

The Orchadian

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December 2002

Official Journal of the Australasian Native Orchid Society



Royal Botanic Gardens
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Editorial

Well, that was my first issue out of the way and it sure was an eye opener to the printing industry. I now have some idea of what is involved and what I have to look out for. Putting together an issue is easy when you have the material and really doesn't take that long to do, the interesting things start when you're on your way with the graphic artist who puts it all together and then the printers who actually makes the final item that we all enjoy. In the past the slides and photos used in *The Orchadian* were all scanned into digital format (CYMK) and then put into the position within the article, the whole thing is done in a program called Quark Express, (I think). You can't just put a photo where you want in the journal, they have to go on certain pages as the colour pages are separately printed to the black and white pages, and so they may not match up with the article. Anyway, I have now sorted that out and due to modern technology can also scan the slides or photos digitally myself.

Many orchid enthusiasts now have scanners or use digital cameras to take photos of their beautiful orchids. These can quite easily be saved to the home computer and viewed whenever the grower wishes. When these photos are emailed between enthusiasts they are usually reduced in size (number of bytes or pixels) for easy emailing and when these photos are printed they tend to look grainy.

To use digital photos in this journal they need to be of high resolution. Example: you have taken your photo and downloaded it to the computer, the program you use, which came with your camera, will enable you to view the photo(s), from here you can usually manipulate the photo, crop out the parts you don't want and change the format in which it is to be saved. When saving the photo, for printing at home or in '*The Orchadian*', it should be saved with a resolution of at least 300dpi, (dots per inch), 72 is usually the default setting in most programs.

This in turn will make the picture very large on your computer screen, some programs will allow you to view it screen size or nominate the size you want for printing. These images are too big for emailing so should be saved to disc and posted to the Editor of *The Orchadian*.

Two photos in the last issue were in low resolution, you can plainly see which they were, the Victorian photos were of high quality, the *Calonemorchis* photos were scanned from slide and the photo's in Peter Tonelli's article were of medium resolution which for the smaller ones was Ok, but the larger ones start to lose their clarity. With each issue I

hope to both improve and reduce the costs to ANOS and I am open to hints from those who are more experienced with these computer images. I would like to have a large library of digital photos stored on CD's to use in *The Orchadian* so I would be grateful to those who are willing to send me their photos.

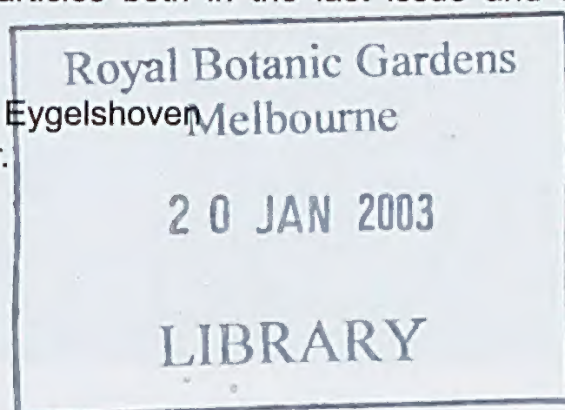
As I mentioned in the Editorial of the last issue, I am keen on orchid conservation and therefore do not have the knowledge of either hybrids, or the Australasian orchids, many of the readers are interested in, so I really need the help from other growers who do have the knowledge in these two fields.

For those members who wish to have articles printed in the March issue, of *The Orchadian*, should have their papers to the Editor by 1st February, 2003 in order to have it posted out to members before March.

Finally, I would like to thank Murray Corrigan and Bill Dobson for their help and advice in the production of this issue.

I hope you enjoy reading the material and special thanks goes out to all the authors for their articles both in the last issue and this one.

Peter Eygelshoven
Editor.





Dockrillia cucumerina

Grower Chris Dalrymple



Pterostylis baptistii

Grower Roslyn Capell



Thelymitra ixioides instu Garigal National Park
(Robert Brown looked for plants in this area, but would have been too early to see the Sun Orchids, refer to Ruth Rudkins article: The 'Investigators' Plant Hunters, page 60.)

Photos Peter Eyselshoven

Pterostylis baptistii Grand-Champion of the Show

Ronald Boyd
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On the 6th & 7th September, 2002, I entered my plants into the Eurobodalla Orchid Club Inc. Spring Show at Batemans Bay. This being a new venue for our club based at Moruya on the far south coast of NSW. It represented a bold move, by the Group, to show off our Society and the orchids that the members grew, to the general public. I, as a novice grower, did the 80 klm trip north to Batemans Bay with my precious entries on the back seat. In the box were two pots of *Pterostylis baptistii*. The 500 mm long stems were staked for the journey, but they were still swaying alarmingly at every bump, threatening at any moment to snap off. On arriving at the show venue, I took them with my other entries inside and placed them in their correct position on the show benches, then off home and now it was up to the judges. I, at that time did not have any idea what the two precious pots of *Pterostylis baptistii*, would bring me.

Next morning at 7 am, the phone wakes me from a good deep sleep; one of our committee ladies had rung to tell me the good news. The first thing she said was that my *Pterostylis baptistii*, had won Champion Native Orchid, great I said, but wait she replied, it then went on to win you, Champion Novice Grower. Better still I said, but wait there is more she said, (Sounded like that ad!) It has won you the Grand Champion of the show. I was speechless, nowhere in my wildest dream did I think I could win such an honour after only a few years growing orchids, this show being only the 4th show I had entered orchids into.

I had seen a few plants of *Pterostylis baptistii* at my very first show and liked them. On inquiring to the owner about them I learned they were an Australian native terrestrial orchid. He had only a few that he had bought up at Gosford and did not know where else you could obtain them. As at that time I was starting to buy a few other types of orchids from Florafest Orchids up in Queensland, I checked with them and they had a flask of 50 plants for \$50. Well, I thought that would give me a few to grow and maybe I could get a good one out of them when they all flowered. This flask being one of the first lot I had bought and deflasked.

My first priority was I had to deflask them, no easy task as some tubers were dormant and some were growing with tall thin stems and long thin roots. A quick phone call to John Woolfe and he reassured me they could be deflasked any time of their growth without harm, or could be left until the start of March, their growing season. This resulted in them sitting in the flask in my office for the next four months. By now I was getting more concerned as some of the growth's were winding around the inside of the flask. I checked with our club President and he put me

in touch with who he said was the best native orchid grower on the coast, Mr Alan Stephenson of Nowra. Over the phone Alan gave me a quick run down on deflasking and what type of mix to grow them in. I deflasked them and put about 20 tubers to a 120 mm squat Port Pot with the recommended mix. The plants all came up that autumn and winter; the rosette's filled the large community pots I had planted the tubers in.

By early summer they all died off, I allowed the pots to dry out, periodically watering them, but mostly letting them remain dry. Come February this year (2002) I repotted most of them, six to a 120 mm squat Port Pot, and in the mix Alan had recommended to me. This mix being 50% cleaned sieved river sand with no fines, 25 % good compost and 25 % old sheoak needles, no fertiliser was added. Come March this year, I gave them a good soaking with rainwater and within a week the green shootsheads were poking through the thin cove of sheoak mulch. I then gave them six pellets of Terra-Firma's 'Organic Life' fertiliser, watered well in and from then on to flowering I only watered with no other fertilizer used. The rest is history and my love for growing Australian native orchids has just begun. Imagine, that a year ago with plants valued at \$1 each I would win Grand Champion of the Show. On Monday the 9th September Alan Stephenson drove the three hour trip down from his home town of Nowra, to photograph this plant for me. This being so I may enter it in the Bill Murdoch Trophy for Australian native orchids.

The plants by now had travelled up to Batemans Bay, sat on the show bench for two days and then the 80 km return trip. The plants were five days older than when they were judged but still of good quality and shape to do justice to Alan's photographic skills.

The horizontal measurements of the flower was 55 mm, vertically 50 mm, length of inflorescence 520 mm, galea 30 mm across top. The galea tips free pointed 35 mm long.

Such are the great mates you make in the Orchid World, for without the help of Alan the *Pterostylis baptistii* may have ended up fading away in an incorrect potting mix.

I would also like to mention the help given in bringing home this plant from Batemans Bay, 80 km away, as I was unable to go due to other commitments. My wife Rose and good friend Edna Adams struggled to get them safely into their car, it was blowing a gale and the first pot of *Pterostylis baptistii*, not the champ's pot, had their tops broken off as soon as they walked out the door, such was the strength of the wind.

After searching for a box high enough to put them into, they very slowly came out of the building and put them safely in the car, then followed a very slow trip home as at every bump they thought the flowers might snap off.

Finally a very worried and nervous Edna arrived with the plant safely at my home. Thanks Edna, if I name the plant I will call it *Pterostylis baptistii* 'Edna's Terror.'

Finally, I would recommend to anyone growing orchids, give our Australian native terrestrials a try, they would be among the prettiest and easiest orchids to grow. They may be difficult to find but if you search out the nurseries, small breeders and growers, you may end up one day with Grand Champion of the Show with a tall standing proud Aussie native orchid. Credit for the photographs must go to Alan Stephenson.

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Pterostylis baptistii Grand Champion of Show Eurobodalla Orchid Club Inc. Spring Show.
Grower Ronald Boyd

Photo Alan Stevenson

What The Groups Are Doing!

ANOS ILLAWARRA

Chris Wareing

(Secretary & Newsletter Editor)

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I enjoyed reading Helene Wild's article about ANOS Victoria in the September edition of *The Orchadian*. ANOS Illawarra is not in the same league as ANOS Victoria. It would be a dream to have as many members as they have. However, even though we are a smaller society (almost 60 members) the majority is active and we are involved in a wide variety of activities.

We have a strong commitment to conservation. We have held a lease over a parcel of land at Yallah (south of Dapto) which is a stronghold of *Pterostylis gibbosa* since 1985. This land is owned by the successors of the Electricity Commission and is the site of one of its sub-stations. The land has been fenced off and we have done regular weeding of lantana, *Pittosporum* and other weed species. In 1997, our conservation officer, Graeme Bradburn, organised a survey in conjunction with NPWS botanist, Geoff Robinson, which extended the range of *Pterostylis gibbosa* south to Nowra and north to the Hunter Valley. The pleasing factor of this survey was the active participation of members from other ANOS groups.

We also joined with members of Port Hacking Group and NPWS, in a survey of Botany Bay National Park for what was known as *Pterostylis sp.* Botany Bay (one of the *Pterostylis plumosa* complex). This was conducted over several years with participants searching all likely habitats.

Over the past few months, we have been conducting an orchid survey of a property near Dalton, NSW that the owner wishes to preserve as a sanctuary for flora and fauna. Originally, this was planned to extend over three months, however, this has been hindered by the drought. The visit in September produced a recording of 16 species. Five additional species were recorded in October but conditions were such that it was most unlikely that anything else would flower in November. We aim to go back in Autumn next year. The Oolong Sanctuary website is www.pcuq.org.au/~gianni. A visit to the site is well worth while.

One of our guest speakers this year was Ray Brown from the Illawarra Grevillea Park at Bulli. He encouraged us to donate orchids for planting in the Park. We held a working bee in the Park in August when we planted many large plants of *Dendrobium speciosum* as well as smaller plants of *D. kingianum*, *D. X delicatum*, *Sarcochilus sp.* etc. This turned out to be a great social day finishing with a barbecue for the members who attended.

Of course, many of our members look forward to our shows of which we hold three each year. Our Autumn Show is a "members only" affair conducted over three months. Members vote for Plant of the Night and photos are taken of the three monthly winners and exhibited at the next meeting with members then voting for Grand Champion, Reserve Champion & Champion.

Our Spring and Sarcanthinae Shows are held at Westfield Shoppingtown, Figtree and judged by members of the ANOS judging panel. We set up Wednesday evening with judging that night and pull down Saturday afternoon. We hand out lots of growing hints and information on the Society to interested members of the public as well as run a sales table and raffle. The response from the public is well worth the time and effort put into these shows. The major winners of all three shows are presented with trophies that feature photos of the actual plants framed or mounted on plaques.

As editor, I try to make the newsletter as interesting as possible. I encourage members to write articles (not always successfully), or to reprint interesting articles from other societies' newsletters and over the past year or so, I have been including colour photographs of orchids as often as possible. I envy Warringah

Group in this regard.

Another feature of our Society is the participation of members in our field trips, whether day trips or camping weekends. Admittedly, these have been a bit reduced this year due to the drought but apart from our own excursions, we have had members join in with Warringah and Sydney Groups on a number of occasions. There is nothing better than to mix with people with a similar interest in native orchids, particularly around the camp fire at night, smelling the different aromas of food cooking and sharing the bottle (or two?) of wine. We encourage anyone interested to join us at our meetings or on our field trips.

Chris Wareing

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THE INVESTIGATOR'S PLANT HUNTERS.

Robert Brown and Australian Orchids.

Ruth Rudkin.

In May of this year, 2002, the international conference "Robert Brown 200" was held in Sydney to celebrate Brown's time in NSW and his contribution to science. From his observation of the zigzag motion of pollen grains under the microscope, comes the term "brownian motion", part of the kinetic theory of matter, an important advance in physics. Moreover, he was, as Michael Crisp said, "held in high esteem by botanists both in his day as he still is today, by his rigorous and scientific approach and the high quality of his work". Mark Chase at the same Conference says "Robert Brown not only studied the orchids of Australia, but was also important in the history of both systematic and evolutionary studies of orchids in general because he was the first to recognize the anatomical homologies of orchid flowers with other flowering plants. His discoveries set the basis for orchid classification. A great number of scientific names of Australian plants, that Brown named and described, are still valid and used today.

So what is the story of his relationship with Australia? Born in Scotland, on the 21st December, 1773, he studied medicine in Edinburgh, but was more interested in botany and corresponded with a number of botanists, discussing his findings and thoughts on different aspects of botany. In 1798 when he heard that Sir Joseph Banks was organising an expedition to survey the coast of New Holland, he applied to join, but without success. Then in December 1801 he received a letter from Banks offering him the position of naturalist on board a ship to explore "the natural history and many other things of New Holland" which he immediately answered. On arriving in London he first went to the herbarium of Australian plants collected by Banks around Botany Bay on his voyage with Cook.

Finally, he met Matthew Flinders, Captain of an old collier, renamed by the Navy, HMS *Investigator*, and the other "Scientific Gentlemen" on the voyage, John Crosley, Astronomer (left behind at Cape of Good Hope because of illness), Ferdinand Bauer, Natural History painter, William Westall, Landscape and Figure painter, Peter Good, gardener and John Allen, miner, with knowledge of geology. The *Investigator* also had a greenhouse on the deck and special boxes and casks for growing plants, and Flinders had instructions to give the naturalists as much time to range about and collect the produce of the region as they needed. Fortunately, not only did Brown keep a diary, but so did Good, Bauer and Westall, a help to the compilers of "*Nature's Investigator: The Diary of Robert Brown in Australia, 1801 - 1805*".

The ship sailed off from Spithead on the 18th July, 1801, via Madiera, to the Cape of Good Hope where they stayed for three weeks collecting plants. Here Brown found orchid species of *Satyrium* and *Disa*. Leaving on the 4th November they made first landfall at Cape Leeuwin, W.A., finally reaching King George's Sound, on the 8th December. Here they stayed a full month exploring and collecting. Despite the lateness of the season, they found *Diuris pauciflora*, *D. setacea*, *Microtis alba*, *Prasophyllum gibbosum*, *P. macrostychium*, *Thelymitra canaliculatum* and *T. fuscolutea*, altogether thirteen species of orchids, of which only four additional species flowering in that area in December have been found. None of them were Caladenias or Drakeas. In January they spent eight days collecting near Esperance and the islands of The Reserche Archipelago, later calling in to Fowler's Bay and Nuyts Archipelago, until they reached the Eyre Peninsular and Spencer Gulf, anchoring first at Pt. Lincoln. Here they stayed for some time, later walking up to the Flinders Ranges and naming Mt. Brown. (Only one orchid mentioned, *Prasophyllum nigricans*). From there it was to St. Vincent's Gulf, Kangaroo Island, Encounter Bay where they met the French expedition under Nicolas Baudin in the *Geographe*, (and also mapping Australia's coastline, but for France), King Island, Port Phillip, finally reaching Sydney on 9th May. In the Harbour was the French corvette, *Naturaliste*, part of Baudin's expedition of exploration, and they were able to visit the botanist, Leschenault de la Tour and a mineralist, J.C. Bailly. After two weeks collecting around Port Jackson, Brown and

Good went to Parramatta on the longest road yet in the colony, to meet George Caley who had been sent by Banks a couple of years earlier, to study local vegetation. He had studied practical botany and horticulture under Bank's direction, but did not have a scientific education. Caley admitted himself that he had "tried of late to use the language of Linnaeus making descriptions but have to lament that this is above my reach, and I am afraid it will not be so easily understood". Brown says little about the meeting. He may also have met Lieutenant-Colonel William Paterson, Lt. Governor an officer commanding the NSW Corps, who was an amateur botanist, but it is not mentioned in his diary at this point. However Brown and Good went collecting all around the Sydney area for six days with few orchids recorded, (*Acianthus fornicatus*, *Caladenia caerulea* and *Cyrtostylis reniformis*) before setting off on the 21st July, 1802 to circumnavigate Australia in the *Investigator*.

There is little information of orchids in the Diary although there were stops at Hervey Bay (*Caladenia carnea*, *C. catenata* and *C. alba*), Port Curtis and Keppel Bay, Broad Sound and Port Clinton (*Microtis parviflora*, *Thelymitra angustifolia*, *Cymbidium canaliculatum*), Shoalwater Bay and then the Great Barrier Reef. Most of the descriptions were of the native people, various islands such as the Murray Islands and then the Gulf of Carpentaria where there were many stops. At Melville Bay on the Gove Peninsula they met many praos with fishermen from Macassar. At Arnhem Bay on the 5th March he writes "Here it was intended from the very crazy state of the vessel to leave the coast". Shortly after, scurvy broke out and they sailed to Kupang on Timor where they were welcomed. Brown records three hundred species of plants but not one orchid from Timor. They left on the 8th April for Sydney. On the 20th, there were signs of sickness, dysentery, and by May there were fourteen ill, many of whom shortly died. After arriving in Sydney on 9th June, Good too, died on the 12th. On the 14th, the *Investigator* was condemned.

As the ship was unseaworthy, Flinders decided to return to England in the *Porpoise* with the *Cato* and the cutter, *Bridgewater*, to get another ship to complete the work of mapping

the coast. Brown asked for permission for the naturalists to remain in Australia. On the *Porpoise* were the collections of live and specimen plants, minerals, charts and paintings which were all lost when the ship foundered at Wreck Bay. Flinders returned to Sydney in the ship's cutter, and a few weeks later returned to Wreck Reef to rescue the rest of the crew (Allen had already built a new boat the *Resource* in case they were not rescued) and to pick up the six boxes of seeds Brown had collected. Then in the *Cumberland* Flinders set off once more for England. Unfortunately they had to call in at the French colony, Mauritius and were treated as spies now England and France were at war, and imprisoned and not released until the 13th June, 1810.

All this time, from the 11th August until the 27th November, the naturalists were busy collecting all around the region of Sydney from the Georges River, along the Coast, to the Hawkesbury, Windsor, Lane Cove River. Most of their work was of course not orchids, but of these the following are mentioned and most described- *Caladenia alata* and *C. testacea*, *Diuris longifolia*, *D. pedunculata*, *D. sulphurea*, *Gastroidea sesamoides*, *Genoplesium baueri*, *Glossodia major*, *G. minor*, *Lyperanthus suaceolens*, *Prasophyllum elatum*, *P. patens*, *P. strictum*, *Pterostylis acuminata*, *P. concinna*, *P. curta*, *P. gibbosa*, *P. grandiflora*, *P. nutans*, *P. obtusa*, *P. ophioglossum*, *P. reflexa*, *P. revoluta*, *P. rufa*, *Thelymitra pauciflora*, *T. media*, and *T. venosa*.

On the 28th November, 1803 Brown left for Port Dalrymple, Tasmania and Port Phillip in the *Lady Nelson*, stopping at the Keats Group in Bass Strait, where they were caught in a severe storm and unable to leave until the 1st January, 1804 for Port Dalrymple and the Tamar River. Collecting again, and among the orchids they found were *Caladenia deformis*, *C. dilatata*, *C. filamantosa*, *C. gracilis*, *C. patersonii*, *C. latifolia*, *Pterostylis nana*, *P. cucullata* and *P. pedunculata*. The *Lady Nelson* with Brown on board left for Port Phillip on the 21st January, 1804 to transfer some marines and convicts from the camp at Sorrento to Risdon in southern Tasmania. Brown had a little place at Risdon and did manage to do collecting from around the Derwent and the

Huon rivers, Bruny Island and sw Hobart to return with two hundred and eighty plant specimens. The only orchids in the list seem to be *Prasophyllum alpinum* and *Pterostylis dubia* and *P. squamata*. Bauer at the time had been in the Sydney neighbourhood with Caley. Brown finally returned to Sydney on the 24th August, 1804.

While Bauer left for New Norfolk, Brown went with Caley and others to the Hunter, Paterson and Grose river areas. Among the list of plants collected were the following orchids- *Pterostylis longifolia*, *P. grandiflora*, *P. reflexa*, *P. revoluta*, *P. obtusa*, *P. nutans*, *P. concinna*, *P. ophioglossa*, *P. curta*, *P. acuminata*, *Corybas* sp., *Acianthus exsertus*, *Microtis* sp., *Spiranthes* sp. and *Eriochilus autumnalis*. Caley shows him around his "orchidae", and on the way back to Sydney he found *Thelymitra carnea*, *Dendrobium pumilo (aemulum)* and *Caladenia caerulea*. Late September although feeling very unwell, he visited Caley again, showed his collection to Paterson, and began packing his specimens

A couple of weeks later he was off again, this time in the schooner *Resource* to the Coal River (Hunter) from where he travelled up the river to the Paterson and Williams Rivers, for over a month. Plenty of plants listed but no orchids were recorded in his diary. Back in Sydney just before Christmas, he spent another month in the region of the Grose and Hawkesbury Rivers, Badgery's Farm, Green Hill (Windsor) and Richmond, returning to visit Caley on the 18th January, before Caley went off to the Georges River. From early February Brown spent six weeks collecting in Lane Cove, Middle Harbour, Toongabbee, and with the help of Caley, finished the preparation of his collections. Bauer returned from Norfolk Island, and as the *Investigator* was being repaired, they heard news of Flinders. A very worried Brown inspected the *Investigator* but Governor King assured him that it was fit to sail, and they finally left on the 23rd May, sailing nonstop to England, arriving in Liverpool on the 13th October, 1805.

Back in England, the Admiralty employed him to make a complete assessment of the natural history he had collected. This took him five years and in 1810 he reported that in his

collection there were 2,200 species of which 1,700 species and 140 genera were new to science. Soon after his return he became the Librarian of the Linnean Society until in 1810, on the death of Dryander, he became Banks' Librarian. In this year too, he published the first volume of *Prodomus Florae Novae Hollandiae*, which he unfortunately never finished. There has been some criticism that he gave inadequate acknowledgement to the contributions of others, as other collectors in Australia also sent him plants for identification. Among his collections he had, in addition to plants and seeds, live birds, a wombat, bird skins, preserved reptiles, fish, insects, some fossil plants and shells, and some geological specimens. In 1814 he wrote an appendix to Flinders " *Voyage to Terra Australis*" and in 1832 he wrote " *General View of the Botany in the Vicinity of Swan River*" analysing Frazer's botanical survey. He continued with his botanical career and also became an authority on Arctic flora, dying at the age of 84 in 1858.

When looking up information on, for example *Acianthus fornicatus* in M.A. Clements' "Australian Orchid Research Vol. 1, one finds the following-

A. fornicatus R.Br., Prod. 321 (1810). Type: 'Port Jackson', May 1802

This brings to life not only the work of an indefatigable botanist, but botanical taxonomy as well. The enormous scope of his work can be seen from the record he has left of the orchid genera and species he described. Of the genera there are - *Acianthis*, *Caladenia*, *Calanthe*, *Caleana*, *Calochilus*, *Chiloglottis*, *Cryptostylis*, *Dipodium*, *Epiblema*, *Eriochilus*, *Eulophia*, *Gastrodia*, *Genoplesium*, *Glossodia*, *Goodyera*, *Lyperanthus*, *Microtis*, *Orthoceras*, *Prasophyllum*, *Pterostylis*, *Sarcochilus*. and of the 84 species described there were 11 *Caladenia*, 4 *Dendrobium*, 7 *Diuris*, 7 *Prasophyllum*, 16 *Pterostylis* and 8 *Thelymitra*.

Illustrations of most of the plants and some of the animals were made by Ferdinand Bauer, who collected with Brown and also made his own collections. Of the illustrations, there were 1,542 Australian plants, 80 from New Norfolk (which he visited without Brown), 61 from Timor, and 259 animals. Much of this work has appeared in various publications.

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Dockrillia cucumerina

(Photo page 52)

Chris Dalrymple

I acquired this plant of *Dockrillia cucumerina* (as *Den. cucumerinum*) in about 1989 when visiting an old friend and our best man who lives in Lismore. We went for a drive into the hills and came across a roadside stall selling orchids from the local bush. It was on its original host and appeared healthy so it was acquired. Back in Sydney it went into the bushhouse and, while growing, was not happy. So we started a progression around the garden seeking an area where it would thrive. For several years it managed a growth or two only to see it removed by a tree cricket or rot off in winter. It was not a happy little orchid though it did survive.

The turning point came in the early 90's when I acquired a second small shadehouse that I covered with 50% shade cloth and agricultural plastic. In it went, hanging at head height and it has never looked back. It receives sun from morning to mid afternoon in summer and all day in winter when the small *Magnolia* on the western

side is bare. It gets no more than a splash of rain through a small vent in the top, but is watered and fertilized with all the other natives. It receives a variety of fertilizers, but predominantly HSO or Dynagro. Now it can produce 3-5 new growths on its leads and all stay alive, active genocide being practised on the tree cricket population.

In the last three years it has begun to flower profusely, the photo showing its second flowering this season (late Spring 2001), the first, six weeks before. The next growths are already well developed. While the pundits tell me than it grows up its host, this little plant missed that lesson and grows down, hence it has been turned upside down when it crowded the bottom and the leads headed off in the other direction.

I have placed another plant next to it and it is now similarly thriving. As they say, Position, Position, Position!!

The *Dendrobium speciosum* Complex.

Len Field
lenfield@idl.net.au

This article was written by Len Field before the current name changes for the *Dendrobium speciosum* complex. I have kept the article as Len wrote it and placed the new names for those interested at the end. "The orchids and places they grow are still the same, only their name has changed." Once again I would like to thank Len for his work and hope that you all enjoy reading this article.

Dendrobium speciosum Smith 1804

Common names the 'Rock Lily' or 'Rock Orchid'

Named from the Latin specios(us) meaning showy or beautiful by Sir James Smith who received a plant from Surgeon General J White who found it at Port Jackson and this plant is now at the Herbarium of the Linnean Society of London. Further plants were sent to Kew Gardens in 1823 by Cunningham.

Found in a large area from Bulahdelah in N.S.W. down to the Cann River in Victoria. It also ranges West of the Great Divide to the Mudgee area and I have seen them growing near Ulan under very harsh conditions. The harsh conditions of these western areas take a toll on the plants as all the plants I saw growing there were small and stunted in comparison to the more Eastern types, but to be able to survive anyway under these conditions attests to the hardiness of this orchid.

Found nearly always growing on rocks (lithophyte) and seldom on trees, but when epiphytic they tend to be high up in the canopy in open forests. On the rocks and cliff faces it can form gigantic clumps which can become a remarkable sight when in flower. It has a large range of habitats ranging from sea level to high mountain tops. They used to be a common sight growing on the rock faces just above sea level with salt spray on them at Pulbah Island and the Wangi Wangi Peninsular several years ago. While it does not like deep shade, it is not uncommon to find them in very deep shady ravine. It does prefer the high sandstone cliffs where it is exposed to the harsh elements and gets little or no shade. I have noticed that when it grows high up on these high cliff faces there is usually a cool updraft of air and it likes to grow with a north

east exposure to make full use of the winter sun. In its southern habitat it is only found as a lithophyte but otherwise both the Victorian and N.S.W. types are similar.

This is one of Australia's largest *Dendrobiums* and one of the world's showiest orchids. The large pseudobulbs which can be straight, or curved, can grow to over 60 cm tall but are usually less and taper from a diameter of 5-7 cm at the base and reduce to about 3 cm at the first leaf, these leaves, which number 2-5 are large and have a leathery feel about them, can stay on the plant for up to twelve years. The huge clumps that these pseudobulbs rise from do not have aerial roots like its more northern relations, *Dendrobium tarberi* and *D. rex*, but the roots tend to form a dense matted bed for the plant as it spreads across the sandstone rock.

Flowers. One of the nicer things about being in the bush on a warm sunny day is the aroma of a large clump of 'rock lilies', this aroma can travel for some distance from the clump. This aroma is not there on a dull day or night time. Flower stems are erect, long and either straight or slightly arching with very long racemes and flowers can number up to seventy or more on each inflorescence, but usually number less. However, the larger the number of flowers on each stem tends to make them individually smaller whereas when there are only a few flowers present they tend to be larger. Flowers are also more spaced apart than similar species and are thick textured and about 2.5 cm in diameter but on some clones can be much larger. Colours range from white, cream, to strong yellow, with a white labellum spotted and veined with red or purple and these flowers can remain open for up to 2-3 weeks in August to October. A large minus for this plant is that flowering can take up to ten years from seedling, but usually less.



Photo Bill Dobson

Dendrobium pedunculatum growing insitu. Growing largely just in a rock crevice, in full sun, a Hoya plant has also started to grow in the same crevice.

Culture. This is one of the easiest orchids to grow and can be grown in the garden, tied on to a tree, or stump, or on a rock, wherever it is placed it will usually prosper. The preferred method is in a pot, with a coarse mix and as it is such a vigorous grower it will often need repotting as it outgrows its existing pot. If mounted it will require more watering but wherever it is grown it needs watering well in Summer and allowed to dry out in the Autumn and Winter months to promote flower growth for the next season. A regular fertilizer during the growing months and after flowering would be very beneficial. Good light is also essential and it will withstand full sun even during the summer months within reason. Minimum temperature should be kept above 0 degrees, if possible. A natural hybrid is *Dendrobium X kestevenii*.

***Dendrobium tarberi* Clements**

Previously known as *Dendrobium speciosum* Smith var. *hillii* Anon 1877.

Named from the Aboriginal words 'Tar Beri' that was used to describe this and other epiphytic orchids from south east Queensland.

The name *hillii* was named after Walter Hill Superintendent and Botanist at the Brisbane Botanical gardens who sent the type plants to Kew Gardens.

Found in an area from the northern side of the Hunter Valley although I have seen them much further south than this growing in the Wattagon Mountains and Central coast area of N.S.W. up to south east Queensland where they mingle with and are replaced by *Dendrobium rex* in the Brisbane, Nambour area.

Growing in moist forests and rainforests where it is common on rock faces (lithophytic) and trees (epiphytic), but does favour growing on trees in rainforests. On these rainforest trees it can form huge untidy clumps up to two or three metres in size, these clumps can become so large that they will break the trees and come crashing to the ground. It has large aerial roots similar to *Dendrobium rex* that are good for catching litter where the plant can benefit from the nutrients contained in this debris. Differing from *Dendrobium speciosum* by having longer, untapered cylindrical pseudobulbs that

are contracted near the base, also it grows in more damper and shaded localities than the former. These pseudobulbs can be up to one metre tall with long narrow leaves that are thinner in texture and narrower in width than most other species of this complex. These tall canes allow the plant to reach from its more shady environment to get more light.

Flowers. Flowers are usually white to cream and can slightly yellow with age. Although smaller than *Dendrobium speciosum* they are similar in shape but do not open quite as wide. While these flowers are smaller they are more crowded with more inflorescences per pseudobulb than the other species, but are otherwise very similar and can be up to 3 cm in diameter, the labellum bordered with purple inside and out. Flowering time is similar to *Dendrobium speciosum* (August to October). Although uncommon, hybrids do occur where it crosses with *Dendrobium kingianum* to form *Dendrobium X delicatum* and also crosses with *Dendrobium gracilicaule* to form *Dendrobium X gracillimum*.

Culture. Similar to *Dendrobium speciosum* with a little less light, and slightly more watering during hot summer months. It is a very easy plant to grow and can be a very showy plant when grown into specimen size. It can be grown in a pot with a very coarse mix and also it will readily adapt if tied to a tree or placed in a garden rockery. It will not withstand the direct sun as well as *Dendrobium speciosum* but is still a very hardy and rewarding plant to grow and should prove no difficulty to most growers.

***Dendrobium rex* Clements**

Previously known as *Dendrobium speciosum* (Smith) var. *grandiflorum* Bailey 1896

Common name 'The King Orchid' or the 'Golden King Orchid'

Named from the Latin Rex meaning King. A reference to the common name of "King Orchid", while the previous name of *grandiflorum* was from the Latin *grandis* meaning stately and *florum* referring to the large flowers on this species.

Found in Central and South Eastern

Queensland from the Darling Downs and across to just north of Brisbane. In this area the cut off point with *Dendrobium tarberi* is abrupt and the plants do not readily intermingle. The northern range is near the Gladstone area. My personal observations are that these boundaries need much more clarification as I have found both *Dendrobium rex* and *Dendrobium curvicaule* growing in areas that according to recognized boundaries they should not exist in. The type plant was found at Eumundii in 1894.

A large and showy plant similar to *Dendrobium tarberi* in growth habits and along with *Dendrobium speciosum* one of the worlds most spectacular orchids. Although growth habits are similar to *Dendrobium tarberi* it is a stronger and more vigorous grower and it is also taller than *Dendrobium speciosum*. It can be both epiphytic or lithophytic but does prefer an epiphytic existence in the higher ranges where it can be found in shady situations in rainforests, but from my own observations, it does prefer the slightly more open forests where it can grow to a huge size high up in the canopy and like *Dendrobium tarberi* these plants can become so heavy that the tree cannot support them and they will fall to the ground and rot into the forest floor. The pseudobulbs are untapered, or have just a slight taper and can grow up to 60 cm long with leaves up to 30 cm long and 15 cm wide that are slender and similar to *Dendrobium tarberi*, but are longer, wider and thicker in texture. These leaves are again smaller than *Dendrobium speciosum*. The comparisons between the three plants are apparent when they are in flower. *Dendrobium rex* flowers are usually larger, brighter yellow, and more regular in flowering each year which the other two species are not.

Flowers. The flowers are usually bright deep yellow with white forms very unusual. The labellum is heavily marked with deep mauve to blue. This labellum is larger than on *Dendrobium tarberi* but smaller than *Dendrobium speciosum*. While the flowers are usually larger they do tend to bunch on the inflorescence more so than the other similar species and are less crowded on the inflorescence than *Dendrobium tarberi*, but more crowded than *Dendrobium speciosum*.

Flowering period is from August to October and flowers open wide and flat on a bright warm sunny day but are not so widely opening when the weather is cool and cloudy.

Culture. Would be similar to the other species but with perhaps a little more shade than *Dendrobium speciosum*.

Dendrobium curvicaule (Bailey) Jones and Clements

Previously named *Dendrobium speciosum* (Smith) var. *curvicaule* Bailey Also named *Dendrobium speciosum* (Smith) var. *capricornicum* Clemesha 1982. The name *capricornicum* is considered by some as invalid. (refer G Walsh article The Orchadian Vol13 No.5 'A Bit About the Rock Orchids')

Named from the Latin Cur(vus) meaning arched, bent or crooked and caulis a stem or a stalk. A reference to the shape of the pseudobulb.

Found mainly in Central Eastern Queensland and west to Canarvon Gorge and northward to an area between Cairns and Cooktown, but its most northern extent is unclear. I have seen it growing in great numbers on the eastern side of the Atherton Tablelands from Tully Falls to north of Mareeba and in the south growing in the same area as *Dendrobium rex*. Much further work needs to be done to clarify the true extent of the range of this orchid.

The type plant was first collected by Robert Brown on Lady Elliott Island and was named from a plant growing in cultivation at Bowen Park, Queensland. While it closely resembles and is related to *Dendrobium pedunculatum*, a plant it used to be confused with, more so than any of the other similar complex species, it does differ in both flower and pseudobulb shape. It can be found growing as either a lithophyte or an epiphyte and by my own observations, it does favour a lithophytic existence. While I have seen it growing on trees on the eastern seaboard, it does prefer the high cliff faces of the interior where it can spread over these rock faces growing to huge clumps only rivalled by *Dendrobium speciosum* further south and for harsh growing conditions by both *Dendrobium speciosum* in



Dendrobium curvicaule

Grower Rob Lewry



Dendrobium grandiflorum 'William'

Photo and grower Bill Dobson



Photo Alan Stephenson

Dendrobium speciosum growing on the side of a Cycad. Judging by the growths, it has been some time since this Cycad has seen a bush fire. This plant was photographed in the Illawarra area. Hopefully away from current fires.

the south and *Dendrobium pedunculatum* in the north.

The pseudobulb is usually curved but can be straight, with either a slight taper, or no taper at all and differs in shape to the other similar species by having a slightly flattened cane instead of round and is broadest at the middle. This pseudobulb is also very variable in length and can grow up to 1 m in length, but are usually much shorter with the more southern plants that used to be known as variety *capricornicum* much shorter again, being as short as 150 mm on some flowering size plants. Leaves tend to be broader for their length than other similar species and have a hard leathery feel about them.

Flowers. Flowering period is from early August to October with some inland forms flowering earlier, with flowers lasting up to fifteen days. These flowers are not as big as *Dendrobium speciosum* or *Dendrobium rex* but are more the size of *Dendrobium tarberi* being about 30mm in diameter. Spike habit is similar to *Dendrobium speciosum*. Colours are variable with white the most common and from my own observations in the Southern Tropic of Capricorn area, they tend to be white and as one travels west a yellow colour on some becomes apparent. Travelling north to around Mackay and Euengella they become more cream and some I saw near Tully had an off white colour and opened poorly. I wish to point out that these are my own observations only and may not be indicative of the species on the whole. The labellum has reddish marks and the sepals are short and broad.

In the northern areas it can cross with *Dendrobium jonesii* to form *Dendrobium X ruppiosum*. It also crosses with *Dendrobium gracilicaule* to form the natural hybrid *Dendrobium X gracillimum*.

Although *Dendrobium curvicaule* var. *capricornicum* is no longer a recognized variety the variance between this southern form and the plants from the northern areas in shape, size and colour etc. is great and after spending much time studying this orchid in the wild I feel that there is considerable work that needs to be done which could keep botanists busy for some time.

Culture. This is an easy orchid to grow and can be grown on either slab or in pots. I prefer pot growth and use a very coarse treated pine bark, knowing from where the plant originated from would be an advantage as I have seen them growing in heavy shade, in thick rain forest on the Atherton Tablelands, and in very wet conditions in the coastal lowlands, then through open dry sclerophyll forests and onto hot dry arid areas in the interior west of Rockhampton where they can form large colonies on exposed cliff faces in full sun. While this harsh environment does take a toll they do survive and continue to grow, a testimony to the hardiness of this orchid. If grown the same as *Dendrobium speciosum* it should create no problems.

Dendrobium pedunculatum (Clemesha)
Jones and Clements

Previously named *Dendrobium speciosum* Smith var. *pedunculatum* Clemesha 1981
Also was known as *Dendrobium compactum*.

The name *pedunculatum* is in reference to its peduncle or flower stalk, which is a feature of this orchid with its long and rigid growth. Common name is the 'Dwarf Rock Orchid'

The type plant was cultivated at Coffs Harbour in 1980 and was collected from Bones Knob near Atherton by B. Gray.

It does have a close relationship with *Dendrobium curvicaule* and is found growing on the western slopes of the great divide on the Evelyn, Atherton and Windsor Tablelands in an area from the Palmer River in the north to the Herbert River in the south. This is a unique growing habit as it is the only *speciosum* type orchid that has no affinity to the coastal regions but prefers an existence on the hot dry western slopes growing as a lithophyte. In these hot dry areas, it favours the open forests where it grows on exposed rock and cliff faces safe from forest fires, but can still receive strong sunlight. Another favourite growing area is on cliffs at the side of water courses. This is a dwarf growing species and this is one a natural way of compensating for the moisture loss due to the harsh growing environment. I have noticed when grown at home in more favourable conditions the plant

does tend to grow larger than in nature.

Leaves are glossy and have a hard, leathery feel, are very erect and in proportion to the small plant size. Pseudobulbs are small about 150 mm tall but can even flower on smaller size plants, these pseudobulbs are very thick at the base and taper to a narrow apex but can also be very erect and reddish in colour.

Flowers. The flowers are very fleshy white to cream and while I have never seen them some claim they have seen yellow blooms in the wild. These flowers are small, up to 25 mm in diameter, although in proportion to plant size they are quite reasonable. The labellum is flecked with mauve to blue markings and is larger than both sepals and petals. The inflorescence is stiff, erect and single but on some very healthy plants there can be two, but this is extremely rare. These flowers have short broad segments, are sweet scented and flower in July to August in nature, but can vary in cultivation and can be long lasting up to fifteen days. The opening is variable with some opening poorly, others open very flat.

Culture. This is a very desirable plant to grow with its conical, dwarf growing size, and reasonable sized flowers in proportion to plant

size. It is ideally suited to pot culture and as it is a native to the monsoon area watering should be tailored to suit. Water well in the summer months to keep the humidity high, and very little in the winter months to allow the plant to dry out. These are sun loving orchids so would need to be hung up high in the shade house to receive as much sun as possible. Even though they are a native of the tropics, low temperatures within reason are acceptable, as their home is on the western slopes of the high altitudes of the tablelands and at times it can become extremely cold in these areas.

***Thelychiton capricornicus* =**

Dendrobium speciosum var. *capricornicum*

***Thelychiton curvicaulis* =**

Dendrobium speciosum var. *curvicaule*

***Thelychiton pedunculatus* =**

Dendrobium speciosum var. *pedunculatum*

***Thelychiton rex* =**

Dendrobium rex

***Thelychiton speciosus* =**

Dendrobium speciosum

***Thelychiton tarberi* =**

Dendrobium tarberi

(*The Orchadian* Volume 13, Number 11)

New Combination

In a recent paper dealing with a new classification of *Caladenia* (see *Orchadian* 13(9): 389-417 (2001), the combination for *Arachnorchis valida* was incorrect as the basionym was not cited. That combination is made here:-

***Arachnorchis venusta* (D.L.Jones) D.L.Jones et M.A.Clem., comb. nov.**
Basionym: *Caladenia reticulata* Fitzg. var. *valida* Nicholls, *Victorian Naturalist* 59: 189 (1943).

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Habitat photo of the Sanctuary at Oolong



Chris Wareing pointing out the *Pterostylis* species

Photos Chris and Rona Wareing



Pterostylis sp. nova Oolong

Photo Ron Howlett

Oolong Sanctuary & Cocoparra NP

Chris Wareing
13 Eleanor Avenue, Oak Flats 2529

Oolong Sanctuary is being developed on a property just outside Dalton, NSW by Dr Gianni D'Addario, a retired vulcanologist. Dr D'Addario contacted Graeme Bradburn via the ANOS website and requested ANOS assistance in surveying the property to determine the extent of the native orchid population on the property. Members of ANOS Illawarra agreed to visit the property with the first visit scheduled for the weekend of 28/29 September with invitations to participate sent to other ANOS groups.

Rona & I headed off to Oolong at 8.00 a.m. Graeme had said that it would take two hours to get there, but as we were taking our camper-trailer for a week's holiday, we thought we would take longer. Apart from a very strong head wind that really used up our fuel, the trip was uneventful and we arrived at the designated meeting point, Gunning, just before 10.00 a.m. A quick look around showed we were first (or were we last and the others hadn't waited?). So we waited in a small park just near the intersection, where anyone else coming would have to come through. About 10–15 minutes later, we heard a screech of tyres as a car stopped at the intersection. 'That's Graeme,' we said. We watched open-mouthed as he drove straight past us. How could he not see a bright red 4WD and a silver trailer parked sideways to the traffic? Any way, we started the car and chased after him. He did a lap of town, turned around and came back, saw us and pulled up in front of us. As we were talking, his mobile rang. Unfortunately, he was in the only dead spot in Gunning and the call was getting well and truly scrambled. As he tried to find a better spot, we looked up and saw Ron Howlett walking down the road with his mobile up to his ear and a smile on his face. We waited a few minutes longer but as no-one else arrived, we headed out to the property, stopping along the way at Dalton cemetery. Not much in the actual cemetery but a nice clump of *Diuris* sp. aff. *lanceolata* was found across the road.

Part of the property was originally cleared for farming but there are still quite large areas of natural bush. The area known as the Natural Habitat (the major part of the Sanctuary) is located to the east of the farm buildings and wetlands and comprises 152 ha and rises to a height of 750 m above sea level. Two vegetation types occur here,

woodland, dominated by Red Stringybark with subordinate Applebox, and open heathland. Most of the trees are small, being about 8m in height, with scattered mature trees up to 15m. The understorey consists of a cover of low shrubs, herbs, forbs and grasses.

When we arrived at the property, we were met by the manager/caretaker, Lew, and some neighbours (a couple and their two young children) from a few kms away, who were members of ANOS Victoria. They had been walking on the hill behind the parking area and had found plenty of orchids, so we decided to go back up there with them before we set up camp. There certainly were plenty of orchids as well as a few old gold mine shafts. From the mine diggings, we could see that the main rock type was a type of shale with quartz fragments scattered around. We looked around for a few hours then went back for lunch and to set up camp.

Did I mention it was a bit windy (blowing a gale was more like it!)? We managed to get the trailer up but Graeme and Ron were having a hell of a time trying to get Graeme's tent up. In the end, it took six of us to do the job. Then it started to rain so the Barberis family decided to leave. When the rain eased off, we went with Lew for a walk around another part of the property. We were still finding orchids and about half way around the walk, I found a single flowering spike of a *Pterostylis* with three unusual flowers. Graeme could not identify it and as it was getting late, we marked the spot with orange tape and headed back to camp. We were facing due west and we could see dark clouds gathering on the horizon, coming our way. The rain would pass only to be followed, a short time later, by another band of cloud & rain. And still the wind blew. What a night!

Sunday was completely different - bright & sunny. The owner of the property, Gianni, came out to talk to us and Alan Stephenson arrived just on 9.00 a.m. followed by Phil & Marion Barrett a short time later. To save time, we decided to drive back over the latter part of yesterday's walk and look for more of the unusual *Pterostylis* found the day before. Although we covered a lot of ground, we were unsuccessful. So Alan & Ron had to settle for taking turns photographing the single specimen. We did a transect across a gully and we did find a large patch of *Glossodia major*. Marion & Rona did a count and announced that there were at least 89 flowers in it. Back to camp for lunch and it was starting to cool down.

A car pulled into the parking area with two young ladies who had come out for a meeting of the Friends of Oolong that had been cancelled so Lew showed them around the farm compound. We set off to drive past the ostrich enclosures (yes, ostriches) along the first part of yesterday afternoon's walk to more fully check out a hillside but the cars could not get through due to a tree partially blocking the path. Alan & I decided to get out and walk while the cars went back and tried to come around another way.

We walked up the hill that was covered with ti-tree growing about two metres tall. The others eventually arrived and rather than walk in the cleared pathway, chose to walk through the scrub. I stood on an old tree stump and could hear the noise as they got closer but could not see them until they were only a few metres away. Then we heard squealing followed by the sight of Lew driving an old, ramshackle Suzuki 4WD flat out up the hill. One girl was in the passenger's seat and the other was standing up in the back holding onto the roll bar. They stopped and came over to see the orchids we were finding. Unfortunately, their idea of orchids was Cymbidiums or Cattleyas or something like that but not *Pterostylis cycnocephala*. We weren't finding much different to what we had already found so we headed back as it was getting really cold. At 5.00 p.m. when we were standing around having drinks, we wondered how cold it was. Lew checked his thermometer. It was 6°C!

We weren't surprised when we woke next morning to find everything covered in ice. There was frost everywhere. In fact, Rona slipped on the ice as she walked to the toilet. A few quick photos of the ice covered cars and paddocks and then we defrosted as the sun came over the hill.

The following is a list of orchids seen at Oolong that I emailed to Graeme. He has told Rona that there are a few changes to be made but I don't know what they are.

Acianthus sp. (leaves)
Calochilus sp. (bud)
Corunastylis sp. {syn. *Genoplesium* sp.} (leaves)
Cyanicula caerulea {syn. *Caladenia caerulea*} (flowers)
Diuris sp. aff. *pardina* (flowers)
Diuris sp. (leaves)
Eriochilus cucullatus (leaves)
Glossodia major (flowers)
Microtis sp. (leaves)
Pterostylis sp. (rosettes)
Pterostylis cycnocephala (flowers)
Pterostylis mutica (?) (flowers)

(However, I feel this could have been *P. bicolor* as all the flowers I saw had black markings on the labellum appendage. According to Bishop, in this group there are three species and several sp. aff. *Pterostylis cycnocephala* and its two sp. aff. and *Pterostylis bicolor* have black whereas *Pterostylis mutica* has green. The *P. mutica* Rona & I saw later at Cocoparra NP was different to the plants we saw at Oolong.)

Pterostylis sp. aff. *rufa* (flowers)
Stegostyla dimorpha {syn. *Caladenia dimorpha*} (flowers)
Stegostyla gracilis {syn. *Caladenia gracilis*} (flowers)
Thelymitra sp. (leaves)

Graeme and Ron headed home and we headed west as we wanted to spend some time at Cocoparra National Park near Griffith. As we neared Boorowa, we came across the first of the canola fields -bright yellow against a deep blue sky. I'm sure we could have taken some fantastic photos but we were in a hurry to get to Griffith. These fields were in

a patchwork arrangement that stretched for hundreds of kilometres in all directions.

We stopped for petrol at Yenda and headed out to the park fully expecting to have problems finding a good campsite as it was school holidays. We were amazed to find we were the only people there. We set up camp and then relaxed. That is until Rona walked over to the garbage bin and she saw the snake! We don't know what kind it was. It was a coppery colour with an olive green sheen to its scales. Whenever we walked near it, it would disappear down a hole under the garbage bin so it wasn't aggressive. We lost sight of it a day or so later and weren't sure what was worse- knowing where it was or not knowing where it was.

We walked from the campsite to Woolshed Falls. Obviously the falls weren't flowing, as it was a drought area. However, there were a few damp patches and we did find one flower spike of *Pterostylis mutica* and 4-5 rosettes. Graeme had told us that Falcon Falls at the southern end of the park was an excellent site for spider *Caladenia* (*Arachnorchis*) so we drove there on the Wednesday. As I said in my email to Graeme when we got home, the area was drier than a pommie's bath towel. The only thing in flower was the occasional plant

of Paterson's Curse. Due to the dryness of the area, we packed up on the Thursday and came home. We did consider going somewhere else but because of the drought, the only places to go were on the coast and they would all be busy due to the school holidays.

The second visit took place on the 26th October, 2002. This time there were only four of us, Graeme Bradburn, Ron Howlett, Rona and myself and we only went for the Saturday. The majority of the orchids we had seen in September had well and truly finished; only a few *Pterostylis cycnocephala* flowers remained. The *Pterostylis sp. aff. rufa* that I found last month hadn't seeded much to our disappointment. Only withered flowers remained. However, we did find five more species to add to the list – *Diuris sulphurea* (lots of them), a few withered *Pterostylis nutans*, *Thelymitra pauciflora*, *T. carnea* and one of the *Microtis parviflora* complex.

We checked out most of the areas we had looked at last time as well as a couple of new sites. Due to the dryness, we decided that unless more rain was received soon, we would not go back in November but would go in Autumn by which time we should have had decent rain and an improved flowering.



Habitat photo at Oolong



Diuris pardina growing in the Sanctuary at Oolong

Photos Ron Howlett

AN EASTERNER'S FIRST TRIP TO THE WEST

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Perth is a long way from Sydney, or, depending on your perspective, Sydney is a long way from Perth. Whatever your starting point, there is definitely a lot of land between the two cities. My decision to attend the First International Orchid Conservation Congress in Perth in September, 2001 was motivated at least partly by thoughts of the adventure of travelling to the other side of our vast island continent. I am not exactly a traveller, and it was an exciting prospect. I am, however, a native terrestrial orchid enthusiast, and interested in conservation, and the combination of the opportunities presented was irresistible. It was a flying visit in more ways than one.

We arrived just in time to attend the welcome cocktail party at Kings Park the evening before the Congress started, and flew out the Monday after it concluded. With the Congress sessions and mid-week field trip occupying five days, we did not have much time to get out and about and see some of the region.

The Congress sessions were very informative and useful, but this is not a discussion about them. The sessions ran on Monday, Tuesday, Thursday and Friday. On the Wednesday there was a field trip, and it is not exaggerating to say that was one of the most memorable days of my life.

Andrew Brown and his team had obviously spent considerable time planning the trip to ensure that we who could not stay for the five day post-Congress field trip saw as many local orchid species as was possible in one day. We visited a range of habitats and saw many wondrous things. There are some beautiful terrestrial orchids here on the east coast, but nothing prepared me for the magic that awaited us that day. Our first stop was Wireless Hill. Every orchid enthusiast who travels to Perth should go to Wireless Hill. Go to Kings Park too, but that bright Wednesday morning at Wireless Hill I saw some of the most stunning orchids I have ever seen. Nothing can match the thrill of coming across *Caladenia longicauda*, *Diuris magnifica*, *Caladenia arenicola*, *Caladenia discoidea*, *Caladenia flava* and *Diuris corymbosa* in flower, all within an easy few minutes' walk. A particular plant of *Caladenia longicauda* had flowers which must have measured seven inches from the tip of the dorsal sepal to the tips of the laterals.

It is now more than a year since that trip, yet I can still vividly recall the orchids I saw that day. I photographed many of them, with varying degrees of success. I had not loaded the first roll of film properly, with the result that the shots taken at Wireless Hill (all of which would have been remarkably good, of course!) were not recorded. One shot I would particularly have liked was the one of Ruth Rudkin holding a Shingleback Lizard up to the camera; the mischievous expression on Ruth's face was priceless. I returned to Wireless Hill the following Saturday to photograph the orchids again but in the meantime it had rained quite heavily and some of the flowers had been damaged. That's life! Luckily I discovered my error at the second stop and was able to record the rest of the day's finds.

At the second stop, Forestdale Lake Nature Reserve, we had the pleasure of seeing one of the "must-see" West Australians: *Elythranthera brunonis*, the Purple Enamel Orchid. Yes, it is as shiny as the photographs depict. I also saw one of the most charming orchids imaginable: *Caladenia nana* subsp. *nana*. This delightful little orchid was found in a dense clump. It is only about 6" tall. It is one of those caladenias which, though not really colony-formers, will produce more than one replacement tuber close to the parent plant, resulting in a clump or cluster of plants. The effect is very attractive. The flowers were a lovely soft pink, and profuse. Because of its position under other shrubs it was a hard plant to get close to for a photograph, and my pictures do not do it justice. At this site there were also many other orchids including *Diuris* in abundance, *Thelymitra antennifera* and *Thelymitra pauciflora*, *Prasophyllums*, and

Microtis species. At another part of the Nature Reserve we saw a large colony of *Pyrorchis nigricans* flowering in response to the stimulus of a bush fire at the appropriate time.

At the third stop we saw two magnificent blue orchids. *Thelymitra crinita* is a brilliant sky blue - true blue, not mauve-blue like our *Thelymitra ixioides*. We also saw *Cyanicula gemmata* which is also a true blue colour, and very lovely.

At the fourth stop we were in very different territory: stony ground populated by *Dryandra* species. Their spiky leaves on the hard surface made a very uncomfortable groundcover for those like me who were kneeling or lying down to photograph the *Drakea gracilis* and *Paracaleyana nigrita* found at the site.

At the last stop we saw a fine plant of *Caladenia hueglinii*, which everyone seemed to photograph. It was a majestic specimen. I also saw plants of *Pterostylis recurva*, the Jug Orchid, as well as *Pterostylis barbata* and other Spider Caladenias. I have only mentioned the species I saw. There were

many others. The full list found that day was published on the Congress web site.

The day before the trip home I went to Kings Park. I think I photographed just about every Spider Caladenia in the place; I really like Spider Caladenias. There were also numerous *Diuris* species and *Caladenia flava* and other orchids. Most of Kings Park is natural bushland and it is a joy to meander about in. There were plenty of the striking red and green Kangaroo Paws in flower and many other beautiful and interesting local plants as well as the orchids, and also birds.

The 16th Australian Orchid Conference is to be held in Adelaide in September next year, and there will be a field trip on the Saturday. I will be there with my camera and much more film than I took on the Perth trip.

No amount of book reading can match the experience of seeing the orchid plants flowering in the wild. If you get the chance to visit Perth in September, do it. The orchids are stunning, and you, too, will get to see the sun setting over the Indian Ocean.



16th Australian Orchid Conference & Show
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Genoplesium vernale (*Corunastylus vernale*)
Growing in the Illawarra area.

Photo Alan Stephenson

Threatened Orchid Species in My Backyard

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Within the Shoalhaven Shire there are currently five orchid species listed as either Endangered or Vulnerable. The Shire covers an area of the NSW South Coast from 10 km north of the town of Berry to North Durras, about 10 km north of Batemans Bay. It extends west for about 65 km and totals 4660 sq. km, encompassing all manner of habitats including mountains, gorges, rainforest, heathland, lakes, rivers and a range of *Eucalyptus sp.* I would like to think that in my lifetime I would cover all or most of it in the search for orchids but not gaining the bug until after 40 years of age I fear I will run out of time. I have been fortunate that in my wandering I have been able to stumble on some special orchids and the following are the most pertinent.

Prasophyllum affine was, until 1997, thought to exist only at one very easterly location but after its discovery at Vincentia on the site of the then proposed Vincentia Leisure Centre and also a large retail development, its situation changed. When the species was located at Vincentia, just two plants were seen although this was very early in the considered flowering season. However, in a full-on survey conducted by the Threatened Species Unit of NPWS, a total of 297 individual plants were counted.

Following the public recognition of *P. affine*, the NPWS were bound by legislation to form a Recovery Team to deal with all aspects of this species and formulate a plan to save the orchid and at the same time permit the construction of a large commercial development. This development would be in the form of a Regional Shopping Centre plus a local Ambulance Station and a facility for the Bush Fire Brigade. This team has been in operation for 20 months at this time and meets every few months to consider recent developments with the eventual outcome to be a formal document, which will be presented to the State Minister for Conservation. I am fortunate to be a member of this team led by John Briggs of NPWS Threatened Species Unit in Queanbeyan.

In the course of these meetings it was decided to burn several sections of heath and sedge to see how the orchid reacted. This proved to have a neutral effect as none of the area burned produced greater quantities of orchids, although one sedge area thought not to contain anything worthwhile uncovered 50 plants. These were not seen initially due to the denseness of the sedge. A pollination study

was later instituted in the 2001 season and unearthed not one but ten pollinators, with one insect common to both Vincentia and Kinghorne Point.

I am reliably informed the construction of the leisure centre destroyed nine plants of *P. affine* and under the zoning, which is 7c (retail) the relevant environmental legislation can be put aside and all plants can be destroyed. However, the Council were mildly embarrassed when no plants were found during the two surveys undertaken and has since taken a softer line. Another unfortunate aspect is the Council was both the developer and consent authority for the leisure centre. So in some respects it's just a matter of shifting the documents from the in tray to the out tray. The Leisure Centre is now a \$12M reality with only one of the two planned sporting fields eventually constructed.

The difficulty with this orchid is the fact it is, to a degree, reliant on soil borne mycorrhizal fungus for its existence and totally reliant on the insects for pollination. It does not reproduce in the usual vegetative fashion nor self-pollinate (apomixis). Add these features together and some understanding of its endangered status becomes very clear. *Prasophyllum affine* usually grows to approximately 450 mm with up to thirty five crowded flowers. These can vary greatly in colour from pale green to rich/red brown.

A further study of the pollinators is planned for season 2002 to establish the precise areas in which the pollinators reside during the eleven months when the orchid is not present. This study will also determine where the larvae are secreted and a possible area of refuge for

all during times of stress, such as flood, fire or drought. This will necessarily include the mapping of vegetation.

Pterostylis gibbosa was originally known from an area of land owned by Pacific Power at Yallah, a few specimens in the Hunter Valley and Albion Park Rail, but now is reasonably secure as it was located south of Nowra in June 1997.

The type site at Yallah is low lying land, which supports moisture loving *Melaleuca sp.* but the Nowra site is poor sloping land with some *Eucalyptus sp* regrowth. It is now the case of the type site being a one off with regard to vegetation type. The good news is this site is now a Flora and Fauna Reserve designated under the Regional Forest Agreement of 2001. Orchid numbers are still only in the hundreds, they seem secure for the foreseeable future with regular counts done at all sites. *Pterostylis gibbosa* is a multi-flowered green member of the Rufa Group of *Pterostylis*. Like all members of this group it displays the usual ventral sepals in a downward manner instead of raised as in all other sections and has a trigger operated labellum with which to trap pollinating insects.

Caladenia tessellata presents a sad story as it was once known from two areas close to Nowra. The first is now an Industrial Estate at Ulladulla and the other is the now defunct Pine Plantation near Huskisson. Discovered by Dr. Rodway, a Nowra MD of the day, it was found adjacent to Moona Moona Creek (1931) and not seen since on that site. *Caladenia tessellata* carries from one-two straw yellow flowers with maroon stripes and is described as most impressive by those who have witnessed it in flower. The labellum has a stepped appearance with the crowded, dark purple callii, in 4-6 raised rows becoming less dense towards the apex.

What a tragedy for this beautiful species, to be ploughed under for a pine forest, which never produced anything except broken dreams, promises and ruptured finances for many. I accompanied Dr. Stephen Clark and Leo Cady on a search of the Rodway area without success. A week later the whole area was burned by arsonists and when A.N.O.S.

Illawarra members scoured the area two weeks after the fires, it was another empty day. The area was burned again in the 2001/2 bushfires and no doubt I will look again in the coming season.

Cryptostylis hunteriana is a species, which has the habit of not appearing on the same site on an annual basis. There are several known sites for it in the Shoalhaven area, most of which are at or near sea level and some of these carry good numbers of plants. At least two sites are home to several dozen plants which flower regularly, however, one site, albeit at 550 metres altitude, does not flower as regularly. This was the first species of its type to be found at this altitude in this area. I first found this single plant in late January 2000 and it has not flowered since. NPWS were contacted and travelled from Queanbeyan to see the plant as Dr. Stephen Clark from that office was engaged in mapping its area of distribution at the time.

It is a leafless saprophyte exhibiting a labellum with a dark vertical callus surrounded by red, all of which is covered with fine hairs, presenting a very attractive flower. This labellum has recurved margins, is 10 mm at the base, widening only a little at its rounded apex. The overall effect has the appearance of a shooehorn. Petals and sepals are slender pale green to yellow caudae like appendages measuring 20-25 mm. Despite a thorough search of the area this plant with five flowers (one open) was the only plant seen by three pairs of eyes. *Cryptostylis hunteriana* is listed as a Schedule 2 Vulnerable Species.

Approximately 2 km from the above species, a friend and I located the beautiful cauline terrestrial, *Pterostylis pulchella*, in its usual habitat alongside a dimly lit creek on a cliff, almost at the point where the creek falls over the cliff. Described from the original find by Messmer, at Fitzroy Falls in 1933 and only known from two other similar locations in the Illawarra and Southern Tablelands of NSW.

This is the first discovery of this species in the Shoalhaven area. Flower colour of this very attractive species varies but the galea base is white with broadish green stripes. The majority of the forward section of the galea can

be varying shades of red/brown on a plant, which is only slightly taller than the average lead pencil. It can form large colonies and in a good season (1999), there was less than one hundred plants counted, however, in 2001 when NPWS viewed the site, one flowering plant only was found. This fact emphasises the need to undertake any orchid study over a period of not less than three years to allow for seasonal variations. The species is quite content to grow in the moss and some rocky, water retentive depressions alongside the small unnamed creek.

Pterostylis vernalis is the name now applied to the species, which for several years was known as the spring flowering form of *Pterostylis parviflora*. It would not be totally correct to say it looks exactly the same or even similar to *P. parviflora* because of the variation in form of this species, (slight though they might be), in the way that the ventral sepals are situated. Some extend to the top of the galea and beyond, while others arc forward with variations in length quite noticeable. Perhaps a case will be made in the future for further splitting of this group. Meanwhile, this species is endemic to a small area to the west of Nowra and most plants are secure in a newly created Flora Reserve. Flowers are small in the style of the group and usually number about four.

The tragic story of *Pterostylis hians* continues. Originally discovered by a group of enthusiasts from ANOS Illawarra while looking for *Calanthe triplicata*, which, incidentally they did not find. Think about the contradiction of looking for a large evergreen terrestrial and finding one of the smallest deciduous species. This surely must be the reason for lengthy and sometimes difficult expeditions as no orchid lover can guarantee what is in any particular area. The thrill of the chase, even when there is no real chase.

Pterostylis hians is now believed to be extinct in the wild, little more than a decade after its discovery. This is another of the small greenhoods with dark green veined rosette leaves almost circular in shape, although the description points to them being kidney shaped. Prior to a formal Taxon being applied it was known as the Opera House orchid. In

profile the flower has the appearance of the sail-like structures of the Sydney Opera House with the open and yawning feature when viewed from the front. A neat and trim flower of mostly green with some white markings from the base of the galea and extending to the vertical reaches.

Calochilus grandiflorus is one of the bearded orchids and is known to occur from Queensland to Gosford in NSW. Originally described by Bentham in his *Flora Australiensis* Vol. V1, in 1873 from a find (in freshwater marshes) on Moreton Island. The find occurred as part of the Voyage of HMS Rattlesnake in 1848, which had as its Commander, Captain Owen Stanley and as its Botanist, W Carron. Both of these men should be familiar to those interested in natural history and geography.

However, this species has been seen in two locations in the Nowra district. First found by Ron Tunstall in roadside scrub west of Nowra and later in 1998 by the writer, as a single plant near Huskisson, about 18 km from Nowra. This latter plant is to all intents and purposes the same species, but the Huskisson form exhibits a small flower. The Queensland plants are said to be much larger than the local form but when a species is found so far from its known habitat, the last concern is whether it is small or large for its type. It took some convincing to tell myself it was the real thing, but one good look at the eye-like glands above the strawberry coloured labellum base and I considered it another on my first time list.

And now for something small and a little more difficult to find. *Genoplesium baueri* is recorded from Bomaderry Creek, which runs adjacent to the Princes Highway, almost in the centre of Nowra. There is a possibility this species might be considered for listing as a Vulnerable Species. Nine individuals have been recorded at this site which has had the threat of a road cutting through the bushland hanging over its head for some time. This threat is almost gone as the NSW Government is expected to declare the area a Regional Park by the end of 2002.

G. baueri is an unmistakable species which grows to 15 cm with 1-6 flowers of 15 mm, although I have counted as many as eight on

one plant in another location. Whilst driving very slowly along one of my favourite bush tracks in March 2002 I managed to see a plant in a run-off drain. Until this time I had seen several other species of *Genoplesium* (now *Corunastylus*) along the edges of this track and spread through the adjacent scrub which was severely burned in the severe bushfires of last summer. They were *G. filiforme*, *G. woollsii*, *G. apostasioides*, *G. pumilum* and one, which is in Canberra awaiting identification. The fires had done this genus some good, as large numbers of seedlings had emerged as a result of the fires. I look forward to seeing these seedlings in flower over the next year or two. This species appears to be at its southernmost limits in the Nowra area.

Dendrobium tetragonum is another species, which is almost certainly at its southern geographical limit in an area 30 km from Nowra and one must pass by the site of the previous species enroute to the site of *D. tetragonum*. Plants are situated on River Gums and *Backhousia* sp. alongside a small creek running through a dimly lit narrow gorge. To the best of my knowledge the species is limited to this gorge only but plant numbers are good for such a confined area. Flowers are a red/brown with good shape and are regular in size at 25 mm across. Some lighter variations in colour are also evident in this population and might prove a fertile base for hybridisation with other species and also cross fertilisation within the *in situ* population. Plants vary in length to 250 mm and many mature specimens have plantlets growing from the sectional nodes of the square cane-like pseudobulbs, in the form of aerial growths on some forms of *Den. kingianum*.

There have been two discoveries of *Rhizanthella slateri* in the Nowra area in recent years and both have been on private property. The first near Huskisson was unearthed a few days prior to the 26th March, 1997 and the second on 16th September, 2001. I was called to identify the first after the capitulum had been severed as part of a minor clearing process and placed in the landowners' refrigerator for three days. Such is the unique appearance of this species I was able to immediately identify it despite never having seen live plant material before. This find was 10 metres above sea

level, approximately six kilometres from Jervis Bay. Numerous Red Bloodwoods and a small *Melaleuca* were nearby.

The second find was uncovered during an Eight Part Test of vacant land at approximately the same altitude and proximity to Jervis Bay. This plant was at the base of a Scribbly Gum, with a lone *Melaleuca* two metres away. No other vegetation of any significance was nearby. The first plant was also close to a Paperbark with Stringybark and Red Bloodwoods scattered over the adjacent half acre of an eight acre property. Both plants were lodged with David Jones at the National Botanic Gardens and DNA has successfully been extracted from the second plant. This DNA shows minor differences with existing samples from the Blue Mountains find in 1996 but only time and more samples will prove or disprove the similarity of the sea lovers with the mountain dwellers.

The first plant was in the last throes of flowering but the second contained the capitulum firmly enclosed by the surrounding bracts, which fortunately or unfortunately did not withstand the gouging of even a small boot used by myself and Garry Daly, my co-finder. (See 'Looking for Death Adders') At the time of the find I considered the emerging flowers to be approximately six to eight weeks away from flowering. There was no scientific data to assist me in this judgement and I was later proved incorrect. Following two visits to Bulahdelah to view the same species *in situ* in May 2002 and again in flower in October 2002, I assessed the Jervis Bay plants to be at approximately the same stage of flowering in September as those at Bulahdelah were in May. To say I was pleased to view such a rare species in flower after seeing three plants either prior to or post flowering would be a gross understatement.

R. slateri has been nominated for listing on the Register of Endangered and Vulnerable Species and by the time this article is published I expect that nomination to have been successful. It currently has a preliminary listing and both recent finds and the original discovery are in the path of "Option E", which is the preferred by-pass route for Bulahdelah as nominated by the Roads and Traffic Authority of NSW.

***Calochilus ammobius* (Orchidaceae),
an Extinct or Critically Endangered New Species from Queensland**

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Abstract

Calochilus ammobius, known only from a single locality in north-eastern Queensland, which has now been obliterated by sand mining, is described as new. The habitat at the site is low sparse woodland developed on deep white sand.

Key Words

Orchidaceae, *Calochilus ammobius*, endangered, extinct, new species, Australian flora, Queensland.

Introduction

The species of *Calochilus* R.Br. in tropical Australia have been the subject of study by the senior author and has included herbarium research and field work in many locations. Field studies have shown that *Calochilus* in areas of tropical Australia have a disjunct and often restricted or localised distribution pattern (Jones & Lavarack 1989, Dixon 1989, Jones & Broers 1993). One such species, which was discovered in the 1980's on the Atherton Tableland, is known from a single locality which has been subjected to intensive sand extraction. That species, which is now extinct at that site, is described here as new.

Materials and Methods

The description of the taxon was made from fresh specimens. Dried specimens of *Calochilus* species were examined from the following herbaria: AD, BRI, CANB, HO, MEL, NSW, PERTH and P. Unless otherwise indicated, all types of related *Calochilus* taxa (or photographs thereof) have been examined.

Taxonomy

Calochilus ammobius D.L.Jones et B.Gray, sp. nov.

Affinis *C. psedno* D.L.Jones et P.S.Lavarack, sed sepalis et petalis angustioribus, labello angustiore vix trilobata ciliis marginalibus prominentibus et callis laminae pluris longioribus confertioribus rubris et purpureis, differt.

Typus: Queensland, Cook District, near Chewko, 31 January 1991, *L.Lawler 126*, *B.Gray* and *T.Wolff* (holo CANB).

Tubers 2-4 cm long, c. 1.3 cm wide, ovoid, brown, fleshy. *Leaf* undeveloped at anthesis; at maturity linear, trigonous, 7-14 cm long, c. 5 mm wide; base reddish. *Inflorescence* 30-50 cm long, very slender, wiry; scape elongating after anthesis. *Sterile bracts* 2, lanceolate to oblanceolate, 2.6-4.2 cm long, 6-8 mm wide, subacute, closely sheathing. *Floral bracts* ovate to lanceolate, 5-10 mm long, 4-5 mm wide, acute, closely sheathing. *Pedicels* 8-18 mm long, slender, curved. *Flowers* 1-3, 11-12 mm long, 8-9 mm wide, the perianth segments spreading widely at temperatures above c. 20° C; sepals dull green; petals dull green with light brown stripes and markings; labellum green to reddish brown with short reddish purple to purple hair-like calli. *Dorsal sepal* ovate-cordate, 6-7 mm long, 4-4.5 mm wide, concave, very shortly apiculate. *Lateral sepals* asymmetrically lanceolate, 6-6.5 mm long, c. 2 mm wide, concave, slightly carinate, divergent; apical margins slightly incurved; apex subacute to apiculate. *Petals* asymmetrically linear-ovate, 5-5.5 mm long, c. 1.5 mm wide, porrect, tips slightly incurved. *Labellum* obliquely decurved; lamina more or less oblong, 9-9.5 mm long, 4-4.5 mm wide, very obscurely 3-lobed; apex obtusely apiculate. *Labellum margins* with numerous red lobes to 0.5 mm long; distal margins incurved. *Labellum dorsal surface* pale green, glandular-dotted. *Labellum calli* densely covering the proximal three-quarters of the ventral surface, appressed, curved, linear-terete, 0.3-2 mm long; basal pair of labellum calli c. 1 mm long, c. 0.4 mm wide, raised, purple; a

narrow central area sparsely covered with a few, short, curved purple calli, this flanked by long, purple, longitudinally aligned calli; distal quarter devoid of calli. *Column* c. 3.5 mm long, c. 2 mm wide, green, strongly gibbous and papillate behind the anther; wings narrow, hardly protruding, each with a prominent stalked dark purple anterior eye-spot, joined by an anterior purplish ridge. *Anther* porrect, c. 1.8 mm long, 1.6 mm wide, green with cream flaps, surface minutely colliculate; rostrum recurved. *Pollinia* linear-clavate, c. 2.2 mm long, curved, cream to white, mealy. *Stigma* transversely ovate, c. 2 mm wide, sunken. *Capsules* linear-obovoid, 18-20 mm long, 4-5 mm wide, erect, ribbed.

Distribution and Ecology

Known only from the vicinity of Chewko on the Atherton Tableland in north-eastern Queensland. This species was collected in low woodland dominated by *Melaleuca viridiflora*. The understorey was sparse consisting of scattered shrubs, grasses and sedges. The prevailing soil of the area was a deep infertile white sand but the soil at the immediate site where the *Calochilus* grew became moist to wet for periods during the wet season and probably had a clayey subsoil. Altitude: 520 m. Flowering period: December to February.

Recognition

Distinguished from other *Calochilus* species by the following combination of features: leaf undeveloped at anthesis; moderately tall (30-50 cm tall), slender, wiry habit; few-flowered (1-3 flowers) raceme; flowers small (12 x 9 mm), fugacious; labellum narrow, obscurely lobed, with prominent marginal lobes, the ventral surface adorned with crowded, reddish and reddish-purple calli; anther with a strongly recurved rostrum. **Fig. 1.**

Similar Species

Calochilus ammobius is similar to *C. psednus* D.L.Jones & Lavarack which is also an endangered species with a very restricted distribution (Jones & Lavarack 1989). Both *C. ammobius* and *C. psednus* are very slender, almost wiry species with small, short-lasting flowers and a leaf which is undeveloped at anthesis. *Calochilus ammobius* can be distinguished from *C. psednus* by its narrower sepals and petals, a narrower, scarcely three-lobed labellum with prominent marginal cilia (labellum three-lobed and lacking marginal cilia in *C. psednus*), more numerous, longer, crowded lamina calli which are reddish and reddish-purple (calli short, sparse and purple in *C. psednus*) and an anther with a prominently recurved rostrum (straight in *C. psednus*).

Conservation Status

The only site where *Calochilus ammobius* is known to have occurred, has been subjected to intensive sand extraction and the area where the orchids grew has been completely obliterated. Other areas of similar habitat exist but searches in localities adjacent to the known site have failed to locate any other colonies. Further searching is required but in the meantime the species must be considered critically endangered or presumed extinct; suggest 2E according to Briggs & Leigh (1996).

Etymology

Derived from the Latin, *ammobius*, dwelling in sand.

Other Specimens examined

None found.

Acknowledgements

We thank Len Lawler for collecting the type material, Tom Wolff for help in the field, Alex George for the Latin diagnoses, Corinna Broers, Marion Garratt and Karina FitzGerald for technical assistance and reading the manuscript and Mark Clements for help in various ways.

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Caption

Fig. 1. *Calochilus ammobius*, Chewko, Qld, L.Lawler 126, drawn from the type collection. (page 92)

a. flowering plants; b. flower from front; c. flower from side; d. labellum from above; e. labellum from below; f. labellum calli; g. column from front; h. column from side; i. pollinium; j. dorsal sepal; k. lateral sepal; l. petal; m. leaf cross-section. Drawing 31 Jan. 1991 by D.L.Jones Copyright.

Book and CD Reviews

Orchids of New Guinea Vol II: *Dendrobium* and allied genera (CD ROM)

A. Schuiteman and E.F. de Vogel

Last year I reviewed Volume I of Orchids of New Guinea: Illustrated Checklist and Genera. Well I am now very happy to be reviewing the next instalment of this series which covers the subtribe Dendrobiinae: *Dendrobium*, *Cadetia*, *Diplocaulobium* and *Flickingeria* – about 560 species, not counting varieties. Hang on - what about *Grastidium*, *Dockrillia*, *Eriopexus*, *Epigeneium*? They are there, included in *Dendrobium* but listed as synonyms. Reasons for this are stated in the

Introduction.

If you possess (and hopefully bought) the last CD, you will be familiar with the layout and navigation of the contents of the CD. As before, once the program is opened, you are presented with the Navigator and can access the modules **Introduction**, **Glossary**, **Literature**, **Higher Taxa**, **Species**, **Index**, **Text Key** and **IdentifyIt**. There are some enhancements over the previous version including illustrations to accompany Glossary items and drawings by Schlechter and other contributors add to those of J. J. Smith. All terms used are linked directly to the glossary or the Find tool by simply clicking them.

The Index would be a good place to start reviewing the taxa if you want to find particular orchids but I would recommend you read the Introduction. Navigation through the modules is easier if you use the Contents button in each as well as the Next and Previous buttons

The **Species** module contains details of all the orchids covered. For each species, there is a Description, Synonyms, Taxonomy, Literature and Multimedia tab. The Description tab contains the full botanical description (with botanical terms linked to the Glossary); flower colour; habitat; flowering season; overall distribution; distribution in New Guinea (with map); notes and brief cultivation notes (eg *Dendrobium lawesii*: Intermediate growing epiphyte, requires year-round watering and a light, but not sunny position).

The Notes invariably contain very useful information such as differences with similar species or varieties. The Multimedia tab provides photographs and drawings where available.

As an example, *Dendrobium subclausum* is treated very well with recognition of its difficult taxonomic status. The Species Description even includes a key and separate description for the 4 recognised varieties: *subclausum*, *phlox*, *speciosum* and *pandanicola*. *D. malbrownii* was the first species I looked for but was not included; probably because of doubts as to whether specimens found in New Guinea are truly *D. malbrownii*. *D. chrysopterum*, the new name the authors constructed for the species wrongly known as *D. obtusisepalum*, is used.

Another area of note was the treatment of 'Fiery Glow'. As *Dockrillia* is relegated to synonymy in this study, how were the authors going to handle *Dockrillia convoluta*? The name *Dendrobium convolutum* has already been applied to another New Guinea taxon in section *Latouria*. The answer was to come up with a new name: *Dendrobium contextum* (with a paper yet to be published for this name) and cite *Dockrillia convoluta* as a basionym. 'Black Pam' is listed as *Dendrobium fuliginosum* with *Dockrillia fuliginosa* as a basionym.

Higher Taxa has the same format as the Species module but gives descriptions of Genera and sections. A linked list of species would be a useful addition to each of the Section or Genera descriptions. As previously mentioned, some sections are not recognised in their newer generic status. The authors have decided to lump sections *Pedilonum*, *Calyptrochilus*, *Oxyglossum* and *Cuthbertsonia* into the one section: *Pedilonum*. While they have given sound reasons for this decision in the description, it would have been worthwhile to include the former sections as many still consider them valid. *Calyptrochilus* is not listed on the Synonym tab. Section

Monanthos is listed as Section *Biloba*. J.J. Smith. It would be useful to include some former sections in the Higher Taxa Index as synonyms. This is how *Grastidium*, *Dockrillia* etc was treated in the Species Index.

There are two tools to aid in identification probably more suited to those with a good understanding of biology but a good educational experience for those who haven't. The **Text Key** is a dichotomous key which is enhanced by the use of labelled diagrams to help explain the identifying characteristics. **IdentifyIt** can identify genera and sections by you providing certain characteristics from which a list is generated in order from those that match all characteristics to those that do not match any. The Introduction gives more detail on how to use this. Not being able to identify down to species level reduces its use somewhat but as explained in the Introduction, to be able to do so and avoid spurious identifications would make the tool too complex to use. There is also an Examine and Compare facility included in this module.

While designed for Windows 95, Windows 98, Windows Me and Macintosh operating systems, it can be installed and run on Windows XP using Compatibility mode but one user reported success without it. A book included with the CD has installation instructions.

Despite the contrasting decisions on taxonomy this is the best reference available on Dendrobiinae of New Guinea. It is highly recommended for both amateur enthusiast and scientist. If you enjoyed the first CD in this series and have an interest in the orchids of New Guinea, then you will also enjoy this one. The quality and quantity of pictures adds greater value. Although it doesn't have the 'readability' of a book, you could not access information in a book in such an easy and powerful way.

This product, like the previous one, is part of the ETI World Biodiversity Database CD-ROM series (see www.eti.uva.nl). All its products are distributed through ETI Information Services Ltd, which has agreed to work with NHN to distribute the Orchid products as widely as possible. In this case, please send

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—o0o—

Images of Preservation

By Alan W. Stephenson

This is a small paperback book, 60pp, containing 29 poems written by Alan, combining orchids and conservation. Each poem is accompanied by notes in reference to the orchids. It is a simple book and does give insight to the orchids that Alan has growing in the area where he lives, the Illawarra on the New South Wales south coast. He has funded the printing himself so there are only some 250 copies available and cost \$8.00 each plus postage, which are available from Alan himself. I believe that there is a more colourful edition coming in the future. This book is more suitable for reading enjoyment, if you are fond of poetry, rather than for reference and would make a nice simple gift for a friend.

Good luck with the book Alan and we look forward to the new edition.

Editor.



Left to right: John Elliott, publisher, John J. Riley, illustrator, David P. Banks, author and David Jones scientist CSIRO.

ORCHIDS OF AUSTRALIA

JOHN RILEY (illus) and DAVID BANKS (text)

BOOK LAUNCH

One recent, warm Sydney Sunday afternoon, more than 110 orchid enthusiasts, family and friends gathered at Florilegium, the Garden Bookstore in Glebe to celebrate and participate in the launch of this excellent new book.

Gil Teague, the proprietor, knew they were keen when he began serving drinks at 1.30 pm for a scheduled 2.00 pm start. He started the official proceedings about an hour later by introducing John Elliott, of the University of New South Wales Press, the book's publisher.

John said how much he'd enjoyed working with the author team, and he knew in his first meeting with them that he wanted the Press to publish the book. He then briefly introduced David Jones, eminent Australian botanist and author, who then complimented and congratulated the illustrator and the author. John Riley he pictured as a very modest man who had developed a love of orchids among his many other interests. John is not only an excellent illustrator, but has discovered numerous new species which he has sent on to David at the ANBG, Canberra. He introduced David Banks as an extrovert (much to everyone's amusement, as we all knew better), as an expert, and also as a very pleasant fellow.

The author and illustrator then replied David warmly thanked John for involving him in the text, the publisher for his support, and mentioned that although John was quiet, he had been known to talk long and hard when matters Irish arose. We were all a little concerned then when John began by mentioning his Irishness, but he was very well controlled.

It all sounds a bit like a wedding, doesn't it, with all these official talks, but they didn't last too long. There was plenty of camaraderie and orchid anecdotes as people got together who hadn't seen each other for years. Naturally, with the day being hot as well, liberal libations were taken to quench the thirst, but there were no reports of arguments, and all were reported as having arrived home safely.

A great party, as befitted such a special book.

Gil Teague

(Copies are still available and are signed by the illustrator and author, from Florilegium at the special launch price of \$99 + \$6 postage.

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—o0o—

ORCHIDS OF AUSTRALIA

John J. Riley and David P. Banks

What can I say? This book has been a long time coming. As long as I have known John Riley, there has been talk of compiling his wonderful botanical illustrations into a book. (Not so much by John himself, though).

David and John have in the past five years or so, seriously made the effort to put together this book and you won't be disappointed. It is very easy to look at and read. We have for many years been able to purchase a small sample of John's drawings through the Australasian Native Orchid Society, but now

we have the first book of at least three. The second book is underway. In conjunction with the wonderful notes from David Banks, this book will fast become the **must have** book to use for references and I have no doubt that in the future this, and the volumes to follow, will be held with the same, if not greater, esteem as Nicholls and Fitzgerald's works are held now.

The book contains some 150 species with maps of their distribution and other relevant information. There is a cross section of orchids from across Australia, both epiphytic and terrestrial.

Each drawing has a page of text which include the orchids Name, Type Locality, Etymology, Flowering Time, Distribution, Altitude Range, Distinguishing Features, Habitat, Conservation Status, Discussion and Illustration Details.

Published through the University of New South Wales Press, the publishers have been able to reproduce Johns drawings immaculately. There are still specials available but eventually the book will retail for around \$120.00 and the limited edition slip cased version for around \$350.00.

For whatever reason you purchase a book, whether it is for reference, perusal or investment purposes, this book will be a necessary acquisition for your library and will satisfy both the amateur and professional orchid botanist.

Congratulations to John and David for a book that is well presented and produced with the expertise that we have come to expect from two keen orchid enthusiasts.

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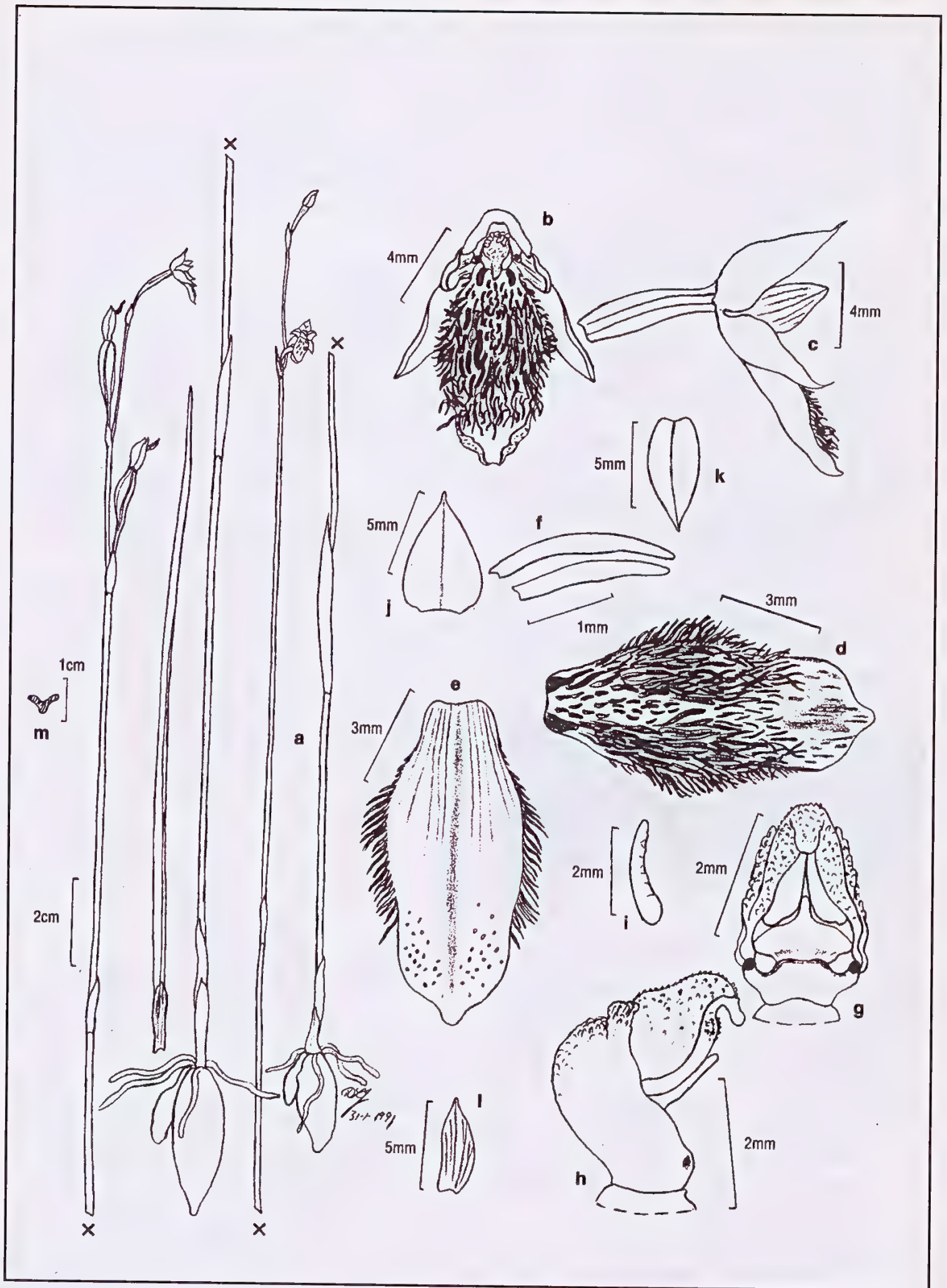


Figure 1 *Calochilus ammobius* Chewko, Qld.
(Article page 85.)

Drawing David Jones ©



Calochilus ammobius Atherton Tablelands

Photo Mark Clements ©

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- **Native Orchid Society of Toowoomba**, P.O. Box 2141 Toowoomba 4350. Meetings 7.30pm, 1st Fri. each month. Red Cross Hall, Hall Lane (off Neil St.) Toowoomba.

VICTORIA

- **ANOS Geelong**, Unit2, 2 Elizabeth St., Belmont 3216. ☎(03) 5243-4286. Meetings 8pm, 2nd Wed. each month. Uniting Church Hall, Moorabool St., South Geelong.
- **ANOS Victoria**, P.O. Box 2685 Cheltenham 3192. ☎(03) 9954-7692. Meetings 8pm, 1st Fri. each month. Demonstration Hall, Burnley Horticultural College, Swan St., Burnley.

SOUTH AUSTRALIA

- **Native Orchid Society of South Australia**, P.O. Box 565 Unley 5061. ☎(08) 8356-7356. Meetings 8pm, 4th Tue. each month. St. Matthews Hall, 67 Bridge St., Kensington.

WESTERN AUSTRALIA

- **ANOS Western Australia**, 95A Ewen St., Scarborough 6019. ☎(08) 9341-6709. Meetings 8pm, 2nd Mon. each month. Wilson Community Hall, Braibrise Rd., Wilson.

NEW ZEALAND

- **ANOS New Zealand**, 20 Fairlands Ave., Waterview, Auckland, New Zealand.
- **ANOG**, 51A Glenharrow Ave., Christchurch, New Zealand. ☎(03) 342-7474.
- **New Zealand Native Orchid Group**, 22 Orchard St., Wadestown, Wellington, New Zealand.



Caladenia nana susp. *nana* Forestdale Lake Nature Reserve

Photo Roslyn Capell