Observations of *Cephalotus follicularis* and *Drosera binata* in Western Australia

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During late October, 2003 I had the pleasure of travelling to Walpole in the south of my state of Western Australia, with another carnivorous plant enthusiast Darren O'Brien, and my two wonderful Italian visitors, Christiano (Chris) Perrucci and Gabri Motta. Our aim was to make some observations of a relatively newly discovered location of *Drosera binata* (Grieve, 1998), until recently thought only to be native to the east coast areas of Australia and New Zealand. I had successfully found the plants only once before—less than a month earlier when I visited the site with Robert Gibson (see Figure 1). All of my other previous trips to find this location had proven fruitless, because it was so hidden by thick grasses and tall swamp bushes. On those previous trips I only found a few *D. hamiltonii* plants and several large tiger snakes, which thrive in this environment.

During the previous summer a huge bush fire had burnt the whole area clean, exposing the entire swamp. When Chris, Gabri, and I arrived, we discovered that the site had undergone a miraculous change, and what was presented to us was a wonderful sight. On the higher ground *Drosera erythrorhiza* subsp. *erythrorhiza*, *Drosera menziesii* subsp. *menziesii* and *Drosera erythrogyne* grew scattered amongst the burnt remnants of the shrubs. Below this was an open wet slope of swampy area covered in *Cephalotus follicularis*, *Drosera binata* and *Drosera hamiltonii*. The fire had consumed all the hedge growth and left bare ground exposed; all the carnivorous plants had taken full advantage of the extra light and lack of competition.

The *Cephalotus* plants were still relatively small, but there were thousands of small clumps consisting of up to twenty pitchers appearing in all parts of this area. Entwined amongst the *Cephalotus* plants were just as many *Drosera binata* plants with their unique sticky forked leave. The soil was silica sand combined with a black humus peat moss that was wet enough to have water ooze from under our feet. Moving further down the slight slope, the plants seemed to grow in specific zones. At the highest area where there was no free water and the soil was a high percentage of sand; these areas supported only a few *Cephalotus* and these were badly dehydrated by the summer drought. Then there seemed to be a strip that was wet but did not have free water on the surface. This middle area was where *Cephalotus*, *Drosera binata*, *Drosera hamiltonii*, all grew together in masses. The lower area was very wet and only large *Drosera hamiltonii* grew here, some reaching 7-8cm diameter (see Figure 2A). Many were flowering and their metre high scapes with large mauve flowers could be seen scattered throughout (see Figure 2B). Very few of the *D. binata* were flowering (see Figure 2C), but new plants were freely appearing from their root systems.

We must have taken 500-600 digital photos and Chris was very active with his video camera. I made a mental note to revisit the site when the *Cephalotus* were flowering. Darren and I parted company with Chris and Gabri as they continued their holiday along the south coast.

It was not until early March 2004 that I managed to find time to make the eight hour round trip again. It was late in the season, and I was aware that the trip was probably a bit late to coincide with the flowering of the *Cephalotus*. This plant normally flowers around late December through February, the hottest part of the year.

When I stopped my old trusty four-wheel drive truck on the bush track that ran along the edge of this swamp, I was not prepared for the sight that unfurled. The vegetation had started to regenerate so the *Leptospermum*, *Acacia* and *Reedia* created a thick cover about 40-100 cm high.

Figure 1: Phill Mann and Robert Gibson. Photograph by Phill Mann.

Interspersed throughout were thousands of *Cephalotus* flowers in all stages of development. I had never seen so many *Cephalotus* in flower at one time like this. While on previous trips many of the plants were hidden, the location of each was now signalled by their flower scapes (see Figure 2D). The flower scapes showed all stages of development from un-open buds to shedding ripened seed (see Figure 2E). I did not see any pollen on the stamens, but by the amount of seed set, it must have been abundant. The pitchers were nearing mature size of 4-5cm and with the full sunlight, all had taken a beautiful range of colours from red through to deep maroon and nearly black (see Figure 2F).

All around was a constant movement of insects as they flew from one spike to the next. I was amazed at the number of different pollinators of the *Cephalotus*. I counted at least seven species of ants that stopped long enough for me to identify as being different, I saw nine species of flies ranging in size from only 2-3mm long, to the large 4cm long "March" flies that bite us so hard. I also saw two species of small pale blue-grey butterflies, and four or five beetle species.

Another interesting observation was the occurrence of a small evergreen dodder (*Cassytha sp.*, Lauraceae), a parasitic vine that was entwining and parasitising the *Cephalotus* scapes. Wherever the twining dodder stems contacted the flower stalks the parasite "foot" was quite obvious and solidly attached (see Figure 2G, also see the tendril in Figure 2E). This is the first recorded observation of dodder parasitising *Cephalotus.*

Scattered amongst the reeds in the very wet lower margin of the swamp, were many hundreds of *Utricularia paulineae* scapes with pastel mauve flowers (see Figures 2H, 2I), and several plants had white flowers (see Figure 2J). The *Utricularia* leaves were very obvious as they covered the wet surface thickly. Where they grew in watery depressions the traps could be seen floating with the leaves.

Moving back and forth taking so many photos, thanks to the beauty of my digital camera, the hours had passed quickly. I still had the four hour drive home to face, so I set off along the bush track that skirted these swamp depressions. Countless thousands more *Cephalotus* scapes could be seen above the regenerating shrubs in these swamps.

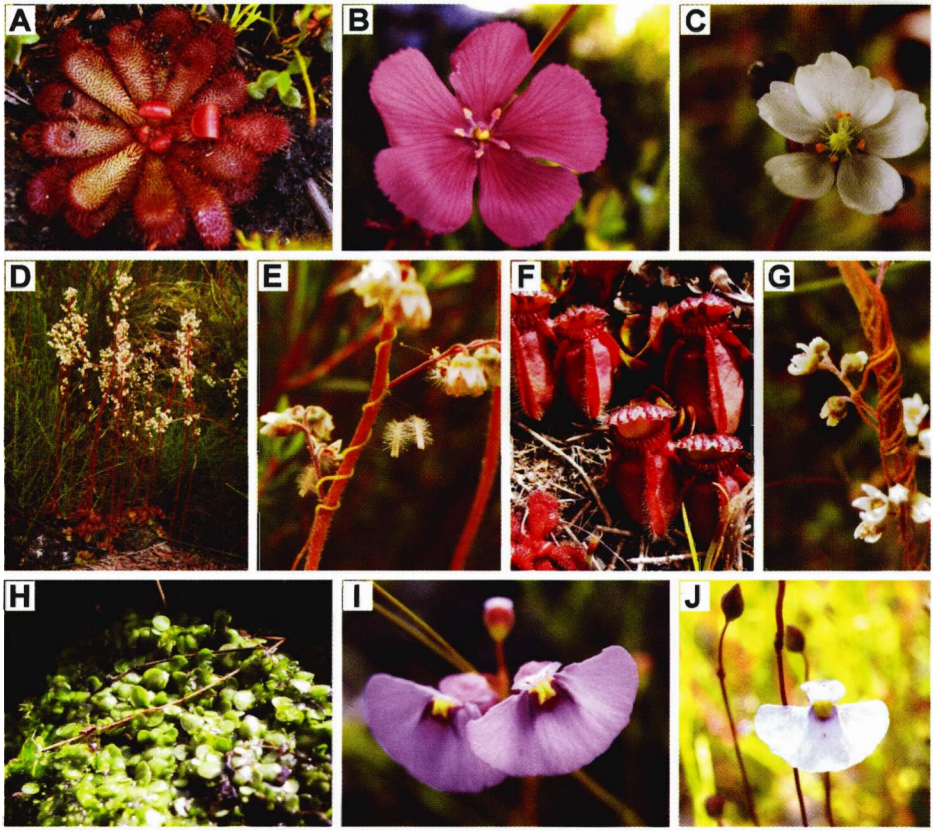

Figure 2: A: *Drosera hamiltonii* rosette; B: *Drosera hamiltonii* flower; C: *Drosera binata* flower; D: *Cephalotus follicularis* in flower; E: *Cephalotus follicularis* shedding seed; F: *Cephalotus follicularis* pitchers; G: *Cassytha* parasitising *Cephalotus*; H: *Utricularia paulineae*; I: typical *Utricularia paulineae* flower; J: abnormal white *Utricularia paulineae* flower. All photographs by Phill Mann.

This area is deep within country that is part of the D'entrecasteaux National Park and will remain untouched forever. The only threats are the non-native pig population that uses these swamps as summer refuge and unscrupulous collectors. Luckily only a very small number of people know this location, and hopefully they will treasure it.

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References:

Grieve, B. J. (ed) 1998, Droseraceae. How to Know Western Australian Wildflowers: A key to the flora of the extratropical regions of Western Australia: Part II Dicotyledons (Amarathaceae to Lythraceae) Second Edition, University of Western Australia Press in association with the Wildflower Society of Western Australia Inc., Perth, p. 58.

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Front Cover: *Drosera binata* and *Cephalotus follicularis* in Western Australia. See article on page 68. Photograph by Robert Gibson.

Back cover: Veinless *Sarracenia purpurea* in Grey County, Ontario, Canada. Unless carefully inspected, this plant could be mistaken for *Sarracenia purpurea* f. *heterophylla*. See article on page 79. Photograph by Carl Mazur.

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