

From OWEN TALLMAN: Just remembered there were *two* mentions in last CPN that you should allow commercial firms to advertise as a source of revenue. Good idea, but also something to consider very carefully as you can get trapped when, in the future, you come to count on the ad money too much and you feel the pressure to compromise. I have a suggestion. Take commercial advertising in a strictly controlled form. Rather than a yearly March listing *gratis* have one annual, complete list, free, then carry a part of a page as a paid listing (every issue, with the *same* content)--sort of a controlled classified where you determine exactly what can be said. For instance, each firm that paid \$20.00 for an ad would get name and address listed, perhaps a slogan or "line of advertising" as in the phone book, and perhaps a list of available genera, whether plants and/or seeds are sold in general, or perhaps if books and supplies are sold. I would appreciate it if, should such a thing come about, the distinction between field-collected and our horticultural CP could be made. I think in general that such a listing would eliminate jousting for space and keep the editors from having to consider the truth of claims made in the ads.

SHORT NOTES

NOTES ON *NEPENTHES MIRABILIS* AND OTHER CARNIVOROUS PLANTS IN QUEENSLAND

by P. S. Lavarack

Over the last five years I have spent several weeks each year travelling in remote parts of North Queensland. Much of this work has centered on Cape York Peninsula, with the objective of locating areas suitable for National Park Reservations, but I have taken the opportunity to indulge my botanical interests which include carnivorous plants and orchids. Here I must admit that while my orchid work has been scientific, including the discovery and formal description of a few new species, my association with carnivorous plants has been rather more casual, taking the form of general observations. Nevertheless the following notes may be of interest to readers of CPN.

Cape York Peninsula is a large triangular mass of land about 550km at the base and 700km in length. The climate is hot all year round with an average maximum for the hottest month (January) of 32°C and for the coldest month (July) of 27°C. Respective average minima are 23°C and 18°C. There is a marked dry season between May and November during which about 10% of the yearly rainfall occurs. Most of the area is low lying, there are few high mountains, but there is a plentiful supply of small streams and rivers, particularly near the eastern coast. The soil is uniformly poor, being derived from mesozoic sediments. The major vegetation types are open *Eucalyptus*-dominated forest, heath and some limited areas of rain-forest.

In describing the carnivorous plants of this area I will divide the Peninsula into two parts: Firstly the bulk of the area and secondly a small area in the southeast corner situated between Cooktown and Townsville and west about 100km.

The major feature of the Peninsula proper in terms of carnivorous plants is undoubtedly *Nepenthes mirabilis*. This is a locally very abundant plant from about Coen north. It also occurs in New Guinea and many other localities in southeast Asia and is, in fact, the most widespread of the genus. Cape York provides an extensive area of habitat suitable for *N. mirabilis*, particularly near the east coast. It is always found in areas that are at least seasonally boggy--in swamps and on stream banks. In some areas the soil may dry out in the long dry season, and I have quite often seen plants growing in dry sandy soil in full sun. Many of the moister swamps have only very low vegetation and in these sunny positions *Nepenthes* is usually a low shrub of up to 1m. Such plants often have a lot of red colouring in leaves and pitchers, but are nonetheless healthy. In more shady positions this plant often grows into a long vine climbing up to 10m into the trees and bearing very few pitchers.



The pitchers vary in size from about 4cm to about 25cm but most are in the 8-12cm range. Colour is also variable but green predominates--often with a red lid. The upper parts of the pitcher may be red or red-spotted while occasional plants may have evenly red coloured pitchers. This colouring does not appear to be entirely governed by sunlight but it is not clear just to what extent it is environmental.

As in other places, a peculiar relationship between insect larvae and the pitchers has been noted. Dr. E. N. Marks of Brisbane has reported three species of mosquito which, quite probably, breed only in pitchers (Marks 1971), while larvae of other insects have also been observed doing very well in the same fluid which means death to most other insects.

N. mirabilis has been collected in flower in August-September. I have found mature seeds only in December and these proved to have a good rate of germination.

Drosera. Five species of *Drosera* occur on the Peninsula--all except one are widespread species outside Australia.

D. indica occurs across the north of Australia and at least as far south as Fraser Island. It occurs in wet, but sunny areas and appears to be in evidence at all times of the year.

D. burmanii with its rosettes of usually green leaves and small white flowers appears to favour more sheltered areas. It occurs at least as far south as northern New South Wales.

D. spathulata. A common plant in the open swamps in heath vegetation. It has apparently not been recorded north of Cairns previously but this must surely be because no one bothered to look.

D. petiolaris. A common species in Northern Australia, it prefers better drained positions than the previously described species. It survives the dry season by forming a compact resting bud which quickly grows with the onset of the wet season.

D. banksii. A dwarf species with elongate stems, this plant is reasonably common across the northern part of the continent but has not been recorded outside Australia. It is often overlooked due to its small size. I have seen it only once, on the margin of a swamp in half shade.

Utricularia are the most abundant carnivorous plants in Eastern Australia, but identification remains a problem. I have been sending specimens to Peter Taylor at Kew and so far the following species have been recorded: *U. chrysantha*, *U. caerulea*, *U. uliginosa*, *U. bifida*, *U. exoleta* and an undescribed species. *Utricularia* species are particularly abundant in many areas and there is a good chance of discovering further new species in the future.

One other genus of carnivorous plants occurs in this area. This is *Byblis liniflora*, and although it is apparently quite common, I have not yet stumbled across it. It occurs in the Northern Territory and south to about Rockhampton.

In the southeast part of the Peninsula between Cooktown and Townsville, the climate is much less seasonal, and rainforests are widespread. Soil types vary, being derived granite or from basalt over much of the area, but on the whole are more fertile than those further north. This is a mountainous area of year-round humid climate and high rainfall.

It is isolated from the moister parts of the Peninsula by a very dry belt of low-lying land. These conditions have given rise to a group of three species of *Drosera* which are found nowhere else. These are *D. schizandra*, *D. adelae* and *D. prolifera*. *D. schizandra*, which has a broad leaf, is a plant of the humid, shady rainforests and occurs at moderate elevations (300-1000m). *D. adelae* is more common usually along creek banks and in swampy areas at low altitudes. It occurs in the area near Cardwell where plants with leaves up to 15cm long have been collected.

Much more rarely seen is *D. prolifera*, which apparently is restricted to the area near Thornton's Peak. The original collection was made in 1932 and since then no further specimens have been collected to my knowledge. I can recall several years ago seeing a colony of plants which can only have been *D. prolifera* near a creek in the foothills of Thornton's Peak at low altitude. When opportunity permits I will visit this area and confirm my identification.

Reference:

Marks, E. N. (1971). Mosquitoes that breed in pitcher plants.
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