



BULLETIN

OF THE

WESTERN AUSTRALIAN NATIVE ORCHID
STUDY AND CONSERVATION GROUP
(INC)

September 1995

OFFICE BEARER	ADDRESS	PHONE
PATRON	Dr. Steve Hopper	
PRESIDENT	John Eaton [REDACTED]	[REDACTED]
VICE PRESIDENT	Steve Phillips [REDACTED]	[REDACTED]
VICE PRESIDENT	Ian Greeve [REDACTED]	[REDACTED]
IMMEDIATE PAST PRESIDENT	John Eaton	[REDACTED]
SECRETARY	Noel Clarke [REDACTED]	[REDACTED]
TREASURER	Minna George [REDACTED]	[REDACTED]
COMMITTEE	Andy Brown [REDACTED]	[REDACTED]
	Don Manners [REDACTED]	[REDACTED]
	Bill Burton [REDACTED]	[REDACTED]
	Jean Long [REDACTED]	[REDACTED]
FIELD TRIP COORDINATOR	John Arends [REDACTED]	[REDACTED]
LIBRARIAN	Tony Lock [REDACTED]	[REDACTED]
EDITOR	John Haynes [REDACTED]	[REDACTED]
AUDITOR	Ross Wilton [REDACTED]	[REDACTED]

OBJECTIVES OF THE GROUP

- 7
- a. To promote interest in and preserve Western Australian indigenous Orchids.
- b. To learn the best means of cultivation and do all things possible for the conservation of native orchids in their environments.
- c. To learn their habitats and keep records.
- d. To have field days and learn to recognise the different genera and species.
- e. To hold meetings for the exchange of knowledge and furthering of interest in Western Australian orchids.
- f. To affiliate with kindred organisations.
- g. To make rules for the governing of the Group's domestic affairs.
- h. To do all such other lawful things as are incidental to or conducive to the attainment of the above objectives.

NOTE: The opinions expressed by contributors to this bulletin are not specifically endorsed by the group.

POSTAL ADDRESS
OF GROUP

PO Box 323
Victoria Park 6100



NEXT COMMITTEE MEETING -
Wednesday, 20 September 1995 at 7.00
p.m., King's Park Administration Centre.



NEXT GENERAL MEETING-
Wednesday, 20 September 1995 at 8.00
p.m., King's Park Administration Centre.



EDITOR'S RAVE

Hopefully this bulletin will get to you a bit earlier than the last one did. I have added in a new section listing the plants displayed on the plant table. Please give me any comments on this or anything else you would like to see in the bulletin. Of course due to space and time considerations, not every suggestion can be implemented, but every suggestion will be at least taken seriously.

BULLETIN CONTRIBUTIONS



Contributions are needed for every edition of the Bulletin. Articles should be sent to John Haynes [redacted] or faxed to me on [redacted]

The article submission deadline for the next issue of the Bulletin is 1 October, 1995.

Please send in anything remotely newsworthy which relates to our group, to our members (ie, birthdays, special occasions, pen portraits, etc), grower's tips, rescue digs, field trip reports, native orchids and conservation activities. Anything (almost!) will be published, provided it is of interest to our group (or should that read "of interest to your Editor ?").



ANNUAL GROUP MEMBERSHIP FEES .. RED SPOTS

Does your address label have a red spot ? If so, you are now an unfinancial member. (If you have paid recently, then please forgive the red spot. It takes a little time for the records to be updated.) 1995 Membership Fees are due! The group membership fees are as follows:

Single Membership	\$20.00 pa
Family Membership	\$20.00 pa
Junior Membership	\$ 2.00 pa

1995 FIELD TRIP PROGRAM

Finally the Field Trips for 1995 have been released - here they are!

W/End 16/17 September, Lake Chinocup near Pingrup for *Drakaea isolata*.

Sunday 24th September, Collie for anything we can find

Sunday 8th October, Canning Vale for *D. purdiei*
NOTE CHANGE

W/End 14/15 October, Encabba for *D. sp* (Three Springs) to look for new locations

W/End 4/5 November, Manjimup for *Paracalena triens*

FORTHCOMING MEETINGS

September 20 .. General Meeting

October 18 .. General Meeting

November 15 .. General Meeting

FORTHCOMING FIELD TRIPS

September 16/17 .. Lake Chinocup

Meet at Lions Park, Clive and Albion Streets, Katanning on Saturday 16th September at 10.30am. Distance from Perth 295km.

We will be looking for *Drakaea isolata*, *Caladenia melanema* and anything else we can find.

This will be a camping trip, overnight at Lake Chinocup. There are no facilities. Pingrup, about 30km from Lake Chinocup, has a hotel with 5 rooms.

Trip leader is Noel Clarke, Please advise Noel Ph. [redacted] if you are planning on coming or if you later decide to withdraw.

September 24 .. Collie

Meet opposite Cemetary at 10.00am. We will be looking for anything that looks like an orchid. Please advise Noel Clarke, Ph. [redacted] or John Arends, Ph. [redacted] if you are planning on coming or if you later decide to withdraw.

October 8.. Canning Vale

Meet at the corner of Nicholson & Govan Rds, Canning Vale at 10.00am

We will be looking for new locations for *Diuris purdiei* in some wet places, so don't forget your wellies. Trip leader is John Arends, so please advise John, Ph [redacted] if you are planning on coming or if you later decide to withdraw.

October 14/15 .. Encabba

Meet at Western Flora Caravan Park on Saturday 14 October at 11.00am, distance from Perth 300 km. Accommodation is available in onsite vans or chalets at Western Flora CP Ph. 099 552 030

The object of the trip is to look for new locations for *Diuris* sp. aff *picta* "Three Springs".

Trip leader is Noel Clarke, Please advise Noel Ph. [redacted] if you are planning on coming or if you later decide to withdraw.



Supper Cost

Each month, our supper is generously donated by group members (per the list on the back of the Bulletin), while the group supplies the tea, coffee, sugar and milk.

To recoup some of the cost of these supplies, a modest fee of 30 cents applies. This can be left on the supper table and will be collected by the Treasurer at the end of the evening. Also, please rinse out your tea and coffee cups when you have finished with them.



FIELD TRIP REPORTS

Please don't forget to send in reports of all your orchid hunting field trips. We want to hear all about the trips that group members are making, not just the official field trips. The reports are a very useful tool for other members to use to plan future field trips and for you to report on your discoveries.

Field Trip reports don't have to be long and witty, so don't feel daunted. A brief description of locations visited and orchids found is all that you need to supply. Of course, long entertaining stories will also be reproduced.

KULIN TRIP

After looking at the distance to Kulin from my place in Huntingdale, I estimated a good 3 hour trip was to be taken. I left at quarter to 7 and everything was going OK. About half way there, I decided to pick up the pace as it looked as though I was going to cut it fine to get there by 10:00. By the time I got to Corrigin I knew I was cutting it fine. I didn't want to be last as the last one to arrive at a field trip ends up writing the report. Just before I got to Kulin I nearly hit 2 roos on the road, only making me more determined not to be late. Upon arriving at the caravan park 5 minutes late, guess who got to report the trip!! Every one else had arrived the night or day before (not true, some of us just got up early. ed.)

We set off with 8 cars, first to Jilikin Rock. At the base of the rock we discovered *Pterostylis* aff *nana* (Hairy stemmed), *P. hamiltonii*, *P. recurva*, *P. sanguinea*, *P. Scabra*, *Caladenia flaccida*, *C. hirta*, and *C. hirta* subsp *rosea*, *C. dimidea*, *C. roei*, *C. falcata*, *C. chapmanii*, *C. saccharata*, and *Spiculaea* in leaf.

From there we drove to Flat rock reserve. We then found good quantities of *P. sargentii* and a few *C. pachichila* out and *C. saccharata*, then we crossed the road to the other side and after a few screams of joy, *Thelymitra verigata* was sighted. The day was overcast and we were lucky to see as many out and fully open, all together. There were about 3 dozen plants that we found without going too far. Also found were *P. dilatata*, *P. sanguinea*, *P. recurva*, *P. aff nana* (Hairy stemmed) and one lonely *P. aff barbarta*. *C. reptans* in bud, one *Cyanicula caerulea*, one *P. rufa*, *C. roei*, *C. rosea*, *C. pulchra* and *Pyrorchis nigricans* leaves.

One of the most disgusting acts that anyone can do to the bush is to dump melons there, as we found a great mound deposited on a track. If these melons take off, eventually the bush will be covered in them. Some country people are just as bad as city people with their rubbish!!

During the stop we were graced by a visit from Chris French and his son, who were staying at Hyden. He joined forces with us to see *T. verigata* and then must have thought we had BO and left to go to other sites that he was searching.

We left and returned to the caravan park for a BBQ and a drop of port.

After waking early next morning we all had breakfast and headed out at 9.00 to go to a property out of Kulin. The Cooks farm had a large amount of uncleared land on it and the owner, Dot, wanted us to identify the orchids that were growing on their farm. There we discovered

Pterosylis recurva, *P. snginea* *P. sargentii* *P. aff bargata*, *P. aff nana*, *Monodenia bractia* (leaves) *Diuris porrifolia*, *Eriochillis* (leaves), *Pyrochis nigricans* (leaves), *Thelymitra benthamiana* in bud and other *Thelymitra* leaves, *Caladenia flaccida* subsp *pulchra* in large numbers, varying from dark red to a cream, *C. hirta* and *C. hirta* subsp *rosea*, *C. reptans*, *C. saccarata*, *C. falcata*, *C. roei*, *C. varians* subsp *variens*, *C. flava*, *C. dimidea*, *Elythanthra* (leaves) and *Cyanicula gemmata* in bud.

We also visited a brush turkey mound, one of four they say they have on the farm. The mound had not been worked for a while, probably the birds were working one of the others. There were plenty of bobtailed lizards around as well. After having lunch, most started their trip home after a great weekend of orchid hunting. Many thanks to Bill Jackson for showing us around and also to the Cooks for having us at their farm.

John Arends

FIELD TRIP RULES

For those of you who have not been on many fields trips with us, or have forgotten the rules, here they are, in all their glory!!

1. You must notify the trip leader if you intend to attend and again if you later decide to withdraw
2. If you are leaving early you must notify the trip leader
3. When travelling in convoy you must make sure the person directly behind you is still following
4. The last person to the meeting site is responsible for writing the field trip report

THE PROPAGATION AND CONSERVATION OF SOME ENDANGERED TERRESTRIAL ORCHIDS.

My work at the Royal Botanic Gardens, Melbourne concentrated on the propagation and the reintroduction of *Caladenia rosella*, an endangered Victorian spider orchid. Propagated material was to be planted at existing sites and used to establish new populations at other locations over the orchids' historic range.

C. rosella now occurs in bush land in the outer suburbs of Melbourne and is restricted to only a few locations. The main population consisted of less than 40 individuals in 1992 with less than half of these producing flowers. The other populations consisted of only a few plants. Herbarium specimens show that the orchid had once existed over a much greater range and extended to parts

of northern Victoria. The reasons for its now restricted range are typical of that for any endangered plant in that land clearing for agriculture, urban development and habitat degradation are the major causes.

C. rosella has another enemy in that a local population of White Winged Choughs eat orchid tubers. Normally the orchids make up only a small part of the birds' diet, but this population of birds was artificially high due to local residents hand feeding them. When this stopped, the birds concentrated on eating orchid tuberoids and within a few weeks many plants were eaten. If it had not been for a local resident, there is a good chance the orchid would be extinct today. Cages were erected around the plants to prevent the birds eating them. Other site management involved hand weeding and controlled burning of the site. Hand pollination was also carried out to ensure that ample seed was available as natural pollination events were low. A small native bee was seen to be the pollinator for the orchid. As a result of local site management, population numbers stopped declining and seedling recruitment was observed around a number of individuals.

Once propagation techniques were refined, material was collected from *C. rosella*, initially mycorrhizal fungi was obtained from the collar region of a single plant. This material can be collected without killing the plant by digging down and removing the leaf and collar while leaving the tuberoid intact. The orchid plant was seen to produce a leaf the following year. This is important when dealing with very small populations of orchids.

Once a pure culture was produced in the laboratory, seed was collected and sown symbiotically. Protocorms developed after a number of weeks and once leaf initials emerged, the protocorms were transferred into flasks. The flasks were left in the incubator at 18°C until they were ready for deflasking. There is typically a very high mortality rate experienced when removing plants from the humid environment of the flask. This is especially so with *Caladenia* species. Thus it is preferential to deflask orchids that have developed dormant tuberoids. It is thought that orchid seedlings are stimulated by the cold temperatures experienced during winter to produce droppers and tuberoids. Such conditions were created in the laboratory by placing flaked seedlings in an incubator at 10-12°C for a number of weeks to encourage tuberoid production. This technique worked well for species of *Diuris* but not as well for *Caladenia* species.

The best time for deflasking seedlings is Autumn, as they still have a few months of growing period left where they hopefully develop a replacement tuberoid. Seedlings were

removed from the growing media and placed into a deflasking mix under fog in the glass house to reduce the stress experienced when leaving the humid environment of the flask.

During the course of the project, over 500 seedlings of *C. rosella* were propagated and transferred into flasks, where they developed into large and healthy seedlings. This was over 10 times the number in the wild. Limited numbers of tuberoles developed using the cold treatment described. As a result, large mortality rates were experienced during deflasking. Thus the hope of producing large numbers of deflasked orchids for reintroduction was unlikely using current methods of ex situ orchid propagation.

Methods for sowing seed into preinoculated mulch were developed at King's Park for *Diuris* species, where they developed into healthy seedlings suitable for reintroduction, but the large amounts of seed required for success with *Caladenia* species made this method unsuitable for *C. rosella* where seed was limited.

I started to develop methods which involved hardening off germinates at the protocorm stage, just as they reached their leaf initials. It appeared that protocorms were able to withstand quite a lot of drying to the point where the agar media they were growing on dried out. The lids on the dishes were gradually removed over a week, the protocorms were then transferred to a pasteurised deflasking mix. Protocorms developed leaves and began to develop droppers. There was a high survival rate of protocorms to the seedling stage.

Baiting trials involved a number of sachets of seed folded between filter paper and placed inside a gauze bag to prevent predation of the seed by insects. We hoped to develop a method which would enable us to determine the presence of the mycorrhizal fungi in the soil.

The trials involved two sachet types, the first containing filter paper and seed only, with the second also containing the mycorrhizal fungus. These were placed amongst the *C. rosella* population and left for a number of weeks. The control sachets, or those that contained mycorrhiza and seed showed a high percentage germination, while those lacking the added mycorrhiza showed no germination. The reason for this lack of germination is not clear, as some bags were placed adjacent to orchid plants. It could have been that the fungus was not actively growing at the time of the trials.

A positive outcome of the trial is that those sachets that were placed in the field and produced protocorms, if left in the field, may develop into seedlings and establish in

the field. This would have important implications for reintroductions to new sites.

My work at King's Park will be on 5-6 endangered species of orchid around the metro region. The work is sponsored by Western Power. The species I will be working on are; *Diuris micrantha*, *D. pudiei*, *Epiblema grandiflora* subsp *cyanea*, *Drakea elastica*, *Caladenia huegelii* and *Thelymitra dedmaniarum*.

The research will investigate a number of areas including:

1. Research the distribution and local population extent
2. Investigate propagation options applying seed and tissue culture methods
3. Develop genetic sampling procedures which provide effective and efficient means for determining the key genetic diversity in a population
4. Sample key genetic types and secure in the tissue culture system
5. Develop cryostorage of all species from mother stocks, seed and isolates of mycorrhizal fungi
6. Screen metro region for possible safe sites for reintroductions
7. Develop methods for recovering species to safe sites
8. In consultation with Western Power, develop a comprehensive publicity and public awareness program, highlighting the urgent and critical status of the species being rescued.

I look forward to becoming involved with the orchid group and would appreciate any assistance in locating any of the above orchids. I can be contacted at King's Park and Botanic Garden on [REDACTED]

Andrew Batty
King's Park and Botanic Garden

EPIBLEMA GRANDIFLORUM BEECHBOROUGH ROAD SITE

Members will be disappointed to learn that a developer is clearing the land adjacent to the Beachboro Rd. site of *Epiblema grandiflorum*.

It must be pure coincidence that he is calling the development Orchid Park. No doubt the reference to a rare find is the land, not the orchid. He also has a reasonable resemblance to ssp *cyanea* on the display. Doubtless he saw it in flower and had a likeness reproduced.

Noel Clarke

KING'S PARK DISPLAY 1995

The King's Park Display commemorates the 100th year of King's Park and also is the Group's 21st year. There is a Botanic Gardens Congress being held to coincide with the 100 year celebration.

Our Group has once again been invited to display our orchids. Because of the occasion we would like a special effort from our members to provide as many plants as they can, and support to man the display. Many hands make light work. King's Park are willing to collect plants from members who are unable to bring them themselves.

The roster for the Display is:-

Tue 26 Sep 9-2: SET UP

Wed 27 Sep 12-5: Bill Burton

Thu 28 Sep 9-1: Jean Long

1-5: Bill Burton

Fri 29 Sep 9-1: Noel Clarke

1-5: Jean Long

Sat 30 Sep 9-1: Jean Long

1-5: David Lawson

Sun 1 Oct 9-1: Mathew Tiong

1-5: Jean Long

Mon 2 Oct 9-1: Jean Long

1-5: Noel Clarke

Mon 2 Oct 5+: PULL DOWN

Thank you to the above members. If anyone else can help, please advise Noel Clarke, Ph. [REDACTED]. We would prefer to have 2 members attending each session.



PLANT TABLE

This month's plant table had a number of interesting orchids provided by members - from now on we will try to provide you with as complete a list as possible of the plants displayed.

Bill Burton

Diuris micrantha

D. laxiflora

Caladenia variegata

C. xantha

C. varians subsp *variens*

C. dimidia

Pterostylis pyramidalis

P. spathulata

John Arends

D. corymbosa

P. recurva

P. barbata

C. discoidia

Chiloglottis trullata

Chiloglottis truncata

Don Manners

P. barbata

P. aff nana

P. sargentii

D. gracilis

C. magniclavata

C. flacida subsp *pulchra*

Three unknown *Caladenia*

Andrew Brown

P. mutica

P. curta

P. curta x *baptastii*

P. concinnia

Chiloglottis formiafera

John had some *Parasophyllum cyphotrichum* tubers to give away and Ian Greeves had some *Bifrenaria harrisonae*.

Thank you to all who contributed plants to the plant table.

MINUTES OF W.A.N.O.S.C.G. GENERAL MEETING - 16 August 1995.

VENUE: King's Park Board Administration Centre.

Meeting commenced at 2005. President welcomed new members and advised that only financial members can speak or vote.

ATTENDANCE: As per register.

MINUTES: Moved Greeve/Arends that minutes of General Meeting held on 19th July be accepted.
Carried.

MATTERS ARISING: Nil.

CORRESPONDENCE: As Circulated.

TREASURERS REPORT: As Circulated.

FIELD TRIPS: John Arends advised members that the Huntingdale site has been cleared and the venue will now be Thompson Rd

PLANT TABLE: Members spoke about their plants tabled.

GENERAL BUSINESS:

Secretary urged members to get behind the King's Park Festival because it is both the 100th year for King's Park and our 21st year. Plants are required for the display. If you have any and cannot get them to the set up on 26th September between 9am and 2pm, ring Noel Clarke, [REDACTED] to arrange to have them picked up. Dr Steve Hopper reinforced the request and advised that there will be a large international contingent attending. Xmas party to be held at Kings Park on 2nd December, commencing at 6.30pm.

Andy Brown advised members that the new official name for *Lyperanthus* (Burnettia) *nigricans* and *forestii* is *Pyrochis nigricans* and *forestii*. *Pyrochis* means fire orchid

Ron Heberle has purchased a book on the journals of Baron von Huegel which states he visited Albany on 27th Nov. and Perth on 5th Dec. Ron then queried the correctness of *Caladenia huegelii*. Dr Steve Hopper set the record straight. *C. huegelii* was collected by Drummond. Somehow one of the plants was obtained by Reichenbach who named it after his friend Huegel.

The raffle provided by Sarah Atkinson was won by Margaret Owens.

Chris French was unable to give his talk on "The Rufa Trip" so Noel Clarke and Ron Heberle showed a collection of slides.

Meeting closed at 2115

SUPPER ROSTER		RAFFLE ROSTER	
September	Joan Biddle	September	Don Manners
October	Jean Long	October	Jean Long
November		November	Noel Clarke

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BROWN MR A

Forthcoming Field Trips

16/17 September Lake Chinocup

24 September Collie

8 October Canning Vale

14/15 October Encabba