NATIVE ORCHID SOCIETY

of

SOUTH AUSTRALIA

NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

NEWSLETTER

Volume 1, No. 7 **October 1977** Price 40c

PRESIDENT: Mr L.T. NESBITT
18 Cambridge Street
VALE PARK SA 5081
Telephone 261 1550

SECRETARY: Mr E.R. Hargreaves
1 Halmon Avenue
EVERARD PARK SA 5055
Telephone 293 2471
297 3724

VICE-PRESIDENT: Mr P.E. Hornsby

TREASURER: Mr R.T. Robjohns

COMMITTEE: Mrs A.M. Howe
Mrs M.L. Earle
Mr K.W. Western
Mr J.T. Simmons

NEXT MEETING-

When: Tuesday, 25 October, 1977, at 8.00 p.m. sharp.
Where: Goodwood Boys High School, Hardy Street, Goodwood.
Why: Report on the recent Fifth Australian Orchid Conference in Perth by Les Nesbitt and Roy Hargreaves who were there. The Native Orchid Study and Conservation G-roup of Western Australia received a gold medal for their display of Western Australian terrestrial orchids. This group also organised several tours to view the local native orchids. Slides of these goings on will be shown.

Also flowering plant display and commentary, popular vote, raffle and trading table.

LAST MEETING-

Attendance 52

Les Nesbitt, with the aid of slides and some actual flowers which were passed around, showed how to pollinate terrestrial orchids. Pollination is something anyone can do. It is the most effective way of increasing orchid populations in any area. Next time you are on a field day or picnic, hand pollinate all of the orchids you find.

Unfortunately Ray Nash was ill and couldn't attend. His comments on preparing herbarium specimens were deferred until he is with us again.

POPULAR VOTE

Terrestrial: *Caladenia dilatata* grown by Les Nesbitt. A 300 mm plastic tub containing 12 flowering plants and 5 not in bud or flower. A hundred or so tiny seedling leaves were visible, peeping up through the pine needle topping. This pot stands on 400 mm high benching under 50% shadecloth!

Epiphyte; *Sarcochilus ceciliae* grown by Mr and Mrs Auliciems. A lovely specimen of this pink flowered miniature species in a 150 mm squat clay pot. The plant bore 6 sprays of bell-shaped pink flowers and was growing very strongly. It is grown in a heated glasshouse.

RAFFLE

Prizes were *Dendrobium x Delicatum*, *Den. falcorostrum* and *Diuris longifolia*. Reg Shooter held two winning tickets but kindly let one be redrawn.

FIELD DAY

Sunday, 30 October, 1977
Visiting the property of Mr Lean, Acklands Hill Road, Coromandel Valley.
Meet at 2.00 p.m. at the Methodist Church on the corner of Acklands Hill Road and Coromandel Valley Road, Blackwood.

NEW MEMBERS

Dr J.N. Hutchins, Port Pirie
L. Lodley, Oxley, Queensland
J. Shaughnessy, Mount Gambler
H. Goodchild, Greenmount, Western Australia
Mr and Mrs R.M. Wing, Mansfield Park

NOSSA membership has passed the magic 100 and stands at 102. This response in only seven months is nothing short of amazing and is a just reward for the time and energy put in by so many of our members.

DRAFT CONSTITUTION

Committee have prepared a draft of the proposed NOSSA constitution. A copy will be posted to every member for your perusal and comment. Suggestions for alterations or additions are to be in writing addressed to the Secretary, to reach him by 15 December, 1977. It is hoped that the final draft constitution can be adopted at our first Annual General Meeting early next year.

MARION SHOW RESULTS

NOSSA display at the South Coast Orchid Club of South Australia Inc. Spring Show.

CHAMPION AUSTRALIAN NATIVE ORCHID
Chiloglottis gunnii — Mr G. Nieuwenhoven

BEST DENDROBIUM SPECIES
1st *Den. canaliculatum* — Mr and Mrs Auliciems
2nd *Den. linguiforme* — Ms C. Furze

BEST EPIPHYTIC SPECIES - other than a Dendrobium
1st *Sarcochilus ceciliae* — Mr and Mrs Auliciems
2nd *Sarcochilus hartmanii* — Mr and Mrs Auliciems

BEST CALADENIA - one species
1st *Caladenia menziesii* — Mr and Mrs L. Nesbitt
2nd *Caladenia dilatata* — Mr and Mrs L. Nesbitt

BEST DIURIS - one species
1st *Diuris sulphurea* — Mr and Mrs L. Nesbitt
2nd *Diuris longifolia* — Mr and Mrs L. Nesbitt

BEST TERRESTRIAL SPECIES - other than a Caladenia or Diuris
1st *Chiloglottis gunnii* — Mr G. Nieuwenhoven
2nd *Pterostylis plumosa* — Mr G. Nieuwenhoven

BEST DENDROBIUM HYBRID
1st *Dendrobium suffusum* — Ms C. Furse
2nd no award

BEST HYBRID - other than a Dendrobium
no entries

BEST SPECIMEN - species and hybrids eligible
1st *Caladenia dilatata* — Mr and Mrs L. Nesbitt
2nd *Glossodia major* — Mr and Mrs Auliciems

PLANTS ON DISPLAY - 27 September 1977

Mr Tom French, President of the New Zealand Orchid Council was the Distinguished Visitor at this month's meeting. Somehow he managed to avoid giving an address on New Zealand orchids, but he did have a few words to say about Australian natives growing in New Zealand. He maintained, that many of our epiphytes grow better in New Zealand than they do here. He attributed this to the point that most of our epiphytes had developed at a time when the Australian climate was generally less extreme than it is today - that is, at a time when our climate was more like that of New Zealand now. Anyone doubting his words is invited to attend the first New Zealand Orchid Congress, scheduled, to take place in Auckland in October 1980 (so start saving now - $7 per week from now on will just about, keep your nose ahead of the inflationary spiral).

In contrast to Mr French's remarks, and one of the surprising features of this month's display of terrestrials, was the number of dry-land Pterostylis to be seen. These show most markedly how at least some species have adapted to one of the harshest climates in the world. There was *Pterostylis boormanii*, from high-up in the Gammon Ranges in South Australia, and a mixed pot of *boormanii*, *hamata* and *biseta* from Eyre Peninsula, as well as a *biseta* from the Flinders Ranges. Lying between these two regions are the Gawler Ranges, from whence came another mixed pot of *hamata* and *gibbosa* ssp *mitchellii*. Other Pterostylis on display included *rufa var rufa; concinna*, from the south-east of South Australia; and found closer to home, *pedunculata* from the Adelaide hills. The other rufa sub-species, *aciculiformis*, was also on display as a cut flower.

We also saw one pot of *Acianthus reniformis* and three types of Thelymitra - *ixioides*, from the Adelaide hills, *carnea* and *nuda* (syn longifolia) none of which co-operated by staying open long enough to be seen in bloom at the meeting. Cut specimens of the self-pollinating *Thelymitra luteocilium* and *T. antennifera* were also shown. Nicholls (1969) refers to an earlier work by Lindley (c1840) in which he reported that the natives of Augusta (W.A.) ate the bulbs of this last species. (For the record, Cribb (19.75) mentions that most of the bulbs of our native terrestrials are edible, and most,, if not all, have formed part of the diet of Aborigines at one time or another; is there any truth in the rumour that the President is planning a Society Christmas dinner to use up his surplus tubers this year?)

Other cut species included three Prasophyllums - *odoratum, fitzgeraldii* and *pallidum* - all of which are sweetly perfumed, as is *Prasophyllum occidentale*, the species endemic to South Australia (which thereby renders its name somewhat incongruous) that was also on display.

Several Caladenias were on show, including three good pots of, *dilatata*, the best of which was a pot grown by the President, Les Nesbitt, which won the popular vote. Others included *carnea*, a species occurring in many forms and colours, two of which were shown, one white and one pale pink, together with a composite pot of *carnea var attenuata* and *variabilis*. The latter is a natural hybrid of *patersonii* and *tessellata*, from the south-east. One of the parents, *Caladenia tessellata*, a species preferring sandy soils, was also shown, the specimen coming from Murray Bridge. From nearer home, we also saw a cut specimen of *Caladenia reticulata* from the Adelaide hills, and the endemic South Australian species *C. leptochila*. Finally, we saw an example of *C. cucullata*. one of the most floriferous Caladenias.

The genus Diuris was also well represented with three pots of *longifolia*, one being a specimen with a much larger and darker coloured .flower than is usually seen. There was one pot of *maculata*, and one pot of *maculata x longifolia*, this particular plant favouring its former parent in shape and colouration, though with enhanced size. There was also a natural hybrid of *longifolia x pedunculata*, from Mount Crawford. This plant showed the shape of *pedunculata*, with the colour of *longifolia*, but again with enhanced size and longer lateral sepals. Pride of place for this last feature occurs with the pale lavender coloured *D. punctata*, one of our largest deciduous terrestrial orchids, a pot of which was on display. Mainly yellow diuris to be seen included *aurea*, from New South Wales and

Plants on Display (continued)

sulphurea, from south-east South Australia and the eastern states, plus a cut specimen of the diminutive *D. palustris*, one of the smallest of the forty or so species of Diuris, only one of which is found outside Australia.

On the topic of small terrestrials, we also saw two species of Chiloglottis — *gunnii*, a species from the eastern states, where its habitat ranges from open lowland forest to high up in the sub-alpine sphagnum bogs; the other species was *trapeziformis*. According to Nicholls (1969) we were extremely lucky to see this as he says it flowers only under the most favourable conditions.

Finally we saw two genera, both limited to two species, one genus found only in the eastern states, and the other only in Western Australia. The former was the most numerous on display, with eight pots of *Glossodia major* to be seen, ranging in colour from deep purple to very pale forms, one plant having two flowers. The last species was the very striking Elythranthera brunonis, the Enamel Orchid, with shining purple flowers. Until quite recently, these two were regarded as congeneric.

All told, thirty-eight varieties of terrestrials were on show, amounting to a stiff test for Bob Bates, acting as this month's terrestrial commentator. Undoubtedly this is our peak performance for this year, and represents an extremely satisfactory high note for our first year of existence. The prominence of *Glossodia major* also endorsed the choice of that orchid for this month’s cover.

Turning now to epiphytes, vie are grateful to Mrs Mary Earle for her comments on the two genera, namely Dendrobium and Sarcochilus, that were shown this month. The latter included a small specimen of *falcatus*, and a beautiful example of *ceciliae*, grown in a heated glasshouse, and which justly won the popular vote. The third Sarcochilus was a hybrid between *roseus x fitzgeraldii*, with very deep pink flowers. (Clemesha (1969) upgraded the former parent from a sub-species of cecilia to a separate species in its own right, though Dockrill (1969) predicted that the decision would meet with a mixed reception.)

In the Dendrobiums, we saw six examples of *linguiforme*, and another popular species was *beckleri*, with four plants on display. We also saw two examples of the sweetly-scented *falcorostrum*. Another strongly perfumed species seen was *D. tetragonum*, best seen by standing on your head (or turn the plant upside down!)7 There were also three examples of x delicatum including one white form and one tinted pink, plus the cultivar "Apple Blossom". We also saw six examples of *kingianum*, ranging from two deep pink forms to one nearly white form, plus one with mainly white flowers, but with pink-tipped sepals. The remainder were lighter pink in colour, including one really large specimen. Finally, we had only one Dendrobium hybrid this month - *kingianum x gracilicaule = suffusum*; x suffusum is regarded as probably being a natural hybrid between these two.

As a footnote:

1. For those who want to obtain *Dendrobium linguiforme*, they are probably still available in K-mart at $4-00 each; likewise Woolworths have on sale at $3.75 per pot the Chinese ground orchid, *Bletilla striata* - the first "foreigner" to be benched at one of our meetings.

2. Still on the subject of purchases: for anyone requiring cork sheets for mounting epiphytes, The Wood Shed, 105 Belair Road, Torrens Park (Telephone 71 6092) has them for sale in 3' x 1' sheets, in the following thicknesses (approximate price per square foot in brackets): 1" (85c); 2" ($1.50); 3" ($2.20); 4" ($3.00). Hopefully, examples of 2" sheets will be on show at the next meeting.

3. Copies of the list "Orchids of the Mount Lofty Ranges" are still available from the Secretary or Treasurer.

REFERENCES: Cribb A.B. and Cribb J.W. Wild Food in Australia, Sydney: Collins, 1975 Clemesha S.C. (1969) Orchadian, 3, 35 Dockrill A.W. Australian Indigenous Orchids Vol. I, Sydney, SGAP, 1969. Lindley J. (c1840) in Nicholls (1969) q.v. -- Nicholls W.H. Orchids of Australia, Melbourne; Nelson, 1969.

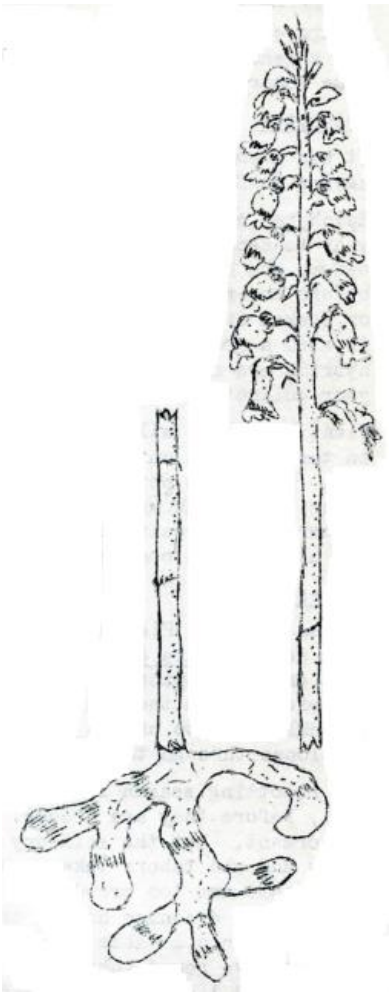
OUR RAREST ORCHIDS - No. 6. R. Bates

Gastrodia sesamoides (potato orchid) is a completely saprophytic orchid, lacking any chlorophyll at all, Its rhizomatous root system contains a fungus which provides food for the plant. The fungus obtains food from rotting vegetation in the soil, often an old tree stump. The orchid provides shelter and a constant environment for the fungus. Their relationship is symbiotic. For most of the year the plant is subterranean, only in November does it send up a flowering spike which by the new year has set seed and dried off.

The flowers are a clear white inside and orange to brown outside with a sweet cinnamon perfume. As many as twenty flowers occur on a metre high stem. A Queensland species has taken a step closer to becoming an underground orchid. It is self-pollinating and only sends up a spike after flowering to aid in seed dispersal.

Gastrodia sesamoides occurs in South Australia in Kyeema Conservation Park and South from there to Spring Mt. National Park. It grows also in Flinders Chase (Kangaroo Island) and as far north as Beachport in the South-East, but it is never seen in large numbers, the most I have ever seen was at a favourite fishing and picnic spot on the River Finniss at Yundi.

Correction to No. 1 in this series (May 1977): the statement that *Thelymitra matthewsii* had been only collected once in Western Australia was incorrect as the species is widespread but not common in that state.



Gastrodia sesamoides

LIBRARY NOTES — October 1977

Added to the library during the month was Orchids of the West, by Rica Erickson. This book was kindly donated by Roy Hargreaves.

A good source of hard-to-get books on orchids is:

Miss Doris Eddey
50 Kardinia Road
Glen Iris Vic 3146

For members who may be interested she states in a recent letter: "In November I will be able to supply Orchids of Papua New Guinea, by Andree Miller - Head of the University Botanical Gardens at Port Moresby. It will be 158 pages, size 21,5 x 18 cm. Price 9.95 (plus postage) it contains over 200 photographs by Ray and Margaret McKay — a feast of beauty and colour. I do not know how many copies will be in the edition, but if your members like to order, they can do so and I do not expect remittance until delivered." end of quote.

We suggest you drop her a line if you want a copy.

CULTURAL NOTES Les Nesbitt

We are coming to the end of another spring flowering season. 1977 was too dry for a general good flowering display although the top growers managed to produce some memorable flowering specimens.

Epiphytes

It was a poor year for *Dendrobium speciosum* with many growers, including myself having no flowers at all on these plants.
Epiphytes commence new growth after the flowers fade. This is the best time of year to repot or remount plants if they need it. Try to have this work done before the end of October to give your plants the maximum time to re-establish before the really hot weather in summer. Plants must be bound firmly to slabs or staked if in a pot otherwise the new roots will not grow properly. October is also a good time of year to purchase plants. Some of the new Dendrobium hybrids are outstanding and a few of these seedlings will add some variety to your collection.

Plants on slabs will need daily watering in warm weather. Watering is best done in the mornings until mid-December when you can switch to watering in the evening. Plants in pots can be watered 2 or 3 times a week if grown in coarse bark mixes. Use tank water if it is available. Salt buildup could be a problem this summer as our reservoirs have been filled with water from the River Murray which has a high salt content. Filtration will not remove the dissolved salts.

Terrestrials

On the Adelaide Plains most species have finished flowering, although a few, such as *Caladenia dilatata* and *Microtis unifolia*, are still to be seen. Seed pods are developing and progressively ripening. Pods should be checked daily and picked when they go brown and just begin to split open. The seed may be sprinkled on top of the pot immediately but I prefer to store it in paper envelopes through the summer and sow in March-April.

The repotting season is almost here so organise your new pots, labels, soil, etc., before they are needed. Some of the early flowering species may already be dormant. Let the soil dry out slowly once the leaves have died down. The roots and old tubers take a week or two longer to dry out than the leaves. If the plants are too crowded, or the soil needs enriching, or if plants have grown through the drainage holes, then it is best to repot. Knock out the soil into a dish or onto a table and separate the tubers from the soil. The majority of species have round tubers about as big as a pea, but large pear-shaped, hand-shaped, and long thin tubers do occur. *Diuris longifolia* has long thin tubers which must be handled gently. If they get broken plant both ends because both pieces are capable of growth. I reuse the old soil after adding some blood and bone fertilizer and mixing in some fresh soil. This has a twofold purpose: (1) to prevent the loss of very small tubers, e.g. seedlings, and (2) to ensure that the vital mycorrhiza are retained to assist in plant growth and seed germination next season.

OCCASIONAL NOTES P. Hornsby

Joan Bree and I had occasion to visit Birdwood on October 4, and at her instigation we stopped to look at a small section of the roadside near Mt. Torrens.
What a sight we saw. In a patch of roadside no more than 50 metres long we found masses of *Glossodia major*, in a variety of colours, patches of *Thelymitra antennifera* in bloom, and an occasional *T. rubra* (almost certainly in bloom, but at 5.00 p.m. we were too late to see them) plus other Thelymitra sp. not yet in flower. We found big patches of *Caladenia menziesii*, but only one flowering, several *C. dilatata*, most of which were still in bud, and *C. leptochila*. Lastly there was *Diuris maculata* just still flowering together with basal leaves of Acianthus sp. and Corybas sp. In other words, well worth a closer examination in future years.

FIELD TRIP TO MORIALTA AND HORSNELL GULLY CONSERVATION PARKS - 2.10.77

The day dawned dull and wet after 12 mm of overnight rain, so the organiser lowered the pressure in his tyres, put 30 litres of water in the boot of his car to hold the tail end down on the wet track and set off. He need not have bothered, since only he and his assistant (who had no option) turned up at the 10.00 a.m. rendezvous. Obviously our orchid-viewers are only fair-weather venturers - the orchids were still there! Who knows, they might even have found *Thelymitra luteocilium* in flower.

Just for the record, a brief survey of the Morialta venue showed the following in flower: *Diuris longifolia* and *D. maculata; Caladenia dilatata* and *C. leptochila; Glossodia major; Thelymitra antennifera* and *T. rubra; Pterostylis pedunculata*. In addition non-flowering examples of *Lyperanthus nigricans* and Microtis sp. were also seen.

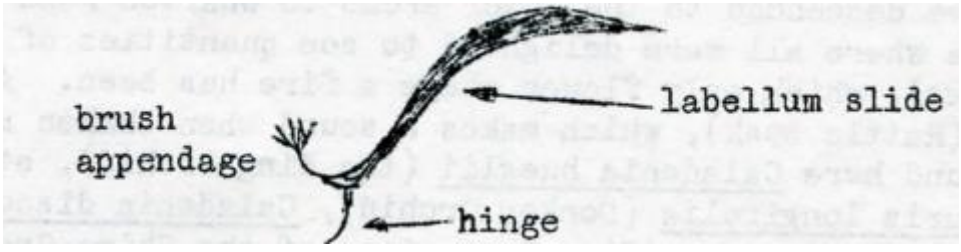
Not to be outdone, we also waited in vain at Horsnell Gully at 2.00 p.m. but again nobody came. An even briefer survey of the upper end of the Park revealed *D. maculata*, and a large number of Thelymitra sp. (non-flowering) in the burned-out patch .

It is hoped that this visit may be resumed a week later on October 9, the Sunday of the October long weekend, which will be too late for inclusion in this newsletter. Should it eventuate, further details will appear in the November newsletter.

POLLINATION OF SOUTH AUSTRALIAN NATIVE ORCHIDS - Part 5 R. Bates

Not all Pterostylis species use the trigger mechanism to catapult insects into a pollinating position as described in Part 4. Species such as *P. curta, P. nutans, alata* and most of the other single-flowered species are far less dramatic in their action. When an insect alights on the labellum of these species it upsets the delicate balance of the labellum on its narrow hinge and it tips backwards causing the insect to fall or slide back into the galea (the hollow main body of the Pterostylis flower; made from united dorsal sepal and petals). The pressure of the insect's weight on cells in the labellum hinge causes plasmolysis of these cells, and without turgidity in these cells the labellum remains where it has fallen back against the orchid column.

Once inside the galea a brush-like appendage on the labellum prevents the insect escaping by any other route than up through the column wings past the stigma where it collects a spot of glue and on past the pollinia which adhere to the glue on the insect.



After twenty minutes or so the cells in the labellum hinge become turgid again and the labellum returns to its forward position.

Those of us at the July meeting will remember Les and Roy showing us a slide of *Pt. curta* cut vertically to show how this mechanism worked.

To sum up — the multi-flowered Pterostylis use a "trigger" catapult action while single-flowered species (+ *Pt. parviflora*) use the slippery slide method, both groups first attracting the insect by emission of sex pheromones.

Next episode — Diuris - the Drug Pushers.

WESTERN AUSTRALIAN VISIT FOR AUSTRALIAN ORCHID COUNCIL CONFERENCE September 11-17, 1977. Joan Hocking

Friday, 16 September. 51 interstate visitors were entertained for the day by West Australian Native Orchid Study and Conservation Group. Twenty-one cars averaging 4 people to the car met at a nursery on Nicholson Road at 9.a.m. and set off south-west to Thomas Road - about 15 miles from Perth where we turned into a swampy area, which was alive with quantities of orchids. Cameras were soon clicking near groups of *Caladenia patersonii* (Spider Orchids), *C. menziesii* (Rabbit Orchids), *C. latifolia* (pink Fairies), *C. reptans* (Little Pink Fairies), *C. flava* (Cowslip Orchid), *C. discoidea* (Bee Orchid), *Microtis unifolia* (Mignonette Orchid), *Diuris longifolia* (Donkey Orchid).

From there we went into the foothills on Canning Mills Road on land burnt two years previously. Some orchids seem to flower more profusely on burnt areas. There we found quantities of *Prasophyllum elatum, Caladenia gemmata* (Blue China Orchid), *C. patersonii* (White Spider Orchid), *C. sericea* (Blue Silk Orchid), *Elythranthera brunonis* (Purple Enamel Orchid)„

Now we moved on in procession into more dense forest area, where we found, with help from our hosts the tiny *Caleana nigrita* (Flying Duck Orchid) (in bud) and *Drakaea elastica* (Hammer Orchid); also *Thelymitra crinita* (Blue Lady Sun Orchid) (in bud as it was a dull day), *Pterostylis recurva* (Jug Orchid) and *P. barbata* (Bird Orchid).

The morning had flown and we were taken to Boulder Rock on Brookton Highway for a lovely barbecue lunch prepared for us. Up on the large granite rock we found the interesting *Spiculaea ciliata* — before the flower opens the leaf and base of stem are dead. The requirements for the development of the flowers and seeds are stored in the stem above the base so that it needs no further living contact with the soil - probably a means of survival in the shallow earth gathered in the rock crevices where it grows. We did not see one in bloom - only in bud. It is commonly known as the Elbow Orchid. Also after lunch we were shown a small spider orchid found recently in the Esperance area.

Most intriguing was the underground orchid *Rhizanthella gardneri*, which has been preserved in a jar. It apparently exists entirely underground, but has never been properly studied as it has only been found five times - each case by accident. It has no green colouring, and draws its nutrition from dead organic matter in the soil. This specimen, found in 1959, is the most recent one. The flowers are clustered together on a fleshy stem and I thought rather resembled the underside of a mushroom.

From Boulder Rock we descended to the lower areas to Wharton Road to a more recently burnt area where all were delighted to see quantities of *Lyperanthus nigricans* (Red Beaks), which only flower where a fire has been. Also the fascinating *L. serratus* (Rattle Beak), which makes a sound when shaken and has brown colourings. We found here *Caladenia hueglii* (the King Orchid), standing tall and proud, also *Diuris longifolia* (Donkey Orchid), *Caladenia discoidea* (Bee Orchid), Prasophyllums, and a magnificent specimen of the China Orchid, with 3 flowers, large in size and rich deep blue, also *Caladenia flava* (the Cowslip Orchid), which grows well in many areas. Cameras clicked all day, and many a knee was bent to the ground for close up shots. It was wonderful to be taken to where members knew the different species were growing, and to partake of the knowledge freely given by the W.A. club members. I am sure the 51 interstate visitors will never forget the hospitality shown to them, and the knowledge of species mostly new to us which was gained.

After short speeches of farewell and thanks in return we dispersed about 4 p.m., tired but very happy after a wonderful day amongst Western Australia's famous orchids and wildflowers.