

Drosera filiformis. Dry sandy spot in New Jersey Pine Barrens. Photo by David Butler. See page 16.



First leaves of *Drosera filiformis* in New Jersey Pine Barrens. Photo by David Lane. See page 16.

Drosera Hybrid Found In Pine Barrens

by David E. Butler (5114 Elm St., Bethesda, MD 20814)

During June, 1984, on a canoe trip to the Pine Barrens of New Jersey, rare hybrid specimens of *Drosera rotundifolia* × *intermedia* were located in a remote area. The hybrids were notable not only for their rarity, but also for their unusually large size. At least one specimen later produced some seed. It is not known whether seed from these hybrids will prove to be fertile.

The canoe trip was the highlight of a weekend camping trip attended by the writer and Phil Sheridan and Bill Scholl of Virginia. The Pine Barrens is well known as a habitat of the two parent *Drosera* and *D. filiformis* besides. We drove to New Jersey from the Washington, D.C. area on Friday night to camp and search for these three species and other native CP and bog orchids.

Friday night, we camped at Chip's Folly campground in New Gretna. The campground has approximately 300 sites in a remote wooded location, on a brackish bay. *D. rotundifolia* and *intermedia* may easily be found at pond margins within the campground. Canoeing is possible at the campground, but the best CP stands are inland along fresh water lakes and rivers. One should always check whether a group will be camping at Chip's Folly. During our first stay at the campground, after an all-day canoe trip, we returned to find that the state motocross races were being held all around us. While the trail-bikers were congenial, the noise was of the all night variety. At six a.m., we were awakened by the roar of military jets on the way to a bombing run in the Pine Barrens target range. This is wilderness camping in New Jersey.

This time, however, the campground was notable for the massed chorus of thousands of frogs inhabiting the pond next to our campsite. Mating season was in full gear, and they were having an orgy! The noise was, however, not unpleasant and, after a four hour drive and several sixpacks shared between the campers, sleep came easily.

The next morning, we broke camp shortly before seven a.m. and headed for breakfast in nearby Tuckerton. We then proceeded by car into the Pine Barrens on Route 539. This road offers some excellent views of the dwarf pine forests that cover the area. At one point, the road crests a small hill. The pine forest is no more than four feet high. One can see for miles, towering above the forest like Paul Bunyan.

Near this area, where an abandoned road cuts through a sandy seep field, we found a large colony of *D. filiformis*. The colony extended over an area approximately one hundred yards long, ranging from a few feet to fifty feet wide, depending on the topography. Within the flat seepage area, in which the water table was at surface level with a pure sand strata, *D. filiformis* was the dominant species. The species could also be found in drier areas off to the side in great numbers. *D. rotundifolia* and *intermedia* were also present. *Rotundifolia* could be found only in shaded areas near the edge of the field, and *intermedia* only in the wettest portions of the seep area. I have seen other colonies of *D. filiformis* in the Pine Barrens, but none so numerous as this. I would estimate their numbers as in the tens of thousands. (See photos, p. 15.)

After a lengthy stop at the *D. filiformis* field, we proceeded to Oswego Lake, formed by a man-made dam on the Oswego River. The lake is perhaps a thirty minute drive from Route 539 over mostly washboard dirt roads. We put in the canoe at this lake, which is several miles long. The upper portion of the lake includes a ghost forest of drowned tree trunks that one may canoe through—carefully, so as to avoid being snagged on a submerged stump. Several large sphag-

num bogs line the shore of the lake, with extensive stands of *S. purpurea* and *D. rotundifolia*. *D. intermedia* commonly grows in shallow areas as an aquatic. In this environment, *D. intermedia* will develop an elongated stem and vigorous habit. With some overstatement, we labeled these the "tree form."

Continuing up the river, we found a pristine bog hidden by trees. The bog included the largest specimens of *D. filiformis* v. *filiformis* that any of us had ever seen, with leaves over twelve inches. *S. purpurea* was common throughout this area.

It was here that we located *D. intermedia* × *rotundifolia*. Several dozen mature plants were noted, many of which were outstanding specimens. In addition, many smaller plants were developing from old leaf tips. They were growing in a sopping sphagnum bog, almost in standing water, in a small clearing approximately 30 by 50 feet, surrounded by dense pine and cedar growth. Their growth habit, as may be expected, is intermediate between the parent species, with an upright rosette and nearly round leaves on long stems. The sheltered nature of the site, which nonetheless permits direct sun during most daylight hours, has undoubtedly contributed to the unusually robust nature of these specimens.

Most of these specimens remain in their home. A few, collected for further study, flowered during September. Flowers are white, like those of both parents. In culture, the plants have developed an attractive symmetry to the rosette habit that is not often present in either parent in the natural habitat. I have also observed that the dormant buds are much larger than with either parent. After flowering, a casual examination of the pods revealed a small number of seeds. Due to the surprising nature of the discovery, this amateur botanist collected only a few of the seeds. They are now being stratified and will be set out in the spring. It is unlikely that any will germinate, as sundew hybrids are generally thought to be sterile. However, as Red Sox fans are known to say, wait till next year! Next year will also provide an opportunity to search the Pine Barrens for the as yet un-



Large *Drosera rotundifolia*. Photo by David Butler.

CP Conservation (or lack of it) in the Gulf Coast Area

by Faith Campbell, Natural Resources Defense Council, Inc., 1725 I Street, N.W. Suite 200, Washington, D.C. 20006

As you may remember, in December, 1983, I wrote about the need for greater efforts to conserve carnivorous plant species. These plants continue to receive a low priority from both governmental and non-governmental conservation agencies. Nevertheless, some practical conservation programs are under way, including in the vital Gulf coast area. I thought I should report on these, as well as repeat my plea for CPN readers to join together to do more themselves.

The U.S. Air Force owns some of the best remaining pitcher plant bogs in Eglin Air Force Base in the Florida panhandle. The Florida Natural Areas Inventory estimates that there are hundreds of hillside seeps on the base, some of them a few acres in size. Species diversity and bog quality vary. Some have been damaged by visitors' construction of small dams on the creeks to create fish ponds; in others, shrub invasion is advanced. A good number, however, are in excellent condition. Pitcher plants may constitute 80% of the vegetation cover in some of these.

The Air Force apparently provides no special protection for the seeps. Military exercises generally avoid the wet areas, but hikers and hunters are not restricted.

---

discovered hybrid of *D. filiformis* × *rotundifolia*.

The *rotundifolia* × *intermedia* hybrid has previously been reported in New Jersey (Sheridan, 1978; Schnell, 1976). *Intermedia* has also been reported to hybridize with *D. filiformis* (ibid) and *capillaris*. According to conversations with the author, Sheridan's observations were also made in the Oswego River basin, in a location several miles down river. The presence of the hybrid in disparate sites suggests that natural sundew hybrids may be more common than previously thought. This hypothesis suggests in turn that the likelihood of ultimately finding previously unreported hybrids such as *filiformis* × *rotundifolia* or *filiformis* × *capillaris*, is good.

There is an alternative hypothesis. Since hybrids with *D. intermedia* as a parent are found consistently, *D. intermedia* may be, for unknown reasons, an "easier" parent to work with when attempting artificial hybrids. Perhaps the pollen remains viable for a longer time, or the stigmas remain receptive longer during the time that the flower is open. The two hypotheses are not mutually exclusive. Both may be further explored during the 1985 season.

Authorities Cited

Sheridan, P. *New Jersey Pine Barrens*, 7 Carniv. Plant News. 107, 108 (1978)

Schnell, D. *Carnivorous Plants of the United States and Canada* 70 (1976)

CORRECTION

The ICPS Directory printed in CPN, December 1984, contains some errors in addresses. The correct listings should be

Lorne Dennison
780 E. 10th St.
N. Vancouver
CANADA V7L 2G1

Susan Sikes
180 N. Fourth St. #501
San Jose, CA 95112

REMINDER

If an issue is returned to us by the post office, no further issues will be sent until a change of address is received. For change of address or inquiries regarding your subscription, contact Pat Hansen, 3321 Hamell Road, Fullerton, CA 92635.