

ISSUE 9 - NOVEMBER 2019



WANOSCG

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

**HYBRID
SPECIAL
ISSUE**



An evening for our Octogenarians

As per WANOSCG tradition, our October General meeting honoured some of our senior members with cake and supper following the usual order of business. We currently have fifteen members who have achieved Octogenarian status and beyond, with four members able to actually attend the celebration this month. It was lovely to be able to honour these particular members for their knowledge, enthusiasm and overall contributions they have made to this conservation group over many years. Their involvement has been a foundation for developing the warm culture and mentorship in alignment with values of the group. We hope that these members continue to promote the interest in and preservation of Western Australian Native orchids for many years to come.



Matz Dahlkamp, Noel Hoffman, Jack Eborall and Margaret Fox with celebratory 80+ cake for supper at the October General Meeting

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Next General Meeting:

Kings Park Administration Building
Wednesday 20th November 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

Orchidaceous adventures in Madagascar by Jean-Michel Hervouet

Our September General Meeting brought a special couple of guests from France, Jean-Michel Hervouet and his wife. Jean-Michel gave an exciting presentation on the orchids of Madagascar and the adventures involved in sighting many species. He has kindly provided us with a summary of his talk as outlined below. Jean-Michel would also like our membership to know that they were enchanted by the welcome they received from WANOSCG and thoroughly enjoyed their Western Australian holiday. During their stay they managed to see an astonishing 112 species of terrestrial orchids which was a huge record in a lifetime of orchid hunting. They will be celebrating this record with champagne in their new WANOSCG Caladenia glasses.

Madagascar was isolated for around 80 million years and has subsequently developed into a biodiversity hotspot. It is comprised of endemic trees (Baobabs, Didieraceae), mammals (lemurs), reptiles (chameleons) and orchids (around 1000 species) while the nearby continent of Africa which is 40 times larger in area, only harbours 2000 species of orchids. As a consequence, 85% of the orchids of Madagascar are endemic. The country is currently ravaged by the slash and burn culture, the plundering of national parks and generally speaking corruption.



Jean-Michel Hervouet with the King of Bara-Antsa people in 2010

Jean-Michel presented a variety of photos of landscapes, animals and the people of Madagascar. The French Orchid Society has been conducting field trips to the island since the year 2000. It consists of more than 30 trips involving a total of 75 participants. The conditions are often difficult as the network of roads is in bad state and because the trips are conducted mostly in the rainy season. The field trip objectives have been to find what is remaining of the 1000 species of orchids already described, and to identify potential new reserves. So far, about 450 species have been located on these trips. Jean-Michel presented the various genera in Madagascar (including *Bulbophyllum* - 209 species, *Angraecum* - 140 species and *Cynorkis* - 131 species). It is remarkable that the largest existing *Cynorkis* has been only described recently in 2017. Jean-Michel showed members photos of orchids in their habitats, in some of the best spots in the country: Mount Ibity, Andringitra Massif, Ranomafana National Park with an emphasis on the Mountain of the Dead (Ambondrombe - not a reserve but protected by taboo). The French Orchid Society has identified 125 species of orchids so far at the Mountain of the Dead. Lastly, the Ambodiriana forest was presented. Jean-Michel is also the Vice-President of an NGO protecting this latter forest on the East coast of Madagascar. This 240 hectare lowland forest boasts 100 species of orchids, including at least 6 that are still undescribed.



From left: *Cryptopus dissectus* (thought to be extinct, rediscovered in 2010), *Cynorkis uniflora* and *Cynorkis christae* (the largest *Cynorkis* of Madagascar, recently described)

Wild Orchid Watch App by Dr Katie Irvine

Many members may have seen advertisements for a new App that will be up and running in 2020 for wild orchids of Australia. This app will be gathering data utilizing a citizen scientist approach with users of the app generating the information for researchers. I have invited Dr Katie Irvine from the University of Adelaide (Science Communication and Engagement of the Wild Orchid Watch Group) to provide our membership with some information as to how this App will operate and how the data gathered will be used in the future. More info can be found at: www.wildorchidwatch.org, Facebook, Instagram or Twitter

How will the WOW project and app work?

Wild Orchid Watch (WOW) is a national orchid data collection project. The WOW team are developing an app and a website to enable orchid enthusiasts to collect, record, identify and share information about Australian native orchids. The WOW app will be ready for use in early 2020.

Ecologists at the University of Adelaide, in collaboration with members of the Australasian Native Orchid Society (ANOS), have established agreed methods for data collection via the WOW app and website. This online resource, will act as a central hub for orchid enthusiasts to record and store orchid observations, seek orchid identification and share information

with trusted users. The WOW app is being developed in-house at the University of Adelaide to be fit for purpose. The app will guide users to collect data, take a series of photographs and answer questions about variables such as habitat, landform, pollinators observed, and site disturbances. Location data will be recorded using the phone's GPS. Data sharing with trusted users (ecologists and taxonomists) will enable critical research into orchid distribution, abundance, phenology and as indicators of environmental change.

The Wild Orchid Watch custom-built app will feed data to iNaturalist, a joint initiative of the Californian Academy of Sciences and National Geographic, and a highly successful online citizen science platform. iNaturalist will securely store WOW data along with millions of other observations of living organisms submitted via the iNaturalist app. Despite having been in operation for over 10 years, iNaturalist has been underutilised in Australia until recently. Atlas of Living Australia (ALA) is now collaborating with iNaturalist, creating an Australian node of iNaturalist - iNaturalist Australia. ALA says "iNaturalist is a global social biodiversity platform designed to share and discuss biodiversity. Built on open source software, it supports open data, and has a strong community engagement focus including the interest and encouragement of the taxonomic community."

We released the Wild Orchid Watch promotional video in August 2019.

You can view it on YouTube: https://www.youtube.com/watch?v=3kmAxp_vxB0.

In an excerpt from the video, Michelle Waycott, Chief Botanist at the State Herbarium of South Australia explains why Wild Orchid Watch is an important project. "Wild Orchid Watch represents a unique opportunity to bring together information collected by keen citizen scientists, who spend a lot of time in the field making useful observations, into a centralised system with appropriate and informed data, and be able to share that across the whole country. But also with scientists who need to know that information"



Images by Lyn Alcock: *Caladenia flava* × *Caladenia footeana*

Wild Orchid Watch Continued...

How will orchid locations be protected?

All orchid sightings submitted via the WOW app will have geoprivacy set to 'obscured'. When a WOW app user logs into iNaturalist and looks at a map of orchid locations in the WOW project, they will see a 0.2 x 0.2 degree latitude rectangular cell (about 20 x 20 km, or 400 km²) encompassing the hidden true coordinates. An added layer of data protection built into the iNaturalist platform is "taxon geoprivacy"; the locations of all taxa with an IUCN equivalent status of near threatened or higher, are automatically obscured.

Who will have access to sensitive data?

Users will always have full access to their own submitted records. iNaturalist will securely store all accurate orchid locations. This data will only be directly accessible to state government data managers and WOW project curators. When a research scientist, NRM land manager, or environmental consultant would like access to the detailed data, they will be required to apply via existing protocols as managed by relevant state government agencies. It will be up to the state/territory government data managers to assess the application and release the sensitive data for the specified taxa/locality of interest.

What research is planned to be conducted with the data?

Data gathered through the WOW project, including the detailed locations, will be available to researchers via an application process as described above. Researchers will apply to state government data managers for access to the data, as per current protocols. Citizen scientists will use the WOW app to survey wild orchid populations and their habitat context across Australia. Over time, this information will allow scientists to gain detailed insights into the drivers of species occurrences, abundance and phenology.

There are endless research opportunities to make use of the WOW data. For example, ecologists at the University of Adelaide are using local orchid species as case studies, and aiming to determine which environmental and habitat condition parameters best predict the presence and status of orchid populations and communities through analysis of spatial and temporal changes in habitat configuration, management regime, vegetation communities and climate. They will also investigate how best to combine new, detailed information with historical records of orchids to assess change. This investigation will provide novel information on how broader ecosystem processes are influencing orchids via effects on disturbance levels, ecosystem composition and reproductive success. The results will reveal factors contributing to population decline or reproductive failure in orchids, which threaten their persistence and adaptive capacity in the context of climate change. This information will better inform how we should manage the habitats of orchids in a whole ecosystem context.

What are the main objectives for the app?

There is a dire need for much greater levels of information on Australian native orchids, their taxonomy, distribution, abundance, and environmental factors affecting their occurrence and ecology. This information is required at a scale that is impractical for a single entity to collect. Wild Orchid Watch will collect this information through the support of a large-scale citizen science program that will engage interested amateurs and naturalists. Data will be made available to the scientific community for research, and will be managed by government ecological data managers.



Images from left: Maggie Whittle – *Caladenia christineae* × *C. pectinata*, Krystyna Rees – *Thelymitra crinita* × *T. macrophylla* and Andrew Brown – *Caladenia barbarossa* × *C. lobata*

ADORP News by Kevin Uhe

The late season ADORP surveys are now underway and despite the dry end to the season, the target species are still producing flowers though not in big quantities and flowering earlier than normal. This can be challenging when planning trips to undertake surveys.

Some very comprehensive survey reports have been received to date and in most cases are showing a downward trend in flowering numbers this year which is to be expected given the dry start to the season and drier than normal July and Spring. This has been particularly noticeable in the northern areas where many populations are in very small numbers or have not flowered at all this year.

Recently *Caladenia nivalis* (Exotic Spider) was added to the priority list and thanks to David Cumming (with some help from the recent field trip to the Capes area) we now have a good baseline survey to build on in the future. This work was particularly important to determine the current ranges and check historical locations.

With the completion of the July to September quarter timesheets, a total of 2,565 hours was recorded and this is a record for any quarter to date. For the same period last year, a total of 1,967 hours was recorded and this shows the whole hearted effort that ADORP members contribute to the project.

Special mention to Rob van Oosten who has achieved a cumulative total of over 500 hours since joining the ADORP project which is a great achievement since he only joined the project in 2017.

Finally, many thanks to all those ADORP volunteers who have given up their time during 2019 to undertake surveys and provide very useful information to assist in the status of many Priority and Threatened orchids.

New Helmet Species Formally Named

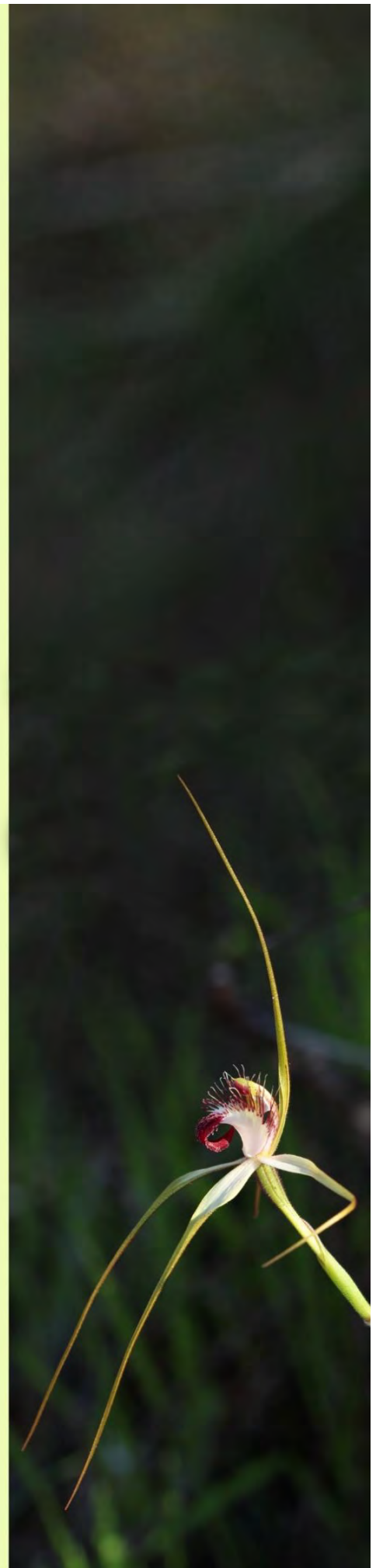
In the September issue of *The Orchadian* – The Official Journal of the Australasian Native Orchid Society, the new Helmet species first discovered by David Edmonds in May 2018, was given its formal name.

The new species was named *Corybas autumnalis* in recognition of its autumn flowering period, April to early June. This species habitats seasonally wet flats and at present is known from a population of only 33 mature plants. As a result, it is currently listed as a Priority Two for conservation. Current threats include its small population number, feral pigs, prescribed burns and lack of natural pollination seen to date.

These flowers have been recognized as uniquely different from other *Corybas* due to the small leaf that can be hidden by the flower, the colouring and the differing morphology of the flower along with the earlier flowering period.

Hopefully further populations of this rare species will be discovered over the coming years.

Image right by Rachel Halls – *Caladenia speciosa* × *C. huegelii*



“Porongurup to Mount Barker” by Anna de Haan

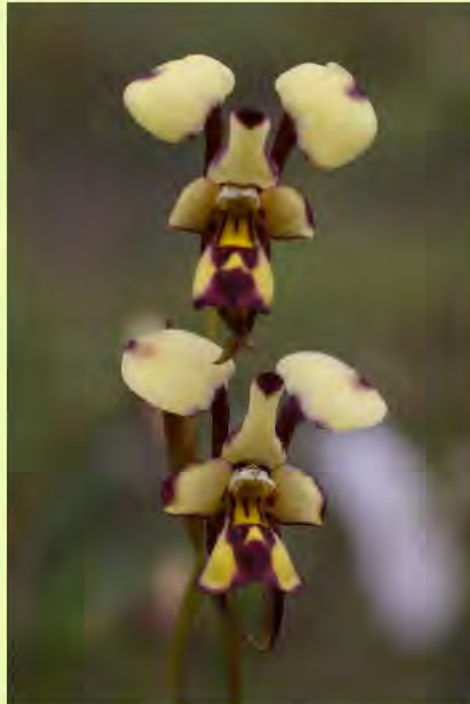
FIELD TRIP REPORT: SOUTHERN RIVERS GROUP – OCTOBER 13th

Before having to retreat to coastal swamps for the rest of the season the SRG Branch slipped in one more field trip north to the Porongurup area. It has been a few years since our last visit which was much earlier in the season. On this visit, much later in the orchid flowering season, we were not disappointed. It was a gloriously warm and sunny day, just perfect for the sun orchids to be wide open.

No swamps to cross, they were already dry, thus walking was easy along 4WD tracks. Firstly, we came across many *Caladenia barbarossa* (Common dragon orchids) under the low trackside bushes. Out in the open we sighted many sun orchids: *Thelymitra crinita* (Blue Lady), *Th. vulgaris* (Slender Sun), *Th. paludosa* (Plain Sun) and *Th. macrophylla* (Scented Sun).

Near a moist creek line, the first *Th. benthamiana* (Leopard orchid) was in bud, however, most of the local *Caladenia* had finished, either in seed or completely gone. Dozens of *Elythranthera emarginata* (Pink Enamels) were in full bloom. Persistence paid off at this site when *Caladenia marginata* (White Fairy) and *Caladenia denticulata* subsp. *denticulata* (Yellow Spider) were sighted. Both a great find. Down through another overgrown, but dry creek line and up the rise for the “short cut” through the bush back towards the cars. The going got trying as well, trying to negotiation regrowth beside dry creek lines, depressions and swamps. Finally, at a dam we hit the tracks again. Along this section back to the cars, *Ely. brunonis* (Purple Enamel), *Th. flexuosa* (Twisted Sun), *Cal. flava* subsp. *flava* (Cowslip), *Pterostylis vittata* (Banded Greenhood), *Lyperanthus serratus* (Rattle Beaks), *Microtis media* subsp. *media* (Common Mignonette) and *Disa bracteata* (South African) were sighted. Lunch was greatly appreciated after the 11km circuit which certainly took longer than first stated.

Staying closer to the cars this time, our second stop was a sandy track between two farms with grand views of the Porongurups. Dozens of *D. bracteata* were found but not one *Paracaleana* or *Drakaea*. Finally, the rain caught up with us at the third stop beside a moist swamp. Most *Caladenia* had gone to seed or had completely gone. One hybrid *Cal. longicauda* subsp. *eminens* x *barbarossa* (Stark White Spider x Dragon), [however, the parentage is questionable as so few other spider orchids were still flowering for a positive ID] was found amongst the last *Cal. longicauda* subsp. *eminens* (Stark White Spider) and the ever present Pink Enamels and Rattle beaks. Final stop, the bakery. Re-energised, we drove south into the full force of the shallow front only to find Albany was dry. Not a drop of rain had fallen along the coast.



Images from left: David Lawson - *Caladenia startiorum* x *C. ferruginea*, Margaret Petridis – *Diuris decremента* x *D. Micrantha* and Lubomir Hnedkovsky – *Caladenia* x *enigma* (Enigmatic Spider)

Orchid Taxonomy by Kevin Uhe

New namings:

In the latest edition of the Australian Orchid Review, David Jones has formally named two Western Australian Helmet orchids. These have been placed into the genus *Corysanthes*, a genus not recognized by the WA Herbarium. A further paper will need to be published in the future to recognize them as a combination under *Corybas*.

Corysanthes intuta (*Corybas* sp. Busselton) is named after the Latin *intutus*, meaning 'unguarded, defenceless.' This is in relation to the possible future extinction of this species due to urbanization of its habitat. *Corysanthes intuta* is a very rare taxon and is related to *Corybas despectans* but has a smaller flower, shorter dorsal sepal and a very short labellum tube. Given its rare status it would be expected that this taxon will be added to the priority list in the near future.

Corysanthes heberlei is named after the late Ron Heberlei who first found this species. Currently this species does not have a phrase name and is not featured in any WA orchid publications. It was found in the Albany area in 1986 and little is currently known about its distribution as it may have been overlooked in other areas. It has affinities to both *Corybas despectans* and *Corybas limpidus* with the main feature being the dorsal sepal which is intermediate in size between the species and the sharply pointed teeth on the labellum margins.

Committee 2020

As the flowering season comes to an end, planning has commenced for ongoing WANOSCG operations for the coming year. There are a number of committee and subsidiary positions that are being vacated at the end of this year including the Presidency, Vice-President, Field Trip Coordinator and Metro Field Trip Coordinator as well as Conservation Officer. We've been very fortunate to have these positions filled by capable and dedicated members for the last few years which has ensured the ongoing success of the organization. If you have any interest in helping fill these vacancies next year then please see current committee members and have a chat about what the commitment entails or send an email to wanoscg@gmail.com for further information.

2019 WANOSCG Photography Competition

As a reminder for the next General Meeting. Members are invited to submit a pair of photos for the November photo competition which show:

1. An orchid in its natural habitat showing both the orchid and its surrounding habitat (trees, shrubs, rocks, swamp, logs etc).
2. A closer shot of the exact same orchid.

The rules:

- The photos must have been taken between November 2018 and October 2019
- Printing size - up to 10" x 8" or A4, unmounted and not framed.
- Please include your name and the date the photo was taken to be written on the back of each photograph.

Image right by Rachel Halls – *Caladenia longicauda* subsp. *extrema* × *C. brownii*



“Your Orchid Story” with Joanne Harley

How many years have you been a member of WANOSCG?

I have been a member for two years.

How did you first become interested in orchids?

My Dad taught me about orchids when I was growing up on the farm in Margaret river. My best friend reignited my interest about 3 years ago.

Which orchid is your favourite and why?

I love all the orchids! But my favourite so far would have to be *Caladenia bryceana* subsp. *bryceana* seen around Boxwood Hill area in 2018.

Are there any orchids left on your bucket list to find and if so, which one(s) are you most interested in finding?

I have so many left on my bucket list... as I love anything cinnamon related, I would be so excited to see the Cinnamon Sun Orchid.

What's the furthest distance you've driven in a day or on a trip to see a particular orchid?

Mandurah to Bremer Bay, Tozer's Bush Camp in 2018 to see the Eastern Queen of Sheba, King Spider, Western Tiny Blue, Southern Curly Locks and many more.

Do you have a favourite memory from any group or personal field trips that you would like to share?

This year's Moora Field Trip was very special as it was my first and I was actually able to attend as I usually work weekends. I saw 6 new species for myself including *Pt. platypetala*, *D. refracta*, *D. recurva*, *C. exilis* subsp. *van leeuwenii*, *C. pendens* subsp. *talbotii* and *Pt. scabra*.

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?

To see more public awareness of the fragile nature of remnant bushland, to preserve and conserve what we have. To see better communication between government departments to help save priority orchids.



Images from left: Marina Karyagina – *Caladenia cristata* × *C. vulgata*, Graeme Walker - *Caladenia multiclavia* × *C. cairnsiana* and Nathan Piesse – *Thelymitra graminea* × *T. villosa*

Christmas Party 2019

There will be a Perth end-of-year gathering on Saturday, 7th December from 4:00 pm. Ian Puddey has offered to host this get together at his home in Applecross. Savoury food will be provided but members attending are requested to bring a dessert to share. Children are welcome and there is a pool for those wishing to swim.

For catering purposes, please RSVP attendance to Ian at [redacted] by the 30th November.

Hybrid Spectacular!

From the Editor: It was a great pleasure to compile the final issue of the Bulletin for the year with so many contributions from our membership. The enthusiasm from everyone was overwhelming! All the orchid photos pictured in this month's edition are of hybrids of Western Australian Native orchids as found by our members (mostly from this current season). I received over 120 photo submissions and have tried to include at least one photo from each member who sent in pictures while covering a cross-section of species. Many thanks to everyone who participated in this issue as well as throughout the year to enable this publication to remain diverse, informative and interesting for the readership. Lastly, a special thanks to Andrew Brown for helping answer some of my questions about hybrids and for reviewing the accuracy of the following information. Please note that the naming of some of the hybrids are from member's best guesses of the parent species.

How hybrid orchids are created:

Hybridisation is a natural occurrence in Australian native orchids in both terrestrial and epiphytic species due to the particular pollination strategies utilized by orchids¹. For two parent orchids to result in a hybrid plant there are specific requirements. The two species must co-exist in a habitat², have a similar flowering time and have pollen transferred from one to the other. The parent species must also be compatible to allow hybridisation. This is why some species rarely hybridise whereas others are commonly seen to hybridise. For example, the Wheatbelt Spider which is a cross between *Caladenia longicauda* and *C. falcata*, have similar flowering times and generally share the same habitats. While *C. longicauda* is generally bee pollinated and *C. falcata* wasp pollinated pollen does occasionally get transferred from one to the other.



Clockwise from left:

Wheatbelt Spider, *Caladenia* × *cala* - Image by Rachel Halls

Wheatbelt Spider, *Caladenia* × *cala* - Image by Ian Puddey

Shy Spider, *Caladenia* × *triangularis* – Image by Margaret Petridis

Shy Spider, *Caladenia* × *triangularis* – Image by Lyn Alcock

Note: Both these formally named hybrids feature parent species that are common and widespread however the Wheatbelt Spider is a commonly occurring hybrid and yet the Shy Spider is a rarely occurring hybrid.

Even though some orchid species may flower at similar times, co-exist in large numbers in the same habitat and appear to meet the requirements for hybridisation, hybrids between these species may be rare. It is thought that there are natural chemical or genetic barriers that prevent hybridisation between these species³.



Hybrid Spectacular Continued...

Hybrid Vigour:

Over the years, many people have asked the question, "Why does hybridisation occur in plants?" In some species, hybridisation may help accommodate the challenges of habitat change and create adaptations to better withstand the environment. Hybridisation may also encourage genetic diversity and encourage a predominance of specific superior traits. The term 'hybrid vigour' refers to the tendency of a cross-bred plant to sometimes show qualities that are superior to those of either parent species⁴. Whether or not any of these theories actually apply to Australian native orchids is largely unknown with many Australian orchid hybrids living for a few years and then disappearing. The same hybrid combination may then appear in a different part of the habitat following a separate hybridisation event. I think however that we can all agree that the results of hybridisation are often spectacular and produce very intriguing finds out in the bush. Whatever the reasoning behind orchid hybridisation, the outcomes are fascinating and always generate excitement and much debate on field trips on what the parenting species may be.



Image by David Lawson
Caladenia busselliana × *C. viridescens*



Image by Lubomir Hnedkovsky
Caladenia applanata × *C. nivalis*



Image by Nathan Piesse
Caladenia × *hypata* (Southern Forest Spider)



Image by Jeremy Storey
Caladenia × *idiastes* (Cerise Spider)



Image by Bill Gaynor
Caladenia longicauda × *C. ensata*



Image by Mick Hurdus
Caladenia × *ericksoniae* (Prisoner Orchid)

Hybrid Spectacular Continued...

Interspecific vs intergeneric hybrids:

Hybrids are commonly seen in the genera *Caladenia* and *Thelymitra* however they are rarely seen in *Pterostylis*, *Paracaleana* and *Drakaea*⁵. This is because hybrids are more likely to occur in orchids that are pollinated by scent or food reward or between these and compatible orchids that use sexual deceit. It is rare to find hybrids between specialist orchids that are solely pollinated by sexual deceit due to pollinator isolation³. For example, Hammer and Duck orchids mimic the appearance of female Thynnine wasps and emit sex pheromones from glands to sexually deceive male wasps into pollination¹. The morphology and scent of Hammer orchids thereby limit the potential for accidental pollination by other insects and thus hybridisation. Additionally, Interspecific hybrids are also more common than intergeneric hybrids due to similarities (genetically or morphologically) in the parent species. Occasionally, intergeneric hybrids can be found in orchids that are growing in the same area though this is far less common⁵.



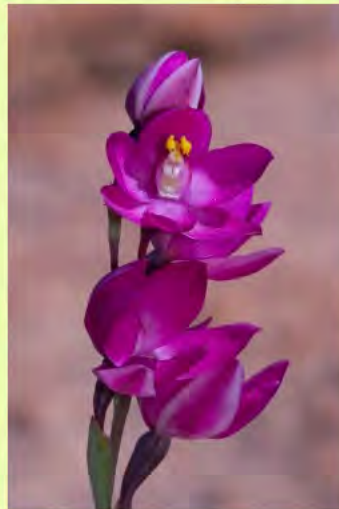
Images clockwise from top left:
Krystyna Rees - *Caladenia* × *suffusa* (Tinged Spider)
Gail Reed – *Caladenia longicauda* subsp. *borealis* × *hoffmanii*
Andrew Brown – *Caladenia* × *exserta* (Protruding Spider)
Maggie Whittle - *Caladenia longicauda* subsp. *crassa* × *C. decora*
Marina Karyagina – *Caladenia vulgata* × *C. radialis*
Margaret Petridis – *Thelymitra flexuosa* × *vulgaris*
Graeme Walker – *Caladenia multiclavia* × *cairnsianna*



Hybrid Spectacular Continued...

Speciation through hybridization:

Hybrid speciation refers to the origins of a new species from long term hybridisation⁶. There are several species of native orchids that are thought to have evolved from historically from hybridisation between species. An example is *Caladenia interjacens* (The Walpole Spider Orchid) which is thought to have likely originated from hybridisation between a member of the *Caladenia longicauda* complex and a member of the *Caladenia huegelii* complex⁵. Many of the Blue Sun orchids in the genus *Thelymitra* are also thought to have evolved through hybridisation with molecular studies showing that hybridisation has likely led to the evolution and current diversity seen within this genus⁷. Some *Thelymitra* species can more easily form hybrid populations due to their ability to self-pollinate so a single hybrid plant can possibly lead to a longer lineage and then if the plant gains fertility through chromosome duplication somewhere throughout its history, it can then lead to speciation⁷.



Images by Jay Steer:

Parent species – top left *Thelymitra antennifera* and top right *Thelymitra petrophila*

All other images are hybrids between the two parents in many beautiful colour variations

Hybrid Spectacular Continued...

Hybrid Swarms

You may have heard people referring to 'backcrossing'. Some fertile hybrid flowers have the ability to backcross with either parent species creating flowers with an appearance that is intermediate between the hybrid and parent species. When flowers continue to backcross in a habitat and interbreed between each other, this results in a phenomenon known as a hybrid swarm⁵.

Hybrid Naming:

There are no set rules to formally naming hybrid species other than needing to provide a reasonable argument that the flower is a hybrid plant rather than a unique species. Andrew Brown and Steve Hopper officially named a number of hybrids in 2001. When a hybrid is formally named, the mathematical symbol '×' is used preceding the species name. Hybrids that have not been formally named feature an '×' between the two parenting species names. Some of the formally named hybrids have resulted from what was original thought to be a unique species and then later found to be a hybrid as is the case for the Shy Spider (*Caladenia* × *triangularis*)⁵. There are currently 20 named hybrids and countless other recognized commonly occurring hybrids in Western Australia.



Images from left: Bill Gaynor – *Thelymitra crinita* × *T. canaliculata*, Lubomir Hnedkovsky – *Caladenia doutchiae* × *C. polychroma* and Andrew Brown – *Caladenia incensum* × *roei*



Images from left: Rachel Halls – *Caladenia falcata* × *C. cairnsiana*, Nathan Piesse – *Caladenia christineae* × *C. harringtoniae* and Robin Parsons – *Caladenia citrina* × *C. rhomboidiformis*

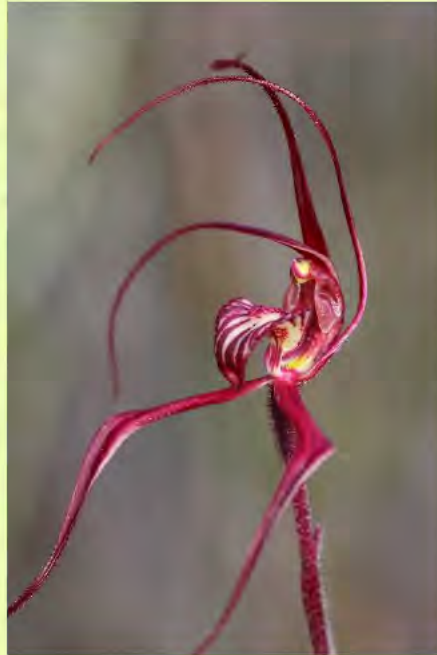
Native Orchid Hybrid Facts and Myths

The flowers of hybrid orchids stay fresh longer

Myth! There is no evidence that hybrid flowers will stay fresh longer than their parenting species however, unpollinated flowers will remain fresh longer regardless whether they are hybrid plants or the parenting species. Some hybrid orchids do not emit as powerful scents (pheromones) to attract pollinators as the parent species⁸ so this may be a potential reason they may appear to flower longer as they may not be pollinated as quickly as their surrounding competing flora with more powerful scents.

Hybrid orchids only appear in a location for one season

Myth! Hybrid orchids like their parent plants will continue to appear each year unless something kills the plant such as drought, animals, disease, insects or clearing. The plant however may not flower each year so it may be worth rechecking in subsequent seasons to see if it returns. Flowers that have capacity for vegetative reproduction, a form of asexual reproduction, can have long lifespans and form colonies however those that rely on reproduction by seed dispersal may only exist for the life of that individual plant⁵.



Images clockwise from top left: Nathan Piesse – *Caladenia dimidia* × *radialis*, Jay Steer – *Caladenia* × *resupina* (Bent Spider), Varena Hardy – *Caladenia speciosa* × *C. paludosa*, Rachel Halls – *Caladenia* × *exoleta* (Wasp orchid), Bill Gaynor – *Thelymitra spiralis* × *campanulata*



Hybrid Facts and Myths continued ...

Orchid hybrids are sterile

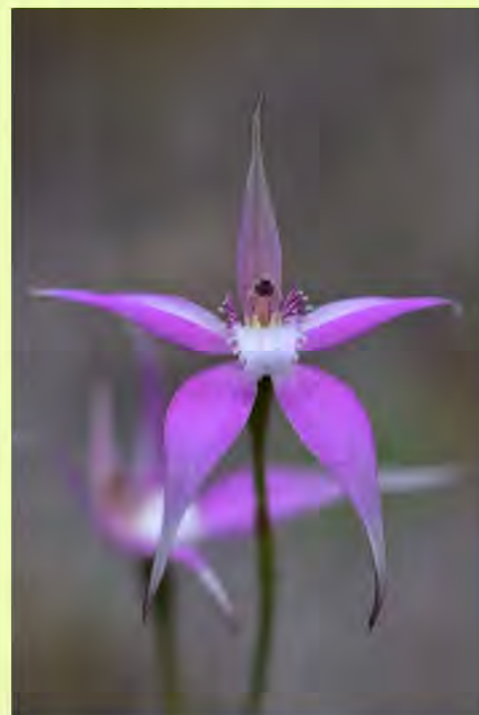
Fact and Myth! Some hybrid plants are sterile while others are not which explains why some hybrids grow as individuals while others may grow in a colony with other hybrids. Although a hybrid may not be sterile, it will not produce seed unless it is pollinated by an appropriate insect during its flowering time. It is theorized that many hybrids are sterile as a natural protection against displacing parental species by competition⁹.

Pollinating insects can also prevent pollination

Fact! Some insects can preference placement of pollinia from different flowers that they have visited on different parts of their body such head, abdomen or thorax thus creating reproductive isolation¹⁰. This method of protection of course is not fool-proof and as a result, hybrids still occur.

Hybrid orchids will preference the orchid mycorrhizal fungi of one of the parent species

Fact! The resultant hybrid plant may use fungi that is genetically unique but will generally preference the orchid mycorrhizal fungi utilized by one of the parent species¹¹. This may affect its ability to flower depending on availability of the fungi and competition with surrounding flora.



Images from left: Margaret Petridis – *Microtis familiaris* × *M. pulchella*, Lubomir Hnedkovsky – *Caladenia speciosa* × *huegelii* and Robin Parsons – *Caladenia christineae* × *C. latifolia*

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Hybrid, hybrids and more hybrids!

The many colours of *Caladenia* × *spectabilis* (Spectacular Spider)

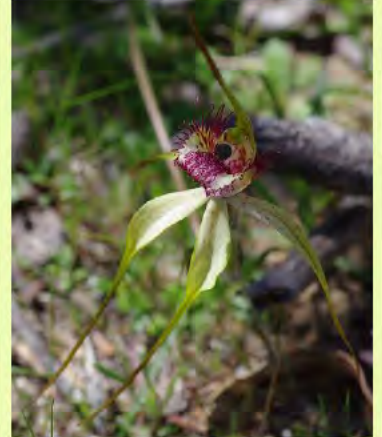
Images from left top line: Timothy Hodgkins, David Lawson, Robin Parsons

Images from left bottom line: Gail Reed, Lyn Alcock x 2



Last few hybrids labelled clockwise from left:

Rachel Halls – *Elythranthera* × *intermedia* (Intermedia Enamel), Graeme Walker - *Caladenia ensata* × *radiata*, Andrew Brown – *Caladenia longicauda* × *hopperiana*, Marina Karyagina – *Caladenia* × *coactescens* (Northern Sandplain Spider), Rachel Halls – *Caladenia longicauda* × *C. ferruginea*, Margaret Petridis – *Caladenia falcata* × *barbarossa* and Margaret Petridis – *Caladenia* × *erminea* (Dusky Fairy)



FIELD TRIPS 2019 by Margaret Petridis

WANOSCG BREAK-UP FIELD TRIP 2019

The final Field Trip for 2019 will be based in Walpole and held on the weekend of 23rd and 24th November. It is planned for the group to be based at the Coalmine Beach Caravan Park and we will have a communal BBQ meal in the Recreation building there on Saturday night. Members can choose to stay elsewhere on the Saturday night and meet the group at Coalmine Beach for the communal meal. BYO food and barbecue tools, cutlery and plates.

A recent enquiry to the Coalmine Beach CP found that there are plenty of fixed accommodation options available as well as many powered and un-powered sites. Please arrange your own accommodation.

An itinerary for the weekend will be sent a few days prior to the trip. If you have any suggestions of locations to visit then please send them to Margaret by the 18th November.

Register for field trips by text to Margaret: or Email: by Wednesday 20th November

General Meeting Rosters

Meeting	SUPPER ROSTER	RAFFLE PRIZE	SPEAKERS
20-Nov-19	Ian Puddey	David Lawson	Photo Competition

Question Time!

This month's question:

How do orchids self-pollinate?

Several species of Western Australian Native orchids utilize self-pollination as a backup or primary means of seed set. This means they are pollinated without any external interference. Several species of *Thelymitra*, *Prasophyllum*, *Microtis*, *Calochilus* and some *Caladenia* have this ability. The orchid can self-pollinate when its own pollen falls on the stigma of the flower or through pollination being bypassed within the ovary.

Reference: Identification and Ecology of Southwest Australian Orchids by Mark Brundrett 2014.

Please send any questions / responses to wanoscg.newsletter@gmail.com.

Looking forward to your contributions!



Image by Margaret Petridis – *Thelymitra benthamiana* × *T. macrophylla*

Bulletin Articles

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

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