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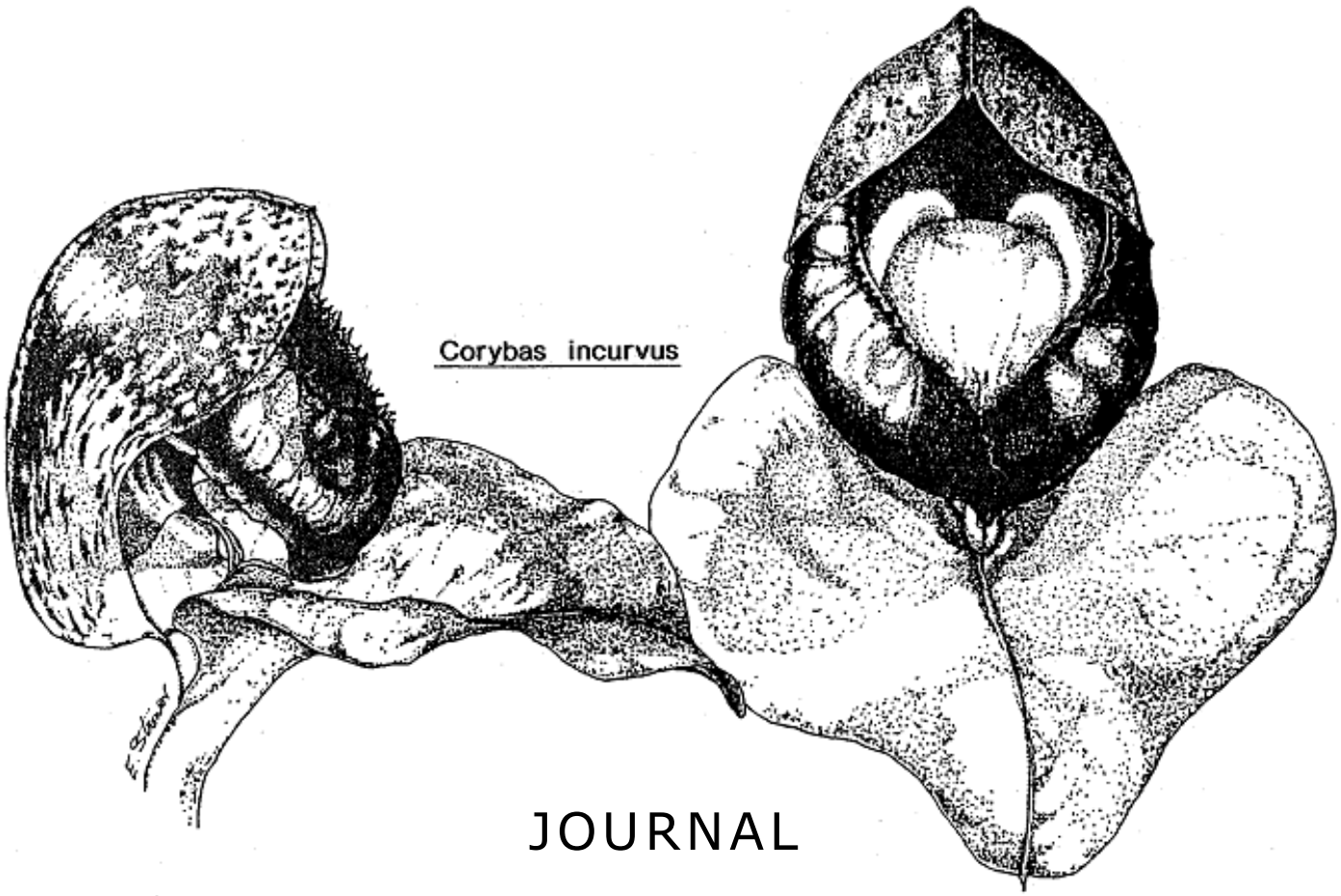

JOURNAL

NATIVE ORCHID SOCIETY

of

SOUTH AUSTRALIA INC.

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.

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NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA INC.

JOURNAL

May 1990

Vol. 14 No. 4

CONTENTS

NEW MEMBERS

Mr and Mrs K. Schulz
Mr H. Beyrle

NEXT MEETING

Where: St Matthews Hall, Bridge Street, Kensington.
When: Tuesday, 22 May, 8.00 p.m.

Why: Bob Markwick will talk on "Orchid Rambles in Victoria".

Visitors are always welcome.

LAST MEETING

Foundation member Don Wells showed where to look in the bush for orchids: terrestrial or epiphyte, and through a range of photographs showed what we might see besides orchids. Don explained how, through our understanding of where and how orchids grow, we might be able to grow them better.

NEXT FIELD TRIP

Sunday, June 17
Meet at Morialta Kiosk at 10.00 a.m.

Take a picnic lunch.

Sunday, July 8

Williamstown Ramble.

Meet at Williamstown, 10.00 a.m.

K.I. Trip
The proposed Kangaroo Island trip with ANOS Victoria will no longer proceed. A combined trip to the Grampians has been substituted and George Nieuwenhoven will make suitable arrangements with ANOS Victoria.

Further details will be published when available. Ed.

APRIL MEETING - DETAILS

PLANTS BENCHED

Terrestrials: *Eriochilus cucullatus, E. dilatatus* (W.A.), *Pterostylis abrupta* (N.S.W.) x *rogersii* (W.A.) - hybrid, *P. coccina*, *P. coccina* (natural hybrid?), *P. longipetala*, *P. obtusa* (Queensland form), *P. truncata, P. vittata*.

Epiphytes: *Bulbophyllum weinthalii*, *Dendrobium bigibbum* (alba), *D. bigibbum* var. *compactum* "mauve showers", *D.* Debbie Macfarlane x *gracillimum*, *D.* Hilda Poxon, *D.* Katherine Banks, *Liparis reflexa*.

COMMENTARY AND JUDGING

Terrestrials: Mr George Nieuwenhoven

Epiphytes: Mr Reg Shooter

COMMENTATORS CHOICE

Terrestrial Species: *Pterostylis cocinna*, grown by Kevin Western.

Terrestrial Hybrid: *Pterostylis abrupta* x *rogersii*, grown by Les Nesbitt.

Epiphyte Species: *Bulbophyllum weinthalii*, grown by George Nieuwenhoven.

Epiphyte Hybrid: *Dendrobium* Debbie Macfarlene x *gracillimum*, grown by Brian Lehmann

POPULAR VOTE;

Terrestrial: *Pterostylis cocinna*, grown by Kevin Western.

Epiphyte: *Bulbophyllum weinthalii*, grown by George Nieuwenhoven.

CULTURAL NOTES:

Terrestrials: At this time of the year most terrestrials have emerged. The delicate new growths must be protected from slugs and snails (most other pests are now dormant). It is time to sow seeds on pots and cover with a layer of leaf litter, chopped pine needles or similar. If possible increase the amount of light, protect plants from excessive rainfall and watch for signs of disease. Remove diseased plants before the problem spreads. Fertilise *Pterostylis* and *Diuris* either weak solution applied to leaves or as compost to tops of pots. Do not fertilise other genera. Keep *Corybas* under glass or plastic.

PLANT OF THE MONTH

It has been decided by the committee that there will be a nominated "Plant of the Month", alternating epiphyte and terrestrial, each month.

The first of these will be *D x delicatum*. Members are requested to bring in the "Delly" they received at the Society's 10th anniversary meeting. Although they will not be in flower, it will be interesting to note the progress of these plants under varying growing conditions.

DENDROBIUM X DELICATUM Ron Robjohns

Dendrobium x delicatum was first discovered at Spring Bluff near Toowoomba, Queensland, and was named by F.M. Bailey in 1884 (delicatum means delicious). It is a natural hybrid between *D. kingianum* and *D. speciosum* var *hillii* and is endemic to south-east Queensland and north--east New South Wales. (Its distribution is from Carnavon Gorge and Maleny, Queensland, to the Gloucester area in New South Wales.)

Generally it is lithophytic on rocks and cliff faces to an altitude of around 900 metres, in open forests, and occasionally in full sun. It forms dense medium sized clumps. Pseudobulbs can be to 50 cm in length but are more commonly about 35 cm. They are hard, usually ribbed and slender, being tapered to near 2 cm at the base.

Leaves are dark green and leathery, apical, and usually consist of three or four about 8-15 cm long.

Racemes may be erect or arching, carrying around 16 flowers, usually about 20-30 mm across.

Being the product of two variable parents, *D. x delicatum* is, as may be expected, variable in both growth and flower colour which varies from deepest pink or mauve. The segments are often tinted with pink or mauve and the flowers are usually fragrant. The flowering period is from August to September.

Hybridisation: There are at least fourteen registered hybrids with x *delicatum* as a parent and a number of others having x *delicatum* in their lineage. Generally *D. kingianum* has the dominance in flower shape except where *D. tetragonum* is used and then either may dominate.

In 1892 Sir T. Lawrence registered a cross between *D. speciosum* and *D. kingianum* as *D.* Specio-kingianum and it has now been decreed that, in future, for the purpose of registering hybrids, the name *D. x delicatum* is invalid and the name *D.* Specio-kingianum is to be used.

Culture: *D. x delicatum* adapts well to bush-house culture conditions provided that it has plenty of light and air movement, both being features of its natural habitat. Plants are vigorous growers and the pots should be large enough to cope with two or three years growth. The time to repot is when the new roots begin to appear. They do not like "wet feet" so a shallow pot or hanging basket is best. Deep pots, if used, should be filled with crocks for one-third of depth. The mix should be open and free draining (mine is predominately pine bark). Fertilise lightly during the growing season.

References: W.T. Upton, *Dendrobium* Orchids of Australia.
D.L. Jones, Native Orchids of Australia.

THE SOUTH AUSTRALIAN ORCHID COLLECTIONS OF

HANS HERMAN BEHR

Hans Herman Behr was a German-born botanist who resided in South Australia from September 1844 to October 1845 and again from November 1848 to November 1849, a total period of just two years. He lived at Gawler and Tanunda and made many natural history collections from the Barossa, Murray and eastern Mt Lofty Ranges, including several orchids. In a previous article on Behr I wrote that his orchid collections had not been located (Bates, 1982) and that the species named by the German botanist Schlechtendahl from those collections were regarded as synonyms of other species. How this has changed!

Clements (1990) has located several collections made by Behr and has determined that some do indeed belong to valid species.

The first of these is *Caladenia tentaculata*. Clements located a single specimen of this species collected by Behr from the [Mt] 'Lofty Range' and housed at the Kew herbarium, London, as part of the Lindley orchid herbarium. Clements states that it is the large (King Spider orchid) of the Adelaide Hills previously thought of as a form of *C. dilatata* but now accepted as a distinct species.

There are two curious aspects of Clements' notes on *C. tentaculata*. Firstly, he refers to Hans Herman Behr as "0. Behr" quite in error. Secondly, Clements, throughout the text under *C. tentaculata*, refers to it as "*C. behrii*", again in error. Where the original *C. tentaculata* came from it is impossible to pinpoint but Krachenbuchl (1981) states that Behr spent the spring of 1844 collecting in the "Barossa Range, Bethany and eastern side of the Mt. Lofty Ranges" so the most likely scenario is that he collected the *C. tentaculata* types in the ranges east of Tanunda in September or October of 1844.

Another spider orchid, *Caladenia behrii* Schldl was named after Behr himself and long treated as a synonym of *C. patersonii*. These days *C. patersonii* is recognised as a complex of several species with *C. behrii* being just one of these; probably the tall pink and white flowered species endemic to the Mt. Lofty Ranges.

Unfortunately Clements could not find the Type collection. Presumably (he suggests) it was destroyed with the bombing of the Berlin Herbarium (although in Krachenbuehl states that most of Behr's 1844-45 collections are at Halle). Clements selected a new type (neotype). Unfortunately this was a collection from Chandler's Ridge (an area not visited by Behr). It would have been better to have chosen a collection from the Barossa area. Unfortunately there are at least four species of the *C. patersonii* complex known to have occurred in the area where Behr collected. There is no certainty that the plants collected outside this area and selected by Clements as neotypes really belong to the species described by Behr[1].

Another orchid collected first by Behr and named after him is *Diuris behrii*. until recently regarded as a synonym of *Diuris lanceolata*. Behr collected these at "Kowi Manilla" on the upper reaches of the Onkaparinga Valley in the September of 1844. The species can still be found in the area today but is extremely rare there.

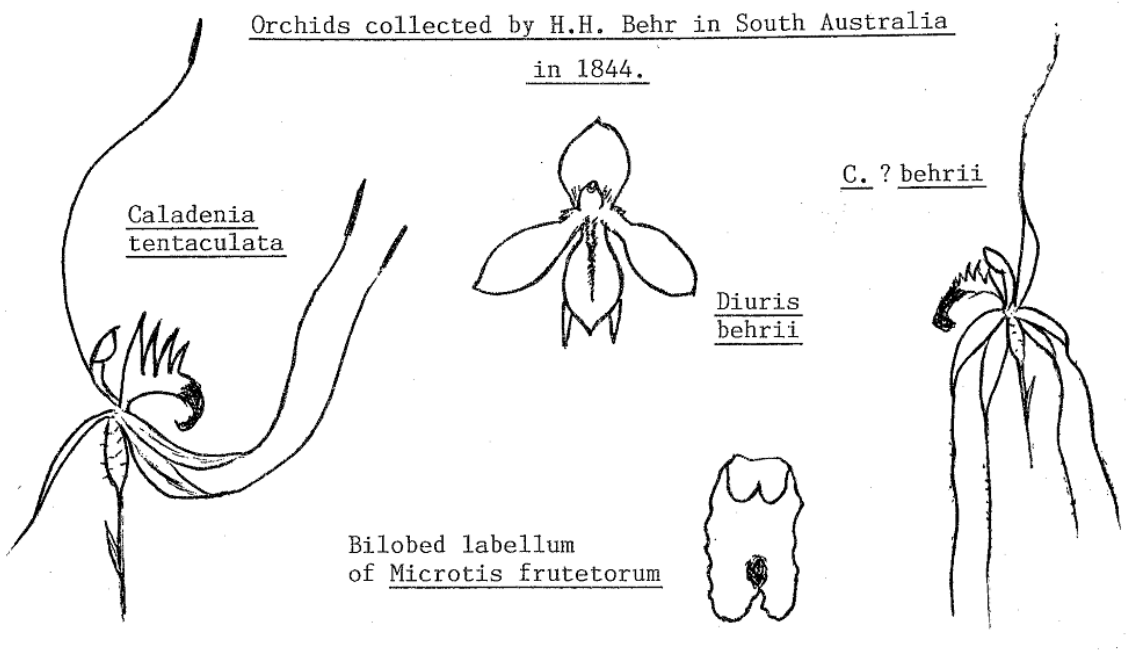
Behr collected a Microtis that Schlechtendahl named *M. frutetorum*. These plants were gathered from the pine forest near Gawler in October 1844 (not 1845 as cited by Clements). There are specimens in the Melbourne herbarium which indicate it is the common large *Microtis* which can still be found

The South Australian Orchid Collections of Hans Herman Behr (contd.)

throughout the Mt Lofty Ranges in dry woodland and forest and which, I suspect, is, in reality, a species distinct from *M. unifolia* and with which it has been usually synomymised (it is included as a synonym by Clements).

Behr also collected a *Prasophyllum* which was later described by George Bentham in the first "Flora of Australia" (1873) as *P. fuscum* var. *grandiflorum*. Behr collected the types in pine forest near Gawler, possibly in 1849. Clements has determined the plants as *Prasophyllum pruinosum* R. Rogers, a species which still occurs in pine forest near Gawler (i.e. Sandy Creek). It would certainly seem logical that Bentham's var. *grandiflorum* and Rogers *P. pruinosum* were the same plants, however, I have also examined the Lectotype from Kew and it is not a good match for *P. pruinosum*!

So there is still much controversy to be had over the identification and status of orchids named from Behr's collections!!



Other orchids collected by Behr include *Lyperanthus nigricans* (sandscrubs in the Barossa); *Prasophyllum* "patens" (Barossa), possibly *P. pruinosum* or *P. odoratum*; and *Thelymitra ixioides*, all in 1844.

References:

Bates, R., "The Orchids of Hans Herman Behr", Journal, Native Orchid Society of South Australia, 5(3):25 (1982).
Clements, M.A., "Catalogue of Australian Orchidaceae " (1990), Australian Orchid Research, 1:1-160 (1989-90).
Krachenbuehl, D.N., "Dr H.H. Behr ...", Journal, Adelaide Botanic Gardens, 3(1):100-111 (1981).

([1] An interesting point dealing with the application of the name *Caladenia behrii* comes from the fact that Clements berated members of NOSSA at a NOSSA meeting in the mid-1980's for using *C. behrii* on plant labels without having seen the original specimens. Now it seems he himself is allowed to decree how the name shall be applied without seeing the original specimens!)
Note by S. Phillips.

BOTANISTS OF THE ORCHIDS No. 6

GEORGE CALEY (1770-1829)

This English botanist was a contemporary of Sir Joseph Banks who gave the young George his first job at Kew Gardens and later sent him to New South Wales as a botanical collector. Once in Sydney he became Superintendent of the Parramatta Gardens and impressed visiting botanists with his knowledge.

When Robert Brown, the Father of Australian Botany, met him in 1802 the two men struck up a friendship. At one stage the two set out with a party of explorers to cross the Blue Mountains. Basically they followed the ridges and had conquered the difficult parts when some of the party became disgruntled (Caley was known to be a difficult man). Had this disagreement not occurred Caley may have made the first crossing of the Blue Mountains!

In any case much of Caley's collections were incorporated in those of Robert Brown and Brown did him the honour of naming the marvellous duck orchids after him as *Caleyana* (Caleya) *major* and *C. minor*.

Banks terminated Caley's appointment in 1808 and he went to the West Indies as Garden Supervisor, later retiring in England.

Sandy Phillips

BOTANISTS OF THE ORCHIDS No. 7

ROBERT DESMOND FITZGERALD (1830-1892)

The Irish-born Fitzgerald arrived in Sydney in 1856 to take up the post of Surveyor-General. He is best known for his magnificent "Australian Orchids", published in 1875 and 1894 in seven folio parts with 118 plates in all. The lithographic plates are exquisite. Fitzgerald combined a love of orchids (and nature in general) with his artistic skills to produce this work. Individual plates from the book now fetch up to $100 each.

Bentham (1873) wrote of Fitzgerald - "Thanks to you the Australian orchids are now better known than those of any country outside Europe."

Fitzgerald corresponded with Charles Darwin and Darwin used Fitzgerald's observations on orchid pollination for a chapter in one of his books, while Fitzgerald dedicated Volume 1 of "Australian Orchids" to Darwin!

Fitzgerald named several species of orchid himself including one which was first published in the Sydney Morning Herald.

An orchid named after him is *Sarcochilus fitzgeraldii* F. Meull.

Sandy Phillips

FIELD TRIP REPORT

GENOPLESIUM NIGRICANS SPECIAL

This was to be our driest-ever field trip as no useful rain had fallen for 134 days in the Ferries-Macdonald Conservation Park. Just 10 mm of rain had been recorded at nearby Strathalbyn for the first quarter of 1990. Fortunately some 5 mm had fallen on the park just 8 weeks earlier and in such sandy soils this had been enough to bring on the Genoplesiums (formerly known as *Prasophyllum*).

Within two minutes of our arrival we had located a marvellous patch of the little mallee midge orchids with their short dense spikes of verdant green flowers having contrasting purple-brown labellums. The tiny size of the *Genoplesium nigricans* was truly demonstrated by the first plant seen which, although only 3 cm high, had 15 flowers! It is truly fascinating to see these plants which are really nothing more than a tiny flower spike sticking out of the powder-dry, low-nutrient, alkaline, non-wettable soils under stunted mallee!

If we thought we were lucky to find such tiny plants so quickly there was more to come for adjacent the *G. nigricans* 'colony' was a clump of another *Genoplesium* species, tentatively identified as *G. rufum*. Unlike the *G. nigricans*, these had slender red stems, few flowers and brown tinted sepals.

We were indeed privileged to find pollinating flies on both species. These tiny flies were of two very similar species. The *G. rufum* plants were always smothered with grey-black flies and, not surprisingly, wherever we went in the park this species was seen largely on buds or spent flowers. The *G. nigricans* more rarely had insect visitors and these were darker coloured but on some *G. nigricans* the paler flies were present too!

We traversed the whole east side of the park and located dozens of colonies of each species, strangely enough only on sand ridges, never on the flats. We occasionally found plants which may have been hybrids but it was hard to be certain!

Despite the drought plants of *Correa sihlechten-dalli* were smothered in red, green and cream bell-shaped flowers. Another interesting discovery was a well-maintained mallee-fowl nest and the beginnings of a new mound.

Overall the excursion was deemed a successful one.

PLANTS SEEN:

In flower -	In seed -
Genoplesium nigricans	*Caladenia* spp.
G. ? *rufum*	*Thelymitra* spp.
G. nigricans x *G. rufum*	*Pterostylis* spp.

Garry Guide

ENDANGERED SPECIES

The following article appeared in The Advertiser on 16 September, 1989:

"ONE LAST TRY TO SAVE NATIVE PLANTS IN PERIL

The World Wildlife Fund (Australia) yesterday launched what it calls its "last ditch" attempt to save six South Australian endangered plant species.

The project, to cost $128,000 for three years, will involve the propagation of three varieties of shrubs, two wattles and one orchid that are unique to the State and no longer found in national parks or reserves.

The plants will be propagated at the Botanic Gardens by a team of botanists led by Dr Manfred Jusaitis of the Black Hill Flora Centre for eventual reintroduction in the wild.

Melbourne-based WWF campaigner, Mr Michael Rae, said yesterday that there were 189 species endangered in South Australia and 3329 in Australia.

'Most have been destroyed by human activities over the years when land was cleared', Mr Rae said.

The six plants to be propagated now existed only in tiny pockets on roadside verges, he said.

WWF was now seeking sponsorship for the project.

Plants to be propagated are *Acacia pinguifolia, A. cretacea, Dodonaea subglandulifera, Phebalium equestre, Pterostylis arenicola* and *Pultenaea trichophylla*."

NOTES ON THE AUSTRALIAN ORCHID FOUNDATION

(from ANOS Victoria Group Bulletin.)

The A.O.F., A.N.O.S., A.O.R., A.O.C., O.R.N., A.C.F. ... all letters, what do they stand for? Let me just briefly explain the A.O.F.

The Australian Orchid Foundation is a company limited by guarantee which was registered in Victoria in 1976, to support orchids. It developed from a decision of Gerald McCraith for an organisation of dedicated orchid enthusiasts around Australia to put their combined efforts into promoting the welfare of orchids. It has a membership (by invitation) of around 100 people and is run by a Board of Directors, of which Gerald McCraith is the Chairman. It is a voluntary and non-profit organisation.

The A.O.F. has been approved as a Scientific Research Institution. All donations received are deposited into the Australian Orchid Trust Fund and are tax-deductible. A Research Committee of seven research scientists from all around Australia, each with extensive professional experience in orchids, make recommendations to the Board of Directors in matters regarding proposed research

Notes on the Australian Orchid Foundation (contd.)

projects. Each member of this research committee has to be approved by the Government authority, C.S.I.R.O. The current Chairman of this committee is David Jones from the National Botanic Gardens, Canberra.

In the 14 years since it was established, the A.O.F. has spent a great deal of money assisting Australian orchids. This has included jointly funding many expeditions into Cape York Peninsula and, most recently, the Torres Strait Islands, where many new orchid species have been found and ranges of known species extended. An expedition to a poorly known area of Western Australia was funded in 1980.

The projects which the A.O.F. has supported are too numerous to list. Direct conservation work has included the fencing of the area in Western Australia where the rare *Caladenia cristata* was rediscovered, and assisting in the establishment of the Henry Somerset Flora Reserve in Tasmania to preserve a beautiful terrestrial orchid area where rare *Caladenia* occur. A major conservation project has been the establishment of the Seed Bank, which has become well known and acclaimed worldwide as a positive step in reducing pressure on plants in the wild.

The A.O.F. has financed several publications, the most important of which has been the translation into English of R. Schlechter's "Orchidaceae of German New Guinea", which was a mammoth task but of great importance to make available to English speaking people the great volume of Schlecter's work. The most recent publication of the A.O.F. is "Australian Orchid Research". The journal is edited by David Jones, and articles are refereed thoroughly before publication in accordance with scientific journal standards.

The entire contents of "Australian Orchid Research", Volume 1, is the Catalogue of Australian Orchidaceae, by Mark Clements, which lists all Australian species, their type collection details, all synonyms, distributions, all cross referenced for easy access to information. Several new species are described and new combinations and new synonyms made. This is a result of six years of intensive work by Mark at the Australian National Botanic Gardens Canberra, Kew Gardens England, and at other relevant herbaria around the world.

Subsequent volumes of "Australian Orchid Research" will be published as material comes to hand and it will be the vehicle for the descriptions of the many new Australian species which have come to light as a result of the research conducted by David Jones and Mark Clements, assisted by many people around Australia.

Current projects which the A.O.F. is funding, or considering funding, include:

Research into the Dendrobium Beetle, a curse of New South Wales and Queensland.

Stigmatic receptivity - when is it right for the pollen, when is the pollen most viable.

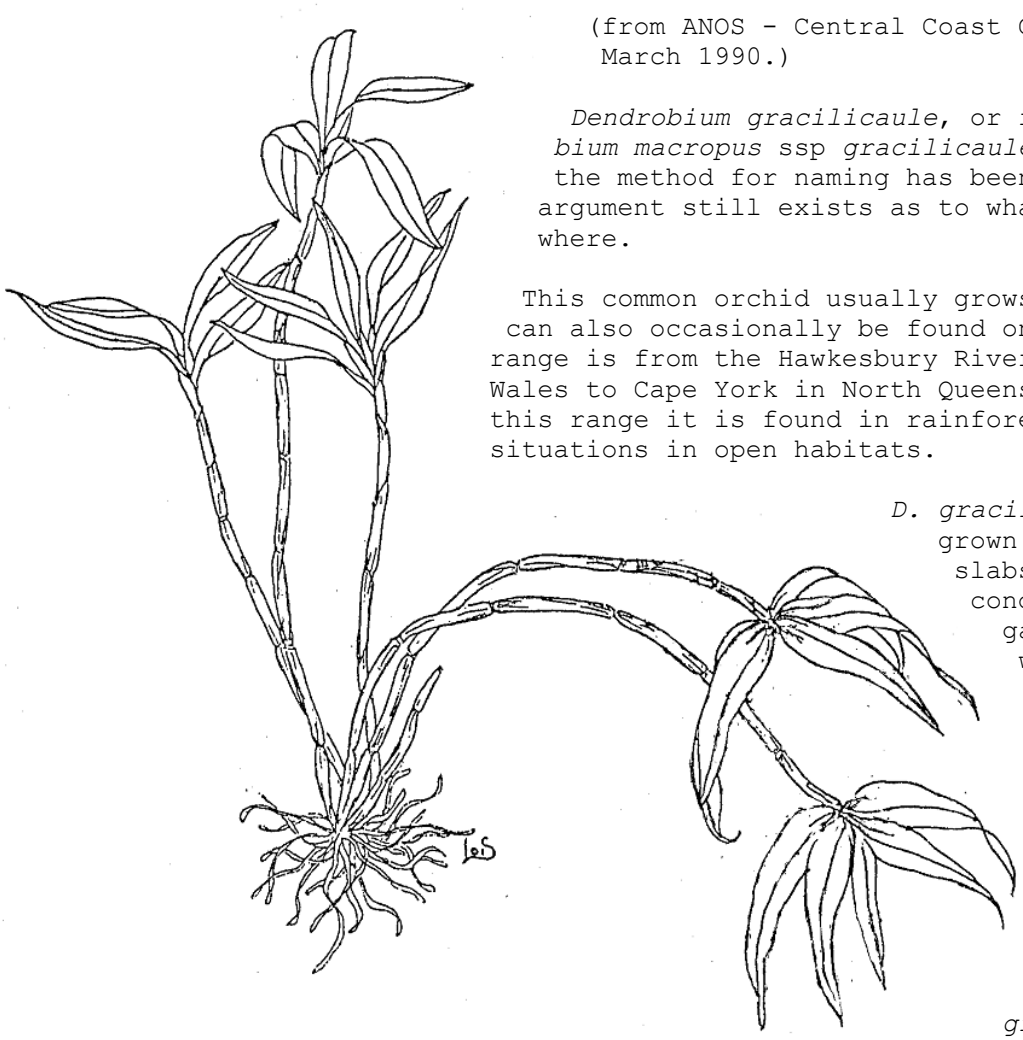
Pterostylis gibbosa, a rare and endangered terrestrial orchid from New South Wales - proposed studies to provide ecological information, a future plan of management.

Leaf tip die back of orchids of various genera.

Helen Richards

DENDROBIUM GRACILICAULE

(from ANOS - Central Coast Group, March 1990.)



Dendrobium gracilicaule, or is it *Dendrobium macropus* ssp *gracilicaule*, for while the method for naming has been determined, argument still exists as to what plant fits where.

This common orchid usually grows on trees but can also occasionally be found on rocks. Its range is from the Hawkesbury River in New South Wales to Cape York in North Queensland. Within this range it is found in rainforests and moist situations in open habitats.

D. gracilicaule is best grown mounted on slabs in bushhouse conditions or on garden trees to which it is easily established, requiring cool, humid conditions.

In nature hybrids occur with *Dendrobium speciosum* to form *D.* x *gracillimum* and *D. kingianum* to form *D. x suffusum*. Hybridists have also been busy with this species creating man-made hybrids.

This species also extends to New Caledonia, Fiji, Norfolk Island and Lord Howe Island.

NEW HYBRID REGISTRATIONS

Name	Parentage	Registered by
Pterostylis sentinel	*P. abrupta* x *P. rogersii*	Nesbitt
Pterostylis rogoff	*P. ophioglossa* x *P. rogersii*	Nesbitt
Pterostylis Chocolate Drop	*P. pedunculata* x *P. cucullata*	Nesbitt
Pterostylis Marelba	*P.* Mary Eleanor x *P. baptistii*	Nesbitt
Thelymitra Melon Glow	*T. antennifera* x *T. luteocilium*	Nesbitt