

FLYTRAP NEWS

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New South Wales (Sydney, AUSTRALIA)

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Special functions such as the Annual Social and Christmas Swap meet are held on the second Saturday and Sunday of the month respectively. Field Trips are as advertised from time to time.

Meetings are regularly held on the second Friday of the month as shown below.

TIME: 7.30 – 10.00pm

VENUE: Woodstock Community Centre, Church St, Burwood.

Meeting Dates for 1999			
		9 th July	
12 th February		13 th August	
12 th March		10 th September	
9 th April		8 th October	
14 th May		12 th November	
11 th June AGM		12 th December	Christmas Swap Meet.

CURRENT MEMBERSHIP RATES

Single Membership within Australia \$A20
Family membership within Australia \$A20
Overseas Membership \$A20

Please make cheques/money orders payable to the Carnivorous Plant Society of NSW

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Hi CPer's

February brought a very lively meeting. With a large crowd, everyone voicing their opinions, we had enthusiastic discussions on various subjects. The adrenaline was good and I consider this meeting was one of the best. Things are moving at last.

Instead of one person having to do most of the duties (by Denis Daly), the offices of the Society hopefully will be spread around at the next annual general meeting. The onus of duty is not on one person.

It was decided to have a \$2 donation tin at the door to cover supper. You get a ticket for the door prize and the rest of the money will go to the coffers of the Society.

A motion to raise the annual subscription to \$20 was put forward and agreed to. This increase was needed to cover mailing costs as well as the printing of our newsletter. As our Society grows so do the costs.

A door prize (to be donated by any member) was fun. The prize need not be a carnivorous plant but anything at all. For March, Helmut Kibellis donated a bottle of wine and a Pinguicula, while Chris Schell donated a jar of Aldrovanda. These were won by Wesley Fairhall. We hope he gave us a thought while sipping the wine.

Toni Sullivan (Scott's better half) has volunteered to be our new "supper lady" Thank you. Besides the tea, coffee, cordial and biscuits other donations were cakes, sandwiches from Damon, home baked bread and Jam from Chris & Leah. Our suppers are becoming quite gourmet and we had better watch the waistline. Thank you to all.

Thanks to Joan Fairhall for her past endeavors in providing supper.

Our Post Office Box has been changed so please take note of the new address.

As of this minute our Christmas swap meet has been suggested to be held at Terry Nichols place in Blaxland. If anything changes we will let you know. Suggestions on categories for this day must be discussed so we can groom our plants. The last Christmas meet at Kirstie Wulf's (lower blue mountains) was a great success and it was middle ground for people to travel to, so Blaxland looks good for this year.

Greg Burke (no relation to Don ... see later article) has suggested a winter meet for all those who want to show tuberous drosera, so all those interested let it be known.

To Noel Pearce who has not been well again – get better and come back to us.

Many more people are again bringing plants for sale. If you wish to add to your collection or to sell some of your excess stock you had better come along.

Ken Harper was married this March. Congratulations. Lets hope that this mystery lady likes carnivorous plants and we get to meet her soon

Please BEWARE!! A member of our Society has had plants stolen from his place recently. The, as yet, unknown thief knew what he was taking. I hope it was not someone we know. Be on guard with who you let into your yard and stress again to neighbors to be vigilant of suspicious people around as it could have just have easily been a house burglar.

I have also had a plant stolen and locked gates did not deter them so I really do not know what the answer is.

Our meetings have grown and more people have found their voice and add to the general melee. If you are sitting at home think you won't be bothered coming, make the effort and you will be surprised at how quickly you will be participating.

Thank you for all those that have contributed. It has made for very interesting nights.

Your Friendly ??
Cper

Editor's note:- I prefer to let plant thieves and burglars worry about my big dog.

WITHOUT PREJUDICE

The Bigger Picture

Jessica Biddlecombe

How I would like to write a book. If only I could be sure of my facts. In the early years Adrian Slacks book was our bible, it was all we had. Not all was suitable for down under Aussi conditions but then we did not have much choice.

Gradually more books came into being and we had more help. Then the drought came and for many years there was hardly any written information. The drought broke and proliferation of data was released. The only trouble is that they must not proof read their own material or they have never worked with the public!

Blanketing statements like "Sarracenia have a liquid in them" "Not all Sarracenia do (the purpurea does); but the public will think something is wrong and fill their pitchers with water. To say on radio "Nepenthes cannot be grown out of their natural state..." or "Nepenthes can only be grown in a greenhouse ..." is irresponsible. You cannot make a blanketing statement like these (and these are just a few) for every climate in Australia.

I live in Sydney, have many hundreds of Nepenthes and other carnivorous plants and while the temperature in winter gets down a little lower than I would like our plants are grown outside under 50% shade cloth. I will not "nit pick" certain books that have just come out but it would be better if they could consider what they say and write so as not to discourage more people discovering the world of carnivorous plants. Then we come to: -

The Back O' Burke!!!

Which is what would like to see. In March Mr. Don Burke's program aired on channel 9 with a piece on carnivorous plants. With the internet, books, researchers and idiot cards that television land has you would think that he could have gotten something right.

He took a plastic boat (as a pot with no holes) and put in a shade loving Nepenthes (which needs drainage ... cymbidium orchid mix or sphagnum moss) then placed sun loving Venus fly traps and *S. purpurea* (both like to be kept wet) in as well. All these went into peat moss. Then to state to use only distilled or rainwater is ludicrous.

I have thousands of CP's and if I only used distilled water I would have to mortgage the house to pay for the water or I would have to get rid of half my plants to make way for the rainwater tanks. If you have bore or hard water then maybe you would consider your options. If it does not rain on my plants, then the good old hose comes out and my plants are happy.

WITHOUT PREJUDICE

WITHOUT PREJUDICE

From the feedback I have had the whole world must watch Mr. Burke's program and the public believes he has just come down from the mountain with his every word chiseled in stone. There were tags on each of the plants he had which he should have read and as he tipped out the plants surely the feel of the different mixtures would have told him something!!

What good could have been done for encouraging growing carnivorous plants if only the information had been correct? In a later program Mr. Burke mentioned a "whispering campaign" against him from dog clubs. Well I would like to SHOUT that you are wrong, wrong, wrong about carnivorous plants. We have to continually correct the misinformation on carnivorous plants given out by this program and it's a good bet that the dog clubs are similarly unimpressed with his information.

Whether it's a publication or media, look at the bigger picture, get out and work with the public then you will know you have your facts right.

Editors Note: - Jessica I shall have to use the Without Prejudice on this article. I know that much of the information from these "popular press" books and personalities on most things is, to put it politely, inaccurate. However they do have plenty of resources and incentive to seek to silence critics in order to maintain their income from peddling rubbish.

WITHOUT PREJUDICE

A Carnivorous Plant Field Day at Picnic Point, Sydney

Robert Gibson

On September 27, 1998 Richard Riles and I spent a leisurely afternoon bushwalking and botanising around a freshwater lake at Picnic Point, in south eastern Sydney. The native woodland had many plant treasures including 7 types of carnivorous plant: *Drosera auriculata*, *D. glanduligera*, *D. peltata* var. red rosette/ white petal, *D. peltata* var. green rosette/ pink petal, *D. pygmaea*, *D. spatulata* and *Utricularia dichotoma*. The following is an account of the carnivorous plants and their habitat.

Many of the species were concentrated in a large seepage zone on the lowest slope of a sandy soil wedge. The ground water appeared to be forced to the surface where the soil became thinner over a sandstone rock shelf. The seepage zone had low, open vegetation, with scattered shrubs and a great diversity of herbaceous plants. Thanks to the unusually heavy winter rainfall water was actively seeping out of the thinning soil around rock outcrops, the latter were variably covered by extensive carpets of dark green moss.

Drosera auriculata

Slender scrambling plants of *D. auriculata* grew in moist sandy soil on the sides of a few small valleys. The stems grew to 40cm tall, and often branched towards the top, and supported scapes of white-petalled flowers. The plants were never abundant, but are probably scattered throughout the woodland. In only one location they grew with another sundew, *D. glanduligera*.

Drosera glanduligera

A few scattered, yellow green rosettes of *Drosera glanduligera* were the first carnivorous plants seen. They grew in thin moss on sandstone beside the path, and were then seen in greater abundance in thin mossy soil, and deeper sandy soil, at seepage site. The rosettes grew to 4cm across and had up to 4 scapes, which grew to 10cm tall. The vibrant orange petalled flowers had already closed by the time of our visit, but flashes of colour were still visible. This species often grew in close proximity to *D. auriculata*, *D. peltata* var. red rosette/ white petal and *D. pygmaea*. It was a great pleasure to see this attractive species in the wild around Sydney.

***Drosera peltata* var. red rosette/ white petal**

At the seepage site we saw an abundance of *Drosera peltata* var. red rosette/ white petal plants, and they proved to be confined to this habitat. An abundance of red leaved juvenile plants grew in dark green moss on wet rocks and adult plants extended up the slope into deeper, dry surfaced sandy soil. In most cases the rosettes of the flowering plants had either withered or been aborted due to shading. The red stems grew to 40cm tall and, in probable response to the prolonged growing season, most had branched and produced additional scapes. The flowers had olive green sepals which were fully covered in short hairs. This species grew with *D. glanduligera*, *D. pygmaea* and *U. dichotoma*.

***Drosera peltata* var. green rosette/ pink petal**

A few scattered plants of *Drosera peltata* var. green rosette/ pink petal grew in deep sandy soil in an area of open *Eucalyptus* woodland, some distance away from any other carnivorous plant. The green basal rosettes had not fully withered away at the base of the sparsely branching stems to 40cm tall.

Drosera pygmaea

Tiny red rosettes of *Drosera pygmaea* grew on one side of the seepage zone in moist to wet peaty sand. The diminutive orbicular leaves were at most 1mm diameter, and held on hair-like petioles to 4mm long. The small silvery white stipule bud in the centre of the rosette and few, short single-flowered scapes were also conspicuous.

Drosera spatulata

A few immature rosettes of *Drosera spatulata* grew precariously beside a small waterfall. Surprisingly none were seen on the creek bank upstream or downstream of this site, although it is highly likely that more are lurking in the area.

Utricularia dichotoma

The one bladderwort seen during the day was a lovely form of *Utricularia dichotoma*. This was restricted to the wetter parts of the soak where the linear leaves commonly carpeted the wet ground. The traps were up to 2mm diameter and are thus easily seen with the naked eye. It was however the scapes which gave the presence of this species away. These grew to 15cm tall and had two, three or four flowers each. Generally the flowers were in opposite pairs at the top of the scape, but a few whorls of three were seen. This form of the species has a vaulted lower lip, rather than a dome shape, and an irregular free margin. Similar forms also occur in western Sydney and in south west Western Australia. Flowering appeared to have only just begun and most of the finished flowers had been pollinated.

The captivating nature of the plants and the sites made it easy to block out the invariable traffic noise from nearby main roads. I was thrilled to see so many carnivorous plants in the wild in this small remnant woodland block. It was great to see many familiar species of carnivorous plants in a part of Sydney I had not been to before. And then there were a few surprises too.

ACKNOWLEDGMENT

I wish to thank Gareth Williams of Goulburn for informing me about this wonderful carnivorous plant site. I thank Richard Riles for his company, providing transport and the many thought provoking conversations.

A Carnivorous Plant Tour of Tasmania

Kirstie Wulf

At home I have a photo taken by Tasmanian photographer Peter Dombrovskis. It shows an alpine moor near Lake Sirona in the Western Arthur Range in Southwest Tasmania. There is a stream in the foreground with *Drosera arcturi* growing beside it and mountains rising up in the distance. When I planned my holiday to Tasmania I secretly hoped that I might be able to see some *D. arcturi*. I was not to be disappointed. I even got to see some *D. arcturi* before I got to Tasmania, but more of that later.

The day after I arrived in Tasmania I had my first carnivorous plant sighting. It was a hot day and I set off early from Coles Bay to the nearby Freycinet National Park. Freycinet National Park is located on the peninsula bearing its name midway down the East Coast of Tasmania.

I opted for a full day walk, taking in the much photographed Wineglass Bay and returning via Hazards Beach. The climb up to Wineglass Bay lookout was rewarded by picture postcard views of the white sandy beaches and aqua water of Wineglass Bay flanked by steep granite mountains on both sides, but it was the walk down to the beach that was rewarded by my first Tasmanian carnivorous plant sighting. Beside the track were the small almost solid red rosettes of *Drosera pygmaea*, only the raised central bud remained greenish-gray. None of the plants were larger than 1 or 1½ centimeters across, growing on an area of moist ground almost on the track itself. The slope of the ground was steep and the area partly shaded, the soil was sandy but moist and scattered with pebbles and leaves. Some plants had flower buds on a stem about 3 cm above the plants. No further plants were seen on the track down to Wineglass Bay, but the Bay provided a good swimming spot.

Cooled and refreshed I headed across the small neck of land that separates the two sides of the isthmus. I passed by a large lagoon that was surrounded by waterlogged spongy ground; a suitable area for carnivorous plants but none were to be found. Closer to Hazards Beach I crossed a raised wooden boardwalk over an area of ground, that was dry in January but looked as though it would be much boggy in winter and spring, and sure enough there were carnivorous plants. First spotted, growing amongst the coarse grasses, were more *D. pygmaea* and some small (about 10 cm high) *D. peltata*, which had red stems and golden yellow traps. Then I found the carnivorous plant jackpot with one spot holding *D. peltata*, *D. pygmaea*, *D. spatulata* and a small white flowered *Utricularia* on a 4cm stem (I am not sufficiently knowledgeable to identify it). This was the only time I saw *D. spatulata* in Tasmania and they were bright red healthy looking specimens even though they were partly shaded by the surrounding grass. A further swim was required after such exhausting carnivorous plant searching!!!

The next carnivorous plant sighting felt like a world away at the Hartz Mountains National Park about 1½ hours south west of Hobart. After the steep drive up the mountains to an elevation of about 1200m the temperature drop was noticeable. It was a cold windy day on the mountains, low cloud was drifting over the peaks and it was drizzling intermittently. Due to the inclement weather short walks were on the agenda. First was the 25 min walk to Arve Falls. A pretty waterfall with surprisingly good views of the valley considering the weather. The walk passed through boggy ground beside a streambed, most likely filled with water when the snow melts. There I found a small pink flowered *Utricularia* which I have now identified as *U. monanthos*. There is an almost identical photo (to the one I took) in Allen Lowrie's 'Carnivorous Plants of Australia Volume 3', and it was also taken in the Hartz Mountains.

Luckily there were some sunny patches between the drizzle and we squeezed in a 45 min walk to Lake Osbourne. This was a walk I was glad I took as I found *D. arcturi* in abundance, plus most of the walk was on wooden boardwalks, so no wet feet. The ground was wet to the point where there were pools of water, plus it had been raining. The lower stems of the *D. arcturi* were green and the upper glandular part of the strap shaped leaves was yellow to orange with distinct red tentacles. The leaves were 5 – 7 cm long and about ½ cm wide. The *D. arcturi* plants were growing amongst Pineapple Grass and other alpine low growing species. My eyes may be playing tricks on me, as the petals of the almost starting to open flowers looked pink rather than the more usual white. This will require verification by seeing the open flowers, a great excuse for another trip to Tasmania.

More carnivorous plants were to be found in Mt Field National Park. This National Park is most often visited for the famous Russell Falls, although I was more impressed by the 80m high Swamp Gums and on the higher slopes the Pandani Grove nature walk. But it was the short nature walk across the alpine moor at approximately 1350 m altitude (there are several nature walks down the mountain to allow you to see the changes in the vegetation at different altitudes) that produced more carnivorous plants. I found *D. pygmaea* growing on a rocky sandy area at the side of the path. Further on where the track got wetter were more *D. arcturi*, with flower scapes and buds but no open flowers, were growing on little islands in and around the edges of shallow pools of water.

Lake St Clair is the southern part of famous Cradle Mountain-Lake St Clair National Park. The highlights of this park were the lake and the rainforest growing beside it, but walking the final part of the Overland Track, almost back to the Visitors Centre at Cynthia Bay, the track opened up into sclerophyll forest and in the grass beside the track were a few *D. binata* (T-form). A beautiful place to visit even if the carnivorous plants were not in abundance.

The road from Hobart to Strahm passes through the Franklin-Gordon Wild Rivers National Park and a few short walks off the road give a small glimpse into this incredible wilderness area. Donaghy's Hill Lookout is well worth the walk as you get panoramic views of the Franklin River valley and Frenchman's Cap plus there is the added bonus of *D. binata* (T-form) growing in the grass beside the track.

Saving the best to last, more carnivorous plants were found at Cradle Mountain. Once inside Cradle Mountain National Park you can drive up to the edge of Dove Lake, which has an elevation of about 1000 m. The circuit walk around Dove Lake is easy and rewarding, with King Billy Pines, Pencil Pines, Deciduous Beech, Pandanus and plenty of *Drosera binata*. It was a pure joy to see so many *D. binata* plants so red and so healthy. I would stop to look at plants in one spot only to move on and find more plants to look at. The plants were generally growing in the grass and twigs beside the track and on the exposed embankments cut away to form the track, but my favourite spot was where I found *D. binata* growing in an area of sphagnum under a raised walkway. Most of the plants I saw were the T-form, but just when I thought all the plants were T-form I found a few many-branched plants growing in a shadier spot. Also of interest was one *D. arcturi* plant I found growing together with *D. binata* in a lightly shaded spot, at an altitude of only 1000 m. Plus if you have traveled this far don't miss the mossy rainforest around Waldheim.

Making the most of our second sunny day at Cradle Mountain (I was told they only have 32 sunny days at Cradle Mountain each year) I climbed Cradle Mountain. It was a full day walk and is not for the faint hearted or those or afraid of heights as the final ascent of the summit (1545 m) requires some scrambling over rocks. We started out from Waldheim, a longer walk but with an easier gradient, and began our climb. The glaciers in this area during the last ice age created an interesting landscape, full of lakes at various altitudes. Beside one of these lakes, Crater Lake, I found some flowering *Utricularia* that I have tentatively identified as *U. dichotoma*. After further climbing, at about 1400 m we passed through alpine meadow, the home of *D. arcturi*. *D. arcturi* was abundant, my favourite being *D. arcturi* plants growing out of cushion plants a habitat they appeared to prefer in this area over the clumps of Sphagnum. The *D. arcturi* plants were smaller here (the leaves were 3–5 cm) than those I had seen in the Hartz Mountains and Mt Field, but they were also in a more exposed position. Many plants had flower buds too but none were open.

I was lucky to find so many carnivorous plants on what was a holiday rather than a plant finding expedition. I marvel at what a botanically rich place Tasmania is and am happy to have seen a few of the carnivorous plants that make up this diversity.

POSTSCRIPT –

You do not have to travel to Tasmania to see *D. arcturi* in the wild. In January I was walking to Mt Kosciuszko, from the top of the Crackenback chair lift, and right next to the raised metal walkway I saw *D. arcturi*, several plants had just finished flowering, but no flowers were open. A little further away from the tourists and raised metal walkways on the pleasant walk down to Dead Horse Gap more *D. arcturi* were spotted. The plants here were a dark redish to a light brownish colour and were first spotted growing amongst some Sphagnum. Further toward Mt Kosciuszko I saw large patches of *D. arcturi* growing amongst low grasses and also on a small island in a running stream. The strap shaped leaves were about 4–6 cm high and ½ cm across with tentacles growing from the front and sides. Here the plants preferred peatish soil around depressions holding still or running water. My favourite Kosciuszko picture shows *D. arcturi* growing with the pretty alpine daisies. Plus if you can bear to walk past the carnivorous plants you get excellent views from the top of Australia.

Drosera at Dunedoo

Robert Gibson

In mid December, 1998, I investigated a few roadside seepage zones near the small country town of Dunedoo, on the north western slopes of New South Wales (32.0°S; 149.5°E). Three sites with *Drosera burmannii* were found, one of which also had *Drosera peltata* var. green rosette/ pink petal. The following is a summary of my observations.

Three areas of roadside seepage were observed within 40 kilometres of the town. They occurred in areas where the road was slightly excavated into gentle hillslopes, and where open woodland had been retained. My initial thoughts were that a carnivorous plant may opportunistically colonise the open, wet disturbed soil of the road cutting, but this proved not to be the case. Instead the sundews grew in localised areas of moist to wet soil near the edge of the cutting in less disturbed areas.

Drosera burmannii grew in small groups in open ground where the sandy soil was usually only just moist. The plants had lime green rosettes up to 4cm across, with red long-stalked retentive glands. Only in the few cases where plants in soil which had become critically dry did the dieing rosettes turn vivid red. Most rosettes had caught a few small flying insects.

Most plants were in flower, with one to three scapes emanating from most rosettes. In this area the petals have a pinkish tinge to the petal edge and are very pretty. The unscented flowers are up to 1 cm across and are open for a very short period of time. They open around 8 am and, unlike many other *Drosera* species, they face towards the area of brightest light. This results in flowers pointing in various directions in each colony.

A characteristic feature of *D. burmannii* is that of its flower structure. Unlike all other sundews, with the exception of the sister species *D. sessilifolia* from South America, this species has a 5-lobed ovary which is surmounted by five styles. The end of each is divided into many small stigmatic lobes and is reminiscent of a brush. Shortly before the petals begin to fold up, the horizontal styles bend upwards from towards the base, bringing the stigmas together above the ovary. The closing petals squeeze the anthers together, a process which probably transfers some pollen to the now-adjacent stigmas. The majority of flowers had set seed. In addition this potential mechanism of self-pollination may explain the genetically conservative nature of this species, which exhibits so little variation over its huge range.

Growing in moist clayey soil downslope of one of the *D. burmannii* colony was a large colony of *D. peltata* var. green rosette/ pink petal. Most of the plants had died down and were only seen as characteristically black remains. However, in the wetter areas several plants still had living sections, including scapes. Many of these plants had multiple stems due to the extremely wet and cool weather which had occurred from early winter into late spring. The still living leaves and stems were a distinctive golden green in colour and the open flowers had fully pink petals. In almost every respect, including the seeds, they appeared identical to the same form from around Sydney. The main exception was the relatively sparse hair cover on the sepal exterior, a feature which appears typical of this variant on the north western slopes.

Aside from the two sundews a number of interesting non-carnivorous plants occurred in these wet sites. One of the most delightful is *Stylidium eglanulosum*. This delicate species has linear leaves clustered at the end of soft stems which end in spikes with pale pink flowers. In addition, *Hypericum*, *Danthonia*, *Dampiera*, Everlasting daisies, native *Crinum* and numerous small sedges were common herbs at these damp-soil sites.

It is interesting to observe populations of familiar sundew species at different sites, such as inland New South Wales. Many elements are shared by all populations but local variations have often developed. I look forward to making further observations of these, and other sites during my travels.

What can I say? I now live in the picturesque town of Bowral, after moving from Bundanoon on the 17th of February. It is not until one moves that they realise just how large one's collection is!

The move was a stressful time for me as well as the plants, as the weather was quite warm at that time. I had to collapse my outdoor water frame, then reconstruct it. In the midst of the moving some of the plants did suffer from wilting, but as they were in live *Sphagnum*, they managed to get through it okay. It is quite easy to re - wet once it dries somewhat, one of the many benefits of such a wonderful living medium.

With the heat in the month of February, and the rain that eventually followed, things have been quite humid for us highlanders. For my plants that has also meant some fungal problems. The one that has been attacking my poor *Cephalotus follicularis* specimens is the dreaded powdery mildew, which covers the entire surfaces of new growth, as well as old. I did try out Mancozeb, as much as chemicals 'erk' me, but it returned within a week. The latest application has been the more friendly wettable sulphur powder, & as it was only applied last week I will have to wait and see what does happen.

Another problem that I have been plagued by is the menacing thrips. The little pests have been making a mess of my *Darlingtonia californica*, as well as my prized *Heliophora nutans*. They also do tend to rasp into my *Sarracenia* specimens around the start of Autumn. I do plan to apply some sort of systemic chemical and am still deciding what to use. As they really will not kill the plants they choose to munch on, their presence really is more of an aesthetic problem. But I can assure you that a big and beautiful *H. nutans* pitcher doesn't quite look that great with silver and black splotches all over it! As they feed on the leaf surface with a kind of rasping motion, they leave a silvery sanded look afterwards. To further annoy us, they leave their minute, black, tar - like droppings amongst the silvery patches, which actually highlights these very patches more.

On to more pleasant happenings from my neck of the woods is that with the move, my plants now have a new pent - house - style growing area! At long last I do have a large glasshouse in the backyard, and already it is almost packed with many cheery plants. As it is twenty years old, it does have a few glass panels missing here and there, but as I see it, it will ensure great ventilation in both Summer and Winter! I want to ensure that the plants do have their cold over - wintering, as I will have a great show of flowers in the Spring as a result. I will also be stratifying plenty of hybernacula forming *Drosera* seeds this Winter, as well as the usual *Sarracenia* seeds. All I will have to do is investigate just which form of shading I will have to use next Summer, as this is my very first glass house. It really is an exciting time for me, as it still gives me a thrill to be in the thick of things under all of that gorgeous glass!

I have been harvesting all of my seeds from the many *Sarracenia* specimens, with most mature ovaries having produced plenty of seeds. Some of my hybrid crosses will be a joy to watch germinate and grow in the next few years. That is the pleasure of pollinating the flowers of one's plants, as there lies a special thrill to know that you have been partly involved in the process of continuity of your collection. Who knows what forms or results one will get once the tiny seedlings finally mature? It simply adds to the joy of it all!

All of my seedlings that germinated this Spring are doing wonderfully, with the cute *S. rubra* ssp. *alabamensis* seedlings putting out their pin sized Autumnal pitchers. The *Byblis liniflora* seedlings that simply germinated after exposure to the extremes of the highlands winter (as outlined in the last issue of Flytraps news) are doing very well, with most of the plants having set seed already. The pot of twelve specimens that I did transplant from the 'mother pot' look a dream in the afternoon sun, with all of the droplets gleaming against the sun beams. The dainty violet flowers also look brilliant against the almost blinding shimmering sea of droplets. At present these beautiful plants measure at 20cm tall, and are still making their upward climb. Plenty of shots with the camera!



Nepenthes ventricosa x rafflesiana from the collection of Peter Biddlecombe

Another great thing that has happened since the last update, was the final emergence of a first mature pitcher on my *H. heterodoxa*. I almost fell over when I watched it emerge from the growth slit! Since then I have seen another three emerge, and it really does look great now. The nectar cap on the first one was quite large, and I could actually see the nectar oozing from the glands underneath. I was tempted to try a little, so I inserted a toothpick & was surprised to find it tasted sweet, like that of Honeysuckle.

My *H. nutans* has flowered twice this growing season, and besides the terrible thrip problems, it really is doing very well. It now has at least three mature growth points, but they have yet to become independent of the main plant. It has begun to develop a small rhizome in the last six months, as it has started to accumulate some noticeable length from base to growing point.

My *Drosera regia* has survived the long flowering period, and is now producing a new burst of growth, after having stopped channelling energy into the flowering process. As it is now housed in the glass house, it is in a position that is sheltered from the heat of the midday sun. I have read that the act of flowering with this species of *Drosera* is meant to ensure the death of the plant. My experience, with that of others in this society, is now testament that we need not deny oneself the thrill of experiencing such a majestic plant flowering. It will start to slow down though, growth wise, owing to the coming cool weather. I will have to decide whether to allow it to go through the Winter freeze, or to bring it indoors for the cool period. I have seen a plant come back from the roots that had been grown outdoors in the highlands area, and it actually encouraged it to send up numerous buds. It was a deal more so behind the growth of my plant though. Once I propagate more from this specimen, I really am not willing to take such risky chances!

One funny thing that has happened with a young *Pinguicula* specimen is the flowering this late in the season. The *P. zechei*, just an adult, sent out one glorious lilac flower two weeks ago. The flower has since grown a little larger since the first opening, and is still looking wonderful. It now measures at 4cm wide, by 5cm long. The petal edges are quite crenate, and are of a metallic sheen. This is the first time it has flowered, having been acquired from Fred Howell, in seedling form, in June of 1997. Better late than never I guess is the operative word here! My *P. species* 'Pico De Orizaba', also a seedling in 1997, from Fred Howell, is really gigantic now. I still am amazed at how fast it has grown since first acquiring the plant, no bigger than a 50 cent piece. The latest leaves measure at an impressive 8cm wide, by 7.5cm long. My *P. vulgaris* plants (a total of three!) have set their hibernaculum, ready for their anticipated Winter freezes. My first year *P. grandiflora* ssp. *grandiflora* seedlings are still growing, so I hope that they do survive the Winter! They have taken a while to get to their diminutive size so far, that losing them would be a little too much to have to deal with!

Well, that is all from the 'Karniland' of the Southern Highlands. I hope all are prepared for the trials of the Winter experience, as it will mean plenty of seeds germinating for me in the Spring. For us growers, stay warm as toast and look to the breaking of spring time.

Trees for the Forest

Jessica Biddlecombe

The old saying "not seeing the trees for the forest" was brought home when we caught up with Nathan and David at their new house. They were lucky as the place came with a glass house! Nathan has his general Sarracenias together in a ground pond while he has his best specimens displayed on shelves. This way you can appreciate the individual plant and not just a melee of pitchers. While we have many plants we have not the display so we do not get to fully admire each one, which is a shame. Must do something about this.

Greg Bourke has taught us a lesson in what you can do with a rainforest, creek, bog and walkway all in a small area. I was most impressed and I suggest you catch up with him to get ideas.

Chris Schell built a small neat shade house but what a surprise at how much he has growing in there!! Marvelous what a timer, mister and one very large green thumb can do.

Terry Nichols has also started a shadehouse and seems to be on the go. I have not seen it as yet but from what I have heard his plants are enormous.

All these ideas from the new members must make us oldies rethink. I really have been impressed and have learnt a lot. Talk to these people, get yourself invited to their places and you will be rejuvenated for your plants.

Flytrap Question Corner

Nathan J. Clemens

This is an introduction to a new section that we would like to see take off in our journal, that invites input via helpful hints, advice & experiences from all of our members. It would only require brief solutions or ideas from those who felt that they could help their fellow enthusiasts. So, it would be great that this becomes a page (or two!) where we can all pose questions and answers in the name of the betterment of our cultivation practices. That way all of our prized babies will be sure of the best treatment, and hopefully go toward the survival of the various near endangered species, through well grown collections.

All one has to do is send in a question (or answer) related to the growing of carnivorous plants, by email, computer disc, or the good old way, mail. Then you have to sit tight and hope for the best. Once we have a few items to discuss, it will really get all involved in a simple yet affective way, making for a well educated and friendly group of enthusiasts.

I would like to start the 'dewdrops' rolling with a few questions I would like advice with.

1. I have been experiencing Thrip troubles with my *Darlingtonia* and *Heliamphora* specimens. What I would like to know is what are the tried and true solutions to eradicate these buggers forever? There is no sight worse than a ravaged *Heliamphora* pitcher standing otherwise proud and tall!
2. Yet another plague that my babies have been under attack from is the dreaded Powdery Mildew, more so on my *Cephalotus* specimens. The last attempt was with the application of Wettable Sulphur powder. It seems to have worked for now, but I am not sure of how it will affect the new growth. Furthermore, should I remove the older leaves that have become patchy as a result of the fungus?

So, get those itchy troubles in! It will be great fun when the flow is under way! Great growing to all readers.

The Wide-leaf form(s) of *Drosera indica*

Robert Gibson

The *Drosera indica* complex includes up to 10 distinct variants in Australia (Camilleri, 1998). Amongst these is a robust, wide-leaf variant, or group of variants which is widespread across the Australian mainland. Some details of this attractive and effective insect catcher will be presented below, with some of the different names it has gone under. In order to resolve the taxonomic status of this form, detailed study of the plant morphology, flower structure and seed surface texture would be needed of all variants throughout the range.

Description of the wide leaf variant(s)

The more conspicuous distinctive features of this variant, or group of variants are listed below:

linear leaves with a full cover of long-stalked retentive glands.

yellow green leaves typically 2 to 3 mm wide, and 10 to 15 cm long.

Initially self-supporting then trailing stem, typically 10 to 20 cm long, but may reach 40 cm long.

Horizontal to trailing scapes typically 20 cm long with many flowers

Ovoid seed, 0.2mm long, with 10 - 15 longitudinal rows of oval pits

In short this is an impressively big annual herb. In contrast to many other carnivorous plant species, they are efficient carnivores, and are invariably covered with the corpses of insects, especially blue winged butterflies. The long slender leaves are mobile, and wrap around trapped prey. The insect trapping ability may be further enhanced by the sweet smelling retentive fluid developed in at least some populations in the Western Australian desert.

At this stage it is not clear if we are dealing with one or more species in this complex. Further study is required of the floral morphology, habitat and ecology, and genetics of the main populations. To simplify this article it will be treated as a distinct single variant.

Distribution

Based on the study of herbarium specimens, published information and my own fieldwork the wide leaf form *D. indica* is widely distributed across inland Australia (Figure 1) with a few coastal populations on the central coast of Queensland. It appears that this variant is able to disperse its seed widely down major drainage systems, and that that this seed may remain viable for many years.

Within Australia the majority of plants have pink petalled flowers, although, perhaps not surprisingly white petalled plants are also found. These have been collected northwest of Alice Springs, on the central Queensland coast and in the far eastern headwaters of major tributaries of the Darling River in Queensland and New South Wales. Orange petalled plants are recorded in the southwestern Kimberley District of Western Australia.

Taxonomic history

From a study of herbarium specimens in Australia and overseas it became apparent that different populations of this variant, or complex had been given different names in 1813, 1848, 1855 and 1858; a summary of these is presented. Until a detailed taxonomic study is undertaken on both key herbarium specimens and wild populations it is premature to know if these named variants are identical, or even if they fit within the definition of *D. indica*.

F.M. Bailey, the famous early botanist in Queensland described a population of this form as *D. indica* forma *robusta*; the text and figure are given below:

"*Drosera indica* Linn. forma *robusta*, Bail. n. form (Plate 100). Whole plant of a more than usual robust growth; new leaves straight except at the immediate end.

Hab.: Mill Stream Falls, Ravenshoe, E.W. Bick. (June, 1913)

Plate 100. -*Drosera indica*, Linn. forma *robusta*, Bail. n. form"

Plate 100 above is reproduced as Figure 2 below.

In Indochina a robust *D. indica* variant was collected and named *D. finlaysoniana* by Wallich. This was published in 1828.

The *Drosera indica* population in far northwestern Victoria, which appears to include this form, was described as *D. angustifolia* by Ferdinand von Mueller in 1855; the full text, from page 7, is repeated below:

"Stem foliate, simple, decumbent or adscendent; leaves scattered, nearly sessile, long and narrow caudate, above and the margins glandulously pilose; racemes, either opposite to the leaves or alternating with them, hardly of their length

three-ten flowered, covered with short gland-bearing hairs; segments of the five-parted calyx lanceolate, gradually narrowed upwards, about equal in length with the capsule, and half as long as the whitish petals; styles 3, divided to the base, its divisions filiform, incurved at the top; seeds egg-shaped, clathrate.

On the moist gravelly margins of the Lakes on the Murray River towards Euston. This is the first extratropical species of this section of *Drosera* with which we are acquainted. It approaches next to *Drosera finlaysoniana* from Cochinchina. But this is only one of the many tropical forms of plants, which, transgressing the torrid zone, advance so far southerly as the Murray desert"

Whilst it was acknowledged to be very close to *D. indica* the far southerly location was perhaps over-emphasised and a different name was given. This population at Euston is perhaps not unsurprising given that it is on the banks of the Murray River very close to the junction of the Darling River System. It is likely that *D. indica* seeds has been washed down the latter during floods. Perhaps the plants are at the edge of their range here for, on the sheet examined, the stems are up to 10 cm tall, with leaves to 8cm long by 1mm wide, and scapes to 6cm long.

During the 1855-56 expedition to north eastern Australia lead by Gregory, the famous Dr. Ferdinand von Mueller collected huge *D. indica* like plants near the Victoria River. These were named *D. serpens* by Planchon in 1848. The plants on the herbarium sheet examined are huge: stems to 20cm long, leaves to 10cm long and 3mm wide which have an abundance of trapped insects and many scapes 15 to 20 cm long.

Plants of similar form and large stature, with stems to 40cm tall, leaves to 10cm long by 2mm wide, 2mm internodes, and white to pink petalled flowers on scapes to 20cm long were collected by Robert Brown on the famous first circumnavigation of Australia between 1801 and 1803. These plants, from the east coast of north Queensland, possibly between Keppel Bay and Shoalwater Bay were informally named *D. purpurascens*. It is not clear if this name was officially published.

The publication of two summaries of the Droseraceae in the mid 19th Century played an important roll on the status of these variants. In 1848 Planchon's famous synopsis of the family was published. It included *D. serpens* and *D. finlaysoniana* with *D. indica*. However, in 1864 Bentham published the inaugural and monumental "Flora of Australia". Within the *Drosera* section 41 species are listed. In it all *D. indica*-like plants are covered by the one species name. This also occurred in Diel's 1906 synopsis of the genus and the family, which is still the latest entire published view of these plants.

Overseas locations of similar plants:

Taiwan and Southeast China

On the island of Taiwan robust golden green plants with leaves to 15cm long and 2mm wide have been collected. Similar plants have been collected on the other side of the Straits of Taiwan and along the southern China coast. Particularly impressive specimens occur on the island of Hainan where orange-petalled plants occur. Some of these have leaves to 20cm long, and stems to over 30cm tall.

Indochina

Robust, wide-leaved plants collected here have been given the name *D. finlaysoniana*. From a study of some of the herbarium collections, the typical form of the species also occurs here.

India

In a few locations within peninsular India long-leaved robust plants of *Drosera indica* have been collected which appear similar to this form. It is interesting to note that, here, in the western limit of its range, the narrow-leaf form of the species appears to be the most common and widespread form.

Conclusion

The wide leaf form(s) of *Drosera indica* are widespread, occurring from throughout much of Australia, and into southeast Asia, as far north as Taiwan and as far west as India. Further taxonomic study of the plants with leaves to 3mm wide, with a full cover of long stalked retentive glands on the upper surface is suggested. There may be more than one valid name to be applied to these horticulturally appealing plants.

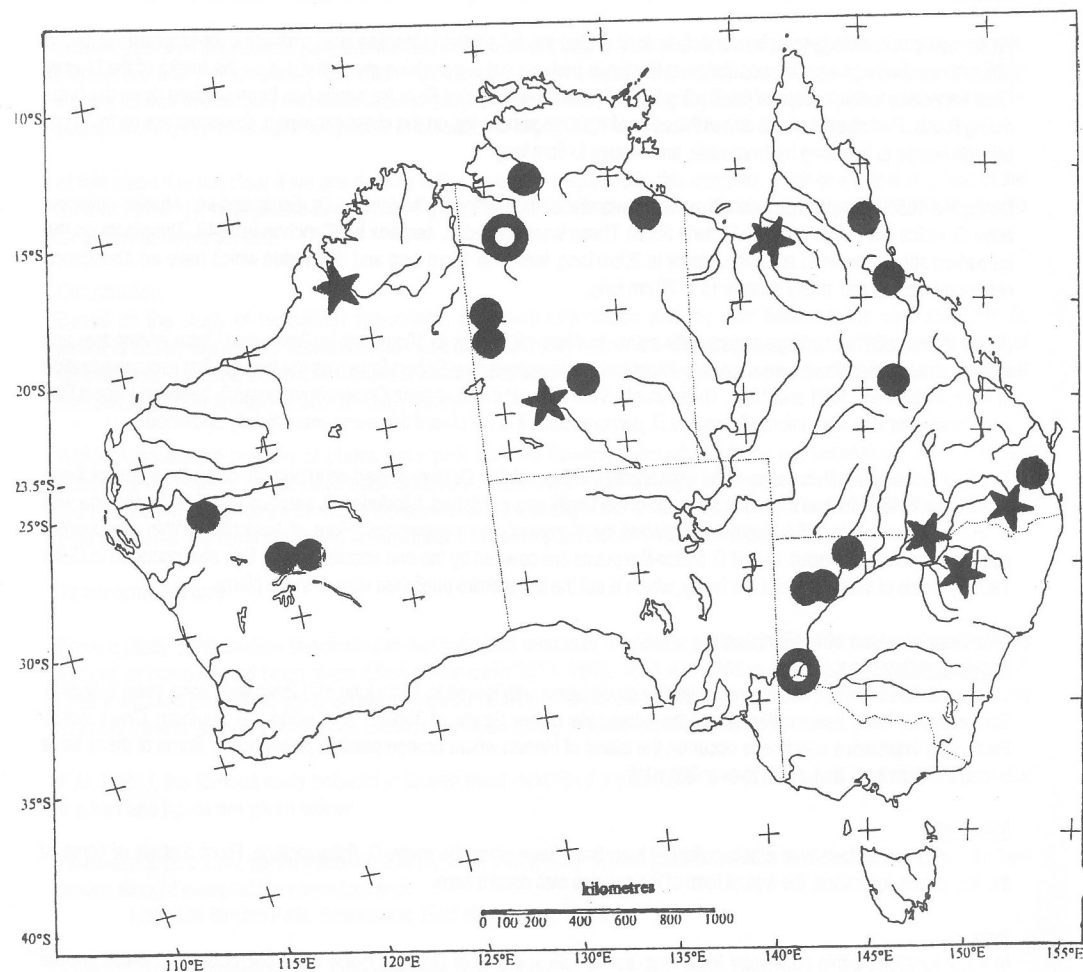


Figure 1: Distribution map of wide-leaf *Drosera indica* in Australia. The typical pink-petalled plants are shown by dots, white and the rare orange petalled populations are shown by stars. The open circle at the confluence of the Darling and Murray Rivers marks the type location of *Drosera angustifolia*. The open circle in the north western Northern Territory marks the approximate location of the type location of *Drosera serpens*.

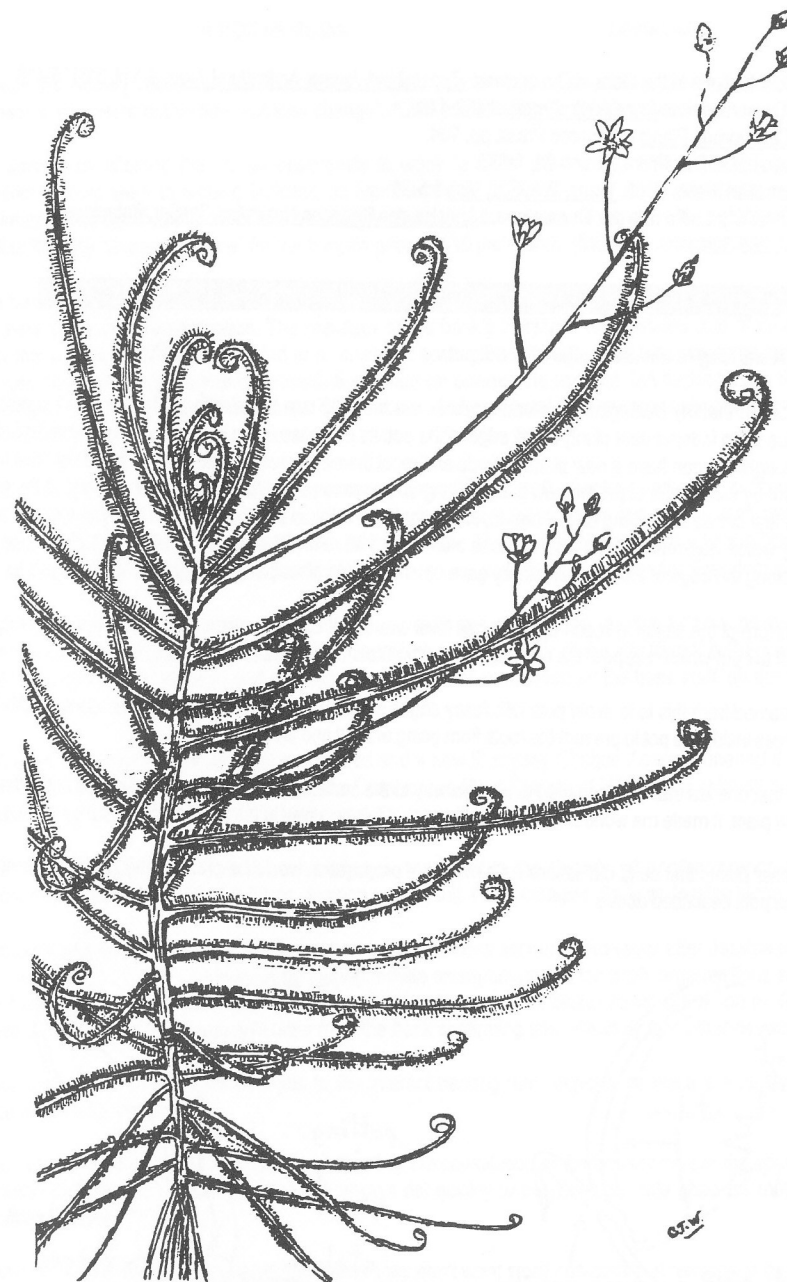


PLATE 100.—*DROSERA INDICA*, Linn. forma ROBUSTA, Baill n. form.

Figure 2: The first drawing of *Drosera indica* forma major, from F. M. Bailey. This was published in 1913.

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A warning about the profile of some pots

Philippe Reyter

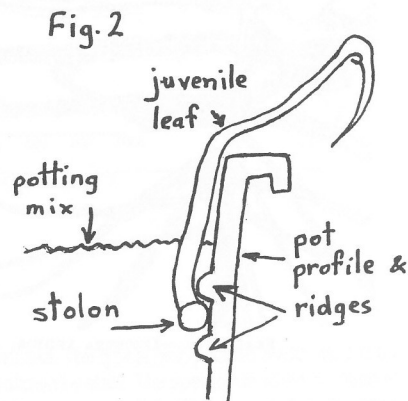
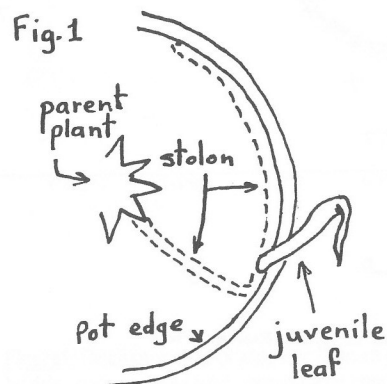
Some time ago I noticed that my *Darlingtonia californica* which was in a 200 mm (8") plastic pot had sent out a stolon (a runner that gives rise to an independent plant) to the edge of the pot. Its presence being known by one juvenile leaf at the edge of the pot. I thought I'd soon have a new plant to divide and repot thereby increasing the number of *Darlingtonia* in my collection. Time went by without the expected new plant making an appearance; there was only that one leaf at the edge. Eventually that one leaf turned brown and died. Puzzled, I investigated and found that the plant had sent out a stolon about 300 mm (12") long which had managed to send up one leaf about 100 mm (4") away from the parent plant, then had continued to grow along the edge of the pot until it finally gave up any chance of reaching any light and died. (Figure 1)

The cause for the failure of the stolon to reach up to the soil level was that it was prevented doing so by the presence of a ridge in the profile of the pot which "trapped" the growing point of the Stolon. (Figure 2.)

The lesson to be learned from this is to avoid pots with fancy ridges in their sides. Go for smooth sides or those with "root training" vertical ridges inside the pot to prevent the roots from going around and around in circles.

If it hadn't been for that one leaf that had managed to work its way to the surface I would have remained ignorant of the loss of that potential new plant. It made me wonder how many other times this occurred in the past without anyone knowing it.

My guess is that other plants that send out stolons as a means of propagation would be prone to the same problems and would do best in the pots described above.



In April the Society received a letter emblazoned with motherhood statements such as "When you grow up with someone, you never notice how fast they change". "Until you see how far they've come"

We were to be afforded the unique opportunity to enjoy "a better place to bank for you and your business". The benefits that we were to receive included an interest rate of 3.7%. The only minor stipulation was that we kept a minimum of \$250,000 in the account. Our meager account balance entitled us to 0.1% compounded monthly. Wow! All this "friendly personal service" for the bargain price of \$10 per month. (\$120 per annum.)

The bank had apparently decided to convert all non-personal accounts into business accounts. It was irrelevant that we were a non-profit organisation. The manager of the bank's Hurstville office stated that "it could all be fixed up" after the account had been converted to a "business account" on 1st May. This was the same branch, that made a big fuss about getting a copy of our constitution, when we opened the account, but had long ago thrown it away. We would almost certainly incur one months business account charge of \$10 and possibly other charges to "fix it up". The committee decided to take control of the situation prior to the 1st May.

To that end the Peter and Jessica Biddlecombe and myself went to the banks head office to "have it out with them" on Friday 23rd April. After some discussions a solution was suggested by the bank's staff that we open a joint personal "Everyday cheque account" in trust for the Society. The options of pass book, cheque book with two to sign, but no ATM card were chosen as in practical terms these are equivalent to the existing Freedom account.

Deposits are free. The free withdrawals of 8 per month are appropriate, as the Society never has more than 5 withdrawals (by cheque) in any one month. Considering the urgency of the situation the President, Vice President and Librarian took the initiative and effected the changes, recommended by the bank staff, on the spot on Friday 23rd April. The process took just over one hour.

The existing Freedom bank account was closed and a new Everyday Cheque Account opened in the joint names of the Peter, Jessica and myself in trust for the Carnivorous Plant Society of NSW. This solution preserved the status quo as far as bank charges go. Problem solved. Or so we thought!

The next working day I tried to deposit a cheque, made out to the Society, at another branch and found that the Society's funds now belonged to Peter, Jessica and myself. I was enraged. So I set Jessica loose on the bank.

The bank now states that they have only personal or business accounts. However after Jessica pointed out to them, as only Jessica can, that there must be a intermediate arrangement for non profit organisations such as our Society the bank has said that they will wave business fees (not government taxes) as we are a non profit organisation. (The squeaky wheel gets the oil.) We await a letter from the bank confirming this. Stand by for further developments.

It was not necessary to make changes to the interest bearing term deposit, as there are no business charges on term deposit accounts. Yet!

The committee will consider appropriate changes to the constitution of the Society to give the committee "emergency powers" to ensure that the committee can always act quickly to counter bank rule changes that would "rip off" the Society's funds.

Banks don't consider small customers because they don't want small customers. It remains to be seen how long it is until the general public are reduced to keeping their money in a jam tin in the back yard or under the bed.

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Notice of Subscription Increase

Please note that subscription for 1999/2000 has been increased from A\$17 to A\$20 per annum.