

THE SOILS OF THE HUNTER VALLEY

by Bill Hanna

Blackbutt Reserve is located within ten minutes drive of the central business district of Newcastle and is approximately 375 acres in area. Within this reserve, two species of carnivorous plants grow. The genus is Drosera and the two species are auriculata and peltata. To generalize, Drosera auriculata is found at the top of the hills and on well drained slopes, whereas Drosera peltata is found at the bottom of the slopes where conditions tend to be slightly more moist. One can find mixtures of both growing together.

In the following passage, I have attempted to describe a soil profile typical of the area where these plants are found. The soil type itself is podsollic.

The soil profile was taken at an old mine shaft in the Queen's Road area of Blackbutt Reserve. A good soil profile was easily obtained for the first fifteen feet. The typical vegetation of this area is mainly tick bush with occasional gum tree. Due to the presence of one of these gum trees near the pit head, root penetration from this tree could be seen to a depth of 15 feet. The first two feet was gray clay. The surface of this clay was liberally covered with coarse angular pebbles ranging in size from 7 x 4 inches down to 1/8 inch in diameter, consisting of weathered ironstone, sandstone, and chert. The majority of the pebbles were on the surface but some were found scattered through the cross section.

In the three foot depth area, there was well weathered shale, yellow-brown in color, its texture granular and ranging in size from a two-inch piece to a speck with some pieces of ironstone scattered through this layer. At the four foot level the shale is now black to black-brown, probably due to the action of humic acids. This shale is extremely brittle and the presence of some iron platelets can be observed. In the rest of the layers the soil type was mostly green-brown chert followed by bands of brick-shaped chert.

MISSISSIPPI FIELD TRIP

by Robert Folkerts

Growing and caring for carnivorous plants has been a rewarding experience for me, but I could not help wanting to go out and observe first hand how they actually grow and function in the wild. Early in November, 1974, my chance came, and I find it difficult to express how wonderful it can be to see some of the plants you pamper and nurture in glass houses growing by the thousands in their natural environment. Along highway 90 about ten miles out of Pascagola, Mississippi, we found a spot mentioned in Randall Schwartz's book Carnivorous Plants. For the short time available to us for exploration, much insight was gained into how these plants fit so well into nature's plan.

Plants seen from the road were, of course, the first things to be investigated and were recognized as colonies of Sarracenia leucophylla, also known as Sarracenia drummondii and sweet trumpet. There would be anywhere from two or three plants to several hundred bunched loosely in a given colony, and colonies seemed to be clearly separated. Most notable to me at first, aside from the sheer beauty of these plants, was their remarkable diversification of coloration and pattern even within single colony groupings. Many lids were predominantly white with almost no venation or red coloration, some had mostly red venation, while still others had both red and green patterns. At least one specimen had a snow white cap with a red border around the edge. Variation within leucophylla species seemed almost endless and it set me to wondering how so many genetic combinations could ever be clearly separated into one classification. Specimens waist tall were predominant (measuring approximately 30 inches from base to tip). Pitchers taller than 30 inches were not nearly so numerous, and lesser forms were almost hidden from view in places because of tall grass. One specimen of about average height had a remarkably large opening, almost 3 inches across. Great efficiency of insect trapping mechanisms became apparent because so many of the pitchers were literally bursting at the seams with insect carcasses.

Walking further, we began to notice that grass was not as thick in some places, and in one of these thinned out areas we noticed a small clump of Sarracenia alata and others. These pitchers were roughly the same average height as S. leucophylla but variation is even more pronounced in this species. Color ranged from solid yellow-green to solid rusty maroon. Some had veined lids, green with bright maroon venation, some with veined throats, still others with veined networks down the sides. These pitchers did not appear as plentiful as S. leucophylla, but one thing that made them seem more scarce could be their lack of brighter colors. Hood structure also varied widely, some tall with deep convolution, others shorter and relatively smooth. There is a strong likelihood of much introgressive hybridization with S. leucophylla.

Wondering if more types of carnivorous plants grew in this area, we began looking closer to the ground in search of smaller types. Nearby we saw the head of a Sarracenia psittacina sticking out of the grass. It was about average size (approximately six-inch