fig 1

fig 2

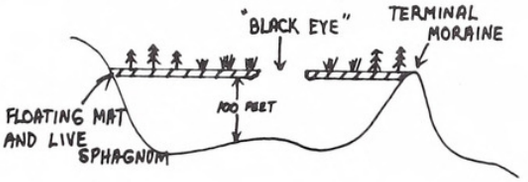

fig 3

follow the advancing sedges, CP and other acid-loving perennials. Finally, small pockets of water will remain, known in Germany as "black eyes" which are aptly named as these will often descend to one hundred feet or more.

If you think you have found one of these "hidden" lakes on a CP field trip, a simple test will reveal all. Find a clump of small pine trees and jump up and down near them. The sphagnum moss should give way a little under your weight and shortly you will begin to actually see the trees sway to and fro.

To stress Don Schnell's views in Volume IV, No. 3, page 42, "that habitat destruction, so rampant and efficient in this age, is the chief threat to most CP."

THE CARNIVOROUS PLANTS OF ALBANY, WESTERN AUSTRALIA

by Doreen Davidson

For those contemplating growing West Australian CP's, particularly from the Albany area, a few weather statistics may be helpful. Generally speaking, Albany has a very mild climate. Winter, the growing season, is cold and wet, but frosts are very rare; and summer temperatures are kept moderate by sea breezes; seldom do we experience temperatures above 38° C. (100°F.) on more than three days each summer. However, many CP's growing under these conditions also extend into areas of light frost and high summer temperatures. The average maximum and minimum temperatures and rainfall for Albany are as follows:

January	23.2° C. (73°F.)	14.7°C. (59°F.)	19 mm. (0.75 in.)
February	23.4° C. (74° F.)	14.9°C. (59°F.)	22.2 mm. (0.87 in.)
March	22.3° C. (72° F.)	14.2° C. (57.5°F.)	34.8 mm. (1.37 in.)
April	21.3° C. (69° F.)	12.4° C. (52°F.)	71.6 mm. (2.75 in.)
May	18.8° C. (66° F.)	10.4° C. (50°F.)	93.0 mm. (3.62 in.)
June	16.8° C. (63° F.)	8.8° C. (48°F.)	105.4 mm. (4.25 in.)
July	16.1° C. (60° F.)	7.9° C. (46°F.)	117.6 mm. (4.62 in.)
August	16.5° C. (62° F.)	8.1° C. (46°F.)	114.6 mm. (4.12 in.)
September	17.6° C. (63° F.)	9.1° C. (48°F.)	84.0 mm. (3.37 in.)
October	18.7° C. (65° F.)	10.0° C. (50° F.)	84.0 mm. (3.37 in.)
November	20.7° C. (68° F.)	12.0° C. (54°F.)	46.0 mm. (1.75 in.)
December	22.2° C. (72° F.)	13.7° C. (57°F.)	35.0 mm. (1.37 in.)

The average yearly rainfall is 827.8 mm. (32.8 in.).

The most common Drosera is D. erythrorhiza which grows in such a variety of soils and situations that it would probably be most adaptable for culture. It forms colonies in dense shade, semi-shade or full sun; in sandy limestone areas, heathlands, light forest, in pockets of soil among granite rocks, on the edges of swamps and within reach of sea spray. Almost anywhere, in fact, except in very wet areas.

Another common species, D. pallida, grows in similar areas, but favors a situation where it can cling to supporting shrubs which also provide shade, and hence, cool soil for the dormant tuber in summer. Growing up to five feet tall, this "rainbow" is conspicuous along many road verges, particularly when the sun follows rain. Favoring slightly damper areas is D. glanduligera which grows in a diversity of soils such as clay, gravelly loam, on the edges of peat swamps and areas of seepage. D. bulbosa is more selective in its habitat, growing in wet sandy flats in an open situation with D. sunhirtella and Utricularia menziesii. The area with which I am familiar supports very little other vegetation--a few stunted melaleucas and sparse rush-type growth, so the lack of shelter from other plants must result in high ground temperatures during the summer resting period.

Looking like a host of miniature Father Christmases, Utricularia menziesii is a small gem which grows in mossy cushions on granite rocks, or wet sandy flats. The situation in which these plants grow assure them of the benefit of any rain which falls; but the very exposed habitat, particularly in the shallow depressions on granite, must subject the dormant plant to a baking during summer, a fact which would probably have to be considered in cultivation.

Utricularia volubilis sends up a flowering scape which twines around the rushes in peaty, swamp areas. Cephalotus which grows nearby favors tussocks where its head is out of water, but U. volubilis prefers to stand in shallow water or very wet situations.

The two species of Polypompholyx--P. tenella and P. multifida--inhabit areas of seepage on hillsides, the latter forming a carpet of color in some areas. P. multifida also likes damp peaty areas, among shrubs such as Callistemon speciosus and Leptospermum firmium.

NEPENTHES CHASING IN SINGAPORE

by Bill Hanna

Before going on holidays I had been busily writing to various people, universities and botanic gardens in the places I was going with the hope of finding someone with an interest in, or who grows carnivorous plants, particularly Nepenthes. The only success I had was in Singapore--with the Botanic Gardens, and with a local businessman, Jimmy, who whilst having no interest in carnivorous plants, had a knowledge of them. The first day in Singapore was spent trying to get in contact with these people. First off I caught a taxi down to Jimmy's office. Instead of ending up there, I ended up at an Indian Department Store in a slum section of town quite some miles away. Upon arriving at Jimmy's office I was to learn that he had troubles in one of his mines and had to fly up to Malaysia to deal with them but hoped to be back very soon. Going down to the Botanic Gardens I met one of the botanists there who was very helpful. I arranged to go back to the Gardens to photograph their plants. The plants were kept in a bush house which was out of the way somewhat and heavily barred and locked. Here the three Nepenthes varieties that were here were grown to what in my mind had to be perfection: so robust, green and covered with large pitchers. Going back to the office, we then had a discussion regarding the Nepenthes and here are the main points of what she had to say. In Singapore there are three varieties of Nepenthes: ampullaria, gracilis, and rafflesiana. However, it is the official policy of the Singapore government to rid the island of Nepenthes, this a result of a ruling by the Ministry of the Environment that they were a potential breeding ground for mosquitos although she said to her knowledge she knew of no mosquitos or their larvae in Singapore that were immune to their digestive juices. They enforce this ruling by spraying them thoroughly or physically clearing them completely. But nevertheless, there are still some to be found, particularly in water catchment areas and along cliffs facing the sea on the west coast, particularly on the island of Sentosa. They are found in the secondary jungle. Here they grow in lateritic clays. The cliff faces are pretty dry and the catchments are boggy. The temperature in Singapore remains fairly constant at 70-75°F. and so does the humidity at 90-95%. The rainfall is from 70-80" per year with an even distribution slightly favoring the end of the year. At the gardens the Nepenthes are grown in a mixture of burnt clay, leaf mold and organic manure. They are fertilized once a fortnight with a small amount of nalotin and are watered twice daily. They have propagated them by striking cuttings in moist sand but have made no attempt at growing them from seed. She has been collecting on Mount Kinabalu which apparently is "THE" place to go for Nepenthes. Having read books which tell of Malaya's Nepenthes, which have been known to consume birds and rodents, I asked her about this. She said the largest thing she had come across in a pitcher was a small lizard, but there was a large range of insects. The only other thing she had to say was that the pitchers had a deeper mottling in the shade. At the end of our discussion she was kind enough to ask if I would like to see them out in the jungle, so she arranged for the garden's chief specimen collector to take me out the next day.

I turned up the next morning armed to the teeth with camera equipment and film. It looked stormy and by the time to leave we were in the middle of a tropical downpour which lasted for half of the day. But as opportunity never knocks twice, I decided to press on.