

Having parked the car, I started my walk down the long and stoney foot-path that twisted its way straight through the middle of the Hinchelsea bog. The whole area was one big dip which rose up on the other side into woodland and pine forest. The black peaty bog was either side of the foot-path, and the occasional wild horse or pony could be seen plodding through the goo in search for green vegetation. I walked half way down the foot-path until I found a slightly drier part of the bog to walk on. This was on the left side of the path, and I was able to penetrate about ten yards into the bog. In my haste to start this venture, the one important thing that I forgot to bring with me was a pair of water-proof boots. All I had on my feet was a pair of sandals that I had worn all the way through the long hot summer and had become quite accustomed to. Eventually I was forced to take the sandals and my socks off, and with my trouser legs rolled up, I waded into the bog. I soon noticed that there were many plants of *rotundifolia* and even more of *intermedia* in the black peat of the bog. A vast number of the *intermedia* plants were of a deep crimson colour. This was obviously due the fierce heat of the sun that had been shining constantly for many days. The plants had no shelter from the sun as the whole area was very open. There was a small area of shallow water nearby, which was full of reeds and with hummocks of sphagnum around the edges. There seemed to be more *rotundifolia* plants in the moss, whereas the *intermedia* plants seemed to favour the wet peaty areas of the bog. I was a bit disappointed that there were no signs of the rarer *anglica* plants described as being abundant in this bog. However, I collected a few specimens of the *rotundifolia* and *intermedia* plants and trod my way carefully back to the foot-path, first collecting my sandals and socks. I made my way up the rest of the stoney foot-path and into the pine forest still feeling despondent at not finding *D. anglica*. I could have walked for miles, but as the sky was clouding over, I decided to walk back. When I eventually reached the perimeter of the bog, I thought perhaps I would explore the opposite side to the part I had walked in earlier on in the morning. This side of the bog was about half a mile long and when I finally reached the extreme end of it, I found myself on a new foot-path. This part of the bog was much wetter than the other side, and a small stream wound its way into the middle of it. The ground was a mixture of very wet peat intermixed with sphagnum, and it was not as flat as the other side of the bog. After studying it for a few minutes, I decided to cast aside my footwear once again and wade in. It was very boggy, but with the help of a broken off tree branch, I was able to walk in about seven yards. It would have been impossible to go any further. There was a lot of long grass about and because of this it was difficult to see much else. All of a sudden, my eyes fell on something dewy and shining in amongst the grasses. With much difficulty, I managed to squelch my way to the spot my eyes had rested on, and there it was, *Drosera anglica* in full splendour. There were quite a number of plants scattered around the area, and if I could have gone further into the bog, I think I would have found many more. After having collected a few of these plants which seemed to be the only *Droseras* there apart from a few spasmodic *intermedia* plants, I finally dragged myself from the bog. The time was one o'clock, and so I decided to sit down and eat my packed lunch. After about twenty minutes of sitting on the edge of the bog in complete quietness, and having seen only four people in the time I had spent in Hinchelsea bog, I got up and put on my foot-wear once more. A sudden clap of thunder heralded my time to depart, and I slowly made my way around the outer edge of this wild and lonely land, and back to the car. As I drove out of the Rhineland, it started to rain, but I could not care, for I had found what I had hoped to find all in the space of one morning, a morning spent with the *Droseras* of the New Forest.

## CONSERVATION AND CARNIVOROUS PLANTS

by Landon T. Ross

### Introduction

Almost everyone who is involved in the study or cultivation of carnivorous plants is aware, to some degree, of the urgent need for conservation efforts. A number of taxa are on the verge of extinction, many prime habitats have been destroyed, and numerous locations are in serious danger. This distressing situation has been discussed many times (for example, see Schwartz, 1974, p. 9; DeFilipps, 1976; Johnson, 1976; Mazrimas and Schnell, 1976; and Schnell, 1976, p. 9) and I will not belabor it here. Instead, I will try to offer some recommendations on how to be a CP enthusiast and, at the same time, a benefit to future scholars, hobbyists, and the plants themselves. These are, of course, my personal opinions which do not necessarily exactly reflect the views of the editors or the policies of CPN.

### *Field Collecting*

1. Never remove specimens of any of the really scarce plants from the field. This applies particularly to some of the rarer types of *Sarracenia* and *Nepenthes* which have very restricted distributions. If you are fortunate enough to find such a location, and feel that you must have some of the plants for your own purposes, time your visit to coincide with the fruiting season so that you may collect a limited amount of seed. Depending upon local conditions, it may be a good idea, at the same time, to try to help the population out by sprinkling a few seeds in the least crowded parts of the site. If done carefully, cuttings may sometimes be taken for later vegetation propagation without materially damaging the plants.

2. Do not collect plants from small isolated populations of any species. These often consist of a few struggling specimens which may represent a remnant of a previously much larger population or even the beginnings of a new distribution expansion. In any case, these sites are often of great scientific interest, and may be of some considerable importance to the well-being of the species. Since this type of location is often characteristic of the distributional limits of a species, you will often find much more extensive stands of a given plant within a few miles.

3. When collecting plants, especially in situations contrary to the above recommendations, try to exercise your self control. In marginal locations and in the case of scarce species, an altruistic hobbyist gathering specimens for all his friends can do as much damage as any commercial collector. It is always best, even when dealing with common plants, to only take what you feel you really need. If you are at all unsure of your ability to grow a given kind of plant, you should be even more cautious about field-collecting specimens. Test your horticultural talents on the common varieties first.

4. Avoid breaking the law. Concern for our environment, and specifically for the continued existence of some of the more endangered organisms, has led to the creation of a large number of conservation-oriented laws at all governmental levels. Many of these apply rather directly to carnivorous plants. A great deal of scientific expertise has often (but not always) gone into the formulation of these, and if they were carefully obeyed, many taxa and populations would be in much less danger. Since the legal penalties are often relatively severe, this recommendation should also be considered from a practical standpoint. Although you should check for yourself, as a general rule the following types of laws will be found: 1) all plants in parks, wildlife refuges, and similar areas are protected, 2) certain very scarce CP are protected in all areas, and 3) CP which are rare in a local area, are often protected there even if they are common elsewhere. In the United States, at least, you are likely to find that it is illegal to collect most CP unless you have specific permission of the landowner.

5. Be cautious about informing others of the locations of isolated populations or rare species. It is now becoming apparent, especially to the scientific community, that great damage can result from the release of this type of information. Commercial exploration has historically often followed on the heels of the publication of even moderately explicit locality data. Because of this, the scientist in particular is now placed in the very uncomfortable position of withholding important information to protect the object of his interests.

### *Purchasing Plants*

6. Buy your plants only from reputable dealers who you can be sure did not field-collect the plants they are selling. I only know of two such dealers in the United States, "Sun Dew Environments" and "World Insectivorous Plants," although there may be others. Avoid dealers, such as "Peter Pauls Nurseries," which have been known to have solicited field-grown material.\* There are almost certainly a considerable number of dealers of this type presently in business. It would be of great benefit for all CP growers to have seen the ravages which can be caused by commercial exploitation, the trampled and cratered fields which were once pristine bogs or savannahs.

### *Positive Conservation Measures*

The above recommendations have essentially consisted of things which you should avoid doing. If you would like to do something of positive benefit, there are a number of courses of action available.

\* A letter of documentation is on file with the editors of CPN.

7. Work for better laws to protect carnivorous plants. If you live in an area where there are native CP, find out if any of them are in need of more protection and then contact your local lawmakers. You may find them to be quite helpful, in the absence of any particular opposition to your request, and willing to add a "conservation" feather to their caps. Be careful, however, to make your point as reasonably and logically as possible. It is probably of even more importance, at the same time, to attempt to find if the existing laws are being enforced. They are probably not. Since this type of law is usually handled by agencies which also regulate hunting and fishing, plant protection may be given a low priority. Report any incident which you feel may be in violation of the carnivorous plant protection laws. You will probably not have enough evidence to lead to any real action, but this type of report may lead to an increased awareness of the need for improved enforcement on the part of the agency. With respect to the type of activity discussed here, there is no substitute for acquiring some knowledge as to how your government works (local conservation organizations will be delighted to help you), followed by the writing of letters to all appropriate governmental officials and employees.

8. Make some effort to see that significant CP habitats are preserved. This is not an easy task at all, but is probably the most important single action you can take. Many persons involved with carnivorous plants are aware of some prime location which is vulnerable to elimination. Indeed, many are all too familiar with such sites which have already been destroyed. The most efficient use of your time can probably be made by contacting local conservation groups and educating them as to the uniqueness and intrinsic scientific value of such locations. (You should, of course, also beware of publicizing these places, as previously noted.) They will often know the right mechanisms for placing these lands in the public trust, and for seeing that they are intelligently managed in the future. Once again, a letter-writing campaign may be relatively effective.

9. If you are one of those individuals who is fortunate enough to be growing some of the rarer or more endangered plants, propagate and distribute them as widely as possible. I do not have a great deal of faith in the concept that individual growers will, in the long run, be able to preserve species which have been exterminated in the wild. However, it is fairly obvious that if all growers who were interested in, for instance, *Sarracenia rubra jonesii*, had several specimens, there would be no incentive for the collection of the wild plants.

#### Conclusions

Hopefully, it is now obvious that there are many things which any CP enthusiast can do to further the cause of conservation. Some of these may be accomplished by a little positive action, but many require only that the grower's interest in obtaining as many species as possible in the shortest time be slightly curtailed. I do realize, though, how difficult this may be, and must admit that I have not, in the past, always followed my own recommendations. This was often due to ignorance of the real need for conservation measures, but was sometimes caused by a belief that the only way in which I might obtain a given plant was by collecting it or purchasing it from any willing seller. There may, previously, have been some slight validity in this belief, but with few exceptions, it is no longer true. Many people involved with the CPN Seed and Plant Exchange are willing to help out less advanced growers, often to the point of distributing scarce material *gratis*, and the conscientious commercial sources are doing their best to expand their lists of available species. You will find, given sufficient patience, that you will eventually be able to obtain almost any plant you wish and keep an entirely clear conscience in the process.

Whatever your interests in carnivorous plants may be, try to always keep in mind their precarious status. Realize the fragile nature of most of their habitats, the endangered status of some of the species, and act accordingly. To do so is to assure the future of these marvelously interesting plants.

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