



BULLETIN
OF THE
**WESTERN AUSTRALIAN NATIVE ORCHID
STUDY AND CONSERVATION GROUP
(INC)**

(1974 – 2003)

JULY 2003

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| CONSERVATION COUNCIL REPRESENTATIVE (2) | Wayne Merritt | |

OBJECTIVES OF THE GROUP

- To promote interest in and preserve Western Australian indigenous orchids.
- To learn the best means of cultivation and do all things possible for the conservation of native orchids in their environment.
- To learn their habitats and keep records.
- To have field days and learn to recognise the different genera and species.
- To hold meetings for the exchange of knowledge and furthering of interest in Western Australian orchids.
- To affiliate with kindred organisations.
- To make rules for the governing of the Group's domestic affairs.
- 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 this group.

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NEXT COMMITTEE MEETING

Wednesday, 16 July 2003 at 7.00 p.m. at the Lecture Theatre, Kings Park Administration Office.

NEXT GENERAL MEETING

Wednesday, 16 July 2003 at 8.00 p.m. at the Lecture Theatre, Kings Park Administration Office.

GUEST SPEAKER

Eric McCrum - "Mystery".

VALE ROY HARGREAVES

Roy Hargreaves, an Honorary member from South Australia since 1975, recently passed away. While on holiday in W.A. and visiting Herb Foote, our inaugural President, he was so impressed with an action that when he returned to S.A. he instigated the formation of the S.A. group. He was interested in native orchids to the end, I know because he rang me a few weeks ago to enquire about an article in our newsletter.

We extend our sympathy to his family.

FORTHCOMING MEETINGS

| | |
|-----------------|-------------------------|
| 16 July | General meeting. |
| 16/17 August | Field trip to Eneabba |
| 20 August | General meeting. |
| 13 September | Field trip to Culbin |
| 17 September | General meeting. |
| 27-29 September | Field trip to Tenterden |
| 15 October | General meeting. |
| 19 November | General meeting. |

ANNUAL GROUP MEMBERSHIP FEES

MEMBERSHIP FEES ARE NOW DUE

The Group's financial year commences on 1 February.

Annual fees are \$25.00 for singles & families. New membership joining fee is \$10.00 and if joining after 30 June membership fee is adjusted prorata.

RED STICKER

Do you have a red sticker on the address label?

If you do then it means that according to our records you are an unfinancial member and we look forward to payment of your 2003 fees.

BULLETIN CONTRIBUTIONS

Contributions are needed for every edition of the Bulletin. Articles should be sent to Noel Clarke. The article submission deadline for the next issue is 1 August 2003. Country members, we would love to share your orchid adventures (or

misadventures). Many private field trips are undertaken, how about sharing them with the membership via the Bulletin.

SUPPER COST

Each month our supper is generously donated by group members (per 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 \$1.00 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 cups when you have finished with them.

PTEROSTYLIS REVIEW BOOK

You can still order this book from the Secretary, phone [redacted]. The price is \$26.00 each.

CLUB'S CAMERA

Nobody is using the Group's camera so the club has decided to offer the camera for sale to members.

It is a Nikon Coolpix 3 megapixel. It will be available for viewing at the July meeting

LIBRARY BOOKS

The library has been an honour system for some time and appears to be somewhat depleted.

The Group wishes to audit the library at 30th June. To assist would any member who has one of our library books or who knows of anyone who has one please return them to the Librarian at the July meeting.

FIELD TRIP PROCEDURES

Remember the rule, keep the following vehicle in sight. If it falls behind then slow down till it catches up.

Most importantly when you turn, stop at the turning point till you are sure the following vehicle is going to turn.

No participant in a field trip is exempt from these two important rules.

Please ensure you have sufficient fuel to get you through the field trips.

It is important that you advise the Field Trip Coordinator because then you can be advised of any change of plans, etc.

The field trips listed are proposed and are subject to change if needed.

Please consider car pooling, particularly on metro trips.

Accommodation for weekend trips is your own responsibility.

FIELD TRIP TO ENEABBA WEEKEND 16/17 AUGUST

Meet at Western Flora Caravan Park, approx 15 k north of Eneabba, at 10.00 a.m. Alan Tinker is the trip leader.

Please make your own accommodation arrangements, phone (08) 99552030, and book early to avoid disappointment.

If you are attending please advise Christine Lock before 18 July or Noel or Nancy Clarke after 18 July.

There will be lots to see and there have been some burns in the area.

FIELD TRIP TO CULBIN ROCK SATURDAY 13 SEPTEMBER. NOTE DATE CHANGE

Meet at Albany Hwy & Hurley Rd (approx 13 k south of Williams) at 10.00 a.m. There should be many genera and species to see. Garry Brockman is the trip leader. Please advise Christine Lock if you are attending.

FIELD TRIP TO TENTERDEN WEEKEND 27/28/29 SEPTEMBER

This is a combined orchid trip and to celebrate Eddy's 50th birthday at their block near Tenterden.

Lunch (spit roast) served at 2.00 pm on Saturday 27th September, BYO gear. Please advise Eddy & Donna for catering purposes by 18 July 2003 if you intend attending.

Accommodation for about 14 people is available in the shed plus your fully self-catered campsite.

Full details for accommodation available, program, etc is available from Eddy & Donna Wajon

Directions to get there in August Bulletin.

FIELD TRIP REPORT TO CATABY AREA 22 JUNE by DONNA WAJON

The weather forecast for Sunday didn't sound good but we hadn't been able to go on previous field trips and we were really having withdrawal symptoms so we ventured out armed with umbrellas and wet weather gear. We picked up Christine Lock and the drive to Cataby was uneventful. We followed Noel Clark and Bill Burton for a little while until Noel stepped on the gas and left us in his wake. We were early at the meeting place so we decided to go back to Cataby Creek and look around the area that had yellow markers indicating rare and endangered species. Yellow catspaws (were they the declared rare Goden Catspaw?) were just flowering and Eddy couldn't resist taking it's picture. There were many *Caladenia* leaves (green on front

and purple on the back), and lots of *Pterostylis vittata* or were they *P. sanguinea*. I'm confused, can anyone help me distinguish between these two orchids? How am I ever going to be able to identify the new species in the *Pterostylis* family? And on the subject of "Pterostylis" I finally realized what has happened to the genus. Will "they" separate "Caladenia" next? I'm for anything that makes it easier to help identify these beautiful plants. Well getting back to the field trip, there were 6 cars, 10 people: Noel, Bill, Tanya, Bob, Bob, Glenn, Don, Christine, Eddy and Donna. We traveled along Brand Highway to Mullering Brook where we saw *Eriochilus helonomos* in seed and leaves, *Prasophyllum gracile* in bud, *Pterostylis vittata*, aff *vittata* (p.363) small banded greenhood, aff *nana* (p.348) broad petalled snail, and aff *nana* (p.350) slender snail. The second stop was at the gravel pit, 8 km south of Caro Road, where *Pterostylis dilatata* was plentiful and 1 *T. apiculata*. As the sprinkles started we traveled to Regan's Ford for lunch. Luckily the showers stopped while we ate lunch but when they started up again we decided not to look around the bush at Regan's Ford but headed to the *Thelymitra apiculata* site on Mogumber Road. Thanks to Glenn, who had marked out two plants, we ventured under umbrellas to have a look. They of course were not fully open but enough to let those on the trip that hadn't seen them before to get a peek at them. The last official stop was the bush behind the Mogumber sports ground. Now the rain had really set in, but as true blue Aussie Orchidologists we had a wonder. There was one lone *Eriochilus helonomos* still in flower and many *Leporella fimbriata* still hanging on. As the clay soil caused the rain to puddle up and we were really getting wet and cold we called it a day. On the way home, with the heater in the car going full bore, we dried off, and the rain had ended, so we stopped at the corner of Blue Plains Road and Maddern Road off Great Northern Highway. This is a beautiful piece of bush that will be good later on in the year. There were *Eriochilus* leaves, *Leporella* leaves, *Pyrochis* leaves, *Thelymitra* leaves, *Caladenia* leaves, *Pterostylis* rosettes, *P. recurva* in bud, *P. vittata* or *P. sanguinea* in flower.

TALK by CHRIS FRENCH

Chris spoke about the *Pterostylis* complex revision and illustrated the various proposed new genera with slides.

The revision took place in 2002. Another Vol 5 of Australian Orchid Research will deal with

the numerous affs and sps, hopefully in a year or two.

The revision was done using morphological, biological and molecular data resulting in some 16 genera and 1 hybrid, of which 7 or 8 appear in W.A.

Szlachetko (2001) threw a spanner in the works when he produced his paper, some of which has been rejected.

The specimen first documented correctly was collected in 1792.

Recommended reading is Australian Orchid Research Volume 4, 2002.

Tom Blinco asked why *Pt mutica* was not shown for W.A. Chris suggested he contact David Jones.

ROBERT BROWN'S CALADENIA AND PTEROSTYLIS REVISITED by DR STEPHEN HOPPER

The following article is reprinted from the June issue of the ANOS Victorian Group Bulletin with the permission of Stephen Hopper and the Editor of the ANOS Victorian Group Bulletin.

In the bicentennial year of Robert Brown's historic Australian landfall with the Flinders expedition, three major accounts of his *Caladenia* and allied genera were published independently by several workers (Szlachetko 2001; Hopper & Brown 2001; Jones et al. 2001). While there is some commonality among these treatments, especially the latter two that draw upon recent DNA sequence studies, there are nevertheless significant differences in generic and some species concepts, as well as errors in the interpretation of the International Code of Botanical Nomenclature, mainly to do with typification. Moreover, the situation was exacerbated when attempts by Szlachetko (2001) and Jones et al. (2002; Jones & Clements 2002; Clements & Jones 2002) to rectify mistakes made in their respective earlier papers introduced even more errors or perpetuated others. Consequently, major nomenclatural confusion has been generated, and is in need of resolution.

As in previous works (Hopper & brown 2000, 2001), in a recently prepared paper submitted to the scientific journal Australian Systematic Botany, myself and Andrew Brown argue for retaining *Caladenia* in the broad sense, largely reflecting Brown's (1810) original concept, save the removal of *Leptoceras* (R.Br.) Lindley, *Praecoxanthus* Hopper & A.P.Br., *Pheladenia* D.L.Jones & M.A.Clem., *Glycorchis* D.L.Jones & M.A.Clem. and *Cyanicula* Hopper & A.P.Br. Thus *Caladenia* remains a large Australasian genus of

terrestrial orchids, with 243 species, and six subgenera.

We see little merit and much unwarranted nomenclatural upheaval in further splitting *Caladenia* as advocated by Szlachetko (2001) and Jones et al. (2001; 2002; Jones & Clements (2002). There are certainly no compelling phylogenetic reasons for such a split once *Pheladenia*, *Glycorchis*, *Cyanicula*, *Leptoceras* and *Praecoxanthus* have been removed from *Caladenia*.

The genus *Caladenia* as we circumscribe it has been affirmed in several DNA sequence studies as a monophyletic clade (all taxa included share a single common ancestor). Monophyly is regarded by most taxonomists today as an essential first criterion in the formal recognition of taxa if a predictive evolutionary classification is to be achieved. Unfortunately, while rigorous science enables the question of monophyly to be resolved in a given group, how to name groups of taxa within a monophyletic clade remains more art than science. For example, in the case of our concept of *Caladenia* and *Pterostylis*, the key question for the taxonomic community is whether there is merit in retaining a broad concept of each genus with subgenera and sections within, or in elevating these subgenera and/or sections to the rank of genus.

Although favouring retention of a broad concept of *Caladenia* with six subgenera, we accept that history will be the final arbiter on such a vexing question of rank. Hopefully our forthcoming paper, by clarifying and correcting key points of typification and nomenclature, will be helpful for either choice, broad or narrow, relating to circumscription of the genus.

For example, the valid type for *Caladenia* is *C. carnea* R.Br., not *C. flava* R.Br., as argued by Jones et al. (2000), while that for *Caladenia* sect *Calonema* is *C. longicauda* Lindl., not *C. filifera* Lindl. as proposed by Jones et al. (2001). The genus *Jonesiopsis* Szlach. and generic combinations *Phlebochilus* (Benth.) Szlach. and *Calonema* (Lindl.) Szlach. were validly published. These conclusions, at variance to those of Jones et al. (@001), render many of their taxa and combinations superfluous. Synonyms of *Caladenia* include *Arachnorchis* D.L.Jones & M.A.Clem., *Calonema* (Lindl.) Szlach., *Calonemorchis* Szlach., *Calonema* (Lindl.) D.L.Jones & M.A.Clem., *Drakonorchis* (Hopper & A.P.Br.) D.L.Jones & M.A.Clem., *Jonesiopsis*, *Petalochilus* R.S.Rogers, *Phlebochilus* and *Stegostyla* D.L.Jones & M.A.Clem. *Pentisia* (Benth.) Szlach. is a synonym of *Cyanicula*.

How should circumstances pertaining to the proposed splitting of a monophyletic genus such as our concept of *Caladenia* or *Pterostylis* into several genera best be handled? We consider nomenclatural stability to be of fundamental importance to avoid great discredit on the discipline of plant systematics for what is arguably perceived as needless change. For guidance, we turn to the Preamble of the International Code of Botanical Nomenclature (Greuter et al. 2000). This is the international rule book for all botanical taxonomy, revised every six years at the International Botanical Congress. We also note that most botanists follow a conservative path of minimal taxonomic change consistent with the principle of monophyly. The same should apply with Australian orchids.

As stated in its Preamble, the ICBN "aims at the provision of a stable method of naming taxonomic groups, avoiding and rejecting the use of names which may cause error or ambiguity or throw science into confusion." It also, significantly, argues that "next in importance is the avoidance of the useless creation of names" and "The only proper reasons for changing a name are either more profound knowledge of the facts resulting from adequate taxonomic study or the necessity of giving up a nomenclature that is contrary to the rules." Thus all taxonomic works should aim for stability, using valid published names consistent with scientific understanding (monophyly) wherever possible. To do otherwise is to indulge in the "useless creation of names" which the ICBN specifically seeks to avoid and reject.

Clearly, the contribution of science in delivering "a more profound knowledge of the facts" is central in considerations about nomenclatural change. The combined emergence of cladistic methodology and DNA sequence analysis have recently introduced unprecedented rigour and repeatability into the science of systematics, removing it from "a system that depends upon a whim (masquerading as 'authority') and accidents of history." (Chase 1999). For example, the difficulty of character choice and definition, prevalent in all studies reliant on morphological, anatomical or ultrastructural characters, and undoubtedly the cause of much futile argument regarding systematic relationships, rarely applies in DNA sequence studies, except for the choice of genes to be sequenced. The presence or absence of pairs along aligned DNA molecules can be rigorously and independently tested, and has been in many studies. For example, in the case

of *Caladenia* and allied genera, similar patterns of relationships have emerged in a number of independent molecular phylogenetic studies that have investigated the same or different gene sequences, both chloroplast and nuclear (e.g. Kores et al. 1997, 2000, 2001, in prep.; Cameron et al. 1999; Jones et al. 2001, 2002).

Thus, for *Caladenia*, we agree with the removal of species in the segregate genera *Cyanicula*, *Glycorchis*, *Pheladenia*, *Elythranthera*, *Glossodia*, *Praecoxanthus*, *Leptoceras* and *Adenochilus*, all of whom are sister to the monophyletic major radiation of *Caladenia* as largely encompassed in Robert Brown's original concept of the genus. Having removed the above genera, further splitting of *Caladenia* is not needed to satisfy the criterion of hypothesized monophyly, and depends therefore on a judgement of appropriate rank. Nothing new is gained in terms of scientific understanding of phylogenetic relationships by elevating the six major clades of *Caladenia* to generic rank. Indeed, arguably the plethora of new generic names would obscure relationships, leading to a less predictive classification in the hands of most non-specialists. In such circumstances, nomenclatural stability emerges as a most important consideration in our view, to minimise inconvenience to and confusion of the users of taxonomic names, and to maximise information retrieval and understanding from the literature. Freudenstein and Rasmussen (1999) aptly surmised: "As there are no rules for assigning rank to taxa, we can only follow guidelines of striving for an internally consistent system, hopefully one that will disturb the stability of past nomenclature as little as necessary." Similar arguments relate to the recent proposals to split *Pterostylis* into up to 16 segregate genera (Szlachetko 2010; Jones & Clements 2002). Molecular data unequivocally demonstrate that *Pterostylis* sens. lat. is monophyletic. A classification based on the principle of nomenclatural stability would therefore argue for retention of *Pterostylis* in the broad sense, with recently identified subclades within the genus classified as subgenera/sections. The latter approach is again consistent with the Preamble of the International Code of Botanical Nomenclature, and is the one myself and Andrew Brown favour.

WANOSCG – MINUTES OF GENERAL MEETING 18th JUNE 2003

Meeting commenced at 8.10pm

President Mike Harper opened the meeting.

ATTENDANCE:

28 members and 2 visitors were present and 5 apologies accepted as per the attendance register.

NEW MEMBERS:

Nil

VISITORS:

Alex and Walter Graham

MINUTES

Moved. Chris French/Donna Wajon Minutes of General meeting of May 21st 2003 as presented in the Bulletin be confirmed.

CARRIED.

Matters Arising:

1. Secretary reports that the Dr Richard Rogers papers have been bound and are to be added to the library.
Bill Burton explained the matter of how the library operated and was managed to members. Each book contains a card which is filled in and left when the Book is borrowed. As it appears some books are missing, or on loan to KPBG staff. An audit will be carried out and both staff and members requested to return all books by July 30 so this can be carried out.
2. Secretary advises that letter to minister has been sent and acknowledged.

CORRESPONDENCE:

As per list circulated with attendance book and dealt with by committee.

For the information of members, in the absence of the treasurer, we have received our AON RISK Public liability policy renewal at \$336.82 and affiliation fees of \$75 to the Conservation council.

No doubt the treasurer will report on these in July.

TREASURERS REPORT:

The treasurer is absent tonight.

Report is deferred to July meeting.

Matters Arising:

Nil

FIELD TRIPS:

Christine reports on field trip proposed as per the bulletin.

Members are asked, if they have a burn locally, to keep an eye on it and maybe report to the FTC if this is of interest and worthy of a half day.

These trips are easy to organise and can turn up some very interesting plants.

Noel Clarke reported on his trip up the Brand Highway, Enneabba and north of Geraldton.

PLANT TABLE:

Bill Burton displayed 5 members of the former Pterostylis family.

GENERAL BUSINESS:

1. Secretary is ordering Pterostylis review book again.
Interested members put your name on the list.
2. Meeting agreed to the publication of the letter to Minister for Environment Heritage and Water resources be published in the bulletin when space permits.
3. Ron Heberle addressed the meeting regarding his display of photographs in the Melville Community centre from 2nd of July. Secretary to organise poster for WANOSCG to accompany and promote the group.
4. President reminded members that subs are now outstanding.
5. President informed members of committees decision to offer the Digital Camera for sale and expressions of interest sought in the bulletin.
This matter was discussed in view of the camera not filling the intended role for which it was purchased. No immediate plans to replace it were before the committee although it is envisaged this will happen in due course.

GUEST SPEAKER:

Chris French. Long time member and past committee member with a special interest in the Pterostylis family. Chris has been involved in research of the WA members of this genus for many year and presented an overview of the changes set out in Orchid Research Vol 4. This was accompanied by the usual exceptional quality slides from across Australia. Thank you Chris. I'm sure we all remember the names.

RAFFLE:

The raffle was donated by Garry & Virginia and won by our visitor Alex Graham.

SUPPER:

Glenys Blinco provided supper for the meeting.

Thank you from all members who attended
The meeting closed at 9.33pm.

The next general meeting, will be on 16th July 2003, at the Kings Park Botanic Gardens Administration building, 8.00pm.

Guest speaker will be Ecologist Eric McCrum. Eric has been a semi regular speaker at the meetings and has a remarkable understanding of the Australian bush.

| | SUPPER ROSTER | RAFFLE ROSTER | SPEAKER |
|------------------|---------------|----------------|-----------------|
| MARCH | D. Wajon | D. Hayward | Members slides |
| APRIL | M. Fox | S & G Stack | Dr Andrew Batty |
| MAY | M. Harper | N. Clarke | Ron Heberle |
| JUNE | G. Blinco | G & V Brockman | Chris French |
| JULY | N. Clarke | S. Harris | Eric McCrum |
| AUGUST | M. Dahlkamp | C. French | Slide Night |
| SEPTEMBER | Ruth Downes | Jim Downes | Greg Bussell |
| OCTOBER | R. Heberle | Len Stewart | |
| NOVEMBER | | Bill & Sarah | |

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FORTHCOMING FIELD TRIPS

16/17 August - Eneabba

13 September - Culbin Rock (NOTE - date change)

28/29/30 September - Tenterden