



Journal
Of the
Native Orchid Society
Of
South Australia Inc.



NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

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The Native Orchid Society of South Australia promotes the conservation of orchids through the preservation of natural habitat and through cultivation. Except with the documented official representation of the management committee, no person may represent the Society on any matter. All native orchids are protected in the wild; their collection without written Government permit is illegal.

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Views or opinions expressed by authors of articles within this Journal do not necessarily reflect the views or opinions of the management committee. We condone the reprint of any articles if acknowledgment is given.

Front cover from an original drawing of *Pterostylis cucullata* ssp. *cucullata* by Thelma Bridle. Used with her kind permission. *Pterostylis cucullata* ssp. *cucullata* is a rare, short-statured species of Leafy Greenhood which grows only in coastal regions. Thought to be extinct in SA, a NOSSA member discovered a large population in 2013, growing in the lower South East close to the Victorian border.

NOTICE BOARD

The Native Orchid Society of South Australia meets every fourth Tuesday of the months February to November at St Matthew's Hall, Bridge Street, Kensington. Meeting starts at 8:00 p.m. Doors to the hall will be open from 7:15 pm to allow Members access to the Library and Trading Table.

Date	Event
March 25, Tue	AGM Speaker is Heather Whiting
March 29, Sat	Field Trip Mullawa Rd, Meadows Looking for midge orchids and <i>Eriochilus</i> . Meet at 10am by the pub in Meadows
April 1, Tue	Committee Meeting
April 4, Fri	Articles for Journal are to reach the editor by this date.
May 5, Mon	Judges Meeting at Les Nesbitt's place

NEW EDITOR

I'm very excited to welcome John and Lorraine Badger as the Editor. I am looking forward to working with them, and thank them for agreeing to help me.

Helen Lawrence
Assistant Editor

MEMBERSHIP

A reminder when depositing monies into the NOSSA account please remember to lodge a reference so that we can identify your payments. If you have previously sent money without identification could you let the treasurer know otherwise you may not continue to receive your journal.

Reminder: There are still membership fees outstanding.

MARCH SPEAKER

"Successful Reintroduction of Native Orchids to the Adelaide Plains" by Heather Whiting.

Hear how a local community group has successfully reintroduced at least 20 species of native orchids on their wildflower walk at Vale Park, and 2 other sites along the River Torrens Linear Park. Many are thriving, setting seed and forming colonies or clumps.

RECALL OF CULTURE PLANTS:

Bring along your plants of *Dendrobium (Dockrillia) teretifolium* and *Den. (Doc) linguiforme* from 2012 & 2013 for comparison and commentary. See which culture gives the best results. None have flowered yet.

WELCOME NEW MEMBERS

Erica Rees of Wongyarra

WELCOME BACK

John Dunn

JUDGING RESULTS FOR FEBRUARY

There were no Terrestrial orchids benched at the February meeting.

Judging Results	Growers
Epiphyte species Open division	
1 st <i>Sarcochilus cecilliae</i>	D & J Higgs
2 nd <i>Plectorhiza brevilabris</i>	K Kopicki
Epiphytes Hybrids	
1 st <i>Cymbidium</i> Little Black Sambo	Bodo Jensen
2 nd <i>Dendrobium</i> Hilda Poxon "Evn"	J & B Gay
Popular vote	
Epiphyte species <i>Sarcochilus cecilliae</i>	D & J Higgs
Epiphyte Hybrid <i>Cymbidium</i> Little Black Sambo	Bodo Jensen
<hr/>	
Plant of the night <i>Cymbidium</i> Little Black Sambo	Bodo Jensen

Plant commentary was given by John Gay.

SUMMARY OF FEBRUARY MEETING

Trevor Garard, Education Officer of the Orchid Club of South Australia, gave an enthusiastic presentation of the Orchids in Schools Project. He told us about the origins of the project and the interest and potential for other schools to get involved. Students learn about the botany of orchids as well as how to propagate and show them. There have been generous donations of plants to get them started and they have been competing against each other in shows. There was an article in the previous Journal about the program.

ORCHID HUNTING AMONGST THE ACTIVE VOLCANOES OF JAVA

BOB BATES



Image of Bromo Volcanoes at predawn

In July 2013, while Adelaide was shivering Novi and I spent a few weeks in Indonesia and as her family live in east Java, which is where we spent most of our time. On our second day in Surabaya, a chaotic city of 14 million people, we set off at 11pm for Mount Bromo. Our driver and guide was Novi's brother Andreas. It took an hour to get out of the city for even at that time the roads were jam packed with vehicles. Our first surprise was the ten kilometre earthen wall built to hold back a giant mudslide which in 2008 wiped out the homes of ten thousand people.

By 1 am we were passing through small mountain villages with locals on horseback in the attractive main streets. Around 2am we reached the last village below the volcano where a line of large four wheel drive vehicles was waiting. We transferred to a sturdy, bright yellow jeep with wide wheels. Our local driver and guide raced off down a narrow track and soon we were bouncing across a large volcanic caldera in the dark, across large black sand dunes and through equally black water before we began a steep ascent of the near vertical sided mountain. If I had known just how dangerous this ride was I would have asked to be taken back.



Huge orchid flowers in our hotel room - Surabaya



Phaius callosus, Mount Bromo

On a narrow ridge, clusters of large white flowered moth pollinated orchids were caught by the headlights. Soon after 3am we got out and scrambled up a steep slope using the light from our mobiles to see the way. By 4.30am we were on the summit, higher than any mountain in Australia and with the temperature at 8 degrees we were glad to have both jumpers and jackets. Soon other figures with torches arrived and commenced singing in German. The clouds began to turn orange and purple with distant thunderheads.

Shortly after five we started to pick out the shape of the main volcano, belching white smoke which soon turned pink with the dawn (see photo). Below us there appeared to be a series of lakes but as light increased we could see they were caldera filled with condensed steam and sulphurous gases and with smaller volcanoes sticking through the fluffy whiteness. Puffs of smoke shot into the air from volcanic vents. It was an amazing scene and I began to realise why we had to see it at dawn.

By 6am we were back at the jeep and soon descending on a slippery road, fearing for our lives as we could see over a five hundred metre sheer drop. I was glad to reach the top of the cloud and sink into a less scary view and by 6.30 we were on the floor of a very large black caldera and greeted by the eerie site of colourful characters milling about on horseback. Our guide helped us up on to our palomino and we set off through the fog into a deep gulch that would have seemed more at home in the Sonoran desert.

A couple of days later we were amongst the volcanoes north of Bandung, this time with an orchid guide showing us both wild orchids and tame ones at such curious sites as Indonesia's largest Buddhist temple. As you can see from the pictures the biggest orchids were at our Resort in East Java and the smallest at the Safari park near Surabaya.

Our next orchid adventure in Southeast Asia will be Kalimantan.



Cleisostoma montana, central Java



Coelogyne speciosa, Bandung

 ANOS-VIC. CONSERVATION SEMINAR – LAKE FYANS, NOV 2013

LES NESBITT

It was a mind blowing 3 days, mixing with 85 likeminded people working with terrestrial orchids in many different ways. Registrants came from Vic, SA, NSW, Tas and New Zealand. Prior to the conference Richard Thomson arranged for 4 of us interstaters to visit Noushka Reiter's lab in Horsham where some of Victoria's 13 endangered orchids are being propagated using their associated fungi. We saw flowering size plants of *Thelymitra epipactoides* and *Diuris fragrantissima* as well as hundreds of newly de-flasked caladenias in a large glasshouse.

The very open commercial growing media appeared to be 90% mini pine bark and 10% perlite. Noushka said that new fungus samples are collected each year because the fungi mutate in storage and may not then germinate orchid seed. The fungal coils are obtained from a sliver of material cut from the side of the orchid collar without seriously harming the orchid. This is most important when working with endangered orchids.

In South Australia we have management plans for rare orchids where we monitor and manage sites. The Victorians are more proactive and have recovery plans calling for up to 3000 seedlings to be raised for each endangered species. Once grown to flowering size some are reintroduced into suitable habitats while others are grown in pots with the fungus to provide seed and propagating material. Seed is also stored in short & long term storage.

In Victoria there is a large group of volunteers trained in monitoring, rescuing and reintroducing orchids. Despite government funding cuts they seem to be finding other not for profit sources of funds. The Victorians set a high standard for other states to follow.

Some seminar highlights for me were:

It is not all about the orchids. A mantra to follow for endangered orchids is:

1. Habitat (preserve & manage)
2. Fungi (food sources & fertiliser control)
3. Pollinator (food plants)
4. Orchid (needs all the above to flourish)

Climate change is causing orchids to emerge later and die off earlier. There may be only 3-8 days in spring when it is warm enough for pollinators to be active. Orchid flowering has to coincide with one or more of these days if seed is to be produced.

In situ (on site) management and ex situ (off site) propagation to provide a reliable seed source is seen as the way forward. Storage of rare seed in the millennium seed bank is insurance against failure.

A simple medium term seed storage technique for the home grower is an airtight plastic container with dry rice in the bottom and seed in paper packets. Dry the rice in the oven before use.

Genoplesiums are pollinated in March by midges (*chloropids*) on days when the temperature rises above 25°C. We saw some fascinating close up photos of these tiny *chloropids* hitching a ride on a large assassin bug and jumping off onto a grasshopper the assassin bug was sucking the juice from. The *chloropids* also sucked the juice. It was postulated that *genoplesiums* may give off an odour like dying insects. This would explain why other pollinators do not visit *genoplesiums* even though the orchid offers a pollen and nectar reward.

Orchids-in-schools is a topic of current interest at NOSSA. Victoria has the PECE Program, presently in a private girl's school, where the whole year 8 class gets to sow seed in a laminar flow cabinet as part of the science program. PECE stands for Propagation, Education, Conservation, Exploration. The Writhlington (UK) school has taken the concept further where international endangered orchid species are propagated by students and reintroduced by them in the source overseas countries.

Trampling around very rare orchids is a problem in Victoria caused by monitors and photographers visiting the site multiple times. Stepping stones are seen as a solution since fences and cages are not effective.

Rabbits are making a comeback. Kevin Western and I saw many on the roadsides in Victoria and as close to Adelaide as between Tailem Bend & Murray Bridge. Kangaroos, goats and deer are breeding up and eating orchids. There is a theory doing the rounds that touching orchids increases the chance that the orchids will be eaten.

Then there was a chemistry lesson about how fungi can break down complex molecules such as starch, lignum and cellulose into 10 different smaller sugar molecules that orchids can use.

A pointer to the future of orchid conservation for me was the Nature Glenelg Trust centred on the Glenelg River near the Vic/SA border. This not for profit organisation was set up by a group of young (to me) professionals who want to carry out practical conservation work locally and get paid for doing what they love. Orchids are just one part of their activities. Check out their website - <http://natureglenelg.org.au/>.

Alan Stephenson has produced a check list that would be very useful for NOSSA members interested in conservation of orchids.

DIURIS BEHRII PROJECT 2013.8

LES NESBITT

This is the final report for the 2013 growing season. The November-December period was a drying out time which eventually sent all the orchids into dormancy albeit later than in 2012. I collected 50 mm in my rain gauge for these two months giving a total of 997 mm for the year. This was 134 mm above the 10 year average.

The remaining *Diuris behrii* mother clones and last year's daughter tubers were repotted by mid-December. Most made bigger tubers but did not multiply. The 125 mm pots of small tubers and tuber removed plants were done last as they took longer to become dormant and took more time to repot. At the finish by Christmas there were an estimated 280 small tubers in 72 pots. Daughter tubers, large enough for replanting, increased to 249 creating a space problem for these 100 mm pots. I had to build another bench to accommodate them all. At the end of December there were a total of 410 pots of *Diuris behrii* including the seedling pots. Detailed records are kept of each clone and its larger daughter tubers. The very small tubers and seedlings are not tracked individually as some will not survive the summer dormancy.

Four seed pods were collected in mid-November from the daughter plants. This seed will be sprinkled on all pots at Easter. Large tubers were removed from those pots containing seedlings. A big seedling tuber was the size of a grain of rice making small ones hard to find. There are 14 pots containing seedlings only. In another year or

two the seedling tubers should be bigger and more easily seen. If a suitable fungus is still present in these pots there could be another crop of seedlings in 2014. If more seedlings germinate in 2014 the cake slice method can be used next summer to increase the number of pots with the seed initiating fungus. Three protocorms in flask have made a leaf but flasking this species is hardly worth the trouble and will be discontinued.

The two tuber removed swan orchid plants made 5 extra small tubers while the rufa group greenhood made 2 extra tubers. These have been potted up in 125 mm pots. Hopefully they will all come up again in 2014 and if one plant of each flowers then seed may be obtained while the others have their tubers removed. There were 5 pots of greenhoods at year end.

The microtis multiplied as expected. There are now 20 daughter pots for replanting, each with 7 or more tubers and a mother pot with 10 tubers.

Overall our propagation efforts were very successful in 2013. Some 30 seedlings germinated in pots. Daughter tubers ready for replanting more than doubled from 123 to 249. Small tubers potted up increased from about 150 to about 280. Mother clones decreased from 75 to 73 but we have backup small tubers for most mother clones now. The most abundant clone is #14 which has produced 27 daughter tubers and 35 small tubers. I expect 600+ *diuris* plants in July 2014 compared with 344 in July 2013.

 WINNING PICTURE FOR FEBRUARY 2014

ROSALIE LAWRENCE

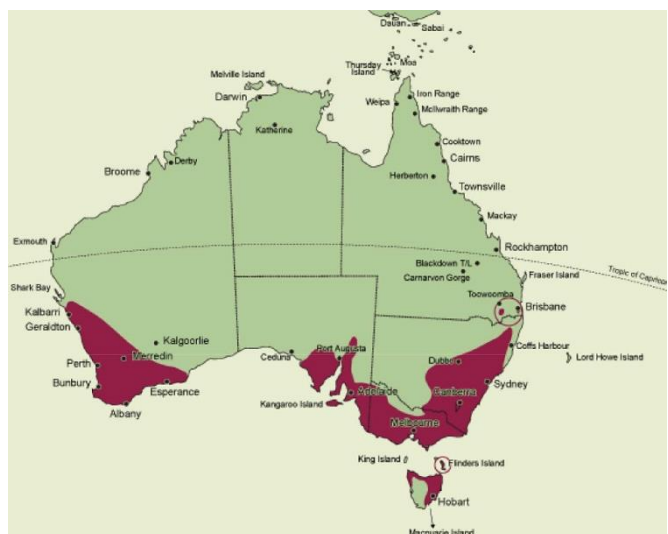
At this time of the year there are not many orchids flowering but photographs are always available thus letting us appreciate the beauty of orchids even when not flowering. There was a good mixture of photographs featuring the ever popular *Thelymitra* and *Arachnorchis* as well as a *Dipodium pardalinum*, which is in flower currently plus some artwork by Doug Castle of a *Diuris* and a *Thelymitra*. Using Photoshop, he converted some of his pictures into 4x6 greeting cards; which is a way we can share the orchids with friends and relatives.

This month's winner photographed by Pauline Meyers was a spider hybrid identified by Bob Bates as *Arachnorchis brumalis* x *A conferta*.

Orchids are an interesting group concerning identification. Some are extremely easy to identify and others, specifically the sun orchids, but also the spider orchids, can be difficult to identify partly due to the ease with which they are able to hybridize.

A frequent hybrid occurrence across Australia (see map for *Arachnorchis* distribution) is the pairing of the green comb spider orchids of the *A dilatata* complex with the white spider orchid of the *A patersonii* complex as seen in this picture. A *brumalis* belongs to the *A patersonii* complex and *A conferta* to the green comb orchid.

Hybrids will be variable but obviously they will have characteristics of both parents. By looking at the two parents it can be seen that this picture of Pauline's contains features of both. From the *A conferta* parent, the inherited features are the wide labellum of the green comb, thickened calli and the red on the segments whilst the long thin segments, glandular tips (osmophores) long and thin, not clubbed are from the *A conferta*.



I would like to thank Bob Bates for his helpful comments with writing this article and also Colin for his helpful website www.RetiredAussie.com with its many images of both *A conferta* and *A brumalis* which enabled me to view both species at the same time making it much easier to see the characteristics of both parents within the hybrid.

Reference for the map

Australian Orchid Genera: an information and identification system

Electronic series: ABRS Identification Series

Publishers: Australian Biological Resources Study/CSIRO Publishing

Year: 2006

Authors: D.L.Jones, T.Hopley, S.M.Duffy, K.J.Richards, M.A.Clements, X.Zhang

ISBN-10: 0 643 09336 2

ISBN-13: 978 0 643 09336 2

The map was accessed from this site but is originally from the disk

https://www.anbg.gov.au/cpbr/cd-keys/orchidkey/html/genera/ARACHNORCHIS_map.htm

Images can be sent to nossa.enquiries@gmail.com or mailed to PO Box 565, Unley SA (postcode) or brought to the meeting on the night

A WALK IN THE MT LOFTY BOTANIC GARDENS

ROBERT LAWRENCE

A field trip was announced for Saturday 22 February at Mt Lofty Botanic Gardens. My daughter, Helen, drove Rosalie and me there. When nearly there we called the scheduled leader only to find he could not make it, but I received instructions on where to find orchids. We met two other members and set off to see what we could find.

We searched along the western side of Fern Gully and started finding *Dipodium roseum* (Pink Hyacinth Orchid). Most of these were reaching the end of their flowering period and a small number had capsules. Surprisingly, there were one or two shoots that had recently emerged from the ground.

I went to look at a green stem that had the top chewed off and found a couple of flowers lying adjacent. The flowers looked white with pink spots and, sure enough, when pulled apart revealed the spotted labellum characteristic of *Dipodium pardalinum* (Leopard Hyacinth-orchid).

We found that plants of *D. roseum* with capsules tended to have two to four capsules and some of these plants occurred together. These appeared to reflect limited activity of pollinators, possibly with a native bee visiting a number of flowers near each other and transferring pollinia between flowers close together. Plants with brown stems had brown capsules and plants with green stems had green capsules to match.

Having accomplished our mission, we took the opportunity for a walk to areas of bushland that some of us had not seen previously. A pleasant morning was enjoyed by each of us.



Typical flowers of *Dipodium roseum* that were still fresh



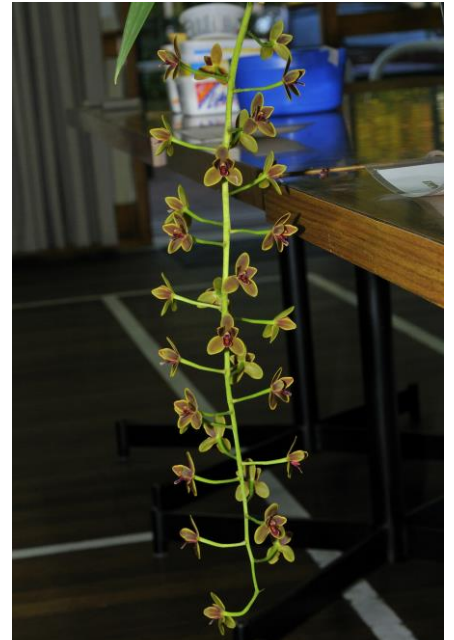
Closer view of capsules of *Dipodium roseum*



Plants of *Dipodium roseum* in capsule; the colour of the capsules matched the stems



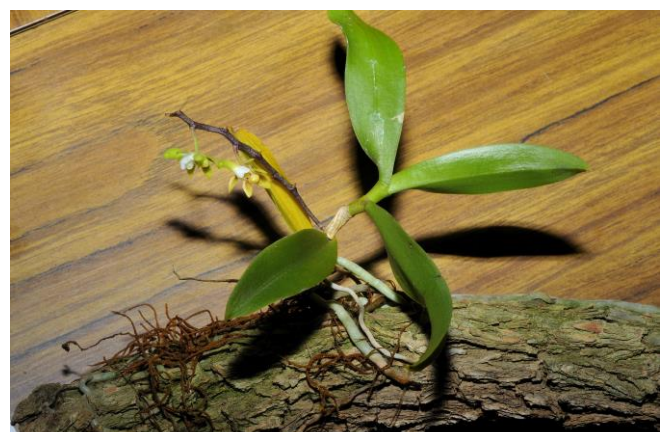
Cymbidium Little Black Sambo



Sarcochilus cecilliae



Plectorrhiza brevilabris





Hilda Poxon



TROPHY PRESENTATION

