

NATIVE ORCHID SOCIETY  
of  
SOUTH AUSTRALIA  
JOURNAL

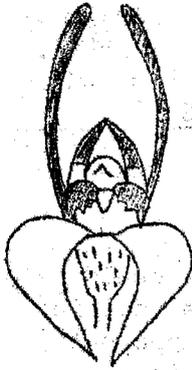


*Pterostylis unnamed*

Registered by Australia Post  
Publication No. SBH 1344

— FEB 1984





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Volume 8, No. 1

February 1984

Registered by Australia Post Pub. No SBH 1344

(50¢)

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NEXT MEETING

When: Tuesday, 28 February, 8.00 p.m.

Where: St Matthews Hall, Bridge Street,  
Kensington.

Subject: Mr Ken Herring, A.A.P.S., A.C.C.A.,  
who is a photographer-botanist, will  
treat us to a slide show entitled  
"Flower Portraits".

ANNUAL GENERAL MEETING

The NOSSA Annual General Meeting will be held  
on Tuesday, 27 March, at 8.00 p.m., prior to  
the Ordinary monthly meeting.

Nominations are required for the following  
positions: President, Honorary Secretary,  
Honorary Treasurer, Committee (two positions).

All sitting members are eligible for re-  
election.

Nomination forms are available from the Secre-  
tary, or at the February meeting. Completed  
forms must be lodged with the Secretary twenty-  
one days prior to the Annual General Meeting.

REQUEST FOR LOAN OF SLIDES OF EASTERN STATES SPIDER ORCHIDS

(Extract from the W.A. Native Orchid Study and Conservation Group Bulletin, December 1983.)

I wonder if members of . . . eastern states orchid clubs could help with the following request. I am currently engaged in a revision of W.A. members of the genus Caladenia. It's becoming apparent that I need to know more about eastern states species before drawing firm conclusions about those in W.A. For example, careful comparisons of eastern and western members of the C. patersonii, C. filamentosa, C. huegelii and C. longiclavata groups are needed.

Whilst I have been able to see and borrow a good range of herbarium material of eastern states Caladenia, this is no substitute for seeing fresh specimens or slides/photographs of the same. I am seeking assistance from anyone interested in lending a selection of slides of eastern states Caladenia to me to examine and duplicate for further study.

Specifically, I am seeking a few examples of each eastern species (especially South Australian, Victorian and Tasmanian) that show normal specimens and major common variants. In variable groups such as C. patersonii and C. filamentosa, several slides would be most welcome. It would help if the location, date and species name were provided on each slide.

Any assistance received will be acknowledged in the published revision.

Stephen Hopper  
W.A. Wildlife Research Centre  
P.O. Box 51  
WANNEROO. W.A. 6065

GARDEN WEEK

To be held on March 24-29  
in the Walter Duncan Building, Wayville.

NOSSA once again have accepted an invitation to mount a display. The theme this year is called "An Enchanted Forest". We should be able to display a lot more flowers this year as the exhibition is held a month later than last year.

FRONT COVER

Ann Prescott, by providing a drawing of an unnamed species of Pterostylis of the rufa group, has once again spoiled us. The plant was collected last year near Lake Everard in the north of South Australia by R. Bates. Specimens have been lodged in the state herbarium.

Thank you Ann.

CULTURE NOTES — TERRESTRIALS

Welcome back to NOSSA.

After the holiday break we are all looking forward to the next meeting to talk about our favourite plants and renew friendships.

Several members have reported an early start to the terrestrial season with Pterostylis species and a couple of Diuris species popping up already. For some of the eastern states Pterostylis of the cauline group, this is normal, especially if you keep the pots cool during the summer (a cellar is ideal but underneath a shaded bench in the shadehouse will do nicely). Very light watering should take place when the first shoots appear but do not overdo the watering or place pots in the sun for we are sure to get some more hot weather yet and this could cook your plants before you know it.

The Diuris are really out of season but it was probably the rain in late December and early January that started them off, anyway, these too should be kept slightly damp if they are up.

If you have not finished repotting by now it would be best to leave it until next year as the new shoots which are already beginning to grow from the tubers are very easily broken off while sifting them from the soil.

Apart from that all you can do is wait for the rains to come in March and then start searching for plants to appear — and keep those fingers out of the pots or you may damage one of your best plants looking for the new growths.

This is also the time to start taking notes when plants first appear, etc.: when they flower and how many flowers from a given number of tubers; what kind of soil; what conditions (i.e. shaded or not, damp or dry). Anything that may assist in years to come to help you understand and grow our orchids better and, more importantly, multiply them. A card index system would be a good way to store information, otherwise an exercise book will do.

Editor.

FIELD TRIPS FOR 1984

The tentative schedule at this stage is:

Sunday	17 June	Tailem Bend Forest Reserve
Saturday	4 August	Lobethal Forest Reserve (afternoon only)
Sunday	18 August	Moonta to Maitland roadside verges (whole day trip)
Saturday	15 September	Belair Recreation Park (afternoon only)
Sunday	11 November	Riverside Reserve to Nangkita (11.00 a.m. meet)
Saturday	5 January (1985)	Dipodium special (Mt Lofty) (morning only)

#### AN EVENING WITH WARREN STOUTAMIRE

Doctor Warren Stoutamire of Akron, Ohio, is the foremost expert on pollination of both Australian and American terrestrial orchids. Dr Stoutamire has made many extended visits to Australia, studying, capturing and identifying pollinators, particularly where pseudo-copulation is involved, i.e. of many Caladenias, Chiloqlottis, Drakea, Spiculea, Cryptostylis and Arthrochilus. On his latest trip he arrived in Western Australia in September 1983 and will leave this February. We were fortunate to meet Warren during his brief stay in Adelaide.

Warren pointed out that it could take several weeks of concentrated field work just to locate and photograph the pollinator of one orchid species (this is probably the reason why we do not have many Australians working in this field!), but his photographs make it seem all worthwhile. He showed us slides of male wasps on species of Drakea and Caladenia which are so rare and little known themselves that they have not yet been named and probably neither have the wasps! How many Australians have seen even one wasp on a Caladenia? One of Warren's slides showed several wasps flying against a strong wind trying to enter a Caladenia dilatata. Warren's work with American orchids revealed a Platanthera which has the column twisted either to the left or right so that the pollinia will be positioned on either eye of the pollinating moths and he had the slides to prove it!

Warren's interests also extend to breeding and hybridising those fantastic Disas of South Africa and his slides show that he has had outstanding success in this field also.

#### HISTORY OF SOUTH WESTERN AUSTRALIA'S TERRESTRIAL ORCHIDACEAE

R. Heberle

#### COLONIAL COLLECTORS — SWAN RIVER COLONY 1829-1840

##### GEORGIANA MOLLOY 1805-1843

Georgiana Molloy was the wife of Captain Molloy, magistrate and settler at Augusta in 1837. Over a period of six years, she collected seeds, plants and specimens for Captain Mangles who grew these in his own gardens and made surplus available to English gardeners and nurserymen. She kept a regular correspondence with Mangles and made a major contribution to botanical knowledge which George Bentham recognised in "Flora Australensis". Even though Mangles claimed most of the credit for her work, she wrote in 1843, when on her deathbed: "I have sent you everything worth sending".

George Hailes, prominent English gardener, wrote of her: "Not one in ten thousand who go to distant lands has done what she did for her native land, we have indeed to especially lament - 'From lifes rosy children the gems drop away' ". Georgiana Molloy assisted all who enjoyed her hospitality including Drummond and Preiss.

A number of her orchid collections were made but most reduced to synonyms she shared with James Drummond.

Caladenia hirta, Lindley 1840, Mrs Molloy Vasse.

EFFECTS OF THE ASH WEDNESDAY  
BUSHFIRES ON ORCHIDS IN THE ADELAIDE HILLS

R. Bates

The fires which burnt out hundreds of square kilometres of the hills near Adelaide in February 1983 have been both beneficial and destructive to the orchid flora.

Fires have been a part of the scene for thousands of years. The aborigines used fire to flush game but they burnt on calm days when there was still moisture enough to prevent a total conflagration. Lightning-strikes caused fires but these were on overcast days and the rain which fell afterwards was often enough to quell the fires.

The Ash Wednesday bushfires were unusual in that they occurred after a record drought when soil moisture was negligible on a day of over 40°C with gale-force winds, consequently the fire gave a total burn of the surface leaf litter. In many areas the soil was sterilised up to 5 cm below the surface and in peaty swamps and around tree stumps up to a metre or more. The tremendous heat destroyed all orchid tubers in some areas.

In Cleland Conservation Park it was noted that in some gullies with deep leaf litter no orchids whatsoever came up after the fire. Careful searching failed to reveal a single surviving plant of Corybas dilatatus and in the burnt areas Pterostylis nana and Pt. pedunculata had disappeared. Where there were once huge colonies of Acianthus there were after the fire just occasional survivors. In one swamp I had counted in 1981 over one hundred plants of Prasophyllum australe, after the fire just a dozen remained. Along the Mt Lofty Summit road before the fire each year it was possible to count scores of Dipodium punctatum: in the summer after the fire not one was located. Nevertheless in unburnt or slightly scorched areas there have been survivors and it is from these that the affected orchids will probably repopulate the park. Yet the effects of the fire were not all bad as anyone who visited the park in the spring of 1983 would have witnessed.

With rainfall well above average after the fires, orchids on the dry, rocky slopes and ridges really thrived. It seemed that every plant of Diuris maculata and D. longifolia flowered and the seed produced will ensure that these will be common in the years to come, likewise with the spider orchids Caladenia dilatata, C. leptochila and C. pusilla. I had never seen Caladenia deformis in Cleland Park before but after the fire there they were in hundreds. Of course one effect of the fire was to remove all the undergrowth and allow the orchids to be visible from a distance; there was no need to go on hands and knees to spot them.

The fire provided the stimulus for some orchids which had not flowered for many years to bloom en masse. It was not possible to walk through many areas near Kuitpo without treading on Lyperanthus nigricans flowers and, judging by the huge seedpods, many billions of seeds must be produced. It was a similar story with Caladenia menziesii — some plants had up to four flowers and in one square metre I counted over 100 flowers.

We know that the nitrogen and phosphate available to the orchid increases fourfold after a fire but this can not be the only reason for increased flowering as adding extra nutrients to plants in cultivation does not stimulate some to flower, nor does the extra light available, so there must be some hormonal stimulus triggered by the fire, but what is it?

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Effects of the Ash Wednesday Bushfires on Orchids  
in the Adelaide Hills (contd.)

Below is a list of some orchids which exhibited increased flowering in burnt areas and the approximate amount of increase.

x 10	Caladenia deformis	x 5	M. parviflora
x 500	C. menziesii	x 2	M. atrata
x 10	C. pusilla	x 2	Pterostylis nutans
x 5	C. rigida	x 10	Prasophyllum australe
x 10	Diuris brevifolia	x 5000	P. elatum
x 10	D. longifolia	x 5000	P. frenchii
x 2	D. maculata	x 1000	P. fuscum
x 5	D. "Pioneer"	x 5	P. patens
x 5000	Lyperanthus nigricans	x 2	Thelymitra aristata
x 20	Microtis unifolia		

Other species showed increased flowering in some areas but not in others. For some orchids the increase in flowering peaks two to three years after a fire, i.e. Thelymitras which benefit from the increased light. It would seem that Caladenia, Diuris, Lyperanthus, Microtis, Prasophyllum and Thelymitra all benefit in the long term from occasional burns but that Acianthus, Corybas and Pterostylis must suffer.

TERRESTRIAL STUDY GROUP

<p>The next meeting will focus on the exciting and colourful sun-orchids, the genus <u>Thelymitra</u>.</p> <p>Please bring slides and a plate of supper.</p> <p>New members please ring 251 3450 if interested.</p>	<p>It will be held at the home of</p> <p>Mr R. Bates</p> <p>38 Portmarnock Street</p> <p>FAIRVIEW PARK</p> <p>on Tuesday, March 13</p> <p>at 7.30 p.m.</p>
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FEBRUARY CULTURE NOTES FOR EPIPHYTES

Reg Shooter

At this time of the year all repotting should have been completed. If not leave this operation until next autumn, that is, unless the compost is so decomposed as to threaten to destroy new roots (when it would be best to repot and keep the repotted plant in a cool, shady spot until established). Be careful with watering during the period of re-establishment.

New growths should be growing away well at this time — they are very vulnerable at this stage to insect and caterpillar attack. If you only have a few plants it is best to inspect the plants daily and pick off any insects you see. This is not really practicable with a larger collection

February Culture Notes for Epiphytes (contd.)

and a spray with an insecticide on a monthly basis using such as "Rogor" and "Dipel" is to be recommended.

If fungal outbreaks occur "Fongarid" spray is quite effective, however, in a well-regulated collection with plenty of ventilation under and around the plants fungus should not pose too great a threat in South Australia.

As the new growths lengthen train them carefully to the required position to produce a well-balanced plant. The results of this training will pay off at flowering time with the flowers standing above the plant instead of at odd angles all over the place. Be careful when manipulating these new growths as in the early stages of development they are extremely brittle. Easy does it — perhaps taking several days to bring a recalcitrant growth to the required position. If the growth is coming away from the mature pseudo-bulb at an acute angle then a judiciously placed plastic label will start to lift the growth. As it gets longer tie the elongating growth to a thin cane. Once the growth hardens the cane can be removed.

This is the hottest time of the year and a little extra protection should be given to protect against sunburn and dehydration. If you are home all day then a misting with a garden hose several times a day in the hottest periods is beneficial. However, many of us are away all day and the plants have to go for long periods between attention. Ideally the floor of the area housing your orchids should be of a water retentive nature such as wood shavings, scoria, etc., and if you give the floor a really good saturating soak and the plants a misting before going to work and again when you come home they should grow away quite well.

If the plants are housed in a shadehouse with the traditional 50% shading it is a good idea to strengthen this with another covering of 50% cloth to give protection against sunburn. This can be removed later on in the year as the sun's strength diminishes to allow the pseudobulbs to ripen.

Mounted plants in the shadehouse require extra careful attention (particularly Sarcochilus species), the most humid and shadiest part of the house should be utilised. If in an enclosed glasshouse they could be hung under the benches where the moving air from a fan can keep the air fresh and buoyant.

Fertilise seedlings fortnightly with half or third strength fertiliser (either organic or inorganic fertilisers can be used). However, avoid slow-release fertilisers, as, in my experience, root burn results possibly as a result of relatively large doses of nutrient being received by the roots resulting in their destruction. I do not regularly fertilise mature native epiphytes only giving one or two half strength feeds during the growing season. I believe too much fertiliser results in lush green plants at the expense of flowers. I do feed the tropical terrestrials such as Phaius, Calanthe, etc., however, that's another story.

If some of your plants throw out-of-season flower spikes at this time of the year (Den. "Hilda Poxon" has this tendency) try to be strong and remove them before they develop. The reason for this is twofold, firstly, the plant needs all its resources to fully develop its new growths for the coming season and secondly, if the flowers are allowed to mature fully they only last a very short time due to the heat and are often of an inferior quality.

Remember it is the conditions and treatment given at this time of the year that determines the eventual growth and ultimately the flowering potential.

EPIPHYTES AND OTHER THINGS

(An extract from R.S. Rogers, "An Introduction to the Study of South Australian Orchids", second edition, published in 1911.)

"Hitherto I have spoken only of terrestrial forms, that is to say, those that grow from tubers in the earth. This group comprises by far the largest number of our orchids. But if you were to visit tropical or semi-tropical countries, like the Northern Territory or Queensland, you would find that the order of things is reversed. Instead of hunting for your specimens on the ground, it would be necessary for you to direct your attention chiefly to the trunks or branches of trees or to decaying vegetation on rocks, where these plants are to be found growing.

Among the epiphytes are to be found the largest, the most beautiful, and the most valuable orchids in the world. Some of them have been sold at 2,000 guineas apiece in the open market; others have brought still higher prices privately; and others again are so priceless that their owners have refused to part with them for the most dazzling and tempting offers. Many great men are orchid-fanciers, and amongst these is no less a person than the famous soldier, Lord Kitchener of Khartoum. Scientifically, however, the epiphytic orchid is of no greater interest than those which grow in our own State. In some of the eastern States one of these monsters attains a length of 30 ft (Galeola ledgerii).

The experiences of orchid hunters are amongst the weirdest and most thrilling on record. Here is one:

Some years ago a young man, ignorant of the ways of the natives on the west coast of Africa, innocently collected a large number of specimens of a very rare orchid. Now, it so happened that among these savages the orchid was a holy or sacred flower. The snake was also held in veneration. In their eyes to collect this orchid was the most deadly of sins. He was, of course, detected, and seized by a band of howling painted savages, who thrust him through a small opening into their snake temple. This place consisted of a sort of vault teeming with hundreds of poisonous reptiles. By an act of almost superhuman strength he escaped again through the opening before any of these loathsome creatures had bitten him. He found himself once more in the midst of his enemies. Fortunately for him he had in the crowd some white friends of great influence. These interceded for him, and as an act of great generosity the native priests agreed to forego the punishment to which he had been condemned, and to substitute the one awarded to a person who kills a snake accidentally. This was little less barbarous than the first. A hole was to be dug in the ground into which he was to be thrust. A quantity of dry rushes was to be heaped over the top of the hole and set on fire. The victim had then to spring up and rush for the nearest water and was to be cut and hacked by his enemies until he reached it. This, of course, in most cases meant a horrible death. The sentence was carried out literally. The natives expected him to make for the river, which was some distance off, and had placed themselves at various points of vantage to intercept him in his run. Fortunately his friends again came to his rescue. They knew of a pool of water in a different direction and informed him of this fact. At the critical moment he sprang up, hair and clothing well ablaze, and made for this pool. He escaped with his life, but he collected no more orchids."

(Beware those "diggers"!)