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WANOSCG

Official Bulletin of the Western Australian Native Orchid Study & Conservation Group

Floral Mimicry

At the last general meeting, members were treated to a presentation on floral mimicry by Dual PhD Candidate, Daniela Scaccabarozzi from Curtin University. Daniela presented her research on *Diuris brumalis* and the evidence to support the hypothesis that these orchids demonstrate both behavioural and morphological mimicry of native pea plant flowers. Sexual mimicry in flowers has long been established whereby flowers mimic receptive female insects awaiting a mate in order to trick other insects into pollination and thus avoiding the costly expenditure involved in creating nectar (as occurs with *Drakaea* – Hammer orchids resembling wingless female Thynnine wasps and emitting pheromones to attract these pollinators). Western Australian donkey orchids have been of interest for further research as the *Diuris* species does not offer up any food, nectar or scent rewards for visiting pollinators and instead displays shape and colour that are similar to native pea plants (*Faboideae*). Both pea plants and *Diuris* species come in a variety of similar colours from yellow to red, mauve, purple, brown and orange suggesting evolution of floral mimicry. Daniela has kindly provided us with a summary of her findings as an article featured later in this issue for those that missed this interesting talk.

Diuris species often grow within the same habitat as pea plants and are thought to be visually mimicking these flowers to attract pollinators

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Next General Meeting:

Kings Park Administration
Wednesday 19th June 2019

The Committee:

President – Ramón Newmann
Vice President 1 – Jon Warren
Vice President 2 – Ian Puddey
Secretary – Pat Richards
Treasurer – Jay Steer
Committee Members – Margaret Petridis, David Lawson, Kevin Uhe, Debbie Proudfoot, Andrew Brown

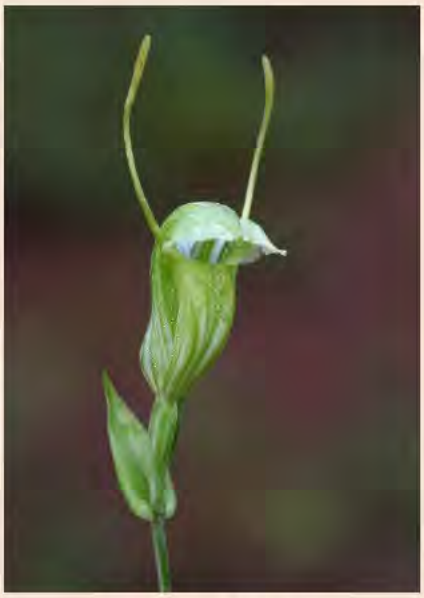
"Winter Flowering *Pterostylis*" by Andrew Brown

June is when many of the winter flowering *Pterostylis* begin to appear with some 19 species found in full or early flower at this time of the year. In particular, many members of the Banded Greenhood and Shell orchid complexes reach their peak in June but there are also several Snail Orchids that can be found at this time of year.

A *Pterostylis* to look out for in June is the Robust Snail Orchid (*P. dilatata*) which is commonly encountered when searching for Cleopatra's Needles (*Thelymitra apiculata*) in the Mogumber area north of Perth but has a much wider distribution between Northampton and Israelite Bay. Some years ago, it was common in Gnangara pine plantation and, although much of the plantation has since been harvested, it may still be lurking in some of the remnants. I have also seen it on rare occasions in *Banksia* woodlands on the Swan Coastal Plain.

Pterostylis hamiltonii

June is without a doubt Shell Orchid season with six of the seven Western Australian Species found at this time of year. Red-veined Shell Orchid (*P. hamiltonii*), which is common in the western wheatbelt, is in full flower in June. Another common wheatbelt species, Green Banded Shell Orchid (*P. scabra*), also flowers in June and can be seen in very large colonies in areas of favourable habitat. This species is often encountered when searching for the Winter Spider Orchid (*Caladenia drummondii*). In coastal areas Curled-tongue Shell Orchid (*P. rogersii*) and Brown-veined Shell Orchid (*P. aspera*) are commonly seen in June.



Pterostylis dilatata

Other members of the Shell orchid complex to flower in June are Kalbarri Shell Orchid (*P. microglossa*) which is found in coastal areas to the north of Perth and the unusually distributed Narrow-hooded Shell Orchid (*P. angusta*) which is found in the western and southern wheatbelt with outlying populations near Bunbury.

Pterostylis microglossa

Pterostylis orbiculata

Pterostylis angusta

Winter Flowering Pterostylis continued...

All of the Banded Greenhood complex in Western Australia begin flowering in June with Small Banded Greenhood (*P. orbiculata*) commonly seen in June in coastal areas near Perth. Note: the common name 'Small Banded Greenhood' is a bit of a misnomer as it is often taller and has larger flowers than several other members of the complex. The species is a real survivor and is often seen in degraded bushland remnants between areas of otherwise dense housing.

Predominantly found in high rainfall southern areas but also more rarely found in scattered populations to the north of Perth is Banded Greenhood (*P. vittata*). In some areas in the Darling Range it can be seen growing with the recently named Darling Range Banded Greenhood (*P. crebriflora*) but is easily distinguished by its taller inflorescence and smaller, translucent green and white flowers.

A recently named Banded Greenhood with a wide distribution between Northampton and Israelite Bay is Mallee Banded Greenhood (*P. arbuscula*). It is the shortest member of the complex, rarely exceeding 15 cm in height. It has just one to five flowers and, as its common name suggests, commonly inhabits mallee woodlands. Varicoloured Banded Greenhood (*P.* sp. 'Eyre') may be a form of this species but requires additional field and herbarium research to ascertain if this is the case.

The most robust member of Banded Greenhood complex is Crowded Banded Greenhood (*P. atrosanguinea*) which has 20 or more flowers in a crowded spike. The distribution of this species extends to the Perth region and it can be found in several places near Welshpool. Other Banded Greenhoods to look out for are Cupped Banded Greenhood (*P. concava*) and Dark Banded Greenhood (*P. sanguinea*). Interestingly, there is some speculation that this latter species may not occur in Western Australia. The type was collected in South Australia and WA plants appear a bit different in morphology.

There are of course other orchids which flower in June including species of *Caladenia, Corybas, Diuris, Eriochilus, Prasophyllum* and *Thelymitra* but it can be argued June is the month for *Pterostylis*.

Pterostylis vittata

Pterostylis arbuscula

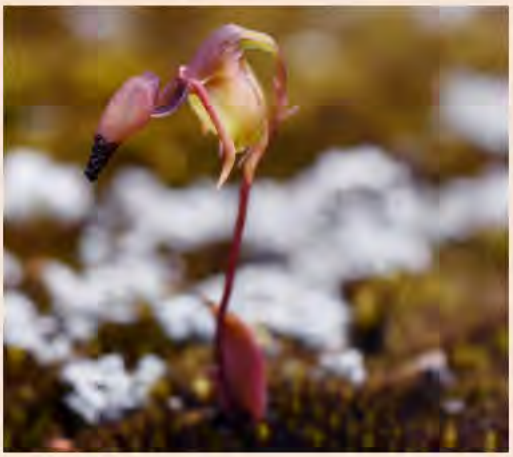
Pterostylis atrosanguinea

Words and images by Andrew Brown

"Granite Ducks" – By Bill Gaynor

Paracaleana granitica and _Paracaleana gracilicordata_ ADORP monitoring programme – and beyond

P. gracilicordata – labellum pointing above the horizontal



P. granitica – labellum pointing below the horizontal

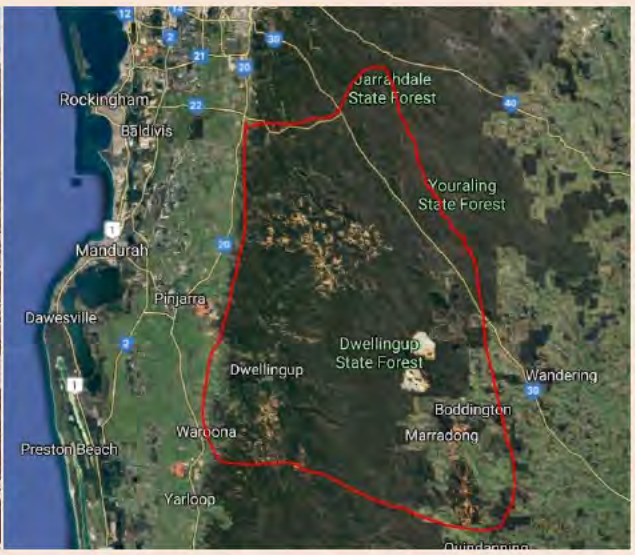
For the past five years David Stevens and I have been involved in the ADORP _Paracaleana granitica_ and _Paracaleana gracilicordata_ programme. Last year, Ian Puddey and Leif Jamvold joined the team.

Thus far, these two species have only been found on granite outcrops where they are confined to moss or lichen beds. They range broadly from Jarrahdale in the north, down and around Albany Highway to Brookton Highway and south to the Waroona area.

P. granitica has only been found on one rock. _P. gracilicordata_ was previously known from eight granite outcrops. In 2016-17, two new, hike-in populations were discovered. David, who is a gun with exploring and map utilization was the impetus behind visiting both of the rocks where the new populations were found. It was very rewarding to find new colonies after looking at many other rocks with the "ideal habitat".

Flower numbers vary from around 50-850 depending on the particular rock surveyed. Average numbers are typically 150 to 250 in flower. On the majority of the rocks, plants flower every year. However, in a limited number of cases this may not occur. Total numbers appear to be reasonably stable, except where vehicle damage has occurred.

Typical Duck orchid habitat



Current known distribution of the Duck orchids

Granite Ducks continued...

Observations over the last five years:

- There can be considerable variation in morphology within the *P. gracilicordata* group
- Both species may be found flowering at the same time. In addition, we have found distinct flowering times within the *P. gracilicordata* group, which may or may not be environmentally influenced.
- The characteristic of the labellum position above or below the horizontal is only a guideline. We have observed this may not always be strongly apparent in specimens.
- Some of the *P. gracilicordata* colonies have some morphological features with some resemblance to *P. granitica*. This has resulted in occasional plants on some rocks thought to be *P. granitica*
- On the rocks where we have found orchids, their occurrence may be widespread throughout the habitat or confined to one are of the "ideal" habitat leading to the question of what is the limiting factor?

Variations in *P. gracilicordata* Labellum angle in relation to the horizontal is not always useful for identification

Over the time we have been involved with this programme, we have found a few things which helped refine our techniques.

- David developed a "quadrat" system and with input from Leif and placed permanent pegs then eventually screws in the rocks. This significantly facilitates counting and subsequently increases the time we have to look for new colonies as well as allowing us to closely monitor individual orchids.
- We use Google Maps for much of our work but recently found that the SLIP mapping system of the W.A. government provides a number of advantages.
- We are also considering monitoring the health of moss beds on rocks where *Paracaleana* occur using drones.
- A range of other habitat features are being recorded by Leif and Ian including:
    - Monitoring moisture levels of moss beds to see how this correlates to their biology
    - Associated plant species found on rocks where *Paracaleana* grow.
    - Ian is also assisting in priority plant surveys with other types of plants found on the rocks.

One aspect of these orchids, outside the ADORP focus which always interested me, is what effect if any, the geographical isolation of the rock outcrops had on the development of the resident orchid populations. In pursuit of this interest, I set up a programme to investigate if there were any common pollinators of the different colonies on the various rocks.

Pollination of these species was not well understood, but it was presumed that thynnine wasps were the primary agent. Andrew Brown was very helpful with his insights, suggestions and comments in setting up the trial and David for his assistance.

Initially I used bait flowers collected from the various rocks and moved from rock to rock to attract and identify pollinators. However, no pollinators were observed during the first two years even though about 75% of orchids on various rocks were being pollinated.

So for the past two years I delved further into pollination possibilities by placing "pollinator exclusion covers" over plants in bud and monitored them during the season (see photo right).

Granite Ducks continued...

The result of this experiment was about 75% pollination of the flowers that were under the barriers. A similar result was obtained with *P. nigrita* flowers that occurred on the same rock as the *P. gracilicordata.* My original intention of trying to determine if colonies on separate rocks were distinct enough to attract different pollinators appears to have instead pointed to the possibility of self-pollination being a factor with *P. gracilicordata* and *P. nigrita*. Introducing a new insight into the world of the rock dwelling duck orchid species in W.A.

Major threats to the *P. granitica* and *P. gracilicordata* species include damage from vehicles driving over the moss beds, animals (probably pigs), herbivores including Bagworms eating the flowers, fire (possible but limited) and loss of environment.

Thus, much of interest remains to be investigated by inquisitive minds.

Vehicle damage to the environment

Bagworm eating a duck orchid

ADORP News by Kevin Uhe

Welcome to Graham Warren and Jo Harley, the latest members to join the ADORP program. Graham will be helping with *Pt. frenchii* and *T. magnifica* whilst Jo is keen to join Bill and his team hunting granite ducks.

With the recent receipt of the third quarter timesheets, a total of 30 ADORP members have now qualified to receive the DBCA volunteer annual rewards. These rewards are tier-based on the number of hours worked (50 hours and over) and vary from parks passes, discount vouchers, special badges to an annual Landscope magazine subscriptions.

Usually these awards are mailed out in August each year and are a small acknowledgement offered by the DBCA to recognise the efforts by volunteers during each financial year. The DBCA relies on the efforts of volunteers over many facets of their operations, ranging from many conservation projects including ADORP, to camp hosts around the state.

Currently flowering *E.dilatatus subsp. dilatatus* (White Bunny) and leaf
Images courtesy of Gail Reed

"Masquerading as pea plants: behavioural and morphological evidence for mimicry of multiple models in an Australian orchid" By Daniela Scaccabarozzi

Summary of *Diuris brumalis* pollination

While there is increasing recognition of Batesian floral mimicry in plants, there are few confirmed cases where mimicry involves more than one model species. During my PhD we tested for pollination by mimicry in *Diuris* (Orchidaceae), a genus hypothesized to attract pollinators via mimicry of a range of co-occurring pea plants (Faboideae).

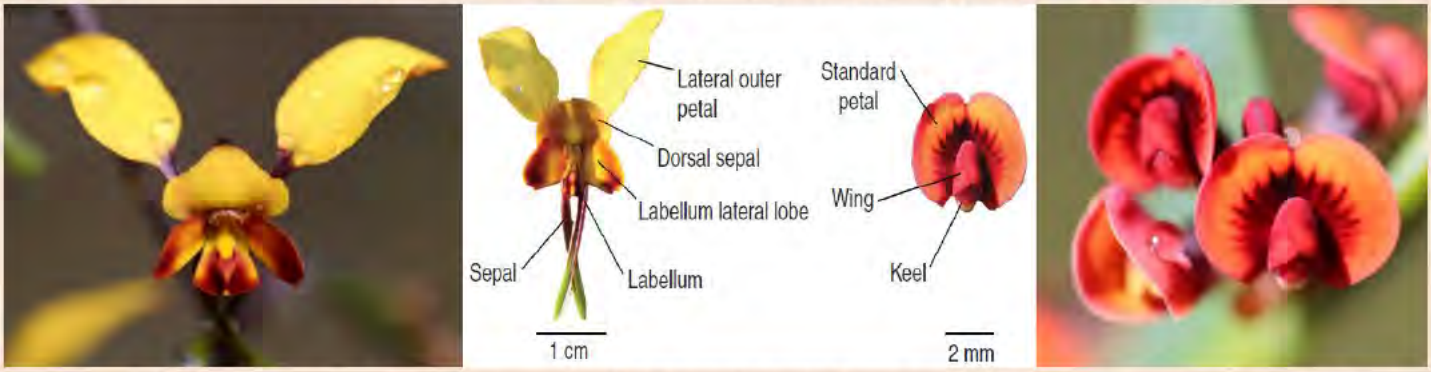


Image left: *Diuris brumalis*; Image centre: Pea-like floral morphology of *Diuris brumalis* formed by two lateral petals, the dorsal sepal, labellum lateral lobe, labellum and two basal sepals (Hoffman and Brown, 2011); Image right: *Daviesia decurrens*.

Observations of pollinator behaviour were made on the selected study species, *Diuris brumalis* using arrays of orchid flowers to attract insects. An analysis of floral traits in the co-flowering community and spectral reflectance measurements were undertaken to test if *D. brumalis* and the pea plants showed strong similarity and were likely to be perceived as the same by bees. Pollen removal and fruit set was recorded at 18 sites over two years to test if fitness of *D. brumalis* increased with the abundance of the model species.

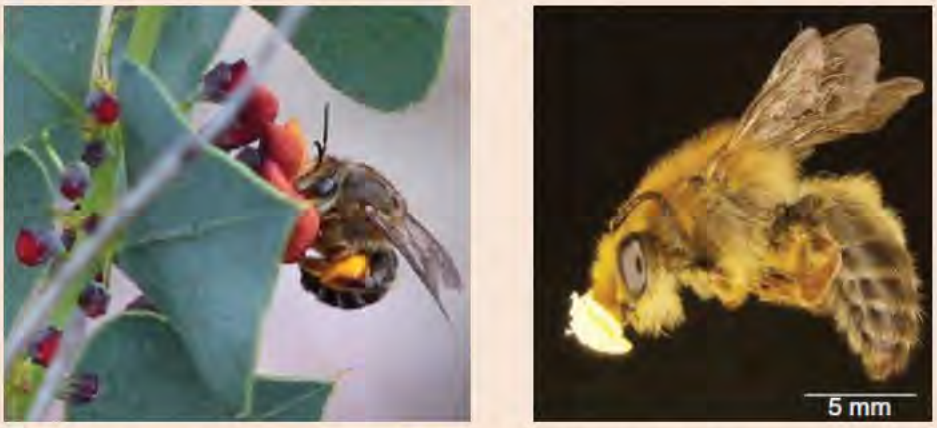
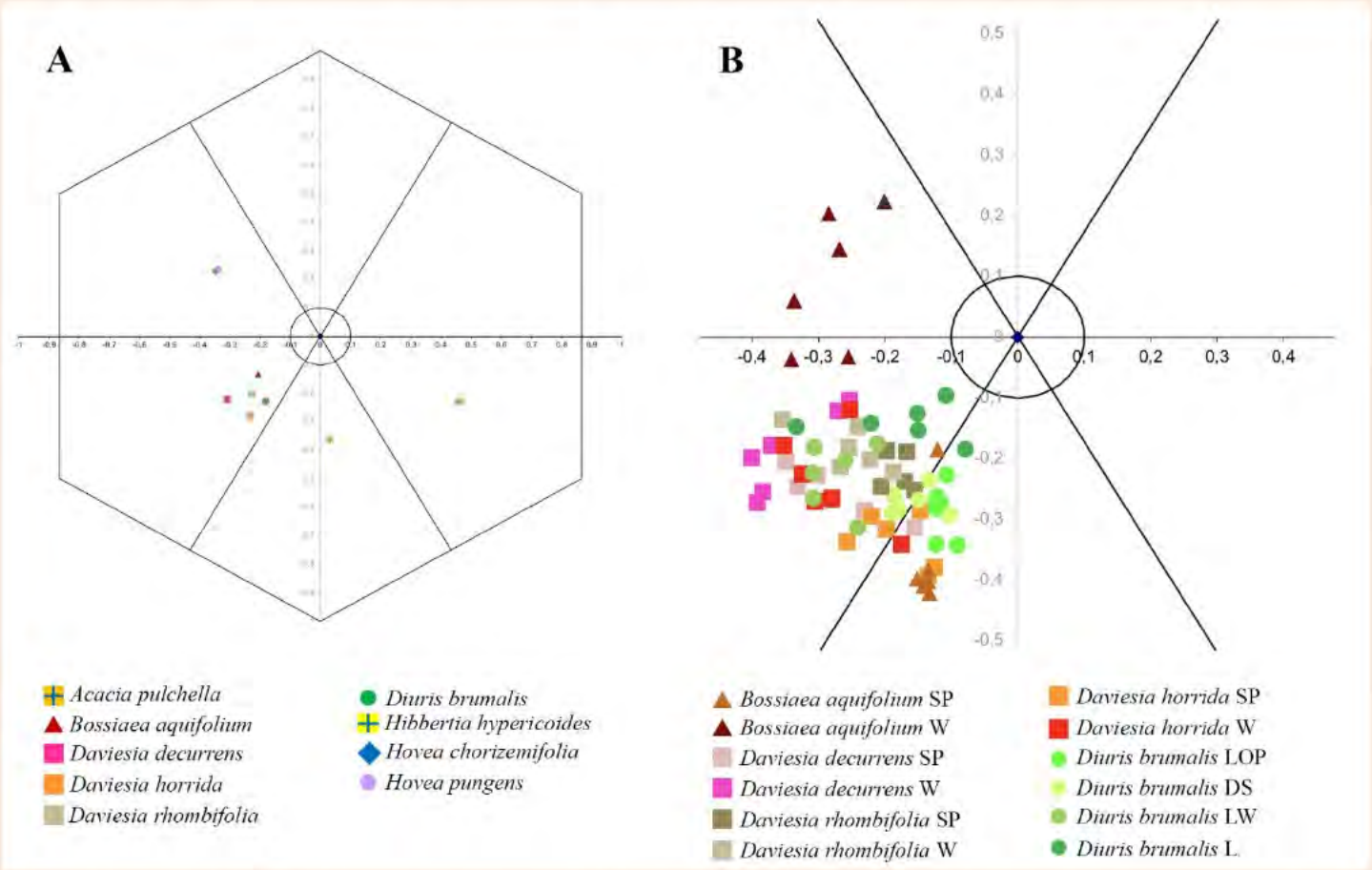


Image left: female of *Trichocolletes leucogenys* with pea plant pollen (orange in colour) on the abdomen and posterior legs, feeding on *Daviesia rhombifolia* by positioning the abdomen over the keel of the flower
Image right: male of *Trichocolletes capillosus* carrying *Diuris brumalis* pollinia on the head

Diuris brumalis shares the pollinator species *Trichococolletes capillosus* and *T. leucogenys* (Hymenoptera: Colletidae) with co-flowering Faboideae from the genus *Daviesia*. On *D. brumalis*, *Trichocolletes* exhibited the same stereotyped food-foraging and mate-patrolling behaviour that they exhibit with *Daviesia*. *Diuris* and pea plants showed strong morphological similarity compared to the co-flowering plant community, while the spectral reflectance of *Diuris* was similar to *Daviesia* spp (examined further over page). Fruit set and pollen removal of *D. brumalis* was highest at sites with a greater number of *Daviesia* flowers.

Diuris brumalis pollination continued...

A multivariate analysis of floral morphological traits indicated that *D. brumalis* is more similar to species of Faboideae than any other co-flowering species in the studied communities. All of the characters scored were matching between pea plants and *D. brumalis* except for plant height and overall flower size. Among the pea plants, the spectral reflectance of *D. brumalis* was most similar to that of the *Daviesia* species on which *Trichocolletes* feed. The similarity of colour loci between *D. Brumalis* and *Daviesia* appeared particularly pronounced between the standard (model) and dorsal petal (mimic), and between the wing (model) and labellum lateral lobe (mimic), suggesting a level of colour matching between morphologically corresponding floral parts. See figure below.



(A) Mean values of colour loci calculated between floral parts for the species *Daviesia decurrens*, *D. horrida*, *D. rhombifolia*, *Hovea chorizemifolia*, *H. pungens* and *Bossiaea aquifolium*. In addition, colour loci are presented for two commonly occurring yellow-flowered species present at all sites, *Hibbertia hypericoides* (Dilleniaceae) and *Acacia pulchella* (Fabaceae), to test model similarity based on floral colour.
(B) Distribution of color loci most similar to the *D. brumalis* color signal. Measurements of spectral reflectance were taken for *D. brumalis:* LOP = lateral outer petal; DS = dorsal sepal; LL = labellum lateral lateral L = labellum; for pea plant species (Faboideae): SP = standard petal; W = wing petals. The calculations were made using the Hexagon colour model of bee vision (Chittka, 1992).

Conclusions: *Diuris brumalis* is pollinated by mimicry of co-occurring congeneric Faboideae species. Evidence for mimicry of multiple models, all of which share pollinator species, suggests that this may represent a guild mimicry system. Interestingly, *D. brumalis* belongs to a complex of species with similar floral traits, suggesting that this represents a useful system for investigating speciation in lineages that employ mimicry of food plants.

Research and images printed with permission of author Daniela Scaccabarozzi

Dual PhD Candidate
University of Naples Federico II & Curtin University of Perth
with Kings Park & Botanic Garden

Membership with Jon Warren

New Member:

A big welcome to Michael Lee who joined WANOSCG since the last bulletin. Michael is a southern suburbs boy with a lot of knowledge of orchids in the Bibra Lake area.

New membership forms and fees:

Well believe it or not we are almost there with the vast majority of folk paying both their annual fees and filling out the new membership form. Albeit a few paying the wrong amount and others submitting multiple forms sometimes with contradictory information. But why quibble - at least it was done.

For those few who have not paid this will be their last bulletin as May 31st is the cut-off date after which their access to club services ceases. However, those few who have not filled out the new membership forms but have paid the fee, the harassment will continue.

Why you ask? Well there are two significant reasons.

The first, a bureaucratic one, is, as previously ad-nauseumly stated, the membership category nominated by you determines your voting rights and your nomination needs to be signed off to validate the selection. Further, the updated information is also needed for insurance purposes. You will be amazed how many changes of contact details this process flushed out amongst members.

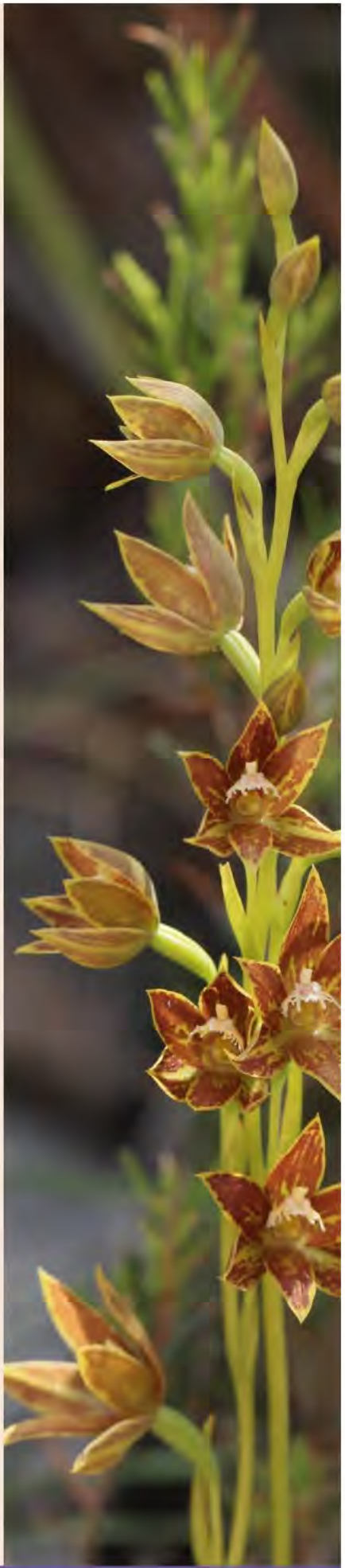
The second is more a health issue. The designing of the members database and subsequent slow filling and cross checking of membership information over the last 6 months has roused a dormant OCD in me and I just cannot stand to see those few stark white rows signifying non-compliance amongst the other completed orange hued entries in my precious excel spreadsheet.

The good news for recalcitrants is that I will be personally contacting them over the next few weeks to assist in any way the get the form filled and my OCD salved.

Eriochilus pulchellus (Granite Bunny)

Caladenia drummondii (Winter Spider)

Images courtesy of Mick Hurdus



"Celebrating Ten Years of Field Trips" by Anna de Haan

FIELD TRIP REPORT: SOUTHERN RIVERS GROUP – MAY 4th

Ten years ago, the inaugural field trip of southern members was held on an unseasonally warm day along the South Coast Highway between Denmark and Fernhook Falls. This field trip has become known as "The Bunny Hop". Today, on a gloriously sunny day, the Southern Rivers Group celebrated their tenth year of running field trips. Over the decade we have averaged nine trips per year, ranging from six in 2016, an extremely dry year, to twelve in 2010.

Southern Rivers Group – Image courtesy of Simon Wilson

Our first stop today, was at a familiar site east of town where we spent 1½ hours searching a large area to enjoy *Eriochilus valens* (Red-lipped Bunny) which were plentiful in number. What came to our attention was the range of colour variation of the hairs on the labellum, from the palest green/pink to deep maroon. One *Prasophyllum* sp. 'early' (Scented Autumn Leek) was in bud at this site, however, these were already in full flower in Denmark.

Morning tea was along the edge of a dusty road. Celebrations started in earnest when cakes shaped into the number ten appeared. Anna was then presented with the most beautifully hand-crafted stem of *Thelymitra variegata,* true to size, shape, colour and location. The stem even had the typical spiral leaf. This flower stem will become a memento to be cherished into the future.

The second stop was on the granite rocks overlooking Albany and the harbour. Within the confines of shallow pockets of soil caught on the uneven rock surface, colonies of *Eriochilus pulchellus* (Granite Bunny) were flowering. Many more had been pollinated. The odd *Eriochilus dilatatus* subsp. *magnus* (Easter Bunny) was also sighted as was one very immature *Pterostylis vittata* (Banded Greenhood). These rocks became our spectacular lunch spot which concluded with servings of a celebratory cheesecake.

Thus, we will walk many more kilometers (to burn off the calories) searching for, enjoying and learning about orchids on our journey towards our second decade. A big "thank you" must go to all the branch members who continue to support the objectives and values of WANOSCG. The branch gives everyone the opportunity to appreciate and gain a deeper understanding of orchids regardless if they are in the field as an individual, small group on private trips or as a branch on official field trips.

NB The SRG Branch officially formed in July 2010 and was launched in Albany on 23rd October 2010.

Anna de Haan
SRG Branch Convenor

"Your Orchid Story" with Timothy Hodgkins

How many years have you been a member of WANOSCG?
10 years.

How did you first become interested in orchids?
Typically, during family picnics in the 1950's at wheatbelt reserves in the August school holidays. My uncle's farm was situated between York and Quairading. Nearby was an area locally known as the 'old sapphire mine' where we looked for sapphires and donkey orchids... only finding the latter!

Which orchid is your favourite and why?
Caladenia lobata, butterfly orchid. Sheer beauty and exquisite shape. See picture below.

Are there any orchids left on your bucket list to find and if so, which one(s) are you most interested in finding?
There is still one of the Queen of Sheba complex that I have not seen, Thelymitra variegata.

What's the furthest distance you've driven in a day or on a trip to see a particular orchid?
Upon retirement in September 2008, my wife and I embarked on an orchid road trip using Bob Liddlelow's 'mud maps' to guide us to many locations. Whilst in Esperance we drove the 220 km return trip to Boyatup Hill. We were rewarded with seeing many species we had not yet sighted.

Do you have a favourite memory from any field trips that you would like to share?
The June 2016 field trip to Cataby was a highlight for me because we were able to see Thelymitra pulcherrima in wonderful flower. This was my first sighting of one of the Queen of Sheba complex sun orchid.

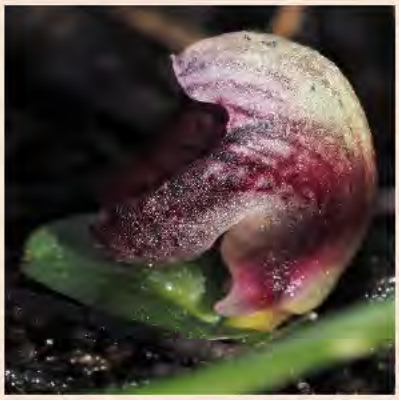
As a member of WANOSCG, what's your ultimate goal for the organization or is there anything in particular you hope to see achieved over time?
During our 40th year birthday celebrations we focussed on the possibility of a new reserve being named in honour of that milestone. I am still hopeful that the inclusion of the Johnston Road area into a regional national park will realise that goal. Work is continuing.....

A huge thanks to Tim for sharing his story with us.

Caladenia lobata - Image courtesy of Tim Hodgkins

"The Search for new Helmets" by Margaret Petridis

FIELD TRIP REPORT: WALPOLE - MAY 11TH AND 12TH



Members met in Walpole on Saturday 11th May and were fortunate to see a specimen of the newly discovered Helmet orchid, *Corybas* sp. 'Peat' that had been collected the previous day by local orchid enthusiast David Edmonds. There was plenty of time for people to take photographs of the tiny orchid (approx. 1cm high x 1cm wide) from all angles and to marvel at it's unique colouring.

We headed out to search swamps both east and west of Walpole to look for suitable peaty habitat and the new orchid. Some habitat had regrown post-burn too thickly to get through in one swamp and in two others, the freshwater crustaceans had dug up the ground and destroyed the peat swamps, so no suitable habitat was found there. Some small leaves were found at the edge of one swamp, which David will monitor.

On the way down to one swamp, a single flower of *Eriochilus valens*, the Red-lipped bunny was found. The Albany pitcher plant, Cephalotus follicularis was also found in one swamp. We spent some time on Broke Inlet Rd exploring the granites where hundreds of the Granite bunnies, *Eriochilus pulchellus* were growing and a few plants of the Common bunny, *Eriochilus dilatatus* subsp. *multiflorus* were also seen. In a gravel area, some plants of the Scented Autumn leek, *Prasophyllum* sp. 'early' were located.

On Sunday 12th Andrew Brown took a few members out to look for Eriochilus and visited two locations. Due to the low rainfall this year, very few Eriochilus plants were located. Despite the group not locating the new Corybas this trip, it was helpful to check and eliminate some of the Walpole swamps in the quest to find it in more locations. As this new species has so far only been found in one location, it will be treated as a critically endangered species. We are hopeful that it will be found in more swamps in the future.

Conservation Report by Jon Warren

WANOSCG is still looking for a volunteer to coordinate our current conservation activities. However, our involvement in conservation endeavours continues. First and foremost is the work members do through the ADORP program. Secondly, the information members contribute to the database enables WANOSCG to provide accurate evidence on the status of orchids in various areas with the objective of providing the orchids some protection. Through our previous Conservation Officer, WANOSCG was also involved in a number of other activities that could provide substantial conservation outcomes for our beloved orchids. To ensure that WANOSCG was able to continue to participate in these conservation activities, individual members have kindly volunteered to be the WANOSCG representative in the following projects / developments:

1. Possible Johnson Road Nature Reserve (Jon Warren)
2. Warwick Reserve (Jay Steer et al)
3. Possible Frankland River Reserve (Lyn Alcock)
4. Donovan Street bushland (Andrew Brown)
5. Bunbury outer ring road (Bill Dear & Graeme Walker)
6. Caves Road (Brian Trainer)
7. Oldfield River Reserve (Matt Jones)

Already there is action in relation to the Caves Road works. Mains Roads is setting up a Caves Road Community Reference Group (CRG) to discuss proposed works along Caves Road and local member Brian Trainer attended the first meeting to see if WANOSCG could have some input. As a result, WANOSCG will be officially invited to be part of the CRG and be able to evaluate the management plan as it evolves. Brian also reported that WANOSCG was well represented at this meeting as local member Jenny Kikeros and the indefatigable Eddy Wajon were also at the meeting representing other organisations. Members who are interested in becoming involved in conservation activities are encouraged to contact the WANOSCG Committee members.

Image courtesy of Gail Reed – *Eriochilus dilatatus subsp. brevifolius*

Conservation News continued...

Orchid seeding by **Friends of Warwick Bushland**, on May 5th 2019. "This year's work follows the initial seeding activity in the Autumn of 2018 when four x 25m transects were established and marked in the Bushland close to existing walk trails. Seeds had been collected and stored by Mark Brundrett, assisted by members of the Friends. Orchids common to the area were selected including Caladenia latifolia (pink fairy), Caladenia arenicola (carousel spider) and several sun orchids."

FIELD TRIPS 2019 by Margaret Petridis

Proposed trips for June and July are as follows:
(Please note you need to organize your own accommodation on weekend trips)

JUNE 1st – 3rd: Kondinin-Hyden
(Stay in Hyden on Saturday 1st and Sunday 2nd)
FTL: Margaret Petridis / Kevin Uhe
Target orchids: Caladenia drummondii, Eriochilus dilatatus subsp. undulatus
***NB due to this being a long weekend, we have been advised to book accommodation in Hyden ASAP.*

JUNE 29th – 30th: Badgingarra area
FTL: Kevin Uhe
Target orchid: Thelymitra apiculata (Priority 4)

JULY: Proposed Field trip - Dates and Location to be advised (pending rainfall)
FTL: Margaret Petridis
Target orchid: Thelymitra pulcherrima

Wave Rock Caravan Park, Hyden
Phone: 9880 5022
Accommodation options: Ensuite powered sites, Cabins, Backpackers accommodation and Camping sites

Register for field trips by text: **or Email:**

Images courtesy of Tim Hodgkins

Eriochilus pulchellus (Granite bunny) at Flat Rocks, Augusta, 14/5/19

Leporella fimbriata (Hare orchid) at Warwick Bushland, 5/5/19

Proposed Metro Field Trips by Christine Lock

***NB This is a draft schedule and subject to updates*

DATE (Week beginning)	LOCATION	FIELD TRIP LEADER
Monday 17th June	Your local metro reserve, remnant bush, road verge	Members
Monday 8th July	Pomeroy Road (burn area from September 2018)	
Monday 22nd July	Underwood Avenue and Shenton bushland – Lemnos Street	
Monday 5th August	Kenwick Wetlands – Alton Street and Brixton Street	M. Roepin
Monday 12th August		
Monday 19th August	Inglewood Triangle – 8th Avenue	
Monday 26th August	Helena Valley – Hudman Quarries (burn area January 2019)	Pat Richards
Monday 2nd September	Hepburn Heights Conservation Areea, Pinaroo Bushland – Shepherds Bush Drive (burn Woodvale 2018)	
Monday 9th September	Landsdale Bushland (burn Spring 2018)	
Monday 16th September	Winthrop – Piney Lakes	
Monday 7th October	Caladenia huegelii	John Ewing
Monday 14th October		
Monday 22nd October	Thelymitra campanulata species	
Monday 5th November	Yardarino Bushland	
Monday 7th December	Spiculaea, Paracaleana brockmanii	

Question Time!

It has been cleverly suggested that we include an open question section in the bulletin to allow members to ask any questions they have in regards to orchids and give an opportunity for anyone (expert or enthusiast) to provide a reply that will be published in the following issue. Hopefully this will facilitate sharing of knowledge and generate some member involvement throughout the year.

Last month's question was in regards to the Blue Fairy orchid:

"Why is the Blue Fairy orchid not included within the Caladenia genus and rather the Pheladenia genus? What are the specific features that separate these genera?"

Pheladenia deformis (Blue beard or Blue Fairy Orchid) was originally named Caladenia deformis before being renamed *Cyanicula deformis* in 2001. It has since been recognized as a distinct monotypic genus from molecular phylogenetic studies. It differs from *Caladenia* and *Cyanicula* genera in DNA sequence and the following morphological features:

- Slender lamina calli in a dense mass on the apical midlobe
- Calli are in 4-6 rows basally, increasing in size and spreading irregularly on the base of the midlobe
- Tubers are enclosed by a multilayer fibrous sheath similar to *Cyanicula, Elythranthera and Glossodia* genera whereas *Caladenia* tubers emerge from their tunic in the lower half

"Robert Brown's Caladenia revisited, including a revision of its sister genera Cyanicula, Ericksonella and Pheladenia" by S. Hopper and AP. Brown. Australian Systematic Botany

This month's question:

Two new caladenia species were described in the literature in early 2018 (*K.W. Dixon, M. J. M. Christenhusz.* Endangered fairies: two new species of *Caladenia*, from the bauxite plateaux of southwestern Western Australia. Phytotaxa)**.**
Are these species yet recognised? What is the process in Australia that needs to be followed for a new species to become formally recognised?

Please send any questions / responses to wanoscg.newsletter@gmail.com. Looking forward to your contributions!

General Meeting Rosters

We are calling for volunteers to provide supper at our general meetings. If you feel you can help out in this regard, a sheet (a sample of which is shown below) will be tabled at each general meeting and you are encouraged to put your name down.

Meeting	SUPPER ROSTER	RAFFLE PRIZE	SPEAKERS
19-Jun-19	Robyn Foley	Ian Puddey	Eddy Wajon 'Orchids on roadsides: Opportunities for better roadside vegetation management'
17-Jul-19	Margaret Fox	Debbie Proudfoot	TBC
21-Aug-19		Bob Steer	Belinda Davis – King's Park research
18-Sep-19		Jack Eborall	President of the French Orchid Society Jean-Michel Hervouet
16-Oct-19	David Lawson	David & Janeanne Cumming	Chris French - Title TBC
20-Nov-19		David Lawson	Photo Competition

WANOSCG Garment Orders

WANOSCG is selling garments this year with the clubs embroidered logo. You have the opportunity to buy Polo Shirts (long sleeve, short sleeve, with or without a pocket), Polar Fleece Jacket, and Hi-Vis Safety Vests. With the Safety Vests your name will be embroidered on it, so you need to clearly print your first and last name on the order form.

Please see attachments "How to size your garment" and the "Garment Order Form" that will be sent out with the bulletin. Fill out the bottom part of the order form and either mail it to Donna Wajon or leave it with the Treasurer for Donna to collect when she returns in August.

Bulletin Articles

Please send Bulletin contributions to the Editor at wanoscg.newsletter@gmail.com

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