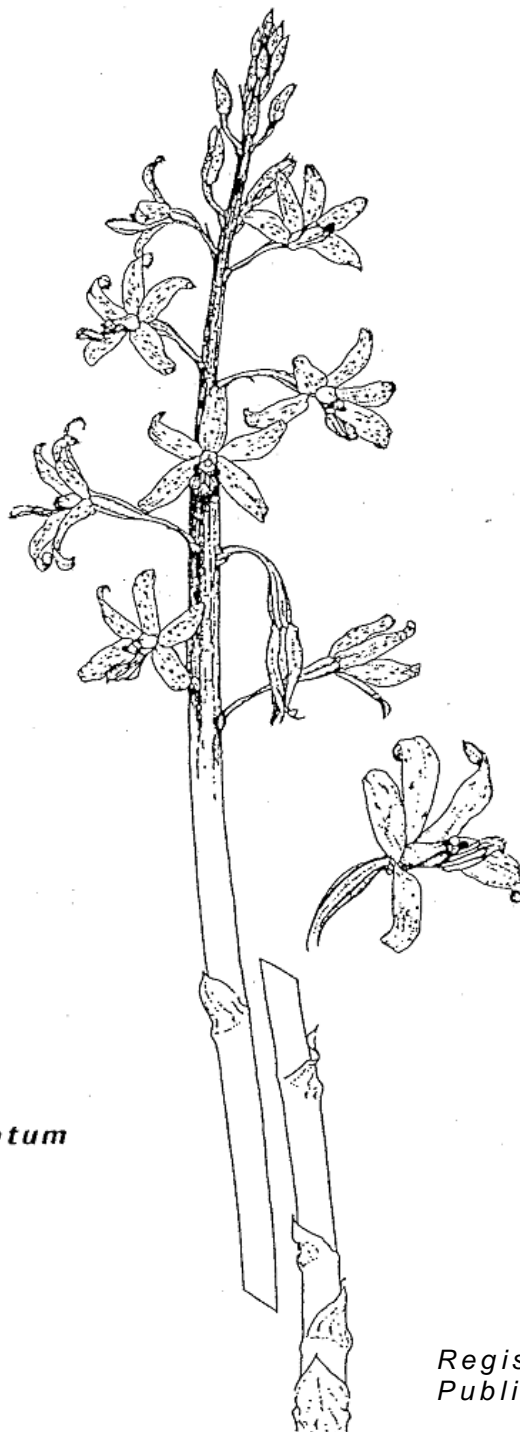


NATIVE ORCHID SOCIETY  
of  
SOUTH AUSTRALIA INC.  
JOURNAL



*Dipodium punctatum*

Registered by Australia Post  
Publication No. SBH 1344

Volume 12, Number 6  
August 1988

# **NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA INC.**

THE NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA PROMOTES THE CONSERVATION OF NATIVE ORCHIDS THROUGH CULTIVATION OF NATIVE ORCHIDS, THROUGH PRESERVATION OF NATURALLY-OCCURRING ORCHID PLANTS AND NATURAL HABITAT.

EXCEPT WITH DOCUMENTED OFFICIAL REPRESENTATION FROM THE MANAGEMENT COMMITTEE OF THE NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA, NO PERSON IS AUTHORISED TO REPRESENT THE SOCIETY ON ANY MATTER.

ALL NATIVE ORCHIDS ARE PROTECTED PLANTS IN THE WILD; THEIR COLLECTION WITHOUT WRITTEN GOVERNMENT PERMIT IS ILLEGAL.

Postal Address

NOSSA INC.,  
P.O. Box 565,  
UNLEY. S.A. 5061

Price 60 cents

PATRON: Mr T.R.N. Lothian

PRESIDENT:  
Mr R Robjohns  
Telephone 271 7457

SECRETARY:  
Mr D Butler  
Telephone 278 7165

VICE-PRESIDENT:  
Ms E Viskic

TREASURER:  
Mr R Robjohns

COMMITTEE:  
Mr R Bates  
Mrs M Fuller  
Mr R Hargreaves  
Mr G Nieuwenhoven  
Mr W Walloscheck

LIFE MEMBERS:  
Mr R Hargreaves  
Mr H Goldsack  
Mr R Robjohns  
Mr L Nesbitt  
Mr D Wells

REGISTRAR OF JUDGES Mr L Nesbitt

TUBER BANK CONVENOR  
Mr W Walloscheck,  
R.M.B. 777,  
via BLACKWOOD, S.A. 5157  
Telephone 388 2397

EDITOR:  
Mr G Carne,  
118 Hewitt Ave.,  
Toorak Gardens, S.A. 5065  
Telephone 332 7730

Views and opinions expressed by the authors of articles within this Journal do not necessarily reflect the views and opinions of the N.O.S.S.A. Management Committee.

COPYRIGHT:- The N.O.S.S.A. Management Committee condones the reprint of any article within this Journal, provided acknowledgement is given to the source and to its author.

PAGE No:	CONTENTS:	AUTHOR
51	NEXT MEETING	
51	NEXT FIELD TRIP	
51	JULY MEETING	
53	NOSSA NEWS	
55	<i>PTEROSTYLIS parviflora</i> COMPLEX IN SOUTH AUSTRALIA	R. BATES
56	ORCHIDS OF THE PILLIGA SCRUB	M. PHILLIPS
57	AUTUMN GROUND ORCHIDS OF S-E NEW SOUTH WALES	P. REECE
59	AUSTRALIAN EPIPHYTIC ORCHIDS	R. SHOOTER
61	ASIA PACIFIC ORCHID CONFERENCE	R. SHOOTER
61	TERRESTRIAL ORCHID GROWING AUGUST/SEER	S. PHILLIPS
62	NOSSA SPRING SHOW - COMPETITIVE SECTIONS	L. NESBITT

NEXT MEETING Tuesday 23 August at 8.00 PM; St. Matthews Hall, Bridge Street, Kensington.

#### SPEAKER

Gerry Carne will show slides of some of the orchids of Central Sumatra, Indonesia. Gerry spent three years as a Senior Geologist in Rumbai, Sumatra where he became interested in the native epiphytes, in particular the Genus *Bulbophyllum*.

#### NEXT FIELD TRIP

REMINDER: Monarto Area - meet at Callington Pub at 9.30 am Sunday August 28th.

SCOTT CREEK CONSERVATION PARK SURVEY (Part 2) Saturday and Sunday, September 17th and 18th (Show Weekend). As the park is only 20 minutes drive from the Show venue, there will be plenty of opportunity to do both in one day. Meeting times and places:

Saturday 9.30 Scott Creek School  
 Saturday 1.30 Mackereth Cottage (in the park)  
 Sunday 10.00 Scott Creek School  
 Sunday 12.30 Mackereth College

Please note that the survey work is easy and informal and a great way to participate in your club's Bicentennial Project. A report on the July Survey will appear in the September Journal.

#### JULY MEETING

WE were fortunate to have two speakers at the July Meeting. Margaret Fuller presented Pic-a-Pak and Les Nesbitt talked about the terrestrial orchid nursery he and his wife Kay run at Kersbrook.

#### Pic-a-Pak

When Margaret was a Committee Member in 1984, she was Chairman of the Education Conservation Sub-Committee. One of the sub-committee's recommendations to the N.O.S.S.A. Management Committee, to which they agreed, was to produce a Pic-a-Pak, primarily for use in schools, to inform students of the native orchids growing in this State, and of their need to protect them. The Curriculum Committee of the Education Department looked at this proposal and agreed it would be a useful addition to the material they had already prepared on other subjects. In 1986, after two years in preparation, with the Educational

Technology Centre of the Education Department of South Australia, Pic-a-Pak was released. Although designed for use in Primary Schools, Pic-a-Pak is also being used in some secondary schools and complements the static displays N.O.S.S.A. has provided to the Arbury Park Outdoor School at Bridgewater. As well as members of the sub-committee, many other N.O.S.S.A. members contributed with material and help in the preparation of this Pic-a-Pak. It is certain that all will agree that the finished product was worth the effort involved and Margaret and her assistants are to be applauded.

The South Australian Native Orchid Pic-a-Pak is attractively packaged in its own folder and comprises 36 35 mm slides, 6 overhead transparencies and a booklet of notes, explaining each of the former. In addition to showing representatives of each of the major Genera - flower structure, plant distribution and habitat, flowering time and conservation are also presented. Pic-a-Pak No. 477 is available from the Education Resource Centre on Banksia Avenue, Seacombe Gardens (in the grounds of the Darlington Primary School). The cost to a member of the public without sales tax exemption is \$18.59 over the counter.

#### NESBITT'S NATIVE ORCHID NURSERY

Les and Kay Nesbitt opened their nursery in 1975. It was the first, and is possibly still the only nursery in the world to specialise in the propagation of Australian terrestrial orchids. The 1975 catalogue was initially hand typed and would be a collector's item if anyone still had a copy because very few were given out. It listed 10 colony forming species: *Acianthus exsertus*, *A. reniformis*, *Caladenia menziesii*, *Corybas dilatatus*, *Diuris longifolia*, *Lyperanthus nigricans*, *Pterostylis nana*, *P. nutans*, *P. scabra* var *robusta*, and *P. pedunculata*. There were also 7 flowering size species seedlings: *Caladenia dilatata*, *Diuris maculata*, *Eriochilus cucullatus*, *Glossodia major*, *Thelymitra aristata*, *Thelymitra pauciflora* and *Thelymitra rubra*. At the top of the single page listing was the plea "We are experimenting with the propagation of other species and your support will further this work".

The nursery was supported and today well over 100 cultivars are propagated at the nursery. It is interesting to note that all the orchids in the first list were South Australian species and there were no hybrids. *Lyperanthus nigricans* soon disappeared from the list due to difficulties with propagation, never to reappear. *Glossodia major* also was rarely available until 1988, when flasks were offered. This beautiful species is prone to damping off disease and does not normally multiply.

The nursery and retail area is located in the centre of the small township of Kersbrook, some 35 km north-east of the Adelaide G.P.O., in the Mt. Lofty Ranges, or the Adelaide Hills as they are often called. The nursery entrance, which is offset some 50 metres due to the reconstruction of a major intersection, is next to the Deli/General Store.

The nursery opens on the first Sunday in May, and then every Sunday from 1-5 pm until the end of October. The best displays of flowers are from mid September to mid October when the *Diuris* and *Thelymitra* are in bloom. Since the major sales period is in winter, human comfort is now catered for with a covered sales area to keep out the rain. Pots of terrestrial species are set out in rows in alphabetical order. Observant visitors will notice a few new introductions which are not yet in the catalogue. For a little variety a few epiphytes and exotic orchids as well as a range of miniature bulbs are also stocked.

Two catalogues are printed each year, one in April for the winter growing season, and another in September for the dormant, summer season. A mail order

service operates for those who cannot visit the nursery. Late in 1987, a range of flasks were first offered of Australian species and hybrids including terrestrials and epiphytes. Flasks are available by carrier throughout the year and lists are updated regularly.

The 40 slide program which was shown at the July meeting, featuring the Nesbitt's working with Australian terrestrial orchids at the nursery is available for loan to clubs and societies. It is fully booked for 1988.

#### PLANTS ON DISPLAY

Terrestrials: *Chiloglottis formicifera*, *Glossodia major*, *Pterostylis baptistii*, *P. curta*, *P. hildae*, *P. longifolia* (mallee form), *P. nana*, *P. x ingens*, *P. Cutie* (Herald's Pride), *P. baptistii* 'Janney' x *P. plumosa* *P. Triffid*, *P. nutans* x *P. curta* = *P. Nodding Grace*, *P. nutans* x *P. furcata*.

Epiphytes: *Dendrobium* Aussie Zest, *D. Ellen*, *D. Hastings*, *D. Kathryn Banks* (x3), *D. Pee Wee*, *D. Star of Gold*, *D. Star of Gold* x *D. speciosum* = *D. Star of Riverdene*.

#### POPULAR VOTE

Terrestrials: *Glossodia major*, grown by Kay and Les Nesbitt.

Epiphytes: *Dendrobium* Star of Gold, grown by Lorraine and Ron Braddock.

#### COMMENTATOR ' S CHOICE

Terrestrial Species: *Pterostylis curta*, grown by Margaret Fuller.

Terrestrial Hybrid (Natural): *Pterostylis* x *ingens* grown by Les Nesbitt.

Terrestrial Hybrid: *Pterostylis* Cutie (Herald's Pride), grown by Les Nesbitt.

Epiphyte Species: No species plants were benched.

Epiphyte Hybrid: *Dendrobium* Pee Wee, grown by Reg Shooter.

#### PLANT COMMENTARY

The plant commentary for the terrestrials was given by Bob Markwick. Gordon Brooks provided the commentary for the epiphytes.

#### N.O.S.S.A. NEWS

##### WANTS, TRADES, FOR SALES.

This journal has a distribution of nearly 300 copies per month. Copies are forwarded to all Native Orchid Societies in Australia as well as to Research Centres and Herbariums overseas. This means that a very large number of orchid enthusiasts read our Journal. If you have been looking for that hard to obtain book on orchids or perhaps a particular orchid clone, or if you have surplus orchid plants or tubers that you would like to trade or sell, why not let others know through this Journal. The only stipulation is that each member can be allowed only 5 typed lines per month and all items must be orchid related.

##### HELP TABLE

The Help Table has not been used over the past few months. This is unfortunate as there are some very knowledgeable members who might be able to help you in, `diagnosing and curing your orchid plant disease, in identifying a particular orchid species for you or in making your plants grow just a little better. Bring in your problem plants to the next meeting.

## SPRING SHOW

The N.O.S.S.A. Spring Show will be held on September 17 and 18. You will remember that we took a vote on whether or not to hold the Spring Show this year as many regular participants and helpers would be in Sydney. You will recall that we voted a strong 'YES'! In order to make our show successful, we must all chip in and do what we can. We need orchids for display (ferns would also be welcome as they set the orchids off well), established orchid plants for the trading table, people willing to transport plants to the show, people willing to help set up, people to sell raffle tickets, people to answer questions from the general public who come to see our Show, people to work at the trade table, and so on. All that is needed is a few hours of each member's time for the show weekend. This is an excellent chance to let others know what N.O.S.S.A. is really all about and why we are N.O.S.S.A. members. Contact Margaret Fuller and let her know that you would like to participate in some manner. This years venue will be Mitcham Girls High School, Kyra Avenue (off Belair Road). The Show will be open to the public from 12.00 noon until 5.00 pm both days.

## W.H. NICHOLLS "ORCHIDS OF AUSTRALIA"

A copy of this much sought after book is available on a best offer basis. It is likely to realise a price in the order of \$450.00. If you are interested in making an offer, you should contact Margaret Fuller (ph 794416) who will then contact the owner.

## A NEW BOOK BY DAVID JONES

No, its not available just yet. If you would like to reserve a copy of this much awaited volume, however, and obtain a discount at the same time, you may do so if you act quickly. A pre-release offer is being made whereby if you place a \$20.00 deposit prior to August 22nd, you will be entitled to 25% discount on normal price of \$69.95. Checks may be sent to:

Mr. Gerald McCraith  
Australian Orchid Foundation  
107 Roberts St.  
Essendon, Victoria, 3040

## THIS MONTHS ARTISTS

The drawings in this months journal were provided by Chris Butler, Nancy Nieuwenhoven, and Paul Reece. We are fortunate to have such talented members.

## NEW MEMBERS

The Committee and the Society take pleasure in welcoming as new members, Mrs. Colette Makin from West Lakes Shore and Mr. Gregory Moss from Marion. We will look forward to seeing you at future meetings.



Back in 1978, the South Australian Flora treated only one species of this variable group of tiny flowered greenhoods: *Pterostylis parviflora*. This was included without comment on the variation encountered. The species concept at that time was indeed remarkably wide! In the 1986 edition of the Flora, a second species was added. The self pollinated, green, summer flowering plants from the Mt. Lofty Ranges being treated as *P. aphylla* ('leafless greenhood'), while the more colourful, insect pollinated plants (also leafless) from the South-East retained the name *P. parviflora*. This all seemed fairly clear as plants fitted the meagre descriptions available. The only other named species, *P. whitei* was recorded from Queensland. Last year I had the fortune to see the type forms of both *P. parviflora* and *P. aphylla* in the wild. What a shock I received. Neither was anything like the South Australian plants!



*P.*  
*parviflora*

*Pterostylis aphylla* seen at the end of October near the type location (Rocky Cape, Tasmania) was a brown and white flowered, insect pollinated, strong smelling plant, totally distinct from our Adelaide Hills taxon. *Pterostylis parviflora* from along the coast in New South Wales had flowers much smaller than any South Australian forms and lo and behold it had leaves on the scape. The truth was out - neither *P. parviflora* nor *P. aphylla* grew in South Australia.

Now I already knew that there were four different populations of greenhoods of this complex in South Australia: ie. from peat bogs in the Adelaide Hills; sandy swamp margins in the lower south-east; a rock ledge over Mount Monster and in leaf litter on limestone at Piccaninny Ponds. The latter two I had never seen in flower. David Jones, who is revising this group, was keen to see material from South Australia so I was determined to get it for him. Things didn't start off too well as not one flower of the Adelaide Hills plants could be located (this normally flowers at Yundi in February) but in April I found the Mount Monster plants and lower south-east plants on the same weekend. They appeared to be the same taxon, despite the very different habitat but curiously they had different perfumes. the Mount Monster plants had a vague seminal odour while Glencoe swamp plants were fruity and spicy. David determined them as belonging to an undescribed taxon. Not long after, I was sent flowers from Piccaninny Ponds. These were clearly of a different species again and unlike the others, these had stem leaves. So now we had three South Australian species - all of them apparently (although I may be wrong) undescribed species!!

Plants of this group ought also to occur on Kangaroo Island if not elsewhere in South Australia. Evidence (especially from a spate of recent collecting in the eastern states) now indicates that there are as many as 10 different taxa in the *P. parviflora* complex (David Jones named one new species - *P. bicornis* - from a single mountain in Queensland, only last year). In New South Wales "*P. parviflora*" occurs from coastal sandhills to the alps, from mossy rock ledges in the Blue Mountains to the semi arid inland plains and the various 'forms' can be found in flower during every month of the year!

## ORCHIDS OF THE PILLIGA SCRUB by Mark Phillips

The Pilliga scrub of northern inland New South Wales is a vast area of lightly wooded plains having an almost parklike appearance due to the large tracts of native pines interspersed with Iron Bark and Box Brests, the whole area crisscrossed with ephemeral streams. Much of the soil is poor and varies from hard ironstone outcrops, cracking clays and gravelly sands to powdery loams and red sand drifts. Rainfall is low and falls erratically throughout the year so it is surprising, that so many orchids can be found there. To the south and east is good wheat growing country; to the west and north open pastoral country with crops grown in good years. The wonderful Warrumbungles rise to the south and the majestic Mt. Kaputar to the east but in all other directions it is flat, flat, flat!

Much of the area is State forest and good logging tracks make the area quite accessible in dry weather. There is a tourist road called simply "Forest Drive" which snakes its way north from Baradine toward Narrabri with a good road from Narrabri across to Walgett along the Namoi River through Pilliga itself but facilities are few and far between. One really needs to allow two days to travel through.

We visited in late September 1987. Rainfall had been light during the previous five months but the timing had been perfect as the rain had fallen as five separate downpours, each about four weeks apart, to give a total of about 125 mm. there were very few wildflowers in the forest but in patches of heathland the diversity of *Grevillea*, *Acacia*, *Eriostemon*, *Swainsona*, etc. was exciting to see.

Before we left we had checked at the Adelaide Herbarium to see what orchids had been previously collected there: this was a total of two terrestrials - *Prasophyllum patens* and *Thelymitra nuda* (neither of which we later located) and the epiphyte *Cymbidium canaliculatum*. This latter was frequently seen, often as large clumps on ridiculously small sheoaks. It was most incongruous to see plants frequently below head height! Flower colour ranged from pale green to deep red.

But it was the terrestrials we had come to see and they were everywhere! Our first two stops near Barradine were disappointing as only *Pterostylis mutica* was located (this was in fact the most abundant orchid in the Pilliga!). Our morning tea stop at the Etoo Picnic Ground was much better. Here the road crosses a river of dry orange sand and drifts of it have piled up during floods to be stabilised by sheoak and pine. Under these were huge colonies of rufa group *Pterostylis* such as we had never seen before - the tall grey-green *P. setifera*, the red *P. boormanii*, shorter green *P. mitchelli* and a fourth species with swept back sepals which was clearly undescribed. These four species proved common throughout the Pilliga and along some old logging tracts large hybrid swarms had formed, especially of the *P. setifera* x *P. boormanii*.

After morning tea we timed a mob of emus at 50 km per hour as they dashed along in front of us. At the next creek crossing the soil was heavier and there were rich grassy flats. Here there were two tall yellow *Diuris* species. *D. althoferi* with short sepals had almost finished but the long sepalled *D. tricolor* was in full bloom. What a delight these were with their curious habit of placing all the flowers on one side of the scape. *Microtis unifolia* leaves were as abundant as grass but flowering plants were rare. We estimated that less than 1 in 500 plants would flower. Dotted amongst the *Microtis* were tall pink and white leek orchids which appeared to be an unnamed species as they had very long petals and very short, broad column appendages, a combination we had not seen in any named species!

Lunch was at a gum tree lined creek crossing. This creek was largely dry but a ten minute walk saw us at a delightful pool by a rock slope. The parrots and cicadas here were trying to out-scream each other. *Microtis parviflora* was poking up amongst the reeds. It was surprising to see it so far inland and we realised it must be one of the few orchids able to deal with large volumes of rushing water in flood time. Also here were *Thelymitra pauciflora* and *Diuris platichila* in seed.

After lunch we continued north into light sandy country. A patch of tall bearded orchids *Calochilus* was spotted. These had unbelievably shiny purple beards of dense and rather long hair. They were closest to *C. robertsonii* and probably represent a new subspecies. We were most intrigued by the shiniest duck orchids we have ever seen. These were a form of *Paracaleana minor* but unlike our Adelaide Hills ones, these were clearly not apomictive! I was most surprised to see them here in semi-arid country and in such large numbers (we later located a colony of the large duck orchid *Caleana major* in similar country but these appeared identical to the South Australia form).

By afternoon tea time we were travelling through a mix of tall heathland and scrubby forest. Here there were both pink and blue *Caladenias*. The blue *C. caerulea* were mostly in seed but the pink *C. fuscata* were in full bloom and in such iridescent shades. Bearded orchids were thick here and at the base of a lateritic outcrop we located a second species which as far as I could see did not match any named species although it was not quite in flower. The linear leaf was over 40 cm long and the flower scape already 45 cms high. Also there were seed pods of *Pterostylis* aff. *parviflora*.



*P. rufa*

That night saw us camped on the Namoi River - a chain of disconnected pools. It reminded us of home as the Namoi flows into the Darling and then the Murray. Some of the water we drink in Adelaide must flow past here in wet times. Near our camp were large river gums and in one a large *Cymbidium*, this time typically out of reach.

Next morning we were again reminded of home as we awoke to screaming galahs. The drive across to Wee Waa was unproductive, the whole area looked drought stricken and there was never a sign of orchids but after morning tea at the Pilliga Pub we headed out on a rough track to a patch of tall pines. Here, as usual, was the ubiquitous *Pterostylis mutica* and on a single rock about 2 metres across. Around the edges of this were the dead remains of what could only have been *P. nana* but this was hundreds of kilometres outside its known range!

Lunch was at Burren Junction (Barren Junction would have been a more appropriate name!) West of the town along the railway line we found our last orchid for the day and what a beauty it was. At first we thought it was *Pterostylis woollsii* as it had enormously long sepals but the labellum was narrow as in *P. boormanii*. I wonder just how many undescribed "rufa group" *Pterostylis* there are in New South Wales?

Counting pressed specimens we had seen a total of 23 different orchids in the Pilliga.

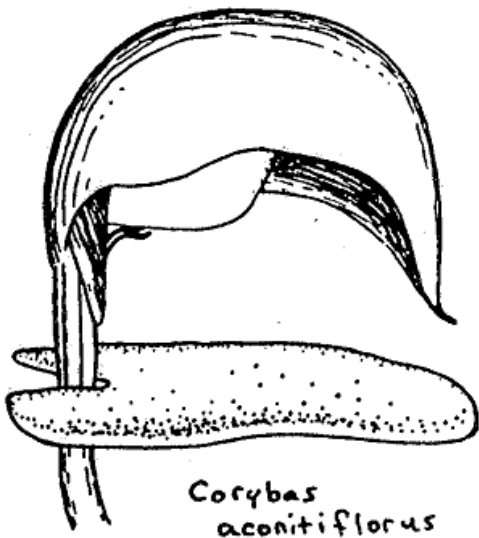
## AUTUMN GROUND ORCHIDS OF SOUTH-EAST NEW SOUTH WALES by Paul Reece

The state of South Australia has only a few species of ground orchids that flower in the autumn months. The east coast of New South Wales, however, has many more species to whet the appetite of the orchid hunter at this time of the year.

The region between Canberra and Sydney has a wide range of habitats and rainfall. I visited Canberra's Black Mountain Reserve and sections of Morton National Park near Nowra to set eyes on some strange bush sights.

I can recommend Canberra's Black Mountain. It has a network of walking trails, is rather scenic and 40 species of orchid have been recorded there. The colours of the orchid flowers are subdued - reds, greens and browns. The shapes are a little unusual and this is the probable attraction. Due to Canberra's more evenly distributed rainfall through the year, compared with Adelaide, more Autumn orchids are found on Black Mountain. So far I have recorded six Autumn orchid species in flower on these Canberra slopes.

Morton National Park offers more adventure. The Fitzroy Falls in flood is a spectacular sight. The park encompasses the southern sections of Sydney's Sandstone country, having many cliff faces. A walking trail gives access to Pigeon House Mountain near Ulladulla. Ignoring aggressive Tiger Leeches, one can see many species of ground orchid in flower as well as appreciate the native bush as many Banksias flower in Autumn. The twin leaves of *Chiloglottis reflexa* are common with an occasional flower here and there. This is one instance where it pays to know the leaves as well as the flowers. *C. reflexa* has a prominent glossy headed gland mid-way along the labellum, compared with others in the genus.



In New South Wales, *Pterostylis longifolia* is different from the form found in the Mt. Lofty Ranges, and could warrant a new species name for the South Australian cousin (R. Bates Pers Comm). The New South Wales one flowers in May whereas here in South Australia it flowers in July and August. Around Canberra, the large flowers of *Pterostylis revoluta* look spectacular in March or April - the dorsal sepal curving over at a radius of 20 mm or more.

Beside the creeks of Tidbinbilla Nature Reserve near Canberra, *Corybas fimbriatus* flowers in April and May. The labellum is deeply fringed at the sides and the wine-red colour of the flower looks impressive in back lighting. *Corybas aconitiflorus* flowers in May and June near the coast and has two 'spurs' beside the ovary which are really extensions of the labellum sides and give it the common name of 'Spurred Helmet Orchid'. Its dorsal sepal or hood is large and curves right over, almost touching the leaf.

*Prasophyllum archeri*, rare in South Australia, is common in this eastern region, so why worry about trying to find them in South Australia? Golden leaves mean Autumn Orchids to me.

## AUSTRALIAN EPIPHYTIC ORCHIDS by Reg Shooter

Australia can boast some 650 species of orchids, their natural habitat extending from Tasmania in the south to the tip of Cape York Peninsula in the north and from the east coast to the far west coast of the continent. Only the driest desert areas are devoid of their presence.

These orchids consist of two basic groups: terrestrials and epiphytes. The terrestrial group is the larger of the two in Australia. They grow in the ground, are in the main deciduous and arise from an underground tuber and are predominantly confined to the temperate regions of the continent.

This article discusses the other group, the epiphytes. Don't let the word deter you - it simply means a plant that grows in the air, referring to the epiphytic habit of growing on trees, or in some instances on rocks, in which case they are known as lithophytes. Their roots are exposed to the elements, furrowing into the crevices of rough bark or into fissures and cracks in the rocks for support.

Because of the exposed nature of the roots, they require moist, humid conditions to obtain enough sustenance to survive and are therefore restricted to tropical or subtropical regions where these conditions prevail. This does not necessarily mean hot, humid conditions as many species are found at fairly high altitudes where temperatures are quite temperate and in some cases even cool.

This natural habitat should give us the clues as to how to grow epiphytic orchids under cultivated conditions. The first observation is they will not tolerate airless conditions around the roots and will not grow in soil, at least not for long. Orchids are very accommodating and will tolerate adverse conditions but if not treated correctly, they will eventually succumb. The material to grow them in is referred to as compost or medium. It is made up of any free draining matter that retains some moisture; pine bark, scoria, charcoal, expanded polystyrene, tree fern fibre, and the like. Either plastic or terra-cotta pots are satisfactory but it is a good idea to use one or the other throughout the collection rather than having some of one and some of the other. This is because the watering regime is different for each pot type. Terra-cotta dries out much quicker than plastic and either overwatering or underwatering occurs.

Which ever you use, do not overpot; that means do not use too large a pot for the orchid. A pot just large enough to accommodate the roots and enough room for one or two years growth is ideal. A pot of the correct size will enable the orchid's roots to quickly use the water available and dry out quickly again. If the pot is too large, with lots of compost holding water, the roots will quickly rot.

An alternative to growing some Australian natives in a pot is to use a mount of a suitable material such as a slab of bark, composite cork slab, a length of tea tree branch or a piece of tree fern fibre. This method is closer to the plants natural habit, but a word of warning - more attention is required for this method to be successful. In the warmer months when the orchid is growing rapidly it must be sprayed daily and on really warm days, two or three times a day. If neglected, the plant will go dormant, the growing tips of its roots will close off and before starting into new growth again, new roots will have to be produced. This takes time and the orchid will not be mature at the correct season to produce flowers. If you can devote enough time to grow your orchids this way they will certainly look more natural and a fully grown orchid on a mount and in full flower is a lovely sight. A word about orchid roots - they are quite different from non-orchid plant roots. They are thick and fleshy in appearance but what you see is a thick, corky layer of cells covering the root itself which is quite thin and wiry. This thick covering of cells is

called the velamen and is there to protect the root and is very absorbent, soaking up moisture and nutrient quickly. If left in water for too long it rots and the root is destroyed. I have dealt a long while on the orchid's roots but I believe that if you can keep the roots healthy, the rest is easy.

The conditions required to grow the majority of Australian epiphytes are minimal. A shade house providing 50-70% shade is ideal but certainly not necessary. Equally good results can be achieved by having them under a deciduous tree such as a plum, peach, etc. Evergreens are not suitable as they provide too much shade all year round. The deciduous tree gives same shade in the warm summer months but allows full sun in the late autumn through the winter months when the growths, called pseudobulbs, produced during the summer, need ripening prior to producing flowers in the spring.

When the plants are growing vigorously in September to April, they require plenty of water and a little fertiliser. Proprietary brands such as Aquasol, Thrive etc, are excellent but only apply at half the stated strengths and never apply fertiliser to a dry orchid - those precious roots will get burnt very quickly. I usually water one day and fertilise the next, using 1/2 a teaspoon of fertiliser to a two gallon bucket of water, adding 1/4 teaspoon of iron chelates and one teaspoon of Epsom Salts.

Don't get carried away with fertilising otherwise you will end up with huge green leafy plants at the expense of flowers. Remember that in nature they get only a minimum of nutrient from decaying bark, leaves etc. The addition of a little chopped up bracken fern to the compost is a good idea as this releases small amounts of food as the fern gradually breaks down. Don't overdo this addition as too much will pack together and prevent free drainage which as discussed above is absolutely necessary.

During the winter months and when the orchid is in flower, try keeping the compost a little dryer. The plant is not growing at this time and root rot is a distinct possibility. These dryer conditions can be achieved in a shade house by the addition of plastic sheeting above the orchids. For those growing under trees, a little judicious movement to a dryer area when wet weather threatens is all that is needed.

Australian epiphytes are fairly pest resistant, the main enemies being snails and slugs which love the succulent, developing, new growths and flowers. Constant observation of your plants, particularly in the early evening after dark, wearing size 9 boots, is a very effective and satisfying method of destroying these brutes, however, not all can be caught like this and a scattering of slug bait on a regular basis is recommended. Aphids and mealy bug can be a problem. If you have only one or two orchids, then regular examination of them, whereby you can pick off the offenders, is the best treatment. This is not possible if you have a large collection. A spray with Rogor, a systemic insecticide, when and only when these pests are seen, will keep them under control. With mealy bug you may have to repeat the operation a couple of weeks later after the eggs have hatched. The worst pest that I encounter is the tiny looper caterpillar that hatch out in the developing new growth. Their whereabouts is not manifest until the growth reaches several centimetres in height when it is too late and the damage has been done, often destroying the growth completely. On most species of epiphyte, a further dormant bud will develop and form a new pseudobulb, but it will not be as vigorous as the original.

Spraying at fortnightly intervals with Dipel during the spring and summer or whenever looper caterpillars are observed will keep the problem in check.

Australian epiphytic orchids are no more difficult to grow than Cymbidiums and in most cases they are much easier to flower. A short list of some of the easier species to grow will be presented in the September Journal. Now that the plant breeders have realised their potential, the hybrids are too numerous to discuss in this paper at this time. Suffice to say that the hybrids are in the main an improvement on the species and are as easy to grow and flower.

#### ASIA PACIFIC ORCHID CONFERENCE: AUGUST 31 - SEPTEMBER 4, 1989

The Third Asia Pacific Orchid Conference (APOC) is to be held in Adelaide from August 31 to September 4, 1989.

These conferences are held every three years, the previous two being held in Japan and Indonesia, with the aim of sharing and disseminating knowledge on all aspects of orchid growing in the Asia Pacific area. This is done in the main through a series of lectures which, in Adelaide, will be held on Saturday September 2 at the Australian Mineral Foundation Theatre, Glenside, commencing at 9 am through to approximately 10 pm with suitable breaks for coffee and meals. Lectures will be of 30 minutes duration and will be given by lecturers from Australia, Thailand, New Zealand, Malaysia, Indonesia, Hawaii, etc. covering a wide variety of subjects.

One of the main attractions of any conference is the social activities and APOC 3 is to be no different. A cocktail party, banquet, visits to orchid nurseries, a tour of a wildlife park and field trip with barbecue are planned.

At the Australian Conference held in Adelaide in 1986, members of N.O.S.S.A. were asked to conduct field trips into the Adelaide Hills area to look at our native orchids. This proved to be great success, so much so that the organizing committee of APOC 3 have asked us for a repeat at this conference. This time the field trip will be in conjunction with a barbecue and should prove one of the highlights of the conference, particularly for the overseas visitors.

Registration forms will be available, with further details, at the August meeting or may be obtained direct from the Secretary, APOC 3, PO Box 25, Park Holm, South Australia, 5043.

#### TERRESTRIAL ORCHID GROWING AUGUST AND SEPTEMBER by Sandy Phillips

In the Adelaide Hills now, so 40 species will be in flower. Many rosette greenhoods are at their peak: *Pterostylis nutans* in damper spots, *P. curta* in rich moist soils, *P. nana* in disturbed places. Meanwhile, the cauline species are all but finished, just a few late *P. longifolia* remaining. *Corybas* are almost finished; *Acianthus caudatus* is in full bloom. *Diuris maculata* and *D. palustris* are out, early *Caladenia* include the blue *C. deformis* and the white *C. rigida*. *Thelymitra luteocilium* is the first of the sun orchids.

On the Adelaide Plains, however, everything is earlier. Flower spikes elongate rapidly on warm days and many species will be at a peak for the all important Spring Show.

There are several things that can go wrong now - 'floppy stem syndrome' is one of the worst. Early Spring is probably the windiest time of the year and it is wise to provide extra protection to stop gales toppling all those tall stems. Very tall stems may be best supported with cane stakes. Give your plants as much sunlight as possible but do not shift flowering pots - this usually produces kinky stems. If you have several pots of one species and want to be sure at least one is at peak for the Show, why not try putting them under

different conditions right now before the stems get high enough to kink. Try one in shade and one in full sun.

If you sowed some seeds on pots back in April, the tiny seedlings should be starting to come through. They won't need any special treatment but if very dry conditions prevail, the surface of the soil should be lightly watered. Of course, now that everything is beginning to flower, it is time to pollinate those flowers in selective line breeding or hybridising programs but whatever you do, have a definite plan of what you hope to achieve; don't pollinate indiscriminately. Tag each pollinated flower (plastic bread-bag tags are ideal). Do this in fine sunny weather as pollen germination is better then. Record in a book each cross made.

Want to increase tubers vegetatively? You can start now with *Pterostylis longifolia* and *P. vittata* as well as *Eriochilus* (it is too early for anything else). Tip out tubers from their pots carefully and twist off the newly formed tubers. It is best to leave these at the base of the plants as you repot and water lightly. Any sign of disease is an indication to repot in a fresh mix and throw some leaf litter on the top.

Watch for aphids and grubs. The former can cause distorted blooms and the latter will eat a bud out from inside, then move on to the next and do the same. If you are using insecticides, watch out - some of these sprayed onto buds can do as much damage as the insects. Certainly don't spray in warm, sunny conditions.

Don't use fertiliser now as it will cause too rapid growth of stems and these will be too spindly to support the flowers.

With luck, the most important thing you will have to do these two months is simply show off the flowers you have produced.

Did those species treated with banana skins flower well? Did the pot of *Diuris* you fertilised do better than the one left untreated? Record all of this information in a note book for next year.

#### N.O.S.S.A. SPRING SHOW 1988 - COMPETITIVE SECTIONS by Les Nesbitt Registrar

To be staged on trestles in the hall, separated from the rest of the orchid exhibits.

(1) All plants are to be benched by 10.00 am on Saturday, 17th September. Hall will be open from 4.00 pm to 9.00 pm on Friday, 16th September to allow exhibitors to set up.

(2) Plants in the displays are also eligible but must be marked with a ribbon (which will be available on the set up days).

(3) A label must be attached to each exhibit clearly showing the correct name of the plant and the exhibitor's number (available from the registrar).

(4) Plants must have been grown by the exhibitor for at least 6 months before the Show.

(5) Hybrids include natural hybrids.

The judging will take place between 10.00 am and 12 noon Saturday, 17th September. The A.O.C. judging standards will be used. N.O.S.S.A. By-laws will also apply. Any applications for N.O.S.S.A. awards will be judged by the committee. No prize money will be awarded, but Class winners will be acknowledged in the Journal. Champions will receive a card.

The Society will accept no responsibility for any loss, damage or infection suffered by any plant exhibited at the Show. All possible precautions against these happenings will be taken. Stewards may remove any plants suspected of carrying disease, from the hall.

All orchids will remain on display to the public on Saturday 17th September and Sunday 18th September. Plants are to be removed at 5.00 pm on Sunday 18th September.

#### SCHEDULE

Champion Native Orchid of the Shaw - ANOS Medal.  
 The Roy Hargreaves Trophy (Best terrestrial species or hybrid).  
 Ira Butler Award (Best Hybrid).  
 Champion Terrestrial Species (from classes 1-5,8).  
 Champion Terrestrial Hybrid (from classes 6-8).  
 Champion Epiphytic Species (from classes 9-12,16).  
 Champion Epiphytic Hybrid (from classes 13-16).

#### CLASS DESCRIPTION (1st and 2nd prizes in each class)

- 1 *Caladenia* or *Glossodia* species
- 2 *Diuris* species
- 3 *Pterostylis* species
- 4 *Acianthus* or *Chiloglottis* species
- 5 Terrestrial species other than in classes 1-4
- 6 *Pterostylis* hybrid
- 7 Terrestrial hybrid other than in class 6
- 8 Specimen terrestrial - species or hybrid
- 9 *Dendrobium kingianum*
- 10 *Dendrobium speciosum*
- 11 *Dendrobium* species other than 9 or 10
- 12 Epiphytic species other than *Dendrobium*
- 13 Epiphytic hybrid - cream or yellow
- 14 Epiphytic hybrid - pink or red
- 15 Epiphytic hybrid - any other colour including white
- 16 Specimen epiphyte - species or hybrid.



ROBERT DESMOND FITZGERALD,  
 Deputy Surveyor-General of New South Wales and an eminent Australian  
 ichthyologist  
 [Born (Ireland) 1830; died (Sydney) 1892.]

#### ROBERT DESMOND FITZGERALD.

[Born (Ireland), 1830; died  
 (Sydney), 1892.]

This botanist, who specialized in Australian orchidology, arrived in New South Wales at the age of 26, and occupied for some years the position of Deputy Surveyor-General in that State.

He was a skilled artist, and it is largely to this fact that we are indebted for the production of his magnificent work on "Australian Orchids." In this work over 200 species are described and

beautifully illustrated from his own coloured drawings, a large proportion of which he himself also lithographed. His illustrations in almost every instance are from fresh plants, in search of which he visited every State in the Commonwealth. Having secured the coloured reproduction he seems to have invariably discarded the flower; he consequently did not leave a herbarium—a matter for much regret, as the types are no longer accessible.

Two orchids have been named after him, one of which has so far not been found beyond the limits of our own State.

The above sketch and text are from "South Australian Orchids" by R. S. Rogers 1911. Several Members have recently purchased some of the original lithographs from his work "Australian Orchids".



Nancy Nieuwenhoven has produced this magnificent drawing of *Pterostylis robusta* for inclusion in our Journal. Nancy's husband, George, has found great success in growing this species in wooden slat tubs as we saw at the May meeting where it was awarded the popular vote and selected as the Commentator's Choice for best terrestrial species benched. It was certainly an outstanding display of this species. The drawing of *Dendrobium bigibbum* in last month's Journal was also courtesy of Nancy.