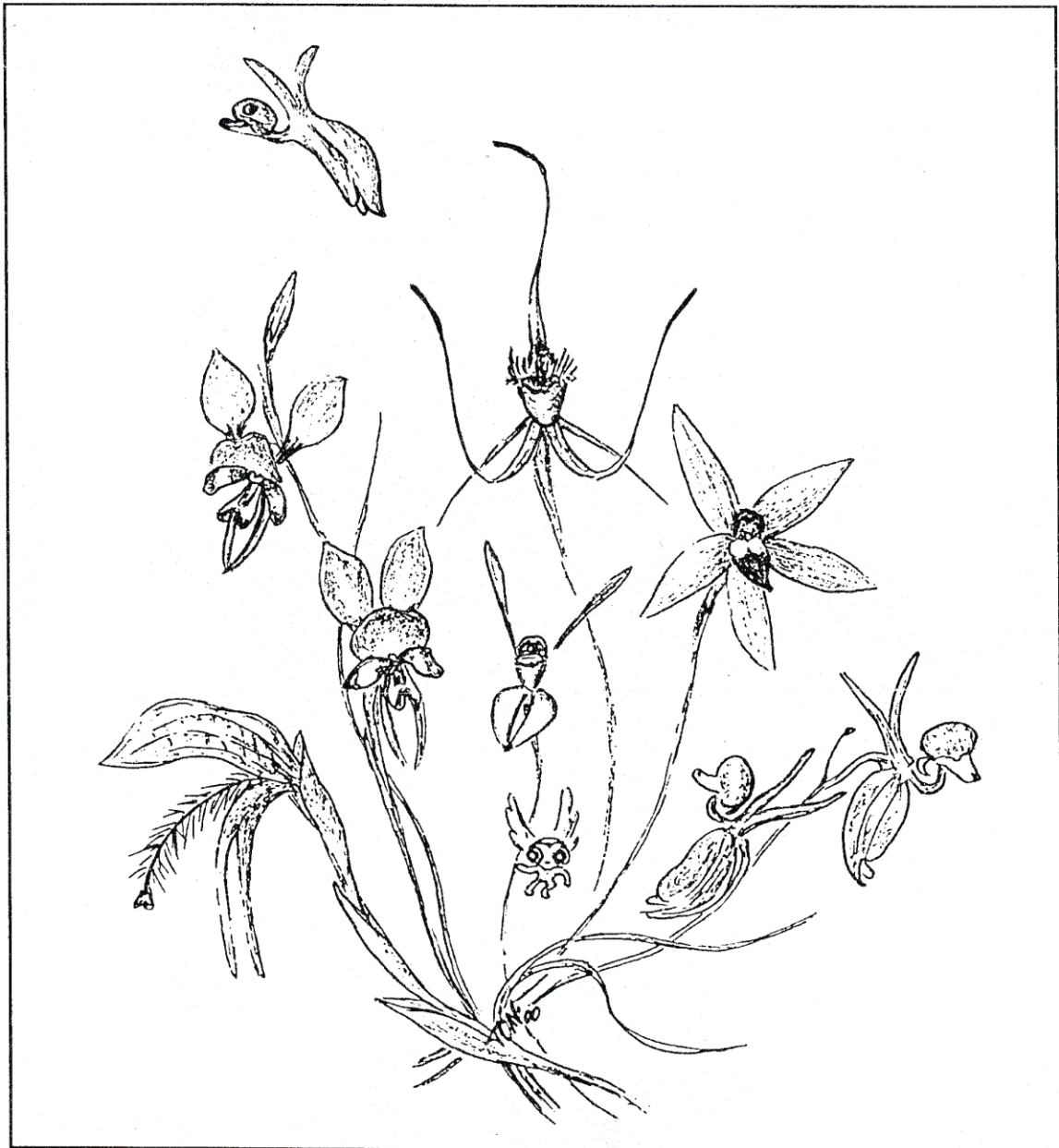




Journal
of the
Native Orchid Society
of
South Australia Inc



NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

POST OFFICE BOX 565 UNLEY SOUTH AUSTRALIA 5061

The Native Orchid Society of South Australia promotes the conservation of orchids through the preservation of natural habitat and through cultivation. Except with the documented official representation from the Management Committee 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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FEBRUARY 2001

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FEBRUARY MEETING

Tuesday, 27 April, St Matthew's Hall, :Bridge Street, Kensington. Meeting starts at 8:00 p.m. Doors to the hall will be open from 7:15 p.m. to allow Members access to the Library and Trading table. Guest speakers will be Thelma Bridle and Cathy Houston who together. will reflect on the high points of last year's field trips and conservation initiatives. This promises to be a most interesting and exciting meeting with lots of photos.

DIARY DATES

27 February First General Meeting for 2001
 24-25 March Next field trip
 27 March Annual General Meeting
 31 March Parks Festival Belair
 15-16 September NOSSA Spring Show
 24-28 September First International Orchid Conservation Congress, Perth, WA

NEXT COMMITTEE MEETING

Wednesday 7 March at the home of Cathy and Malcolm Houston. Meeting commences at 7:30 p.m.

FOR YOUR ATTENTION - N.O.S.S.A. NEWS

Trading Table. Items are needed for the trading table. Items don't have to be orchids.

Journal Articles are sought (from you the reader). In particular, we need more articles about epiphytes. Make 2001 your year to contribute. Many thanks to those who kept the Journal alive through 2000. The Society is privileged to have a core group of authors who regularly contribute. This (the February) Journal has been tough putting together with very few articles submitted. We need articles about your own experiences in growing or seeking native orchids. Your editor has put a couple of paragraphs together on two orchid species. Why not extend these with your thoughts/concerns etc.

Tips for Better Orchid Growing. In an earlier Journal, I asked Members to pass on their tips for better orchid growing. I haven't had many responses. I hope, before the end of this year to publish a listing.

Library: NOSSA has a very extensive Library from which all Members are encouraged to borrow.

Judging Classes will continue again during 2001. Any Member wishing to join the group will be made very welcome. The classes are not technical or difficult and participants are not required to sit tests or exams. In addition to judging matters general discussions on all aspects of Australian Native Orchids, both terrestrials and epiphytes are examined. The meetings are held at various judge's homes usually once a month on Saturdays from 9.30am to noon. If you are interested in joining the group feel free to talk to Reg Shooter either at a meeting or by phoning him on 82352323

URGENT BUSINESS NEEDING PARTICULAR ATTENTION NOW

Two positions will become vacant as of the March AGM. Your Society urgently requires volunteers to take on the positions of 1) President and 2) Journal Editor. If you would like to take on either of the two positions please contact a NOSSA committee Member. I would like to continue as Editor but with ever expanding pressures from my employer I am finding that I have less and less time to devote to the Journal. Other Committee positions will also become available come the AGM in March

RARE PLANTS GET REVIVAL HOPE

(after The West Australian, June 6, 2000 - also published in the A.N.O.S. Victorian Group Bulletin Vol 33 No 2)

Kings Park Scientists have made a world-first plant cloning breakthrough which could allow them to emulate and beat nature by mass producing rare native species. The breakthrough could be used to grow endangered plants or to produce particular species identified as valuable for land reclamation or fighting salinity.

Kings Park and Botanic Gardens Director of Plant Science Kingsley Dixon said the process, known as somatic embryogenesis, was faster than starting with seeds from wild plants.

The program, five years in the making, involved taking a piece of the plant and putting it in a hormone gel, from which it produced many cells. The cells then went into a hormone cocktail, which tricked them into believing they were an egg in a flower that had just been fertilised. They then produced plant embryos that could be grown into copies of the original plant. Maggie Panaia, a PhD student involved in the work, said the process could overcome difficulties caused by some native plants which produce little seed. Some seeds were also difficult to germinate. One gram of plant cell could produce up to 60,000 artificial seeds.

Dr Dixon said the process could be particularly useful in regenerating wetlands and native heaths. He said rushes and reeds did not produce many seeds and they did not have a good survival rate.

USING GENETICS TO ANSWER TAXONOMIC QUESTIONS, PART 2
or: (TO SPLIT OR NOT TO SPLIT)

By Doug Bickerton

In the December 2000 edition of this journal I wrote an article that illustrated (I hope) how genetic analysis can help to explore taxonomic issues. I gave the example of one of the taxa covered by the Lofty Block Threatened Orchid Recovery Project - a form of *Pterostylis* aff. *nana* known from two populations 80kms apart. Are they the same taxon, even though they are found in different habitat types? By using Allozyme Electrophoresis, Mark Adams of the Adelaide Museum was able to verify that the two populations are indeed the same taxon, and also that each population is clonal.

In this article I detail the work done on another taxon, and mention another not-quite-so-successful story.

Caladenia gladiolata

This small but distinctive plant could once be seen in woodlands and woodlands in at least 10 places between Dutchman's Stern CP in the Flinders Ranges to Scott Ck CP south of Adelaide. Now it is apparently limited to Mt Remarkable NP and Scott Ck CP. The two latter Parks are separated by 300km, and some NOSSA members had noted that photographs of *Caladenia gladiolata* individuals taken at both Parks showed differences in appearance. The Scott Ck plants are smaller, with lighter coloured sepal tips. So the question was raised: Are they the same taxon?

In September last year tissue samples were taken from plants at three populations: 10 each from two populations in Mt Remarkable NP and 20 from Scott Ck. The Allozyme Electrophoresis analysis indicated that the Scott Ck plants are the same species as the Mt Remarkable ones.

What does this signify? To begin with, it's good news for me because if the Scott Ck plants comprised a distinct species I would have to write a separate Recovery Plan for it! But apart from that, it means that the species was probably much more widespread at one point in time, probably up until the time of European settlement. The nearest population of *C. gladiolata*, now presumed extinct, is at Tothill Range, 150km away. If these populations had been separated for say 10,000 years one could expect allopatric speciation to occur (i.e. when two populations of a species become separated geographically and evolve into two species), but it hasn't happened. It is likely there were many more *C. gladiolata* around until 200 years ago, and there may still be populations out there waiting to be discovered.

Pterostylis aff. *biseta* (Mt Brown)

Unfortunately not all forays into the brave new world of gene technology meet with resounding success.... In 1994, when Bob Bates was helping the Nature Conservation Society with a botanical survey of the newly formed Mt Brown CP, he discovered nearby a small group of greenhoods that appeared to be closely related to, but distinct from, *Pterostylis biseta*. I decided to find out how closely related they were. Last year, armed with a liquid nitrogen canister, I set off to collect some tissue samples of *P. biseta* from five sites including Sandy Creek, Mt Remarkable NP, Mt Brown CP and the nearby population of particular interest.

Following my return, we discovered to our dismay that the samples had not frozen properly, apparently due to insufficient liquid nitrogen in the canister. Mark Adams was able to run some tests, and find that the apparently different plants probably aren't so different, but the material gave very poor readings and the results are far from conclusive. So the best laid plans of mice and men, or geneticists and orchidologists, have been laid to waste. Better luck next time.

ALLIGATOR GORGE: MT REMARKABLE ADVENTURE- TRIP REPORT By Bob And Kerry Bates

The weekend NOSSA field trip to the Mt Remarkable National Park last September was our most adventurous excursion to date.

Fifteen people stayed at the highest house in South Australia ie the old Ranger's House on the top of the ridge above Alligator Gorge. The first morning we were to work with Doug Bickerton on the endangered *Caladenia gladiolata*, to assess the extent of two populations in this area. We saw several thousand plants, not just *C. gladiolata* but numerous hybrids too. There were so many different caladenias here *C. stellata*, *C. aff patersonii*, *C. woolcockiorum*, *C. tensa*, *C. toxochila*, *C. deformis* to name a few and all except the last one are known to cross with *C. gladiolata*. What with the *Pterostylis* of 5 species including *P. cynocephala* and *P. plumosa*; *Diuris*, *Prasophyllum occidentale*, *Thelymitra* and the various mosquito orchids we were spoiled from the start.

The afternoon was spent on a survey of the Black Range track which after all the recent rains was definitely 4WD. Views across the Gulf to Port Augusta and Whyalla were spectacular. Some more intrepid members then walked down to Hidden Gorge looking for more *C. gladiolata* while others went their own way to explore, each group finding a different set of orchids including a new species of *Caladenia* in the 'patersonii complex', a *Diuris* X *fastidiosa* and *Pterostylis* aff. *smaragdina*.

Of course the member of the party with the fanciest 4WD managed to bog it on the ridge top, now that's a pretty unique place to be bogged. Others of us who had gone to the Wilmington pub for tea arrived back to find the rest were still out on the rescue operation until 10pm.

On the Sunday we planned a 'more adventurous day' looking for a legendary huge population of the threatened *Caladenia woolcockiorum* and the very endangered *Caladenia xantholeuca*. This meant driving on the bitumen down to Mambray Creek park headquarters, piling into the three largest 4WD vehicles and heading up to Sugar Gum Lookout. We all survived half

a dozen crossings of the flooded Mambray Creek. There were splashes of pink all the way along the track so we stopped for a closer look: *Caladenia latifolia* 'mountain form' to 50cm high and with up to 3 flowers and there were thousands of them. Apparently there were none in 1999. The ground under the pines was dotted with rufa group *Pterostylis* species in bud, colonies of 3 different *Microtis* just about to flower, leaves of an undescribed *Thelymitra* and *C. tensa* in full flower.

Once we left the 'river' the track wound through shorter native pine forest and mallee and the orchids were most exciting -hundreds of brilliant pink *Caladenia coactilis*, a similar number of *C. toxochila* and the ubiquitous *C. deformis*. We were searching for a hybrid between *C. coactilis* and *C. deformis* known to occur here instead we found an unusual *Caladenia* which matched very well with the photo of *C. amoena* in Orchids Victoria. Another find of interest was a clump of *Caladenia cardiochila*, only the 2nd time this species has been seen in the Flinders Ranges. Though there were plenty of other orchids like *Pterostylis pusilla*, *P. nana*, *P. sanguinea* and the like we found none of our main quarry the *C. xantholeuca* and *C. gladiolata*.

The highlight of our trip was still to come - the ridgetop tour on which we needed to use the lowest gear available. The track was slippery and there were drop-away scree slopes 1-200 metres deep adjacent parts of the track, which was so steep that heavy gauge cyclone mesh had been permanently bolted on the surface to give extra grip. This sort of driving is not for the faint hearted.

After an hour of spectacular views we were into quality woodland and hundreds of the delightful *Caladenia woolcockiorum* were seen, especially in the Triodia grassland. This species is endemic to the Park and the area adjacent the Mt Remarkable section abounds in them hopefully we will see a population explosion of the species into the previously grazed new section of the Park.



Everyone was very quiet on the return trip just enjoying the fantastic view, everyone but the drivers of course who did not dare for even a second to take their eyes off the track.

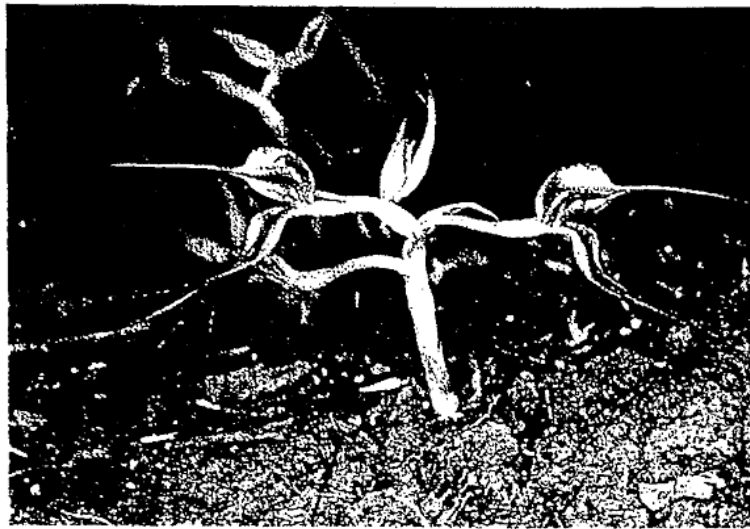
Many thanks to Doug and to Thelma for organising the details. Is there anywhere we can go to outdo this trip? Note: for obvious reasons most tracks in the park are not available to the general public.

This trip was part of NOSSA'S official survey of the Park. We now have a list of 65 species of orchid occurring here. The distribution of each species is to be put on a digital map of the Park.

Previously known as *Pterostylis rufa* var. *despectans* Nicholls

A fascinating orchid to say the least, the species has derived its name from the Latin - lowly or looked down upon, referring to the species habit of placing its flowers close to the ground.

Pterostylis despectans is endemic to central Victoria, where the species grows on shallow soils amongst grass in sparse forests. The orchid is one of Victoria's most endangered species, being known from only about half a



Ballarat area

dozen small colonies all within a very limited area. The plant is difficult to see, even when you are effectively staring straight at it, and it is quite possible the presence of the orchid has been overlooked in some areas. In Victoria, the species is not known to occur in any nature reserves, although some plants on private property are protected by a conservation covenant. Thoughtless and illicit collecting has destroyed at least one colony.

Pterostylis despectans is readily recognised by its extremely short stature, often only 2 - 3 cm tall, its small deflexed flowers and the lateral sepals with long free points that commonly touch the ground. Rosette leaves are narrow elliptical to narrow ovate, with 6-8 encircling the stem. Two - three closely sheathing imbricate stem bracts bear between 1 and 4 on slender stalks to 30mm. The flowers are pale grey green and translucent and smaller than those of the better known *Pterostylis biseta*. The labellum is small, with sixteen to eighteen white setae each about 1 mm long along the margins and two prominent erect setae arising from basal swellings. In order to effect seed dispersal, the pedicels and ovaries of fertilised flowers become erect after pollination has taken place.

Two very similar forms from South Australia include one with flowers hugging the ground, this being from Mount Bryan north of Adelaide. A second form in which the stem is erect and the flowers are not set on the ground is widespread in central Eyre Peninsula in rocky soils of mallee heathland. Both forms may still be in flower in mid summer, which is remarkably late given their arid habitat. Both are dwarf species, up to 10 cm high, with 1 - 6 flowers borne on long to very long decurved pedicels.

Photo scanned from Backhouse and Jeanes *The Orchids of Victoria*

Dockrillia fairfaxii (Muell. And Fitzgerald) Rauschert

by Gerry Carne

Dockrillia fairfaxii is similar to *Dockrillia teretifolium*, but can be distinguished by its straight (as opposed to zig-zagging) stems, its aerial roots and its shorter racemes with larger, white to cream flowers that have stripes at the base of the sepals. Commonly known as the Pencil Orchid, *Dockrillia fairfaxii* forms pendulous clumps to 3 metres in length. Stems are about 4 mm in thickness, are straight, dark green to yellowish and branch outwards to form bushy clumps. Leaves may be up to 70mm in length and are more slender than those of *Dockrillia teretifolium*. Racemes, usually one per stem, are up to about 30 mm long and bear between one and four (generally between 2 and 4), creamy white flowers that are heavily accented with reddish brown stripes at the base of the segments.



The Pencil orchid is found in the higher rainforest areas of central eastern N.S.W., west to the Blue Mountains and northwards to southeastern Queensland. It is found most abundantly in the ranges and tablelands to about 1000m altitude, but in places extends to lower altitudes, but not at sea level, as does *Dockrillia teretifolium*. *Dockrillia fairfaxii* most commonly grows as an epiphyte but has been seen growing as a lithophyte. It seems to prefer growing in quite shady situations, commonly on *Backhousia myrtifolia* and *Casuarina torulosa* (scrub oak).

The species is easy to grow on a slab of treefern and requires cool, humid conditions with lots of air movement, but more shade than would be given to *Dockrillia teretifolium*. Try growing over a small rock or garden pool. Flowering period is from August to October, which is a few weeks later than *D. teretifolium*.

Out of interest, *Dockrillia fairfaxii* was named in 1872 after Fairfax of newspaper fame.

(drawing from David L Jones, Native Orchids of Australia)

The Tuber Bank filled 21 orders comprising 240 lots this year. Last year was 29 orders, 340 lots. There were 72 species offered as compared with 55 last year. Thank you to the growers who supplied tubers, particularly the Victorian Members who were very generous with their donations.

A special thankyou to Malcolm for the tremendous effort he again has put in this year in collecting and distributing the tubers. Not a small job and well done ! ed.

PROPOSED FIELD TRIPS FOR 2001 (Details in future Journals)

March 24 - 25 Mount Monster, Honan's Scrub weekend

April 1 Parks Festival Belair
22 Fox Bog, Scott Creek Conservation Park - weeding

May 13 ??Belair Weeding with TPAG
27 Hindmarsh Valley, *Pterostylis bryophila*

June 16 - 17 Spring Gully area weeding, *Pterostylis despectans* populations

July 1 Halbury weeding
22 Jenkin's Scrub and Cromer Conservation Park, *Corybas* species
29 *Pterostylis despectans* survey, Hallett

August 18 - 19 Perponda, Ferries McDonald etc weekend for *Caladenia capillata*

September 1 - 16 2 WEEK TRIP Yorke Peninsula and Eyre Peninsula

22 - 23 Ngarkat weekend
30 Belair annual survey and weeding

October 1 Aldinga Scrub, *Calochilus* species
7 Spring Gully Conservation Park
14 Kyeema and Kuitpo Conservation Parks
28 Adelaide Plains rufa group *Pterostylis*

November 4 Talisker Conservation Park

January 2002 5 - 6 *Dipodium* Species in the South East - Caroline Forest

Later in 2002, a "Long" trip to Kangaroo Island is planned

The following are taken from "Australian Native Orchids Description and Culture notes" written by Len Field for the A.N.O.S Newcastle Group several years ago.

Dendrobium fleckeri Rupp by Len Field

Described by Rev. Rupp and C. T. White in 1937 and named in honour of Dr. H. Flecker who first discovered it in 1935 in the Mosman River area of North Queensland. Found in an area between the Johnstone and Almon Rivers in North Queensland with most sightings in the Mount Bartle Frere areas. This is Queensland's highest mountain so that will give the indication that this is a plant of the high altitudes where it grows in the mists of these Highlands in an altitude rarely less than a 1000 metres above sea level. It is seldom found below this altitude. Grows on trees mainly but it can sometimes have lithophytic habits although this is rare. While fairly common in its growing area it usually likes a sunny position which it needs to flower well, although it sometimes will grow in heavy shade (this is how I have usually found it).

Two forms exist, one with long slender canes about 300 mm long with no more than two leaves and the other is more robust and only about half the height with four leaves, this form does not readily produce aerial growths as does the other. These differences are due mostly to growth conditions and each will revert to the other. While mostly epiphytic, it can be found on rocks but if so the stems are usually shorter. It is very similar in growth habits to *Dendrobium adae* and *Dendrobium gracilicaule* but the leaves are shorter and thicker than both these plants. Flowers between August and January coloured apricot to yellow and yellowish green with a mushy or spicy fragrance.

Cultivation. Like *Dendrobium adae* this is one of the easier plants to grow if grown in cool and humid conditions. With plenty of air movement and should be watered well in the summer months but allowed to dry out between watering. Low temperature is not a problem with this orchid and is best grown in pots with a coarse mix. It needs light to flower with flowers lasting up to two weeks but very sparse in their growth habits.

Dendrobium x delicatum Bailey 1902

by Len Field

Common name dainty orchid

Named from the Latin *delicatus*, meaning dainty

Other names *Dendrobium speciosum* (Smith) var. *delicatum* Bailey 1884

Dendrobium speciosum (Smith) var. *nitidum* Bailey 1884

Dendrobium kestevenii Rupp 1931 Now a separate species

Dendrobium kestevenii var. *coloratum* Rupp 1943

Tropilis x delicata (Bailey) Butzin 1982

Tropilis x delicata (Bailey) rauschert 1983

Dendrobium speciosum (Smith) var. *album* Williams 1888 (it is still known in Europe by this name).

The type plant was collected at Spring Bluff near Toowoomba Queensland in 1884 by a Mr. Benjamin Crow and sent to F. M. Bailey the then colonial secretary of state who named it as a variety of *Dendrobium speciosum*, but it was later realised that it was a hybrid between *Dendrobium kingianum* and *Dendrobium speciosum* (now *Dendrobium tarberi*). In 1892 this was the first hybrid made using Australian *Dendrobium* species as parents and was named *Dendrobium specio-kingi*.

A Mr. Slater in 1930 found a plant on Alum Mountain Buladelah in N.S.W. which was given to Dr. Leighton Kesteven after who it was named. Much debate has raged over the years whether the two plants are the same or not. Firstly the two were separated by Reverend Rupp and later the name *Kestevenii* was dropped as it was claimed that they were similar plants but now the name *Dendrobium x kestevenii* has been reinstated so I will describe them as separate species.

Dendrobium x delicatum is found in an area from the Hunter Valley in N.S.W. to S.E. Queensland around the Blackall Range with its main growing area around the Toowoomba area of S.E. Queensland. It can be found wherever *Dendrobium tarberi* and *Dendrobium kingianum* grow together. An other place that it has been found is at Carnarvon Gorge where *Dendrobium kingianum* and the type of *Dendrobium curvicaule* that grows there have been crossed and it has also been found where *Dendrobium kingianum* has crossed with *Dendrobium rex*.

Growing only on rocks and cliff faces (lithophyte) where it forms medium to large sized clumps with roots deeply matted growing in full sun at an altitude of between 100 and 900 metres and rarely or never found near the coast. Although rare in nature it is quite common in collections mostly from man made crosses with *Dendrobium speciosum x Dendrobium kingianum* the most common of these. Growth is intermediate between both parents with stems not as robust as *Dendrobium tarberi* but much more robust than *Dendrobium kingianum*, also it tends to grow a large number of aerial growths and flower regular following the parentage of *Dendrobium kingianum*.

Flowers. Flowering takes place from August to October with 5 to 15 flowers with individual flowers up to 30mm but usually less in diameter, coloured white, cream or tinted with pink or mauve growing from erect racemes and long peduncles. These flowering spikes grow from near the apex of the numerous pseudobulbs.

Cultivation. This is a popular and easy to grow widely cultivated plant especially in the more temperate parts of Australia where it is best grown in shallow pots with plenty of room, good air movement, strong light in a cool humid environment. Water well in the hot months but do not allow the plant to get wet feet and reduce the watering as the weather cools, do not allow the plant to over dry out or the canes will shrivel to the detriment of the spring flowers. Try to keep the minimum temperature a bit above 0° Celsius.

THINK YOU ARE HAVING A BAD DAY?

Fire authorities in California found a corpse in a burned out section of forest while assessing the damage done by a forest fire. The deceased male was dressed in a full wet suit, complete with scuba tanks on his back, flippers, and facemask. A post-mortem revealed that the person died not from burns, but from massive internal injuries. Dental records provided a positive identification. Investigators then set about to determine how a fully clad diver ended up in the middle of a forest fire. It was revealed that on the day of the fire, the person went for a diving trip off the coast some 20 miles from the forest. The fire fighters, seeking to control the fire as quickly as possible, called in a fleet of helicopters with very large dip buckets. Water was dipped from the ocean and then flown to the forest fire and emptied. You guessed it. One minute our diver was making like Flipper in the Pacific, the next he was doing the breaststroke in a fire dip bucket 300 feet in the air. Apparently he extinguished exactly 5'10" of the fire. Some days it just doesn't pay to get out of bed.
(This article was taken from the California Examiner, March 20, 1998)