because of extreme similarity of appearance and because they may form hybrids. The Asian *Nepenthes* species bear a resemblance to *Sarracenia* spp.; but *Nepenthes* spp. are usually climbing vines with pitchers suspended in mid-air.

References:

- Slack, A. 1979. *Carnivorous Plants*, M.I.T. Press, Cambridge, Massachusetts.
- Troup, R.R. Jr. and S. McDaniel. 1980. Current Status Report On *Sarracenia oreophila*, Office of Endangered Species, U.S. Fish and Wildlife Service, Dept. of the Interior.
- Wherry, E.T. 1933. The Appalachian Relative of *Sarracenia oreophila*, *Bartonia* 15: 7-8.

SARRACENIA JONESII

(Illustrated on Back Cover)

Scientific Name: *Sarracenia jonesii* Wherry, *Journ. Wash. Acad. Sci.* 19:385 (1929).

Common Name: Upland red pitcher plant, mountain sweet pitcher plant, Jones sweet pitcher plant.

Species Convention Status: Appendix I, listed in 1983.

Scientific Synonyms: *Sarracenia rubra* Walter subsp. *jonesii* (Wherry) Wherry.
Sarracenia rubra Walter forma *jonesii* (Wherry) Bell.

Technical Description: Leaves monomorphic, green; veins purple; hood veins maroon; pitchers glabrous, 21-73 cm high (average 45 cm); petioles 1/4 to 1/3 the length of the pitcher, the mouth of the pitcher 1-4 cm (average 2.84 cm); the tube becoming abruptly expanded in the uppermost portions; often a notch-like fold is formed on the adaxial face of the pitcher, with a corresponding bulge in the abaxial face, 1-4.2 cm wide; lateral wing of the pitcher very narrow; neck of the hood long; hood ascending, held high over the mouth, cordate, its

margins weakly to moderately reflexed, 2.4-6.5 cm long x 2.4-5.4 cm wide; rhizomes only moderately branched; flowers on scapes, few to numerous per plant, 32.5-69.6 cm long; sepals 2.5-3.5 x 1.5-2.0 cm broadly ovate, moderately reflexed, maroon or green-maroon mottled; petals pendant, 3.0-4.5 x 2.0-2.8 cm, often with a distinctly shovel-shaped distal lobe, maroon; anthesis in late April into early June, flowers lasting about seven days in cultivation.

Non-technical Description: Leaves are numerous, primarily of one type. Pitcher-shaped tubular leaves 21 to 73 cm high, with the tubular portions on a short stalk 1/3 to 1/4 the length of the tube. They are green with maroon veins on the inside of the hood. the hood blade is held over the mouth, it is heart-shaped. There is a lateral wing that runs down the side of the pitcher. The flowers are greenish with maroon spots, borne on tall stalks arising from ground level and about as high as the pitchers. The flowering time is early to mid-spring.

Distribution: Localized in the Mountains of North Carolina, and adjacent South Carolina, United States.

Population: Extant populations are located in rapidly developing tourist areas (Folkerts, 1977).

Trade Relevance: Commercial dealers have over-collected in many previously known habitats. The plants are most easily shipped as rhizomes.

Propagation: Pitcher plants are propagated by seed, but other methods are now used to clone them; tissue cultures and rhizome divisions are the most successful.

Similar Species: Members of the *S. rubra* complex are most similar in pitcher size and coloration: *S. alabamensis* subsp. *alabamensis* (*S. rubra* subsp. *alabamensis*), *S. alabamensis* subsp. *wherryi* (*S. rubra* subsp. *wherryi*), *S. rubra* subsp. *rubra*.

The taxonomy of this complex is controversial because of extreme similarity of appearance and potential hybridization.

Other similar species are *S. oreophila*, *S. alata*, and *S. flava*.

Sarracenia species may be confused with *Nepenthes* species; however *Nepenthes* originate from Asia and generally form climbing vines with suspended, pipe-shaped pitchers.

References:

- Folkerts, G.W. 1977. Endangered and Threatened Carnivorous Plants of North America, pp. 301-313, in France, G.T. and T.S. Elias, eds. *Extinction is Forever*. New York Botanical Garden, Bronx, New York.
- Case, F.W. and R.B. Case. 1976. The *Sarracenia rubra* Complex. *Rhodora* 78(814): 270-325. pp. 292, 293.
- Office of Endangered Species. 1980. Status Report-*Sarracenia alabamensis*. U.S. Fish and Wildlife Service, Dept. of the Interior.
- Schnell, D.E. 1977. Intraspecific Variation in *Sarracenia rubra* Walt.: some observations. *Castanea* 42: 149-170. Pages 154, 158, as *S. rubra* subsp. *jonesii*.

Sarracenia illustrations (pages 31, 34 and 60), courtesy of the Smithsonian Institution and the Department of the Interior. Drawn by Cathy Pasquale under contract to the Smithsonian Institution to accompany manuscript identification sheets being developed for a CITES manual. Materials supplied by R.A. DeFilipps, Smithsonian Institution and Doug O. Fuller, TRAFFIC (USA)-World Wildlife Fund.

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J.A. Mazrimas produced the photographs of the illustrations.



Cathy Pasquale