

plant whose leaves consist of a distinct stalk with an oval blade at the end bearing the tentacles, or glandular hairs. The color is yellowish-green and the species is further distinguished by the dish-like hollow in the oval leaf blade. Several bright red flowers are produced in spring on the flowering stalk which emerges from the center of the rosette.

The plant is not common locally, but may be observed, usually after a search, on wet heaths west of Nowra where it grows with D. spathulata but in much smaller numbers.

#### 4. Drosera peltata Smith

This plant begins its life cycle in late autumn or early winter by producing a rosette of leaves from a red, underground bulb. After the rosette has grown to a reasonable size (about 2-4 cm. in diameter), a central stem is produced bearing leaves equipped with the usual dewy tentacles. At the top of the stem (which may reach 20 cm. in favorably situated plants but is usually less--8-10 cm.), white flowers are produced in spring. The plant becomes dormant after production of seed and re-commences its life cycle the following winter from the bulb.

The presence of the central erect stem, bearing dewy leaves, distinguishes this plant from all other local species. It occurs in heaths on sandstone and on heavy soil in swampy areas. The plant may be observed in its natural habitat in the swamps and heaths behind Mt. Keira.

#### 5. Drosera binata Labill.

The linear leaf blades, borne on a long smooth stalk and divided into two or four narrow segments, assist in the easy identification of the species. It also produces conspicuous white flowers on a tall stalk in summer. The flower stalk may reach 40-50 cm. in height.

The habitat of the plant is varied; it may hang down from rock crevices, or from moss near waterfalls, or it may grow as a stout erect plant in heavy swampy soil.

The leaves are produced vigorously in summer, but in late autumn they die off and all that remains of the plant are the thick black roots from which a new plant is produced the following spring or summer. The plant reproduces by seed, and vegetative reproduction can be induced along the leaf blades where, if kept under water for a long period of time, numerous tiny plants appear. It is not yet known if this method of reproduction occurs commonly or at all under conditions of natural growth. This species may be observed in its local habitat in swamps on Jamberoo Mountain.

### MODIFIED FLORAL PARTS OF DIONAEA

by Ted A. Minton and Dr. Donald B. Jeffreys

Most botanists would agree that floral parts are basically modified leaves. There is nothing unusual about the flower of Dionaea. However, if the flower is abnormal, and if the floral parts become small leaves instead of petals, sepals, stamens or carpels, this causes an

interesting situation. In Dionaea the leaf is, of course, a flytrap. So the modified floral part is either a flytrap or something between a flower part and a flytrap.

Modified inflorescences were first described by Herschberger in 1904 and other than one case on a herbarium sheet at the University of North Carolina at Chapel Hill, there has been no mention of this occurrence since. We first observed modified inflorescences about four years ago on some plants cultivated in a prepared plant bed. The unique thing was that about 90% of the plants showed this form of development. This outside plant bed had been allowed to dry up and become infested with weeds. In the summer of 1970 four field plants with abnormal inflorescences were collected in Carteret and Onslow Counties of North Carolina. More occurred on cultivated greenhouse plants in June of 1971.

These observed floral parts varied a great deal from plant to plant. In some cases the sepals were in the form of small traps and in others the carpels, stamens or petals were modified. Some formed almost perfect traps and others were crudely shaped. In the most perfect ones the traps resembled those found on young seedlings.

One such trap was measured for electrical impulses which registered at 20 millivolts. This is very minute compared to a large trap from a mature plant, but it does show that it could be possible for such a modified petal to capture an insect!

The cause of this unusual occurrence is not completely understood. However, we are inclined to think that the growing conditions at the time of blooming is largely the cause. In each case the collected plants were growing in dry conditions and neglect in letting our cultivated ones dry out must have had some effect.

We have also found that these units of modified floral parts are capable of producing roots and growing if placed in wet peat. Perhaps this is a sort of survival factor for this species.

Hopefully more study can be made in the future.

(Editor's note--I first noted this phenomenon in Ohio where there were some Dionaea muscipula on a window sill over winter. In March, as the days lengthened, the plant came to bloom in the warm daytime sun coming in through the window. At night, the outside temperature fell to below freezing still, and the window sill would of course cool below ambient temperatures elsewhere in the room. I next noted the formation of little plantlets (there must be a term for this; I do not believe apomixy would be correct here) in flowers here in piedmont North Carolina in some plants kept outdoors over winter. Spring weather is very mercurial in this part of the state with daytime temperatures going into the high seventies and sometimes dropping to near freezing or frost levels at night. Practically all of the inflorescences bore plantlets in one particularly tricky spring. Photos 1-3 on the inside front cover are of these. Note in photo 1 that the plantlets formed

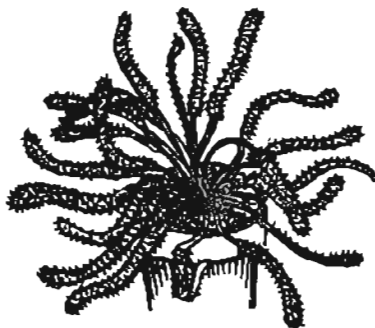
of the perianth parts are very rudimentary. In photos 2 and 3, we see that there are good trap primordia formed from stamens and carpels. Roots sprouted from these, they were planted, and grew as apparent 2n plants with their own normal flowers later. One may hypothesize that cold treatment could be a factor, or co-factor, if applied during flower bud initiation--DES.)

AMERICAN DROSERAS IN SYDNEY  
by Stephan Clemesha

In Australia where a large number of hard to grow tuberous Droseras grow, it is pleasing to have a few from elsewhere which are easily handled. One group includes the American species D. filiformis, its var. tracyi, intermedia, rotundifolia and anglica. Cultivationwise, I treat D. capillaris a bit differently and it grows well too. I grow it in pots of short tufted moss over sandstone. They are kept in the sun all year round.

The other group I grow in pots of peat topped with sphagnum (I prefer a fine species as it tends to overgrow the plants less). The pots stand in saucers of water in a position which receives sun most of the day. While they are growing, the only attention they receive is arranging the sphagnum to stop it from overgrowing the plants. In March near the end of the growing season I repot the plants and set them with the crown well above the sphagnum level. Soon after they form a bulb and at the end of April the pots are taken out of water and put on a cement slab on the cold southern side (northern side in U.S.) where they remain all winter. Here, the only attention necessary is an occasional check to see they are not getting overgrown with sphagnum and also to be sure they don't dry out. In spring they are put back in the sun and growth quickly resumes. Loss of bulbs over winter is very small.

All are propagated by leaf cuttings which are put on sphagnum and covered with plastic and shaded. Leaves of D. anglica, rotundifolia and intermedia produce plants faster than D. capillaris, filiformis and its var. tracyi. D. filiformis flowers and seeds so freely that there appears little need for leaf cuttings. Plants reach flowering in one season so it would even be practical to treat it as an annual. Strangely though, while D. filiformis flowers very freely, its var. tracyi so far has not flowered at all. I have read of these plants being difficult to cultivate because of their intolerance to tap water. This is not true here as mine are only watered with tap water.





1.



2.



3.



4.

THE COVER -- David Kutt's montage on the cover is a dedication to Australia who carries the honor of the greatest species diversity of carnivorous plants. We are going to try some cover photos, and these are samplers. Photos 1-3 refer to the short note by Minton and Jeffreys in this issue. No. 4 is an aberrant trap on one of Joe Mazrimas' Dionaeas that seemed interesting.