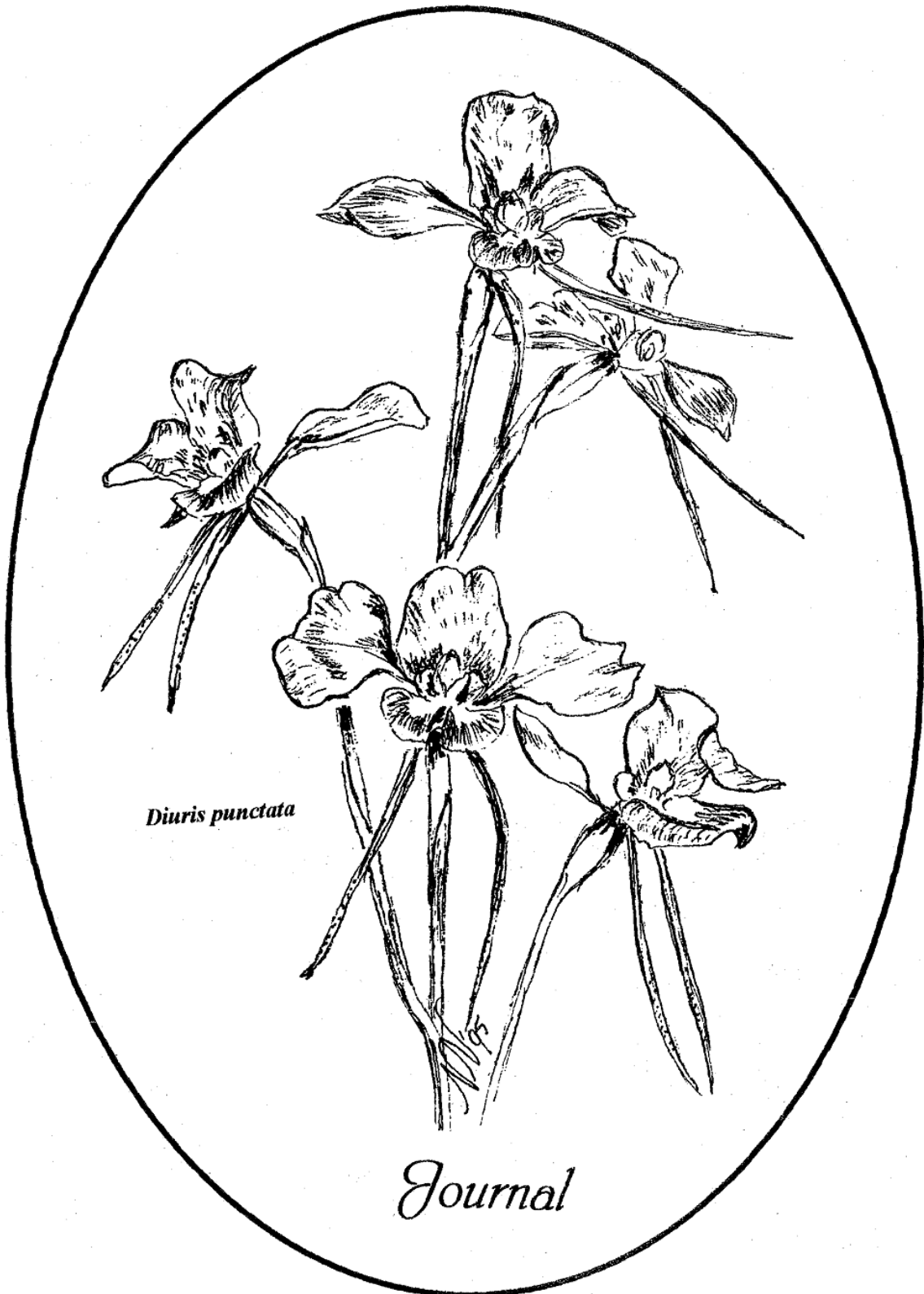


Native Orchid Society
of
South Australia Inc.



PRINT POST APPROVED
PP 543662 / 00018

VOLUME 19 NO. 5
JUNE 1995

NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA INC.

P.O Box 565,
UNLEY S.A 5061

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 the 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.

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Price: ONE DOLLAR

NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA INC

JUNE 1995 VOL. 19. NO. 5 JOURNAL

JUNE MEETING

Tuesday, June, 8.00 pm: at St Matthews Hall, Bridge Street, Kensington. The speaker will be Hugh Possingham speaking on Biodiversity. Doors to the hall will be open at 7.15 pm for those wishing to borrow books from the library or take in items for the trading table.

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COMMITTEE MEETING

To be held at 7.30 pm Friday 30th June
at the home of Terry & Thelma O'Neill, 19 Parana St, Flinders Park

NOSSA OPEN DAY

Sunday July 2nd, 2pm at Noel Oliver's home, 8 Ross Street, Torrensville.

August 27th Gary Brooks - 7 acre block & Nurragi Reserve. Details later.

DIARY DATES

July 2 Open Day at Noel Olivers
 July 16 Hale and Watts Gully orchid walk
 Aug 1 Ian St George visiting Adelaide
 Aug 20 Barossa Gold fields, Sandy Creek outing.
 Aug 27 Open Day visit to Gary Brook's & Nurragi Conservation Park
 Sept 17 Mt Gawler Spider Orchid Special
 Sept 23-24 Spring Show
 Oct 7-8 South East Adventure
 Oct 15 Loftia Park bushfire orchids and Kate Hoskins
 Oct 22 Kyeema excursion
 Oct 29 Belair Conservation Group Meeting
 Nov 5 Kuitpo Field Trip, *Monadenia* threat
 Nov 26 Christmas Barbecue

COMING FIELD TRIPS

Sunday July 16th Hale

Conservation Park summit walk (morning) and Watts Gully (afternoon). Meet at Williamstown Caravan Park on road to Springton at 10am, Bring picnic lunch if doing both walks and as for any winter walk include warm clothes and umbrella. We will see several *Corybas* and *Pterostylis* species which love extreme cold.

Sunday August 20th

Sandy Creek and Barossa Goldfields. Meet at Cockatoo Valley Post Office and Store at 10am We will see various *Corybas* species and hybrids as well as *Cyanicula*, *Pterostylis* spp. and *Cyrtostylis*.

Nature Conservation Society Messent Conservation Park and Gum Lagoon Surveys, Sept 15th - 22nd. Anyone interested in attending any part of this survey should ring Hugh Possingham on 364 0671. (The orchids of these parks will be at their best at this time.)

Kaiser Stuhl Conservation Park 1995 NOSSA Survey Several visits have been made to this park (which can be reached from Tanunda via the Menglers Hill Road). We are mapping all populations of orchids and listing all plant species.

1995 PHOTOGRAPHIC COMPETITION



This year's photographic competition is wide open with all entries gratefully accepted. We are looking for the very best that you have and your better entries from previous year's competitions may be resubmitted. We are looking for photographic prints and slides of Australasian Native Orchids that will be acceptable for the National Photographic Competition that will be held in conjunction with the 1996 Australasian Native Orchid Conference and Show.

We are hoping for an overwhelming international response to the 1996 Photographic Competition and encourage all who photograph our native orchids to participate. Your entry(ies) will be a very meaningful and significant contribution to what promises to be an outstanding Conference.

Submissions for this year's competition should be made to Roger Biddell or Gerry Carne no later than the July (1995) general meeting. If you enjoy taking photographs but do not believe you have any award winning pictures, enter anyway. You may be pleasantly surprised with the outcome. It is almost certain that you will be the harshest critic of your own work - that's human nature. Just remember to participate - Be in It!

ORDERS FOR POTS

Pot Size	Cost (\$)	Pot Size	Cost(\$)
300mm	2.50	125mm	.20
250mm	2.00	100mm	.20
200mm	1.00	80mm	.15
175mm	.50	50mm	.08
125mm	.40		

Order at June or July Meeting or ring Bill Dear 296 2111

ON THE BENCH

Terrestrials: *Acianthus pusillus* (2), *A. pusillus* (albino), *Leporella fimbriata*, *Leptoceras menziesii*, *Pterostylis abrupta* (3), *P. angusta*, *P. alveata*, *P. truncata*, *P. Rogoff*, *P. Sentinel*, *P. Trunkfish*. (And on the trading table *Calochilus*, *Corybas*, *Diuris* and *Thelymitra X macmillanii*).

Epiphytes: *Dendrobium Aussie Child*, *Dendrobium Aussie Child Wilcherry*, *Dendrobium Aussie Child Wilpena Sunset*, *Dendrobium bigibbum X Ellen*, *Dendrobium Hilda Poxon* (6), *Dendrobium Kim Heinze*, *Dendrobium Ku-ring-gai* (2), *Dendrobium Wesley Pink*, *Dendrobium Virginia Jupp*

It was noted that the *Acianthus pusillus* from the Adelaide Hills had its leaves raised 2 to 3cms above the soil level whereas plants from Lucindale in the south-east had their leaves on or close to the soil. Apparently this is consistent with what occurs in the bush! It was something of a surprise to see the pot of *Leporella fimbriata* in flower as this species is generally considered impossible to grow. Of course the real test is to see the pot in flower again next year! The *Pterostylis alveata* were from the Hindmarsh Valley area (near Victor Harbour). The plants were previously known as *P. obtusa* a species now regarded as a NSW endemic. There has been some discussion suggesting that these SA plants belong to the recently (1994) named *Pterostylis atrans* but that species has brown tinted flowers with a long galea. Clearly the wholly green SA plants are closer to *P. alveata*. *Pterostylis truncata* was said to be more common in cultivation than in the wild, one plant on display had two flowers on the one stem, a large clay pot contained nearly 30 deep red flowers. Despite its dumpy size this is a most attractive species and quite a contrast to the tall *P. abrupta* which also filled a large pot with some 20 flowers.

Peter pointed out that there were plenty of hybrids and no species because there are very few species flowering in May!

Les Burgess gave the commentary on the Terrestrials

Peter Barnes spoke on the Epiphytes.

POPULAR VOTE:

Terrestrials: *Pterostylis procera* grown by Jan Burford.

Epiphytes: *Dendrobium Aussie Child 'Wilpena Sunset'* grown by Pauline Rankine.

COMMENTATORS CHOICE:

Terrestrial Species: *Pterostylis procera* grown by Jan Burford.

Terrestrial Hybrid: *Pterostylis Sentinel* grown by Bev & Gerald Hawkins.

Epiphyte Species: None

Epiphyte Hybrid: *Dendrobium Aussie Child* grown by the Rankines.



Pterostylis truncata

MEETINGS: Change of format - Minutes of the previous meeting will no longer be read. They will instead be put on display for reading by any interested parties.

CONGRATULATIONS TO KAREN POSSINGHAM on her election to Burnside council - Karen will no longer be able to preside over the Conservation group. Many thanks Karen for the fine work done as Conservation Officer.

SPEAKER - LAST MEETING: GILLIAN LONG

Gillian Long, a local floral artist, explained the significance of her work and gave us an insight into her techniques. Jill paints mainly in watercolours, much of her work is in postcard size (obviously Jill is a conservationist too). She has a particular love of fungi, in fact her fridge often has toadstools in it, stored for painting, which means visitors who look in her fridge usually decline any invitations to dinner! Many of the paintings Jill showed us had both orchids and toadstools. An unusual aspect of Jill's work was her use of painted frames with the floral subjects spilling out over the frames. Gillian is a co-exhibitor at the "In the Footsteps of Matthew Flinders" exhibition at Yarabee in September. Her work can be seen each year on display at the Marion Shopping Centre. Jill began painting while living in the English countryside so that much of her work still has a soft, low light, English look about it.

ANNUAL DINNER REPORT

Many thanks to Ron Robjohns who organised this (and all previous) annual dinners. This year was great and our best attended yet with over 30 members enjoying great food and great company!
See you there next year!



THIRD AUSTRALASIAN NATIVE ORCHID

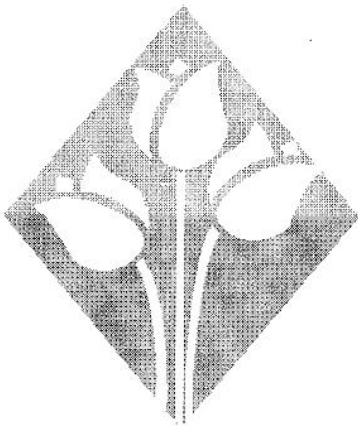
CONFERENCE & SHOW

SEPTEMBER 25 - 30, 1996

Most Members are aware that the Native Orchid Society of South Australia has been given the honour of hosting the Third Australasian Native Orchid Conference and Show. The Conference is recognised internationally as a significant orchid event. The Conference and Show is already attracting orchid enthusiasts from all parts of Australia and from around the globe.

The Conference is held only every third year and will not be held in South Australia again for many years. All Members are encouraged to register for the Conference. The Registration fee is only \$100.00 and this will give entry into the Native Orchid Show throughout the duration of the Conference, admission to all talks (there should be some 20 in all) prepared and delivered by prominent members of the orchid community, admission to workshops and forums, a cocktails/icebreaker evening, a copy of the Conference Proceedings Volume and one of the very limited edition Conference Badges featuring the rare and endangered *Caladenia ridgida*. The Conference will be your chance to mix with the Who's Who of Australasian Native Orchid enthusiasts/experts and to socialise and exchange ideas and plants with interstate and international visitors.

We fully expect 100+ registrants from South Australia and hopefully more than 300 registrants in all. The 25 Australian and New Zealand groups that constitute the Australasian Native Orchid Society will together stage what is expected to be the largest and most innovative and spectacular display of Australasian native terrestrial and epiphyte orchids and their hybrids ever assembled, with all areas of the Australasian region represented. Displays from Papua New Guinea, for example, will be supplemented with orchids grown by members of South Australian (and other) Exotic Orchid Societies, Clubs and Nurseries. Displays from Commercial Growers are being encouraged. The



Conference Committee is currently trying to bring to fruition several other innovative attractions. More will be said about these in next month's Journal.

IT WILL BE SPECTACULAR - there is no doubt about it!

Registration forms will be available at all NOSSA General Meetings until the Show date.

In order to make the Conference a resounding success, we need assistance from as many of our Members as possible. If you would be interested in working as part of a subcommittee, or assisting with some particular task, please contact Gerry Carne (332 7730), or another Committee Member. Even a few hours of your time will be much appreciated and a significant contribution to the Conference. Wouldn't it be great if every NOSSA Member would be able to contribute in some way to the Conference.

We would be interested in hearing from Members who may be able to assist or who have special contacts re the following: construction, printing/publishing, word processing, art/botanical drawings, sign painting, bus transport, lighting, video recording, photography, billeting Conference delegates, historical orchid paintings / specimens sketches / letters /etc., craft work, and entertainment.

LEPTOCERAS MENZIESII UPDATE

by LES NESBITT

At the May meeting seven plants in the control pot had leaves above ground. The untreated tubers in the control pot we potted up a month earlier than the banana treated tubers in the second pot. No leaves were evident in the treated pot. I hope that four weeks of banana treatment last summer was not too long and that the tubers are OK. We will all know by the June meeting.

CYANICULA (CALADENIA) DEFORMIS HYBRIDS

by R. BATES

Many readers will probably be surprised that *Caladenia deformis* and the other blue flowered *Caladenia* would be put in a genus of their own ie *Cyanicula*. *Caladenia* in the broad sense is an artificial genus, a conglomeration of vaguely related orchids with a wide range of pollination strategies, chromosome numbers, chemical compounds, morphology etc. Many such as *Leporella* and *Leptoceras* have already been split off. *Cyanicula* (cyan = blue) or the blue flowered species are in the process of being removed from *Caladenia* in the narrow sense. In addition to the blue flowers (which suggest a distinct pollination strategy and different chemical compounds) the glandular hairs on leaf and scape are different to other *Caladenia* and the pointed tubers are more like those of *Glossodia* and *Elythranthera* than *Caladenia*. So there are reasons for putting the group in their own genus.

The best known *Cyanicula* hybrid is the cross between *C. deformis* and *Glossodia major* (further evidence that *Cyanicula* is just as close to *Glossodia* as it is to *Caladenia*). This hybrid is the only named *Cyanicula* hybrid. It was originally known as *Caladenia tutelata*, later *Caladenia X tutelata*, then *Glossadenia X tutelata* and most recently *X Calassodia tutelata*, just possibly a further name will eventuate ie *Cyanossodia tutelata*. Someone may even name the other *Cyanicula* hybrids. *Cyanicula deformis* has been reported as hybridising with *Glossodia minor* near Mallacoota in Victoria. This would also be a *Cyanossodia*!

X Calassodia tutelata has been collected about a dozen times in South Australia and in Victoria. It was first collected at Blackwood near Adelaide by Edwin Ashby, founder of Wittunga Botanic Gardens about 70 years ago and named by RS Rogers as *Caladenia tutelata*. Since then it has been found as far afield as our South East (Tolmer Rocks and Bangham) and in Victoria at Anglesea and the Brisbane Ranges.

There are two distinct forms of *X Calassodia tutelata* - one which takes after the *Glossodia* parent and the other after the *Cyanicula* parent, it is likely therefore that both species can act as the so-called pod parent. Certainly my own experiments have shown that fertile seed is produced whichever way the cross is made.. (In nature native bees are the pollinators.)

Does *Cyanicula deformis* hybridise naturally with any *Caladenia* species? The answer is yes, indeed it crosses with species of the section *Calonema* as well as true *Caladenia* but such hybrids are exceedingly rare each being collected just once in South Australia. The first of these to be recorded was a cross with *Caladenia coactilis*. A single plant was found on the edge of a firebreak in the Mount Remarkable National Park in 1980. Both a collection and a photograph exist (at the State Herbarium) to prove this one. *C. coactilis* is probably the closest *Caladenia* species (in appearance) to *Cyanicula* in SA so the hybrid is not such a surprise. The other recorded hybrid is with *Caladenia*

filamentosa. Fortunately this hybrid has been collected and photographed (at Monarto Conservation Park in 1988 and also in Victoria). If these hybrids are ever named they will probably be called X *Cyanadenia*. Besides these intergeneric hybrids *Cyanicula deformis* has been reported to hybridise with other *Cyanicula* ie with *C. caerulea* and *C. gemmata* but I have seen no collections. It may even cross with species of the genus *Elythranthera*, certainly another species of *Cyanicula* ie *C. sericea* is known to hybridise with *E. brunonis* near Bunbury in WA.

The cross between *Cyanicula deformis* and *Glossodia major* has been man made and flowered and I have heard that crosses have been made with *G. minor* but I have not seen the result in flower.

TRIP REPORT: HARDY'S SCRUB MAY 28TH 1995

Thirty people met at the Blewitt Springs Hall and proceeded to the northern gate of Hardy's Scrub off Chapel Hill road. A brand new sign told us that this was part of the Onkaparinga River National Park. We were disappointed to see that another new sign had been knocked down and trodden on by horses!

After four days of rain we were lucky to have the sun come out for our walk. The soil here was a light sand and didn't look all that wet after the 30mm that had fallen. We took the newly made bush circuit track to Chapel Hill and Wine Dam.

The most abundant orchid seen was *Acianthus pusillus*; there were patches with over 100 plants per square metre. A high percentage of plants bore flower spikes and most were in full flower - what a contrast to last year when drought conditions caused most plants to abort their flowers. We were lucky to find the albino or green flowered form, a whole colony of them right on the track edge. There were some odd forms seen, some with wholly deep red flowers, others with very long sepals and some with over 20 individual flowers on the spike. Ideal for photographs!

Another common species in full flower was the enigmatic *Pterostylis sanguinea*. Few orchids have such long lived flowers and even though these were in full flower here in May one would expect the flowers to last another 3 months! Often the *Pterostylis sanguinea* were sympatric with (growing amongst) patches of *Pterostylis longifolia* (or perhaps *P. smaragdina* judging from the photo in *Orchids of Victoria*.)

Near the summit of Chapel Hill we found clumps of semi-epiphytic orchids on the lower trunks of pink gums (*Eucalyptus fasciculosa*). One tree had a mix of *Pterostylis nana*, *Acianthus caudatus* and *Microtis* (leaves). Your guide at this point found cultivated (but dead) plants of *Cannabis sativa* in large containers which were later removed from the park as the soil about them contained weeds which are unwanted in the park!

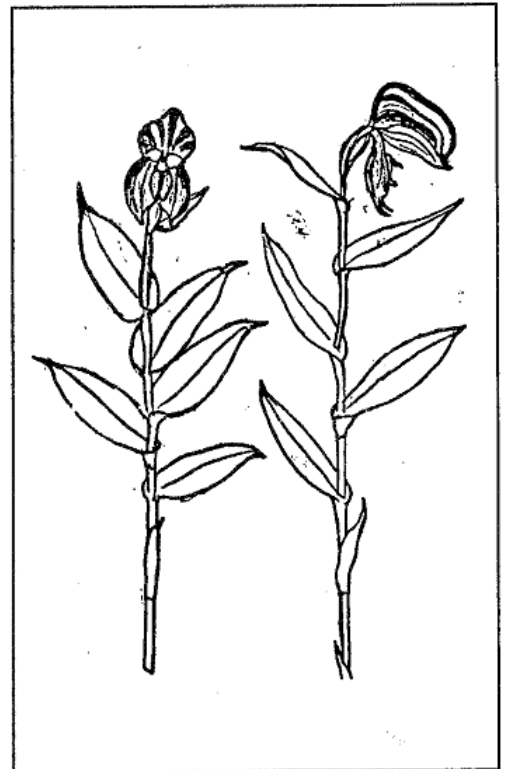
The track from Chapel Hill to Wine Dam passes through grey box woodland (*Eucalyptus microcarpa*). The soil here is clay loam and there were less orchids but they included *Pterostylis robusta*, *Pterostylis nutans* and *Pterostylis* aff. *rufa*. An interesting plant here was *Drosera praefolia* a sundew which puts up its delicate white flowers in April - straight out of the rock hard soil. The leaves were only just emerging on the day of our visit yet the flowers were long finished. At Wine Dam the group divided into two, those who wished to complete the circuit of the park and those who preferred the short cut back. Your guide took the latter group to the nearby Bururana Banksia plantation. A ten minute walk along the road showed a wide variety of Banksia species and other native shrubs planted. The sandscrub adjacent here has a large population of *Leporella*. (Hare orchids).

Orchids seen: (Common = C; Rare = R)

Flowers: *Acianthus pusillus* (C), *Pterostylis robusta* (R), *Pterostylis sanguinea* (C), *Leporella* (R), *Eriochilus cucullatus* (R).

Buds: *Acianthus caudatus*(C), *Pterostylis longifolia* (C), *Pterostylis nana* (C), *Pterostylis pedunculata* (C), *Pterostylis nutans* (R) and *P. aff. rufa*.

by GARY GUIDE



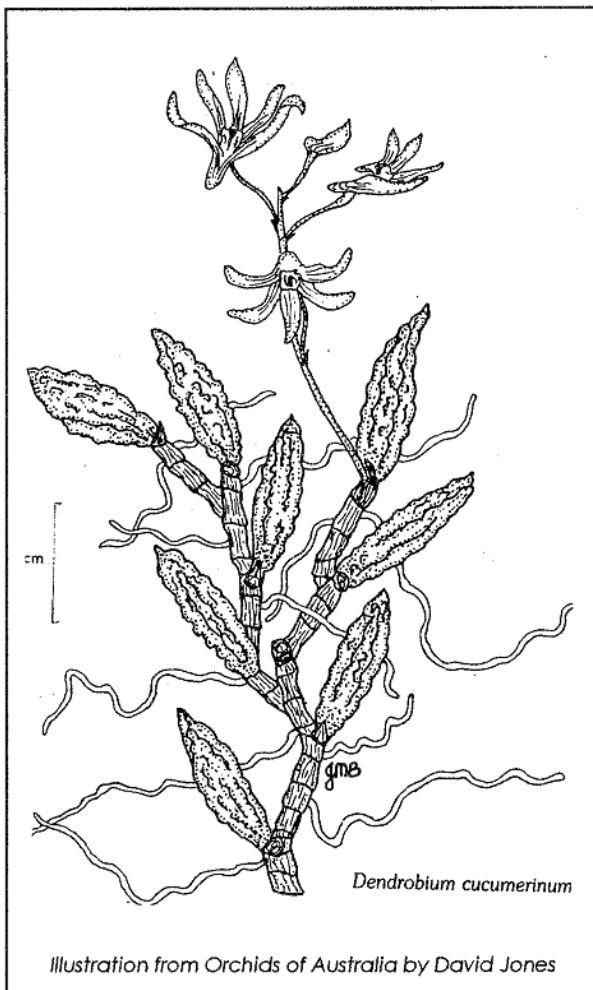
Leaves: *Caladenia* (several species), *Glossodia* (C), *Microtis* (C), *Lyperanthus* (C), *Diuris corymbosa* (C), *Diuris pardina* (R), *Prasophyllum elatum* (R) and *Thelymitra* (several species) (C).

AUSTRALIAN DENDROBIUMS NO 11 - *DENDROBIUM CUCUMERINUM*

Dendrobium cucumerinum (Macleay ex Lindley 1842).

Common name Cucumber Orchid because of the cucumber shape of the leaves. From the Latin 'cucumerinus'. Also known as *Callista cucumerinum* (Rev. Kuntze 1891). First found by W.S. Macleay near Camden NSW in 1842.

Found from the Burratorang Valley in Eastern NSW westward to the Blue Mountains and up to South-East Queensland. It is an orchid of the Eastern Coast and adjacent ranges, (reaching its best growing area about 35 kms from the coast.) It does not grow on the western slopes and this is a southern orchid that does not extend to the tropics. A strange orchid with a creeping, much branched rhizome and alternate dark green leaves that are thick, tough and tuberculate.



Nearly always found on the River Oaks *Casuarina cunninghamiana* where it prefers to grow on the undersides of lateral limbs that overhang the water, although it can also be quite prolific on the main trunk. Sometimes found growing on the red cedar *Cedrela australis* and the Moreton Bay Fig *Ficus macrophylla* or rarely on rocks (lithophytic). This orchid is restricted in its specific habitat but can become very prolific on the River Oaks. While in nature their numbers would have been greatly reduced from what they used to be (as have all our native orchids) it does not seem to have sustained the loss of habitat that these other orchids have suffered. This is not due to any other reason than that the roots of their host tree, the mighty River Oak are needed to hold the banks of the rivers and streams to prevent erosion. While on a very recent trip to an area where these orchids can be found I was able to see huge numbers clinging to the trees and one old River Oak that had fallen due to old age and high wind was covered in this orchid. The long drought did not seem to have had any effect on them as they all looked quite healthy but this is not always so as some I saw several years ago near Armidale, NSW where the heat and dry weather at the time had dried the creek up and allowed the orchids to dry out so much they had withered and fallen off the trees onto the ground. This would be unusual as they can tolerate severe cold and strong winds with no ill effects, also hot winds do not seem to effect them as long as they can hang near or over water with their backs to the sun preferably in shade drying out during the day and then receiving cool, moist air at night from dew and fogs.

In 1969 a Mr and Mrs D Walters found what was no doubt a natural cross between *Dendrobium cucumerinum* and *Dendrobium bowmanii*. I was shown this plant a short time later and it left no doubt that this was a genuine cross of these which can be found growing in the same area.

Flowering takes place quite often but is irregular throughout the summer extending from late spring to early autumn. Racemes and peduncles are short with four to ten flowers 13 to 18mm in diameter, coloured white or greenish with reddish stripes, this colour does not seem to alter much no matter where the plant comes from. Flowers can last up to two weeks.

Cultivation: This would be one of the harder orchids to establish and grow, it is also a very slow grower and prefers shade (In nature it grows under limbs or on the south side of the host trees.). When transplanting to its new host which should be a dry medium such as black tree fern, natural cork, hardwood etc. or attached to a made-up cylinder, it should be attached very firmly and better success can be had if only about six leaves of the growing ends are used.

It likes to be wet at night and then dry out during the day so it would need to be watered well during the warmer growing months. As I have said this is a very hard orchid to grow and a sign that it is not happy and conditions are not right is that the plant slowly fades away over a long period until eventually there is nothing left. The main reason for this I feel is the loss of benefits it gained from its association with its near to water environment. A very weak solution of an urea based fertiliser sprayed monthly can assist growth.

Adapted from The Native Orchid Bulletin, Volume 26, No. 9, May 1995. Author unknown.

NEW ZEALAND HELMET ORCHIDS

First in a series adapted from the article - *Corybas* in New Zealand by Dan Hatch (The NZ Native Orchid Group Journal, 1994).

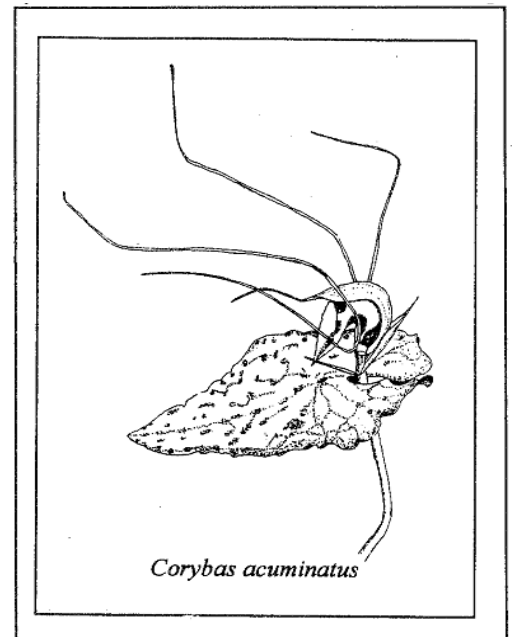
CORYBAS ACUMINATUS M Clements & Hatch (1985)

The name refers to the acuminate leaf apex.

Syn. *Corysanthes rivularis sensu* Cheesem. Manual NZ Flora. 1:694 (1906) - not of A. Cunn.

Since 1867, when Thomas Kirk found it on the Great Barrier Island, until 1985, when Clements & Hatch corrected the error, this species was mistakenly known as *Corybas rivularis*. A very distinct species, it has in the mature stage, an acuminate leaf with reddish veining on the under side, very long filiform lateral sepals and petals, and a long filiform tail to the dorsal sepal. Leaves of young plants lack the reddish markings, are reniform or broadly cordate, and have an apiculate tip which show its relationship to the round leaved species. *C. acuminatus* occurs in mixed forest, usually montane, but occasionally coming down to sea level in the south.

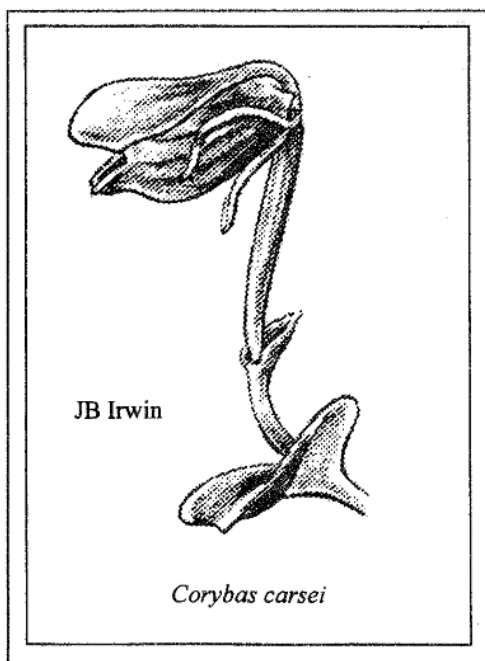
Distribution - North, South, Stewart and Auckland Islands. Flowers - September - December.



CORYBAS CARSEI (Cheesem.) Hatch (1945)

Syn. *Corysanthes carsei* Cheesem. TNZI 44: 162 (1911)

Named for Harry Carse, who with HB Matthews discovered this species in the Lake Tongongoe bog near Kaitaia in 1910. It is very close to (I believe identical with) the Australian *Corybas fordhamii* which grows in a similar habitat.



Superficially similar to *C. rotundifolius*, it is a much smaller plant, confined to *Empodisma* bogs and readily distinguished in the field by the cleft apex to the dorsal sepal.

This orchid has long since gone from Lake Tongongoe. The draining of the lake in 1912 didn't immediately extinguish the species (there are Matthews specimens in Kew dated 1919 and marked 'very rare'), but undoubtedly hastened the drying out of the bog. The main cause of the plant's disappearance from Kaitaia would seem to be over-collecting. There are a great many specimens in the various herbaria. One sheet alone of Matthews' displays 21 flowering plants!

The species was later found to be quite common in the raised bogs of the lower Waikato and Hauraki basins, but has now gone from all but one spot, partly due to draining the surrounding land and lowering the water level of the bogs. This has probably encouraged the taller growth of the vegetation, so choking the orchid out. Burning the bogs has been suggested as a conservation measure. With the possible exception of *Thelymitra matthewsii*, this must be the most endangered orchid in NZ.

Flowers - September.

THELYMITRA EPIPACTOIDES

by LES NESBITT

The April 1995 issue of the Bulletin of ANOS - Victoria carries an excellent article on this species by Helen Richards. Helen has four plants of this rarely seen Sun Orchid, two of which flowered last year. Called the metallic sun orchid, the plants are robust and have large flowers which are very spectacular. Helen has given one tuber to another top Victorian terrestrial grower to improve the security of this rare orchid in cultivation.

The original plant from which these plants were propagated by Dr Warcup came from Eyre Peninsula in South Australia. One other plant from this batch still exists in South Australia, George Nieuwenhoven gave it to me several years ago to look after. This plant flowered in 1994 and I self-pollinated it and obtained some seed. Hopefully some flasks of seedlings will result. The plant has produced a healthy leaf again this year.

(Thelymitra epipactoides is a nationally threatened orchid species, its successful cultivation has great significance - Editor).

RARE ORCHID - KILL OR CURE

In what seems a direct contradiction, the trampling feet of beef cattle may be used to help preserve a rare native orchid.

The orchid, known only from New Zealand's Central North Island region, requires disturbed ground to seed and regenerate successfully, and conservationists are considering using cattle to open up and turn over the swampy ground where it grows. But because the orchid is so rare there is also the danger that the cattle could destroy the few remaining plants.

The orchid *Prasophyllum* aff. *patens* is high on the country's list of endangered plants. In the Turangi region there are fewer than ten places where the orchid is growing. On a small section of peat bog at Tangiwai, between Ohakune and Waiouru, are 38 plants and it is here that cattle may be used to stir up the ground. A count of the plants last year found 50 orchids but the plants have not flourished this year, possibly because of lack of rain.

At Pukeora, in the Southern King Country, up to 1,000 of the orchids are growing in a patch of swamp, but at other sites in the Central North Island there are fewer than 10 plants and their existence is precarious. This New Zealand plant prefers a water-logged growing area. Very few orchids anywhere in the world have such a preference.

The orchid can grow to almost a metre in height although it is often smaller. It has a multiple flower head, with tiny, dark brown white-frilled flowers, about 1 cm long. It is not scented.

The orchid had been doing well at the Tangiwai site with population increases recently, but this year it is not so good and the flowers appear to be smaller. It is not known whether this is just a bad year or whether the foliage in the swamp is getting too thick since the area was fenced off to keep cattle out. It may be necessary to let the cattle back from about May to December,

Helping the orchid to recover is needed to maintain the biodiversity of both the central North Island and the country.

Adapted from the Wellington Orchid Society Journal, March 1995, taken originally from an article in the New Zealand Herald.

I was particularly interested in this article for two reasons:

- I recognised this as an undescribed species in 1986 when I received the loan of all Wellington and Auckland Herbarium's *Prasophyllum* collections. There were only old collections so I wondered if the species still survived.
- We have the same trouble in South Australia - if stock is removed from swamps they become overgrown and the orchids disappear! However a far better solution is to slash or mow the swamps every 2 to 3 years, this disturbance coupled with small burns provides ideal orchid habitat. (Ed.)

The article on the following page was sent to me by Les McHugh. It explains how Mick May grew the pot of *Burnettia* (*Lyperanthus*) *nigricans* which won him the Champion WA Native Species Award at the Orchid Society of the WA Spring Show in 1994. (Further details in *Orchids Australia* Feb 1995.)

GROWING WESTERN AUSTRALIAN TERRESTRIALS FROM SEED

The following is based upon the talk given by Mick May to members of A.N.O.S. of W.A. Inc. at the monthly meeting on 10 February 1993. Mick has successfully grown approximately 30 species of the W.A. terrestrials from seed and over a number of years has planted many of them back into the bush areas. He has achieved this by identifying the fungi associated with each of the species, cultivating the fungi and then introducing this into sterilised soil before planting the seed.

FUNGI: Isolate the fungi from the plant by excising the sterilised section of the plant under a microscope.

Location of fungi:

Roots or tubers: *Lyperanthus serrata*, most *Diuris*, *Elythranthera*, *Thelymitra* and most *Pterostylis*.

Stem Collar: Most *Caladenias*

Tubers: *Cyanicula amplexins*, *deformis*, *gemmata* and *sericia*.

STERILISATION:

Sterilise the plant section in a 5% sodium hypochloride solution, to which has been added .2mls (6 drops) of medical strength formaldehyde, for 3 minutes. Rinse thoroughly in sterile water. Use a scalpel, sterilised by flaming and cooled in sterile water, to excise the fungi from the plant section. Place the fungi on oatmeal media and reseal the container. Allow to grow in a cool (15 - 20c) low light situation. When the fungi is actively growing, place sterilised wheat seed on the media and reseal, leave for 10 - 15 days. Store the infected wheat seed in a sterilised container; I use opaque type film containers. The wheat seed, infected with the fungi, can be stored in the butter compartment of a refrigerator for up to two years.

OATMEAL AGAR: (Media for fungi reproduction)

Rolled oats 2.5 grams

Agar 7.0 "

Distilled Water 500 mls

Blend on high speed for 1 - 2 minutes. Make up to 1 litre with distilled water and adjust PH to 5.5 - 6.0

Cook for 25 minutes at 120c.

Dispense into flasks or jars and allow to cool.

OATMEAL and GELATIN MEDIUM: (An alternative media)

Rolled oats 2.5 grams

Gelatin 2 heaped tablespoons

Process as for Oatmeal agar.

SEED: Pick the seed pod when it begins to turn yellow and before it splits. Sterilise the seed pod in the same solution as for plant sections for 3 minutes. Rinse thoroughly and dry with a sterile towel. Store the seed in a sterile container.

GROWING MEDIA:

80% sharp sand

20% thoroughly composted sheoak needles and bark.

Dampen the mixture and place in an oven bag and microwave for 20 minutes on high, leave to cool and because of the heat generated this could take a couple of days.

Place a piece of flyscreen in the base of the pot; cut and fit to cover the drainage holes to keep out slaters, slugs etc. Sterilise the pots and flyscreen in 3% sodium hypochloride for 10 - 15 minutes. Place the pot in a plastic bag and add soil to the pot. Place two or three fungi infected wheat seeds on the growing media, seal the plastic bag and leave in a low light situation for 14 - 21 days.

SOWING THE SEEDS:

Mix the seed with sterile ash and place in a sterilised pepper shaker. Shake the seed over the pots; one seed pod is sufficient for 4 x 100 mm pots. Reseal the bag and keep in subdued light at 15 - 20c. When the top of the soil shows a green tinge undo the top of the bag. Until the leaves develop water only from the bottom of the pot by dipping to keep the soil damp, never wet. In my situation this is about every 8 - 10 days depending upon the humidity. When the leaves have developed to 5mm long the pots may be moved to an open position under a shady tree or similar shaded position.