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NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

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www.nossa.org.au.

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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JOURNAL OF THE NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA INC.

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The Native Orchid Society of South Australia meets every 4th Tuesday of the months February -November

NEXT MEETING 24 JUNE 2008

Tuesday, 24 June, St Matthew's Hall, Bridge Street, Kensington. Meeting starts at 8:00 p.m. Doors to the hall will be open from 7:15 p.m. to allow Members access to the Library and trading table.

The speaker for the meeting will be Bob Bates: Bob will talk on his & Diedre's recent trip to Central Queensland & show photos of some of the terrestrial orchids seen.

DIARY DATES

Thurs. 26th June	Australian Plant Society S.A meeting. Fran MacGillivray
Saturday July 5th	'*Diplodium* Special'. Meet Myponga PO, 9:30am.
Tuesday July 8th	Morialta Winter Orchids. Meet at Kiosk, 10am
August 2nd and 3rd	South East '*Linguella* Special'
Saturday August 9th	Scott Creek - Winter Orchids
20-21 September	**NOSSA SPRING SHOW**
30 November	**Xmas BBQ**

NEXT COMMITTEE MEETING

Wed, 2nd July at the home of John Bartram**.** Meeting commences at 7:30 p.m.

PLANTS BENCHED

Epiphyte species: *Dendrobium lithacola* (4 plants); *Liparis reflexa; Liparis swenssonii*

Epiphyte hybrids: *Dendrobium* Hilda Poxon (2 plants); *Den*. Jesmond Dazzler; *Den*. Pinterry x Hilda Poxon

Terrestrials: *Acianthus pusillus* (2 plants)*; Diplodium laxum*; *Diplodium obtusum* (2 plants)*; Diplodium robustum* (2 plants)*; Diplodium torquatum*; *Taurantha collina; Taurantha ophioglossa; Urochilus sanguineus*

Terrestrial hybrids: *Pterostylis* x Furcillata (2 plants).

Judging Results	Grower
Epiphyte species Open Division	
1st *Liparis swenssonii*	Steve Howard
2nd *Dendrobium lithacola*	Bodo Jensen
3rd *Liparis reflexa*	Malcolm Tiggerman
Epiphyte hybrid Open Division	
1st *Dendrobium* Pinterry x Hilda Poxon	Steve Howard
2nd *Dendrobium* Jesmond Dazzler	Malcolm Guy
3rd *Dendrobium* Hilda Poxon	Malcolm Tiggerman
There were no epiphytes in 2nd division	
Terrestrial species Open Division	
1st *Diplodium obtusum*	Malcolm Guy
2nd *Acianthus pusillus*	Les Burgess
3rd *Diplodium laxum*	Les Nesbitt
Terrestrial species Second Division	
1st *Diplodium robustum*	Janet Adams
2nd *Diplodium obtusum*	Peter Speer
3rd *Acianthus pusillus*	Peter Speer
Terrestrial hybrids open division	
1st *Pterostylis* x Furcillata	Malcolm Guy
2nd *Pterostylis* x Furcillata	Les Burgess
No 2nd division terrestrial hybrids	

Popular vote results

Epiphyte species Open Division	
Dendrobium lithacola	Bodo Jensen
Epiphyte hybrid Open Division	
Dendrobium Pinterry x Hilda Poxon	Steve Howard
Terrestrial species Open Division	
Acianthus pusillus	Les Burgess
Terrestrial species Second Division	
Diplodium robustum	Janet Adams
Terrestrial hybrid open division	
Pterostylis x Furcillata	Malcolm Guy

Plant of the night	
Diplodium obtusum	Malcolm Guy

Plant commentary on Epiphytes given by Noel Oliver & on Terrestrials by Les Burgess.

May Speaker

Peter McCauley gave a Power-Point Presentation on endangered and newly recognised species of Terrestrial orchids in South Australia. Counting numbers of endangered orchids is obviously taken seriously and in one instance a particular plant wasn't to be seen although counted the previous season but sure enough it was eventually located, peeping out from under a fist sized rock.

FOR YOUR INFORMATION - NOSSA NEWS

NOSSA activities

Coming up: NOSSA has been invited to assist Forest SA on their survey of Nangwarry NFR in Spring.
There will also be an *Oligochaetochilus psammophilus* special trip to Lyndoch in October.

NOSSA Field Trips: July - August

1: '*Diplodium* Special' Fleurieu Peninsula, Saturday July 5th, meet Myponga Post Office at 9:30AM. Bring a picnic lunch.

2: Morialta Winter Orchids. Meet at Kiosk 10am July 8th (Tuesday).

3: South East '*Linguella* Special' August 2nd and 3rd to Pinnaroo, Bangham, Lucindale, Beachport and the Coorong. Meet at the Pinnaroo Post Office, 10am Saturday. Overnight stay at Beachport (sadly this area is presently in drought).

4: Scott Creek Winter Orchids August 9th, meet at Almanda Mine 10am and bring a picnic lunch. Check the July journal for any further information.

5: Southern Yorke Peninsula for helmet orchids, greenhoods etc, August 16-17th. Meet at Warooka 9AM.

Meeting Changes

Popular Vote
To assist guest speakers and an earlier finish to meetings the popular vote will be held before the meeting in future from 7.45 pm to the start of the meeting at 8pm. Could all members bringing plants for display please try to get them on the bench by 7.45pm.

Seedlings
Seedlings are the future of native orchid growing. It is planned to feature first flowering seedlings at our meetings and shows in the future so bring them along. They will probably be small plants with one or a few flowers. The definition of a seedling is the entire plant flowering for the first time. It is not a mericlone or a division of a large seedling that has not flowered before. They can be species or hybrids. White ribbons will be available at meetings. Drape a white ribbon over your seedling plants on arrival. A judge will comment on any seedlings on show.

Plant of the month
Each month we will feature a terrestrial and an epiphyte. If you have a plant of either kind, bring them along to the meeting whether in flower or not. This month's plants are *Diplodium robustum* (*Pterostylis robusta*) and *Dendrobium* Hilda Poxon. A judge will discuss the plants brought in and we should all learn something about their culture and habits.

Next Judges Meeting - Saturday 5th July at Les Nesbitts

MURRAY BRIDGE & DISTRICTS ORCHID CLUB Winter Orchid Show MURRAY BRIDGE TOWN HALL, BRIDGE STREET, MURRAY BRIDGE.

4th, 5th & 6th July

Open times will be Fri. 12 noon to 5pm, Sat. & Sun. 10am to 4pm.
Trophies will be presented at 2.30pm on Sunday.
As well as a Display of many various orchid genera, we will also be benching Mini Table-top Displays (using 1 to 7 Orchids), Floral Arrangements (incorporating Orchids) Orchid Craft and Orchid Photography. There will be an Orchid plant trading table, and an orchid growing supplies table, a raffle. Devonshire Teas, soup, sandwiches, tea and coffee available.
Admission $3.00 (includes free cup of tea or coffee) - wheelchair access.

For anyone travelling through Brisbane 23-24 August ANOS - KABI group are having an **Aussie Native Orchid Show** at the Lawnton Showgrounds Saturday 9-5, Sunday 8:30-2:00.

The Cymbidium Club of S.A. is having Stephen Early from Melbourne, as guest speaker in July. He will be speaking on Growing Cymbidium Species Down Under. Stephen gave this presentation earlier this year at the Santa Barbara Orchid Congress in the United States. The meeting is 23rd July at Burnside Community Centre, 401 Greenhill Road Tusmore. Doors open at 7.00pm. Those interested are welcome.

Flowering in the Hills

Les Nesbitt

At my orchid patch in the Adelaide hills, *Acianthus pusillus* 'ex Kuitpo' one plant with 7 flowers or buds flowered in May –June. No other leaves are showing so I presume the additional tubers planted out did not survive the Summer dormancy.
Diplodium robustum has not flowered for several years. The colony, migrating from a 125mm compot that was planted out, is now 2m across. This year 5 plants flowered in early June. At the original centre of the colony the rosettes are tiny and weak. The largest rosettes and the flowering plants are near the advancing edge of the colony. It reminds me of a mushroom fairy ring. It has been a very good start to the growing season with 78mm of rain falling in April & 142mm in May. The sun orchids and *Diuris* are looking good. *Glossodia* and *Caladenia* leaves are well advanced. I have made another attempt to deflask asymbiotic seedlings of *Caladenia leptochila* and *Pterostylis sanguinea* into the patch. Experience tells me that there is not much hope that they will survive but occasionally there are pleasant surprises.
I still have 4 x pots of *Pyrorchis nigricans* from the Kuitpo rescue dig. Eighteen months ago I potted on one of them into a larger clay pot of Kuitpo nonwettable sand. Plants in this pot have multiplied more than in the other pots which are still in the original soil. Last summer the pot was brought home, gum leaves were heaped on it and set alight in an attempt to get flowers. The plants in the clay pot came up a month earlier than the untreated pots. At mid June there was no sign of any flower buds but the leaves were not fully developed so I will keep looking and hoping.

ARTICLES/ITEMS FOR THE NEXT JOURNAL
Closing date is Friday 4th July

Native Orchids. The Epiphytes: June. **Steve Howard**

June sees the major initiation of spikes on many of our natives with only the hardy *Dendrobium falcorostrum* waiting until the depths of July to do its thing. A look around my shade house is one of disappointment this year. I am a self confessed *Den. speciosum* lover and it appears that this year, at least in my shade house, is not going to be all that good. But, not all is lost, as is typical with this species many are biennial flowerers so I look forward to next year when they all (hopefully) come out at once. Not all *speciosum*'s are like this, some indeed will flower year after year but my collection is dominated by the variety *grandiflorum*, now called *rex* and probably something else next year and this is one of its traits. Growth one year and flowers the next.

The rest of the collection is doing much better. Spike count looks good and even at this early stage I have already made arrangements to give the show plants some extra cover. Excessive wet, hungry critters and fungal problems are all lined up waiting to wreak havoc on any potential champion. Most of these plants are hung away from trouble but put a few slug and snail pellets in each pot. They can't fly but there is a good chance they may already be in the pot just waiting. Hanging plants drain well and rarely suffer wet feet unless the mix has turned into sludge. The higher light levels and better air movement keep fungal problems at bay. Mounted plants are also growing well now. Many native epiphytes will have new roots growing even though they do not appear to be in active vegetative growth. This tells me they are receptive to food and water and the cooler more humid conditions are more conducive to this growth habit. They will store this food and water for the spring flush of growth and the dryness of the impending summer. The results of this care should be stronger and larger growths unless the plant has reached maximum size. This is what all growers should aim for in their culture. If this is not the case then a little homework may be needed and the problem of why addressed. You may be doing everything right and still the plant does not thrive. This is nature and like in nature these weaklings must be weeded out. Mind you when Lorraine Fagg found a small sickly *Sarcochilus* seedling in the bush and nursed it back to health who would have thought this one little *Sarco. fitzgeraldii* would have such a big impact on *Sarcochilus* breeding of reds and pinks today. Maybe we shouldn't throw out those weaklings, flower them first, then throw them out if they don't cut it. One thing we don't see a lot of is newer growers bringing in sick plants for us to look at. This is the only way to learn and we have several members, all well regarded growers in their own rights more than willing to offer some advice. If I have a sick one and don't know what's wrong I am not backwards in asking for help. I'll just say it's not mine!

Pests this time of year are slimy and have beady eyes on stalks and sometimes shells. They are fond of soft not yet matured growths as well as developing spikes and are quite fond of green growth tips on the roots. These immediately seal off and rob the plant of food and water. Extreme root damage will set back the plants growth the following year. Large brown hard looking caterpillars come out at night and chomp into new growths. Mice driven in to the protected confines of the shade house will make a mess of any native. Woolly bear caterpillars will be on the march at the end of June and will peak in August. A heavy boot is the best remedy but use Dipel if the infestation is severe. These are problems that are in the process of developing. Be vigilant and take action now, not when half the collection has been wiped out.

I have a problem each year with red legged earth mites that invade my shade house and they love *Sarcochilus* spikes, so much so I lost 80% of my flowering last year. They number in their millions. I made the mistake of spraying all my weeds in the garden so they had nothing to eat so my orchids took the brunt of their assault. This year I leave them the flat weeds and hang all flowering plants. They can't fly but a look in my garden says this year is gonna be as bad as the others but I am ready this time around.

Diseases are mostly fungal, it's a perennial problem we face pretty well all year round and can be minimised with good air movement and plant hygiene. Remove dead plants leaves from the pots and the floor of the shade house and don't let old flowers stay on the spike only to get covered in mould and botrytis. This will spread the problem. Another fungal problem we get results in brown or black spots on the leaves. Under the leaves can be what looks like water or similar weeping out. This is not water, rather millions of spores ready to take hold. Best to cut back the offending leaf, seal the cuts and spray the whole plant, both sides, the pots, the bench and surrounding plants. Then use a systemic as well. Overkill maybe but it certainly better than a major outbreak of rot that will also attack other genera.

I don't water my natives all that much in winter, hanging plants may get a squirt from the hose once a week if conditions are dry and those at ground level or on benches every two weeks. We usually get enough natural rain to keep them happy. However, many will not tolerate excessive wet feet and a prolonged spell of wet weather can happen anytime the next three months and cause havoc so it may be that if this does occur a bit of cover will help. Most plants that suffer wet feet have a mix that has broken down and that complicates the problem so that is why free draining mixes are the preference. You can feed your natives over winter but keep the feed weak as their metabolism slows down with the cold. Many natives have new roots over winter and that tells me they are receptive. The hot/colds on the other hand get a monthly feed and are kept drier than the others. Inspect weakened *Sarcochilus* plants for soft scale and spray if required with Confidor.

Next month is July and towards the months end spikes will develop rapidly towards the spring flush. Here we will look at some care that is required as well as few tips to help present them to their best.

Pollinator specificity in sexually attractive Australian orchids: is it strong enough to keep orchid species apart?

R. Bates

More than a hundred Australian native orchids are proved to be pollinated by insects which are sexually attracted to the flowers by quite specific alomones produced by the orchid ie copies of the sex pheromone produced by a specific female wasp (or ant, or bee) to attract males of the species! The orchids have evolved to release a combination of volatile chemicals which are most attractive to a common and generally specific wasp species. But is only one species of wasp attracted??

Recent studies on the genus *Ophrys*, the bee orchids of Europe, which are pollinated by sexually attracted bees, have shown that only inexperienced male bees will attempt to mate with the flowers. A bee which is duped one day will not visit *Ophrys* flowers the next.

The estimated number of *Ophrys* species varies from as many as 200 to as few as ten depending on which expert you talk to. There are certainly as many as 200 forms as far as appearance is concerned and most attract a single species of bee most of the time. But recent DNA testing has shown that the actual number of *Ophrys* species is less than twenty. What of all those forms then; well it appears that there are enough other visitors, ie different bees and flies transferring pollinia from one species to another that the forms have never evolved into completely different species.

The same may be true of Australian genera like *Arachnorchis*. For some like the red and green *Arachnorchis tentaculata* so common around Adelaide thousands of wasps have been caught on the flowers during wasp baiting experiments and they are always the same species ie *Thynnoides pugionatus*. Yet hybrids between *A. tentaculata* and white flowered *Arachnorchis* are sometimes seen proving that either the *Thynnoides* visit other *Arachnorchis* or that non specific bees and hover flies visit too. No-one would question that *A. tentaculata* is not the same species as the white spider orchids but what about all the other *A. tentaculata* look-alikes!

During the last couple of years wasp/orchid expert Colin Bower working on the many wasp pollinated *Arachnorchis* in western Victoria has shown that specificity of wasp pollinators is not high and that as an example *Arachnorchis parva* and *A. phaeoclavia* attract the same wasps even where the two are sympatric. Sure *A. parva* is smaller and flowers earlier but there is overlap in flowering times. Consequentially the two 'species' of spider orchid are more likely to be just different forms. Bower actually found that as many as five spider orchids of the *A. reticulata* complex actually attracted the same wasp species. It looks like some lumping of these spider orchids may be required, unless DNA shows otherwise. There seems to be less of a problem with most South Australian species as they have been shown to attract different wasp species and to be quite specific indeed. Nevertheless we may be in for some shocks later.

Fortunately our best known species are often sympatric, that is they grow together, with no signs of interbreeding and with quite different pollinators. It is also true that the wasp/ orchid specificity is much higher than bee/ orchid specificity.

Wasp baiting frequently shows that many wasp species may show some <u>minor interest</u> in a single orchid species being used as bait. However when they get close to the flower most quickly lose interest. This proves that either:
<u>A</u>- there is not much difference in the volatile substances being released by the orchids or
<u>B</u>:- the wasps are easily interested by a whole range of these chemicals.

I suspect it is the latter, as many years ago I discovered I could attract wasps easily by smearing myself with sunscreen.

The conclusion: We still have a long way to go to sort out all our orchid species and wasp specificity is just one feature we can use.
Colin Bower has already proved that almost identical *Chiloglottis* may attract different pollinators. We really don't want to have orchid species named that we can't tell apart.

Reference: Kew Scientist April 2008

Wild Orchids of Victoria Australia

by Jeffrey Jeanes & Gary Backhouse

Publisher: Aquatics Photographics, 2006. 315 pages, hardback; colour photographs. ISBN 0-9775372-0-X. RRP $99.95

Jeanes and Backhouse have produced another striking book on indigenous orchids. Quite different from their reference book from 1995, it records in beautiful colour photographs all the currently known orchids. They have included multiple photos of most species to allow us to appreciate the amazing diversity in form and colour as well as the exquisite beauty of Victoria's orchids. As well as showcasing the orchids, the authors have provided a very simple method of identifying them in the field.

The authors' enthusiasm and dedication to their subject is obvious - 'Victoria has an orchid flora of extraordinary richness, comparable with the best in the world for its diversity of terrestrial orchids…About 40% of the species are either endemic or now restricted entirely to Victoria. It is only through increased education and awareness, accepting responsibility, protection and careful management that we can safeguard this irreplaceable asset'…Orchids can be found in many habitats, 'from coastal sand dunes to the tops of the highest mountains…and are only totally absent from saline areas'.

The stated principal aim of the book is to 'facilitate the identification of all the currently recognised orchid taxa in Victoria'. In order to identify an orchid we are directed to first find the genus to which it belongs by referring to the pictorial guide to genera at the front of the book. Here on a double page each genus is represented by a photo which directs us to a page number where the species for that genus begin. Then by leafing through the various species and reading the text a match should be found. I think the pictorial guide is a great idea. It is very accessible being so easy to use and is much faster than working through a key.

Alternatively a botanical key to the genera is provided with a simple explanation of how to use it. Possibly the inclusion of species keys would broaden the book's appeal. I feel a little uneasy about the references in the statements at the beginning of the key to underground parts of orchids. Without a specific warning against collecting specimens without authorisation, a message might be inadvertently communicated that it is acceptable to interfere with these vulnerable plants. I think it is an oversight not to include such a warning. The pictorial emphasis of the book makes it accessible and appealing to people who may not yet have an awareness of the disastrous affects of digging up or picking orchids. All Victorian native orchids are protected under the *Flora and Fauna Guarantee Act* 1988 (Backhouse and Jeanes 1995).

The introduction includes brief general notes on such topics as taxonomy, geography, climate and habitats, orchid form, ecology and biology, and conservation. The glossary and labelled photos showing labellum features, and the floral parts of a number of different forms of terrestrial orchids, are both essential to the book. Not all the features are clear from

the photos. Line drawings could have been more instructive in some cases. There are photographs showing nine habitats with a list of some of the orchids that might be found in each. I think the habitat photos are a good feature although I don't see that much point in the lists. In total only about one quarter of the orchids covered in the book are listed here. I presume that those listed are the more typical for these habitats. Foothill forests and moist foothill forests are not included here but are mentioned in the text. The index is easy use and includes both common and scientific names. Maps of Victoria on the endpapers show place names mentioned in the text. There is a check list, and a bibliography. All of this takes up about 20 or so pages out of 315. The bulk of the book contains photos and text for 364 species, some unnamed, plus 45 named and unnamed hybrids, being all currently known taxa at the time of writing. The orchids are arranged 'according to their similarity of appearance reflecting their relationships' so that closely related taxa can be compared easily. This generally follows *The Flora of Victoria* Vol 2 (Walsh and Entwisle 1994). The photos number 'about 1400' and are of the highest quality. Multiple photos cover most of the page and often include a number of shots of the same species to show the diversity within the species. Photographs often show orchids in their habitat with leaves sometimes shown as well. There are close ups showing particular features and place names given for each photo. Someone unfamiliar with indigenous orchids might be mislead by the close ups as there is no scale. Size is referred to in the text. Although the photos are spectacular, not all of them add information. I would like to see distribution maps for each species replacing some of the photos.

For each genus there is a brief description including number of species, distribution, and general information relating to growth form and flowers and leaves. Other notes may refer to taxonomy, response to fire, and reproduction. The derivation of the generic name is included.

The species account includes the scientific name with the taxonomic authority and one common name, but no synonyms. The description includes height, number and size of flowers, and features of the leaf 'where applicable'. Distinguishing flower features are given where they would help in identification. Flowering period, distribution, 'Broad Vegetation Type' (developed by the Department of Sustainability and Environment), conservation status, hybridisation, and distinguishing features are all included. I think the conservation status should have been highlighted in some way to attract attention, especially for the rare and threatened species. At times the lack of a leaf description was frustrating to me in the species account when I was trying to identify an orchid by the leaf and bud only.

Although the authors call this book a field guide, with dimensions 28x21x3cm (pages slightly larger than A4) it makes a reasonably bulky book to carry in your pack. I think of field guides as being smaller and lighter. In the field it fulfils its aim. On a recent walk in Box Ironbark forest I used the book to identify a number of species. My companion using the keys of the *Flora of Victoria* came to the same conclusion.

Overall a very appealing and useful book. The photos alone would attract people with no previous interest in orchids and the pictorial guide would probably get an observant and determined beginner to the correct genus and possibly species. Quite an achievement! Readers with more knowledge would also get pleasure and satisfaction from the book. I think the authors will achieve their aim to raise awareness of Victoria's indigenous orchids.

References

Backhouse G and Jeanes J (1995) *The Orchids of Victoria* (The Miegunyah press Melbourne University Press: Melbourne)

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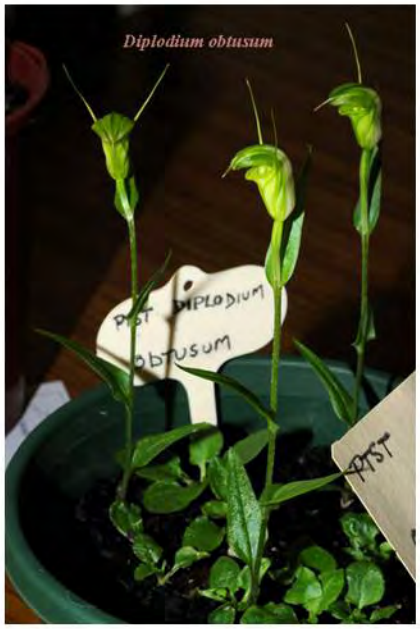
PLANTS BENCHED NOSSA MEETING MAY 2008—1 PHOTOS: David Hirst

PLANTS BENCHED NOSSA MEETING MAY 2008—2 PHOTOS: David Hirst

Second Division Terrestrial Species



PLANTS BENCHED NOSSA MEETING MAY 2008—3 PHOTOS: David Hirst