

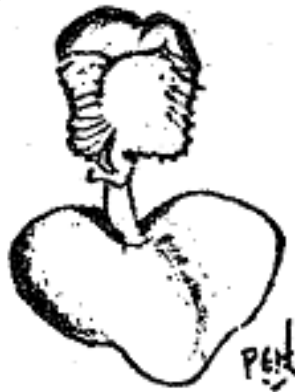
**NATIVE ORCHID
SOCIETY**
of
SOUTH AUSTRALIA

Corybas



diemenicus

dilatatus



NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

NEWSLETTER

Volume 1, No. 5

August 1977

Price 40c

PRESIDENT: Mr. L.T. NESBITT,
18 Cambridge St.,
VALE PARK. S.A. 5081.

Telephone - 261 1550.

VICE-PRESIDENT: Mr. P.E. Hornsby,
8 Kinross Ave.,
LOWER MITCHAM.
S.A. 5062.

SECRETARY: Mr. E.R. Hargreaves,
1 Halmon Ave.,
EVERARD PARK. S.A. 5035.
Telephone 293 2471

297 3724.

TREASURER: Mr. R.T. Robjohns,
71 Edmund Ave.,
UNLEY. S.A. 5061.
Telephone 71 7457

COMMITTEE: Mrs. A.M. Howe, 1 Balcome Ave., FINDON. S.A. 5023
Mrs. M.L. Earle, 2 Eton St., BRAHMA LODGE. S.A. 5109
Mr. K.W. Western, P.O. Box 276, BLACKWOOD. S.A. 5051
Mr J.T. Simmons, 4 Gothic Avenue, STONYFELL SA 5066

NEXT MEETING

When: Tuesday, 23 August, 1977, at 8.00 p.m. sharp,
Where: Goodwood Boys High School, Hardy Street, Goodwood.
Why: Guest speaker Ray Nash will present a talk, with slides, dealing with his three visits to Western Australia. Those who were present at the May meeting to hear Ray will not miss this meeting. Also plant display and commentary, library, popular vote, raffle, trading table.

LAST MEETING

Attendance 40

Not a lot of members brought slides but we covered everything from epiphytes in rainforest to rare terrestrials to our first field day at National Park. Bob Bates displayed a series of coloured prints of the genus *Thelymitra*. These were very colourful and very educational. If only there was more time to study them closely. *Thelymitra* species, I find, are difficult to identify from descriptions.

Roy Hargreaves knocked out his *Pterostylis curta* plants once again. They have virtually stopped growing but a new tuber is forming. A fresh plant had two roots nearly 150mm long.

Jim Simmons talked about culture of epiphytes on sheet cork. Enquiries have been unable to locate a source in Adelaide. Can anyone help?

RAFFLE

Dendrobium teretifolium (in bud) won by Roy Hargreaves.
Dendrobium gracilicaule won by Chris Furze.
Acianthus reniformis went to another lucky person (?)

POPULAR VOTE

Terrestrial *Pterostylis baptistii* grown by Les Nesbitt.

A different pot to the previous month. This 300 mm pot contained 10 flowering plants and 16 in bud.

Epiphyte - *Dendrobium Hilda Poxon* grown by R. Haese.

A small pot full covered in blooms. Plants of this hybrid between *D. speciosum* and *D. tetragonum* have been seen in flower at three meetings straight.

PLANTS ON DISPLAY – 26/7/77

The terrestrials really came into their own for this meeting, with over twenty flowering species on show. Les Nesbitt gave us a presidential display leading with *Pterostylis nutans* (including one with two flowers) and a pot of tall and stately *P. Baptistii* which justly won the Popular Vote. He also showed us how to grow *Acianthus reniformis*. Those of us wishing to show plants have plenty of opportunities to see what to do from these exhibits. The secret is a good-sized pot, carefully placed tubers, and some unsavoury stuff in the bottom of the pot that makes them grow like blazes to get away from it.

What made the total display so appealing was the overall variety to be seen. *Pterostylis* led the way, with the *baptistii* at one end of the scale, and the squat *cynnocephala* at the other. In between, there were two very good specimens of *concinna*, from the eastern states and the South-East of South Australia. The tall *hamata* (from the Freeling Heights) and *boormanii* are from the drier inland areas, and from much further north was *hildae*, the Queensland species which looks like a small variety of *nutans*. There were several examples of *nana*, including one plant with two flowers, and another pot contained the rarer blunt form. Also displayed were an unusual colour form of *vittata*, and a beautiful unnamed (probably a form of *alata*) plant.

These are just some of the *Pterostylis* on show. We also saw four *Corybas*, including *despectans*, the species newly described by Jones and Nash (1976) and said to be one of the most widespread and plentiful in this State (found mainly in the coastal areas). Three *Acianthus* were seen, including both the early and late forms of *reniformis*, the latter only just starting to flower. Lastly, we saw this years first "donkey" in the small *Diuris palustris*.

It is still a little early for epiphytes and only one species, plus three crosses, were in flower. The species was *Dendrobium tetragonum* - do these really grow upwards? The crosses included *Hilda Poxon*, which won the Popular Vote, and a cross of *kestevenii* with *tetragonum*, Nowen Dog (?). This is not one of the crosses listed in Grundon (1977). Sufficient controversy already exists concerning the naming of its first parent, so the easiest way out is to report its label and leave it at that.

There were also several examples of *Dendrobiums* not in flower on display.

The strength and vigour of these were such that the owners could feel justifiably proud, and we look forward to seeing them in flower later.

We are grateful to Bob Bates for giving the commentary on the terrestrials, and to the Treasurer, Ron Robjohns, for commenting on the epiphytes.

References.

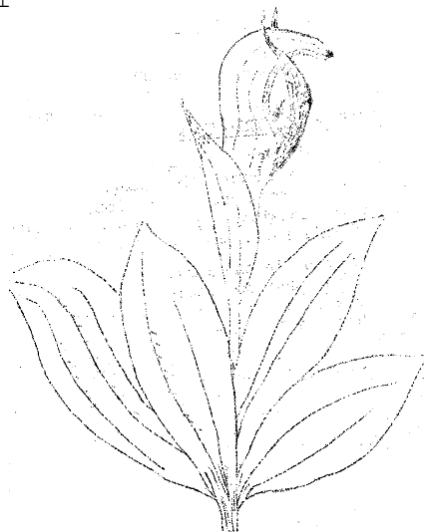
Grundon, H.J. (1977) II Naturally Occurring Hybrids, ANOS Victorian Group Bulletin. 9(9) Supplement.

Jones, D.L., and Nash, R.C. (1976), A New *Corybas* Species from South Australia. *Muelleria* 3(3):165-168.

OUR RAREST. ORCHIDS - No. 4. R. Bates

Very few of our orchids are thought to be extinct, but it would appear that the only surviving *Pterostylis cucullata* in South Australia are those in cultivation.

As a child I can remember a large colony of these dumpy chocolate-faced greenhoods growing along the creek only a few hundred metres from my home. I even had a pot of them flowering in the Sunday school window -- my first attempt at growing orchids! Today there is a house with wide, bare lawn on the site of that colony and a similar story can be told regarding the fate of all the other known colonies - Belair National Park colony is now an oval! Fairview Park colony is now a golf course! and so on. The chance of a colony still existing in the Mt. Lofty Ranges is unfortunately rather slim. It might be a good idea if NOSSA. were to embark on a project to reintroduce the species to the bush in the safety of a National Park.



NEW MEMBERS

Mrs M. Brown, Hampstead
Mrs P.J. Foreman, Elizabeth South
Mr J. Heppinstall, Crafers
Mr R. Lindsay, Glenside

AUGUST COVER

Featured this month are two species of helmet orchids which both flower in July and August. They are tiny orchids which grow in colonies in moist shady places in the hills. The more spectacular is *Corybas dilatatus*, the stately helmet orchid. The flower stands up straight, clear of the leaf, and the frilly margins of the labellum spread outwards. It is common near Adelaide. The flower of *C. diemenicus* leans forward across the leaf and the frilly lip margins turn in. Half opened *C. dilatatus* can easily be confused with *diemenicus*. The plants are easy to grow but very shady moist conditions are necessary at flowering time or the flowers dry up.

TRADING TABLE

Reg Shooter and Brian Osborne have offered to run the table at monthly meetings. Any member may bring plants etc., to sell. The Society will take 25% of the price if sold. Please price everything before it is brought in. Sales will take place after the meeting.

CUT FLOWERS - S.G.A.P. - NSW SHOW
Would anyone who can provide cut flowers of orchids for this show to be held on September 10 and 11 please contact the local S.G.A.P. organiser, Bruce Anderson, on 263 6530 who is sending cut flowers of native plants from S.G.A.P. - South Australian region.

REPORT ON THE FIELD TRIP TO MONTACUTE CONSERVATION PARK 31/7/77

Most of the people who went on this trip would probably agree that it was guided more by inspiration than judgement. Our first trip to Belair had been carefully planned and so the maximum number of flowering orchids were seen. On this occasion, a preliminary visit some weeks ago had shown the potential of this Park, but unfortunately it has still to be realised.

Everywhere we went in the Park, we found *Pterostylis pedunculata*. They were so numerous that one could almost suggest the National Parks and Wildlife Service changed the name to Pedunculata Park instead of Montacute. We tried very hard to find some fully in bloom, but without success, though several were nearly ready. In the end, our successes comprised some small clumps of *Acianthus exsertus*, nearing the end of their flowering period, a few *Pterostylis nana* and scattered groups of *Corybas dilatatus*. Others close to flowering included *Acianthus reniformis* and (possibly) *Corybas diemenicus*. The remaining finds were immatures; once again we found plenty of *Thelymitra* sp.

The rest of the trip could probably be summed up as follows: the intrepid seekers told us they found masses of *Caladenia menziesii* leaflets near the top of the first range we visited; the stalwarts found a few *caladenia* sp. and some *Diuris longifolia* leaves at the top of the range in the Montacute Park, and the foolhardy who pressed on to the bitter end found nothing more, but got soaked for their pains.

Hopefully, the next trip will be better planned, and more flowering species will be found. If you know a good spot for finding orchids, do not be afraid to come forward with the suggestions. Our lack of success on this occasion shows how much better organised we need to be in the future. What we need is to be able to visit spots where we know some orchids will be in flower, then we can use these as a base for searching for others. How about it?

Species in Flower:
Acianthus exsertus
Corybas dilatatus
Pterostylis nana

Immatures:
Acianthus reniformis
Caladenia menziesii
Caladenia sp.
Corybas diemenicus (?)
Diuris longifolia
Pterostylis pedunculata

Thelymitra sp.

DATES TO REMEMBER
Committee Meeting
Tuesday 30 August, 7.30 p.m.,
at the home of Les Nesbitt.

Newsletter Printout
Tuesday 20 September, 7.30 p.m.
at the home Of Roy Hargreaves.

FIELD TRIPS

DATE: Saturday, 27 August 1977.
Times: 10.00 a.m. and again at 2.00 p.m.
Meeting Place: Outside Meadows Hotel, Mawson Road, Meadows.
Visiting: Kyeema, Cox's Scrub, etc.
Bring a packed lunch if going on both morning and afternoon trips which will be to different local areas.

LIBRARY Notes

Jim Simmons

Our library continues to grow thanks to the generosity of members and friends. At the end of July we had no less than 33 books or magazine sets available for issue. Recent contributions include Cultivation of South Australian Native Orchids A paper prepared in 1973 by The Northern and Eastern Districts Orchid Society. Presented by Les Nesbitt.,

Orchids in New Zealand, Volumes 1 and 2.
The bi-monthly publication of the Orchid Council of New Zealand.
Presented by Keith Yates.

Australian Plants, Volumes 5, 6, 7 and 8.
These include many articles on native orchids.

Australia's Native Orchids, by W. Watson Sharp.
Book purchased by the Society.

The Orchadian, Volumes 1, 2, 3, 4 and 5 to date.
This is the official quarterly publication by A.N.O.S. and a must for the study of Australian native orchids.
The 56 back copies to August 1963 were most generously donated by the Committee of A.N.O.S. Sydney.

Australasian Scaranthinea, by A.W. Dockrill
Presented by Ray Nash.

Australian Ground Orchids, by Densey Clyne.
Presented by Miss C. Furze.

A Guide to Australian Native Orchids, by Roger B. Bedford.
Presented by Ray Nash,

Kangaroo Island Orchids, by I. Jackson.
Purchased by the Society .

"NUYSTIA" Bulletin of W.A. Herbarium, Volume 1, No. 2.
Contains a checklist of. Western Australian orchids.
Presented by W.A. Native Orchid Study and Conservation Group.

Hawaii Orchid Journal, Volume 2.
Organ of Honolulu Orchid Society
Inc. and Pacific Orchid Society of
Hawaii.
Presented by Ray Nash.

Corrigenda -- July 1977 Newsletter

The report on the field trip to Belair Recreation Park contained several references to "miniatures". We are not trying to rival cymbidiums, so please change these to read "immatures".

OBSERVATIONS IN THE FIELD (continued) W.J. Clayson

The natural bushland on the Mount Burr Range consists of Eucalyptus forest of moderate density. An understory of Acacia, Epacris, Xanthorrhoea, bracken and Melaleuca in the swampy areas, and many other small species, keep the forest floor damp and cool for most of the year, and only filtered sunlight reaches the top soil except on an occasional hot day. Average yearly rainfall is 850 mm, four-fifths of this falls from mid-April to the end of October. A wide range of different soil types occur, from light grey bush sand through to heavy black soil and peat.

In my research I did have available a 5 chain grid survey of soil types from surface to the clay subsoil. Maps showing soil boundary changes also helped. During bull-dozing, ploughing and scalping operations I was able accurately to assess the depth that tubers occurred below the soil surface. Nearly all tubers were to be found 3 to 5 inches below the surface, most of these, including *Acianthus*, *Caladenia*, (?) *Corybas*, *Diuris*, *Eriochilus*, *Lyperanthus*, *Glossodia* and *Pterostylis* species, preferred a medium grey soil, the clay subsoil at least two feet below the surface. Conclusion: even during the long winter months and during heavy rains, nature provided a perfect drainage system.

However, in complete contrast, *Caladenia latifolia* and *C. carnea*, which can be found in large colonies and prefer terra rossa soil, were found up to 7 inches below the surface, very often in close contact with limestone gravel covered by several inches of soil, would have to contend with a saturated soil for many weeks during the winter months.

All tests 4 inches below the surface

1. Moisture content of the soil over 12 months.

I believe moisture content of the soil to be of utmost importance. Tests revealed in a normal year that only the months of February/March lacked any moisture content, this enabled tubers in their early months of dormancy, to grow on, building up reserves for the next year.

2. Maximum, minimum range of soil temperature.

Soil temperature ranged from 44°F in the depth of winter to 60°F during the summer months. Protected from direct sunshine by the vegetation above, this 4 inches of surface soil acts as an insulator, not only in summer, but winter too.

Soil temperature in pots at home reached as high as 80°F on very hot days. Excessive heat, causing high soil temperature in pots, can be controlled by providing increased shade. How we can relate the moisture in the soil mass of the forest to the amount in pots at home, is difficult. It is possible to hand water, thus regulating the moisture available over a longer period during the early months of dormancy.

5. Reappearance each year. Flowering frequency.

My observations were confined to a small sheltered depression approximately 2 acres in size, but which contained the following species:

Caladenia menziesii, *C. patersonii*, *Diuris longifolia*, *Glossodia major*, *Pterostylis alata*, *P. nana*, *P. nutans*. These species also gave a good cross-section as to multiplication of tubers or seed germination. Colonies were observed as such, three individual plants of each species pegged away from the parent colony for comparison.

From 1963 to 1968, when this area was cleared for the establishment of softwood plantations, I was able to note the following points: no colony of any species increased significantly in numbers; actual head count remained stable; multiplication was open to question; it seemed

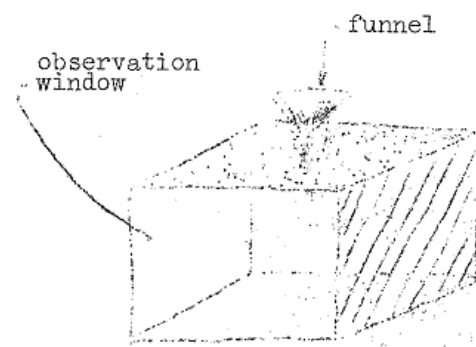
that most tubers only replaced singularly, but not every year, why?; (*Pterostylis nutans* cultivated at home is a prolific multiplier. I refer, answers to some questions still remain incomplete); individual plants remain individuals; only the stronger robust and older plants in the colonies flowered in successive years (this was quite noticeable with the individual plants). *Caladenia menziesii* was unpredictable, a real return to square one this species.

POLLINATION OF ORCHIDS - Part 3 R. Bates

The use of insect sex pheromones by orchids of the genus *Cryptostylis* ensure cross pollination through pseudo-copulation is by no means unique. It can be demonstrated that some 50% of South Australian species use insect pheromones, in part, to attract male insects. Few people realise that the orchids of the genus *Pterostylis*, the humble greenhoods, often use this deceitful trick.

The flowers of *Pterostylis* are usually green, often small and not at all insect-like. Obviously they don't attract insects visually. The only species with a scent detectable by humans is *Pterostylis parviflora*. All except *Pterostylis aphylla* have been shown to be insect-pollinated. How do greenhoods attract insects? We can guess from the example of the *Cryptostylis* that the emission of sex pheromones may be the answer - pheromones are highly volatile chemical substances that are detected only by a limited range of insect species. There must be nearly as many different pheromones as there are insect species to use them (otherwise there would be total confusion in the insect world).

A simple device known as the "funnel trap" helps us to demonstrate that *Pterostylis* do emit these pheromones. The funnel trap is merely an airtight box with a small hole in the top into which a funnel is inserted. Usually one side of the box is replaced with a transparent plastic window observation to allow observation and let sunlight heat the interior and stimulate pheromone production in whichever orchid is placed within the trap. The greater the number of flowers placed within the trap the higher will be the concentration of chemicals emitted through the funnel. If insects were attracted by sight to flowers within they would be seen fluttering at the "window". If, however, it was an odour which lured them, they would enter via the funnel, following their noses, so to speak.



In October last year I took a pot of a dozen unpollinated *Pterostylis boormanii* from my orchid house to an area where this species grew naturally and placed the pot within the trap, which was left for 24 hours (6 p.m. to 6 p.m.). Observation showed an insect in the box at 10 a.m. And at 6 p.m. fly spray was used to render the captives inactive. The count was seven tiny flies which were sent to the Museum for identification. They proved to be male Mytocephalid flies, The fact that they were all males, of the same species was fairly important. It showed that a selective chemical had lured the flies. Use of the funnel trap with other species has given similar results, indicating widespread use of sexual attraction of insects by our orchids.

Next issue: Trigger traps - the highly sensitive *Pterostylis* labellums.

CULTURE NOTES AUGUST/SEPTEMBER Les Nesbitt

There are plenty of flowers amongst the terrestrials at present. The range of species in bloom is increasing and will reach a peak in September on the Adelaide Plains. Spring flowers occur about a month later in the Adelaide Hills. The days are increasing in length rapidly now and the sun is warm (when it comes out). *Diuris*, *caladenia*, *glossodia* and *thelymitra* respond by rapid development of their flower spikes. These flowering growths seem to need sunlight for full development. Pots exhibited in shows show the effect of lack of sunlight on newly opened flowers which lack colour and substance. Hand watering may become necessary if rainfall is light. Plants will go dormant if the soil dries out too much. *Aphis* and thrip are on the increase, also don't ever forget that slugs and snails have waited 12 months for another taste of your delicious orchid buds. Watch out for these pests. New seedlings will be developing leaves in greater numbers. Look for these where you have sown seed.

A SOUTH AUSTRALIAN PTEROSTYLIS FOR EACH MONTH

R. Bates

At any month of the year there are never less than two species of *Pterostylis* flowering somewhere in our State. I have chosen the main species for each month and tabled them below:

Month	No. of Species	Main Species	Locations
January	4	<i>Pt. tenuissima</i>	South-East
February	2	* <i>Pt. aphylla</i>	Swamps in Mt. Lofty Ranges
March	2	<i>Pt. parviflora</i> (scented)	South-East
April	2	<i>Pt. obtusa</i>	Hindmarsh Falls to Cape Jervis
May	3	<i>Pt. alata</i>	South-East
June	4	<i>Pt. vittata</i>	Eyre Peninsula, Yorke Peninsula, Flinders, Mt. Lofty Ranges, South-East, Kangaroo Island, Mallee.
July	5	<i>Pt. longifolia</i>	E.P., Y.P., Flinders, Mt. Lofty Ranges, S.E., K.I., Mallee.
August	7	<i>Pt. nana</i>	E.P., Y.P., Flinders, S.E., K.I., Mt. Lofty Ranges, Mallee.
September	7	<i>Pt. plumosa</i>	E.P., Y.P., Flinders, S.E., K.I., Mt. Lofty Ranges, Mallee.
October	6	<i>Pt. biseta</i>	E.P., 'LP., Flinders, Mt. Lofty Ranges, Mallee, Desert.
November	5	<i>Pt. rufa</i>	E.P., Flinders, Mt. Lofty Ranges, Mallee, S.E.
December	4	<i>Pt. falcata</i>	S.E., K.I., Probably extinct in Mt. Lofty Ranges.

*Note *Pt. aphylla* is the self-pollinating form of *Pt. parviflora* and most botanists consider them to be synonymous.