

slowed growth algae start to clog the *U. gibba* and irritate me. To repot I pull out the mass of *Utricularia* and replant a portion in a new container using the method I described above. The remainder is sent to other growers. By summer the tub is dense with growth and a profuse display of flowers. Strangely, my most floriferous clone never produces seed but clones which rarely flower often do produce seed.

I never fertilize *U. gibba* because it would probably result in an algae bloom. If you live near a very pure pond, you may want to take a few spoonfuls of pond water and add it to your *U. gibba*. The natural fauna will help feed your plant's traps, and may help graze the algae. But beware, it could also introduce pests such as snails which might eat the *Utricularia*! The only pest I have ever had on this plant are aphids attacking flower peduncles but removing the few infested inflorescence eliminated the problem immediately.

I am a reasonable person, so when I show newcomers my greenhouse I understand when they get a chuckle from seeing the tubs of my aquatic plants. One friend summed it up well when he said, "You're growing mud!" That is when I show them a container of *U. gibba*. While the other aquatics may not be doing much except looking mucky, *U. gibba* is almost always putting on a great display of lovely blossoms. It is a gratifying plant—grow it!

SARRACENIA CONSERVATION CONFERENCE

Report by Don Schnell (Rt. 1, Box 145C, Pulaski, VA 24301)

On 22-23 September 1993 a special conference called to discuss aspects of conservation, horticulture and trade of the genus *Sarracenia* was held at the Atlanta Botanical Garden. The conference was hosted by Ron Determann, supervisor of the Fuqua Conservatory, and Madeleine Groves of the Fauna and Flora Preservation Society (British). The conference was moderated by Ron Determann who did an excellent job of conducting lines of thought and gently bringing discussions back from tangents. About 40 invited people attended, a rather phenomenal number considering that there was no financial underwriting by the conference for travel, room, etc. The conference in effect centered on the southeastern states, and particularly the Gulf coast.

A written proceedings will be distributed to conferees in the near future, and supposedly will also be available to anyone inquiring. I will let readers know about this as soon as I hear more. In the mean time, I thought it would be useful to briefly summarize some of what I took away from the conference as well as my views on it. What I will present is certainly not complete since we spent about 12 hours in session. Further, what I have selected is of course inevitably colored by what struck me. Selectivity for these two reasons must necessarily be subjective to some degree.

The backgrounds of attendees were quite varied. We had professional botanists, hobbyists, commercial interests, a paper company, National Forest folks, field people from the Fish and Wildlife Service, TRAFFIC/WWF, state departments of natural resources, and so on. A very interesting cross section indeed. In addition to people from the US, there were attendees from Great Britain and Netherlands. The conference philosophy was a freewheeling informal brainstorming session in which topics were introduced by Ron and opened for comment.

During the round of introductions we were each asked to speak of our interests and quite independently several of us voiced a conclusion right at the beginning that the best hope for sarracenias was immediate preservation of large blocks of land containing good ecosystem, with "hydrology" secure, and with sound and continuous management. During the conference it was proposed by one conferee that a Pitcher Plant

National Monument be established as several separate parcels of such land located in appropriate parts of the country. To my mind, the latter smacked of some government participation which is very unlikely to any substantial degree, and would more likely slow efforts and tie them in red tape. I felt accelerated private financial backing such as Nature Conservancy would be best. While "everyone" is fascinated by pitcher plants, few are willing to put up the significant efforts and funds to establish such reserves. But, pitcher plant areas also have many other important plants, animals and biological interactions that deserve saving, and taken together would appeal to a larger segment of the population. Talking with folks between sessions out in the hall led me to believe that many if not most there felt the same about preserving land by whatever means.

Conservationists among us are familiar with the widely held concept—deserved or not, still widely held—that the US Forest Service has essentially acted as a sales agent to dispense tree cutting rights to various timber companies, and that they do the job badly from the people's point of interest. Clear cutting is out of hand, there is graft and cheating that honest field officials are forced to overlook by Washington, the Forest Service pays for all roads leading into cuts, and all in all such sales result in a loss financially to the American People. The Forest Service representatives at the meeting pointed out that in the last ten years or so the Service has tried to forge a new direction by hiring many biologists, hydrologists, ecologists, soil surveyors, etc., all to implement the motto, "Land of many uses" which we have all seen on signs on entry into Forest Service lands.

My feeling, and that of several others, was that the Forest Service—besides continuing timber business largely as usual—is further caught in a trap of "multiple uses" promises. For example, off-road vehicle hobbyists have a right to use some part of the Forest for their sport, and often like a run through wetlands as a challenge, wetlands where pitcher plants may grow. They and many other interests must be accommodated somehow. The representative mentioned that under law people cannot just come into a National Forest and dig or pick plants and remove them, yet thousands of acres of herbs, shrubs and "junk timber" are destroyed annually in the process of clearcut or replanting into monocultures. Most felt the jury was still out on what the Forest Service could or would do with this additional professional help. The Forest Service is under the Department of Agriculture which fosters crop production, and timber is a crop.

On the other hand, some small efforts are underway on Forest Service land. The two *Pleea* savannas in the Appalachian National Forest are two examples, and there are plant surveys underway there in other areas. We received a handout summarizing half a dozen projects being undertaken to conserve areas of the National Forests. While it would be unfair to count the Service out yet, they do have a long uphill climb to overcome past and even recent activities and misplaced policies.

This leads quite naturally into timber and paper company activities on their own extensive land holdings. Our representative was from a company mainly centered along the Gulf coast. He mentioned cooperation with researchers and watching over some small areas. His company's policy was to abandon deep ditching and bedding site preparation as too expensive for what they got out of it, so they would just go around sites not suitable for silviculture. However, management of such sites, often pitcher plant wetlands, precluded burning since this presented control difficulties and expense in light of adjacent silvicultural stands. Therefore, fire is inhibited and such areas are likely to deteriorate. Also, one wonders what of the previous deep ditching and bedding?

I might mention that this is not the policy of two other paper companies in the

eastern Carolinas where deep ditching has been quite successful in producing mesic lands for silviculture. I have seen quite regularly over the past few years locations literally occupying a few square miles drained dry and everything leveled, burned and removed ready for planting. Since timber is about to play out in the far west, there is increasing pressure on southeastern timber areas.

It was mentioned that significant pitcher plant sites are located on military bases, particularly the sprawling Eglin Air Force Base. Many times these "marginal" portions of military preserves are used for gunnery and bombing practice. Also, while many military installations are surprisingly open to outside visitors, there are restrictions on sites to even most military weapons testing and firing range personnel.

The subject of mass education and urging public pressure on owners of pitcher plant bogs was brought up. The problems of cost, vehicle of education, direction, etc. were all brought up. Some conferees felt that rural land owners have become quite suspicious of "government" (even private concerns mentioning conservation or asking about their lands being held in the same light as "government") as a result of Endangered Species Act activities. Most rural land owners seem to feel scared of ESA efforts, and if pushed would resist even further, and have been known to destroy sites on their land so they would not be bothered. Also, a groundswell of public activity might lead to overbearing legislation which would contribute to the negative land owner feelings. Still, the conference felt that "gentle", sensitive efforts should be made to purchase suitable sites, or at least convince the land owner to agree to a management plan. In spite of the picture of southern rural land owners presented above, many are quite educated, reasonable and even take pride in these mysterious plants that have everyone in an uproar.

There were representatives of land owners who harvest and sell pitchers of *S. leucophylla* at the meeting. Readers will recall that this has become an industry with up to several million such pitchers harvested each year. There are concerns about how such leaf removal might ultimately harm the plants. The harvesters at the meeting mentioned that they only harvested from their lands or leased lands, and that they paid out considerable expense for help, leases, insurance, packaging, shipping, etc. Also they exhibited some selectivity in that they harvested no more than every third pitcher and picked those that seemed most horticulturally acceptable. They cut the pitchers from the plant leaving the lower six inches or so of digesting insects which they thought would help the plant.

The problem with the situation as they see it is poachers. These are not owners and leasers and they frequently raid sites and literally tear up pitchers and sometimes plants by the handful to quickly load them into trucks as large as tractor-trailer size. As a result of these poachers, and also more people doing legitimate harvesting, the bottom is falling out of the domestic and foreign market such that expenses are close to exceeding profits and many may be driven from the business. The question then arises, what will these land owners do to make this pitcher plant land productive now?

A few notes on commercial aspects. Theo de Groot of Cresco in the Netherlands mentioned that the huge greenhouse ranges of CP of which he brought photos are all now the products of tissue culture and leaf cuttings. He said he and his country were acutely aware of CITES and obeyed all rules strictly. Several people in the group mentioned incidents of how CITES had been circumvented (although not in the Netherlands). They stated that there were ports well known to exporters where nearly anything could be passed, often in the same country where other ports were strictly monitored. One only had to address the easy port of entry. Also, shipments of *S. leucophylla* pitchers had been labeled as fern leaves, shipped out of Miami, and received undisturbed at one of these easy ports. No one would have known of it had

the shipper in this country not bragged of it.

Bob Hanrahan mentioned that in spite of much concentration on selling CP in this country and field collecting by individuals, the market was actually relatively small and soft. He stated that his property where he raised and propagated CP for market in the US could easily supply the entire world demand for American CP. It seems to be a matter of logistics and information. Also, he and several other US and non-US dealers did not intend selling CITES plants since it was too troublesome and expensive to keep up permits, inspections, etc., considering the even smaller market for these plants. We seem to have an irony that legitimate marketers for CITES plants (eg *S. oreophila*) are actually discouraged (in spite of what Fish and Wildlife say) selling their plants in the small market. But the numbers of people desiring such plants are enough that if they field collect even for personal use, they can significantly damage many small and threatened locations containing the only plants left in nature.

The main threat to CP locations is still destruction of habitat, either actively or passively by restricting fire. Personal collecting for private growing is not a threat except in very limited and sensitive situations such as mentioned above (*S. oreophila*, *S. rubra* ssp. *jonesii*, etc). Commercial collecting is way down and largely restricted to contract with small property owners.

There was active discussion of whether the southeast should be thoroughly surveyed for any remaining unknown CP stands of importance. Privately, many discussants mentioned to me that resources should not be wasted on small populations which are essentially doomed, the exceptions being locations of the above mentioned plants which are so few in numbers now, and even then only the best few sites selected for active management. One discussant expressed a strong question of whether we really needed to know of every last sarracenia site, that the aura of mystery and concept that they were still out there somewhere would be lost. Others strongly disagreed and felt that surveys should proceed apace. Sureveys are expensive and approaches from public roads are pretty well exhausted, requiring use of such vehicles as helicopters for efficiency, but this is particularly expensive.

Finally, a few odds and ends. India is actively into producing *Dionaea* for the world market. de Groot is so impressed with the quality of their material for the price, and quantity, that it is cheaper for him to import from India to wholesale from his nursery than to raise the plants himself. I thought to myself of the possible irony that one day we might import *Dionaea* from India for sale in the US! Honduras is gearing up to grow sarracenias in large numbers, primarily for the cut leaf trade, possibly as plants later.

All in all, it was a very good meeting. It was the first time that so many people knowledgeable of and having keen interest in sarracenias met in the same room under very civil circumstances. Naturalists exchanged views with people in government and the commercial world and we all left unbruised and I believe better advised on many aspects of this problem. There were no facile solutions, no "white paper", because the problem is so huge and complex. We can talk glibly of "habitat destruction", but all the facets of that are so large and extended and so far progressed that just blaming people without offering alternatives and action is not enough. We are past that now and must save as much as possible of that 3% of southeastern savanna that is left, and quickly.

Again, my appreciation, congratulations, and tip of my field hat to Ron Determann and Madeleine Groves for a job very well done, fellow conferees who took the time and trouble and even traveled from overseas in some cases, and the Atlanta Botanical Gardens for being such a gracious and patient host.