

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

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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 bikers 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

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There is no intentional burning of the seeps. Those adjacent to long-leaf pine forests are burned regularly as a result of forestry management practices, but the sand pine forests are not burned so bogs there are more likely to suffer shrub invasion.

The Air Force apparently puts little importance on the pitcher plant ecosystem. Public pressure should be put on the service, especially officials at the base, to change this attitude. Minor changes—restrictions on dam building, burning of the bogs in the sand pine forest areas—could greatly enhance conservation of the ecosystem.

The U.S. Forest Service manages a few thousand acres of pitcher plant bogs in the national forests in Florida, Alabama, Mississippi, and Louisiana. The Forest Service attempts to locate the bogs as part of its general mapping of forest types. It then prevents building of roads, draining,

skidding of logs, and, sometimes, grazing, in these areas. The Forest Service does carry out prescribed burns.

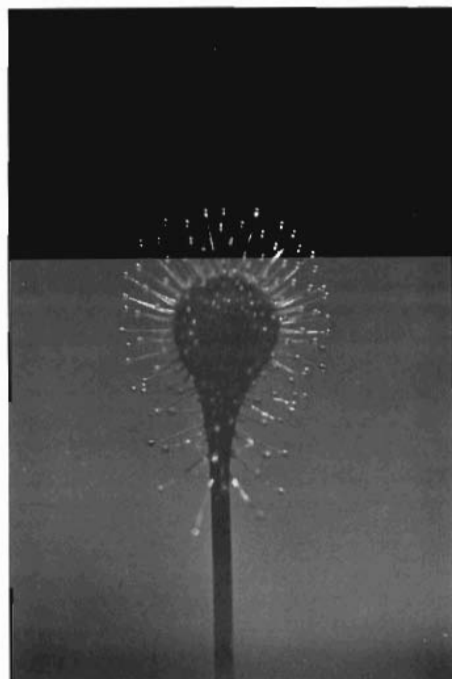
For example, Conecuh National Forest on the Alabama-Florida border has about 77 acres of bogs which have been identified over the years. Some locations were added by a survey for "sensitive" plants carried out in 1983. Grazing is allowed in the vicinity of the bogs, but its effect is monitored and the bogs will be fenced if damage is detected. The two largest bogs have been burned twice over the past 6-10 years. These bogs are relatively diverse, having 3 common *Sarracenia* species (*S. flava*, *S. leucophylla*, *S. psittacina*), other less common species, and a large variety of orchids.

Conecuh N.F. contains only 12 acres of the 50-acre Crawford bog; purchase of the remainder is a high priority if the owners become interested in selling.

The Forest Service requires a permit for commercial collecting of plants; issuance of such a permit for pitcher plants would not be likely.

The Forest Service could do more to protect the bogs. There is need for additional research; for example, Larry Hedrick at the Alabama office of the Forest Service would like advice on the timing and spacing of prescribed burns. At present, bogs are burned in late winter. The Forest Service could also designate more of the bogs as special botanical areas or research natural areas. In the former, only activities that are compatible with protecting the target species are allowed. In the latter, only non-manipulative research is permitted. At least one Research Natural Area has been designated in Appalachicola N.F. in Florida; this 469 acre bog contains *S. psittacina* and *S. rubra*, which are considered endangered in Florida.

The Nation's primary wildlife conservation agency, the Fish and Wildlife Service, gives a high priority to protecting wetlands, but not those that are home to most carnivorous plants. The FWS has been mapping wetlands for 8 years; the focus is still on coastal wetlands and



Drosera intermedia × *D. rotundifolia*?

Photo by Joe Mazrimas

prairie potholes that support waterfowl.

More important to us, perhaps, are two studies of the causes of wetland destruction. The FWS is reviewing federal laws and regulations that provide tax or other incentives that in effect subsidize conversion of wetlands to other uses such as forestry or agriculture. The General Accounting Office, an investigatory arm of the Congress, is carrying out a similar study. These studies' recommendations should be sent to Congress later this year for consideration. Significant reduction of these subsidies would greatly benefit carnivorous plants on private lands.

Meanwhile, Congress is likely to try again to pass a wetlands bill that would give the FWS broader authority to purchase wetlands. (The bill was blocked last year by controversy over the House provision that would have resulted in dredging of a North Carolina coastal inlet.) Whatever the fate of the bill, purchase of pitcher plant bogs in the near future is unlikely due to the pressure to reduce the federal budget and the low priority given to wetlands of interest primarily for their flora.

Florida provides some protection to pitcher plant bogs through its Wetland Protection Act of 1984. A permit is required to modify "transitional" zones of this type. Florida also restricts collecting of endangered plants including *S. rubra* and *S. leucophylla*. The Florida Natural Area Inventory does not assign a high priority to this ecotype because the best examples are already in federal ownership.

The principal non-governmental conservation organization is the Nature Conservancy. While TNC has a nation-wide wetlands conservation program, carnivorous plant bogs in the Gulf coastal states have fallen through the cracks. One problem is the lack of state TNC programs in Alabama, Mississippi, and Georgia. The absence of personnel reduces the Conservancy's knowledge of opportunities to buy bogs; staff time to negotiate deals; and sources of local funding. (Land purchases are financed by a revolving fund which must be reimbursed.) In addition, land

acquisition priorities are set by a ranking system based on the relative rarity of individual species. Therefore, the bogs, which generally contain species which have more than 20 sites throughout their ranges, rank low on the scale.

The Nature Conservancy has recently acquired a bog near Picayune, Mississippi; this purchase was made possible by a grant from a foundation and matching fundraising by a local arboretum. Interest in the bog stemmed from the presence of a plant species limited to only 14 occurrences.

Clearly, if the Nature Conservancy is to do more, it must receive support from carnivorous plant lovers, especially those who live in the Gulf states. TNC needs encouragement, information, and especially fund-raising help.

Outside the United States, bogs are beginning to receive a fair amount of attention. Conservation agencies and volunteer organizations in Ireland and Scandinavia are actively pursuing bog conservation in the face of threats by peat miners and foresters.

The International Union for Conservation of Nature and Natural Resources (IUCN) is the principal international conservation body; it works closely with World Wildlife Fund. IUCN has promoted wetland conservation since its funding in 1948, but has focussed on wetlands important to fauna. Since it is not satisfied with the results of its past efforts, IUCN is launching a 2-year wetland campaign this year. WWF will carry out a parallel one-year publicity and fund-raising project. The goal of the joint campaign is to build a world-wide network of protected wetlands that includes all types of wetland ecosystems and protects all wetland species of conservation concern. Carnivorous plant bogs would be protected primarily by national efforts under the inspiration of the IUCN campaign. Among the priority areas for direct protective action are the Carrowbehy and Owenduff bogs in Ireland and Luiro Aappeatland in Finland.

One of the tools for IUCN's reaching its goal is to develop a global network of

people and organizations that support wetland conservation.

IUCN is a membership organization; the carnivorous plant societies may wish to consider joining (although dues are substantial). In any case, the societies should make contact with the IUCN Wetlands Officer and become active participants in the network.

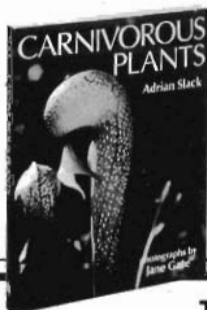
While it clearly would be inaccurate to say that nothing is being done to conserve America's carnivorous plant species, it remains true that the combined efforts are paltry compared to the need. Both government and non-government agencies need to hear from CP fanciers. You can provide evidence of public concern and support for whatever efforts they are making information and funds. This kind of project is best undertaken by an organized group, but individuals acting on their own can also be effective. I urge CPN readers to play a more active part in U.S. and global wetland conservation programs.

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THE 1985 LIST OF CP BOOKS

Not available through CPN. Order directly from publisher or your local bookshop.

* = books intended primarily for children.

□ = Books out-of-print

1. Carnivorous Plants, Gordon Cheers, Globe Press, Melbourne, \$7.95.
2. Insectivorous Plants, Charles Darwin, AMS Press, 1893, 56 E. 13th St., N.Y., NY 1003, \$27.50, 1893 ed.
3. * Plants that Eat Insects: A Look At Carnivorous Plants, Anabel Dean, Lerner Publications, 1977, 241 First Avenue, Minneapolis, MN 55401. \$5.95.
4. Plants of Prey in Australia, Rica Erickson, Univ. of W.A. Press, 1968, World Insectivorous Plants, 2130 Meadowind Ln., Marietta, GA 30062, Cloth, \$15.00.
- 5. * Animals & Plants That Trap, Phillip Goldstein, Holiday, 1974, Holiday House, Inc., 18 E. 53rd St., N.Y., NY 10022, \$5.95.
6. Nepenthes of Mt. Kinabalu (in English), Kurata, S., Sabah National Park, World Insectivorous Plants, 2130 Meadowind Ln., Marietta, GA 30062, \$7.00.
7. * Pitcher Plants, Carol Lerner, William Morrow & Co., N.Y. \$11.00.
8. Carnivorous Plants, Francis E. Lloyd, Peter Smith, 6 Lexington Ave., Magnolia, MA 01930, \$12.00, 1942 ed.
9. The World of Carnivorous Plants, J. and P. Pietropaolo, R.J. Stoneridge, Peter Paul Nurseries, 1974, \$6.30.
- 10. * Insect-Eating Plants, L. and G. Poole, T.Y. Crowell, 1963, 666 Fifth Avenue, N.Y., NY 10003, \$4.50.
- 11. * Plants That Eat Animals, J.H. Prince, Thomas Nelson, 1978, 407 Ave. S., Nashville, TN 37203, \$8.95, 1979 ed.
12. CP of the U.S. and Canada, D.E. Schnell, John F. Blair, Publisher, 1976, 1406 Plaza Dr., SW, Winston-Salem, NC 27103, \$19.95 plus shipping, 1976 ed.