

THE WESTERN AUSTRALIAN ORCHID BULLETIN

THE OFFICIAL JOURNAL OF THE ORCHID SOCIETY OF WESTERN AUSTRALIA
FOUNDED 1946. A MEMBER OF THE AUSTRALIAN ORCHID COUNCIL.

VOLUME 57 No 2



FEBRUARY 2017

NEXT MEETING of the Orchid Society of Western Australia (Inc.) will be held at the Manning Senior Citizens Activity Centre, Manning, on Friday 24th February, 2017, commencing at 7.30pm.

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THIS MONTH'S MEETING ITEM:

ANNUAL GENERAL MEETING
WINE & CHEESE NIGHT

MARCH MEETING DATES:

OSWA Committee 7:30 pm Friday 3rd
General Meeting 7:30 pm Friday 24th

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We acknowledge assistance from Lotterywest for the printing of this Bulletin

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Birthdays.

February: 7th Jim Baylis; 11th Nancie Jones; 25th Betty Rensen.

March: 11th Merrilyn Brechin; 14th Maree McDonald; 19th Jack Rensen, John Walton;
24th Raye McIntosh; 25th Lorna Dodd; 26th Kaye Baylis, Peggy Stacey.

Best wishes to anyone else celebrating Birthdays or Anniversaries. To any member on the sick list we wish you a speedy recovery & may you soon be well.

January Meeting at the Baylis Residence

Many thanks to Jim and Kaye for opening their new home to OSWA members and guests on 27 January. Their new garden is already very impressive. The traditional January BBQ instead of a formal general meeting is a lovely way to kick off the New Year for OSWA. It was great to see many new members attending, and everyone enjoyed the evening. Since there was no plant competition at the Baylis BBQ meeting, there are no competition results in the bulletin this month.

February's monthly meeting includes OSWA's 2017 AGM

Please consider nominating for committee or some other role to help OSWA this year. If you would like to nominate for a position but have not lodged a nomination form, do not fret! Nominations can be made from the floor at the AGM. As usual, we are looking for new committee members and other office bearers, especially Secretary and President (Kaye must step down after serving the maximum permitted term of 3 years). Please consider nominating for a position. Nominees are required by WA state law to sign a declaration (included in the nomination forms in the January bulletin). **Minutes from the 2016 AGM and the December 2016 GM** were published in the January bulletin, so there are no minutes in the Bulletin this month.

Membership Subscriptions for 2017 are now looooong overdue.

\$26 double, \$21 single. For your convenience OSWA can accept payment by three methods:

- (a) directly to Kirsty Bayliss at a general meeting;
- (b) by cheque payable to Orchid Society of WA Inc., sent to OSWA, 58 Gladstone Rd Leeming 6149; or
- (c) by direct debit to OSWA's account:

Account name - Orchid Society of Western Australia Inc.

Bank - Westpac Bank, Booragoon, WA

BSB - 036069

Account Number - 457265

Reference - please use your name, to help us identify your payment.

Unfortunately we cannot carry unfinancial members because we need to cover costs (insurance etc.) that are associated with each membership. If your subs are not paid, please do enjoy this copy of the bulletin, because it will likely be your last! Thank you to all members who have already paid.

Home Visits.

If you would like to host a home visit, please see Lynn Brooks at a meeting or send her an email (contrarymiss@hotmail.com). It doesn't seem to matter the of year, home visits are always very popular. Already Rosemary has volunteered to host a home visit on Sunday 25 June. Details later...

Shed Clean Up Day

Our annual shed clean up day to prepare for the upcoming show season will be on Sunday 30th April, at McDougal Park, Como, starting at 10am, to be followed by a sausage sizzle supplied by the Society. The park provides a pleasant environment for a BBQ so this will be a nice social activity.

Potting Bark and Neutrog Products

OSWA has made another bulk purchase of Orchiata bark from Garden City Plastics. The bark (small, medium, large grades, maybe some mini too) is available in 40 litre bags, at excellent prices for members. For more information, come to the next general meeting or call Rosemary on 0401 508 667. We also plan to make another bulk order of Neutrog products, and anticipate delivery some time towards the end of April for orders made by Friday 24th March (at the general meeting). More information at the February meeting and in the March bulletin.

Virus testing kits?

If you would like to purchase one or more virus tests, please contact Kirsty by phone or email or at a meeting. The tests come in boxes of 10 and each test strip is expected to cost about \$15 (so \$150 for a box). If there is enough interest we can purchase a box (or several) and divide them up, so individual members do not need to buy a whole box.

Don't forget our Membership Drive Stockpile Process

If you have a spare orchid that is healthy, free of virus or rot problems, and near flowering size, and you would be willing to donate it to OSWA as a plant to be given to a new member, please contact Courtney Rogasch.

Nursery Visits

We are planning some nursery visits this year, so far:

Saturday 22 April: Tropical Colours Nursery, 558 Gossage Road, Oldbry

Saturday 1 July: Ezi-Gro Orchids, 76 Evandale Road, Darch

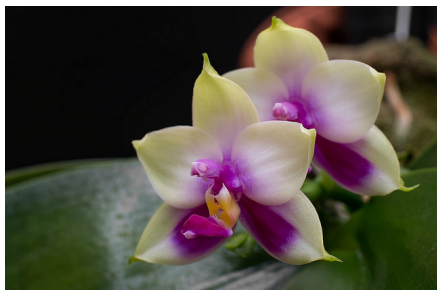
A bus for members is being arranged, or members can make their own way to the nurseries. More details in the March bulletin.

Plants on the Sales Table

Plants offered for sale on the OSWA sales table at meetings or shows should be in good condition, free of pests and disease, and have no colour breaks in the flowers. If in doubt about the quality of a plant, please check with the person in charge of the sales table before putting the plant up for sale.

Wanted to Buy.

Kirsty is seeking flowering size specimens of *Phalaenopsis bellina* and *Phalaenopsis schilleriana*. Lynn is seeking flowering size specimens of orange cattleyas such as *Cattleya Trick or Treat*, and also flowering size *Dendrobium farmeri* and *Dendrobium aggregatum*, and champagne corks(!). If you can assist, please contact Kirsty or Lynn directly.



Phalaenopsis bellina



Dendrobium farmeri

Articles for the Bulletin?

If there are any orchid-related topics that you would like to read about in the Bulletin, please let Murray know. Even better, if you would like to write an article for the bulletin, contributions will be gratefully received!

WAOS 2017: Rendezvous Hotel, Scarborough, WA, 5 & 6 August 2017

The WA Orchid Spectacular will be the biggest orchid event in WA (all of Australia?) this year. The show (display and sales area) will be open to the public on Saturday 5 & Sunday 6 August. Orchid enthusiasts who register get unlimited admission to the show, free admission to the opening ceremony (catered) and lectures by renowned international speakers, and preview, early-entry photography, and orchid pre-purchasing opportunities not available to members of the public. Registration is \$100 (\$75 for partner), before 1 July. Registration gets more expensive after 1 July and closes 31 July, so register asap. See: http://www.waorchids.iinet.net.au/WAOS_2017.htm

2017 OSWA SHOW DATES

- Autumn Show:** **Stockland Riverton Shopping Centre**, corner of High Road & Willeri Drive Riverton.
Set up Tues 9th May (6.00 – 7.15 pm). Judging 7.30 – 9.30 pm.
Open to Public 10th – 13th May.
Member Plant Sales Friday 12th (to be confirmed) & Saturday 13th.
- Winter Show:** **Manning Senior Citizens Activity Centre**, 3 Downey Drive (near Ley St) Manning
Set up Friday 7th July (6.00 – 7.15 pm). Judging 7.30 – 9.30 pm.
Open to Public Saturday 8th July 10.00 am – 4.00 pm. Member Plant Sales 8th July.
- Spring Show:** **Kardinya Shopping Centre**, South Street, Kardinya
Set up Tues 29th August, (6.00 – 7.15 pm). Judging 7.30 – 9.30 pm.
Open to Public 30th August – 2nd September. Member Plant Sales daily.

CYMBIDIUM CULTURAL NOTES (FEB-MAR 2017) based on notes from Roy Brown

These are usually very hot months, with the temperatures in the high 30s or low 40s, so regular use of the sprinklers are an absolute must. Create as much humidity as possible, keeping the pots and the area around your plants as damp as possible. It's my opinion the next month or two are the most important ones for the successful flowering of cymbidiums. **THE NEW GROWTHS MUST BE KEPT GROWING, SO THEY WILL BULB UP IN TIME TO PRODUCE THEIR FLOWER SPIKES.** To do this they will need as much light as they can take without actual burning of the leaves, and plenty of fertilizer and water. For those who grow their plants under 50% shade cloth, you will find the plant's leaves have become a yellowy-green colour. This is mainly because of the bright light we experience here in WA, the skies being cloudless during the summer months. Provided the bulbs are nice and plump and the plants are healthy, this yellowing is a good sign that the plants should flower this season. A plant grown under too heavy shade conditions will have dark green, lush foliage and will not produce as many spikes of flowers as one that has been grown under bright sunlight. If you find your plants are troubled with red spider mite, thrips, scale etc. then give them a spray with insecticide. It's during the next couple of months that the flower spikes are produced, and it is a good idea to have the plants free from all insect pests well in advance, so no harm will come to the young flower spikes when they emerge.

CATTLEYA CULTURAL NOTES (FEB-MAR 2017) based on notes from Henry Eaton

February and March are usually the hottest months in the year for us in the West. This means keeping up with the cultural practices employed in the summer, mainly shading the plants and providing sufficient moisture and fertilizer to them. Beware though, that Cattleyas, by and large, benefit from alternating dry and wet periods. This means not watering them unless loss of weight of the potted plant indicates that water is needed. I was reminded of this when, recently, I had to repot a plant that was growing out of the pot in many spots. Although previously potted in bark of a large size, the mix was wet through and through from the watering I had from the day before. When a plant is growing over the edge of the pot, another technique to use is to place another pot full of mix under the overgrowth, so that roots can establish before repotting in Autumn or Spring. At this time, also start to look for flowering sheaths or buds appearing on mature, new growths. When spotted, move them into an area free of pests and away from water dripping on them. If moved, make sure the buds point in the same direction they were in before you moved them. Many Autumn flowering plants will now be showing buds and sheaths so be on the lookout for them.

PAPHIOPEDILUM CULTURAL NOTES (FEB-MAR 2017) by Trevor Burnett

These are the months when the weather can usually be expected to have some excessively hot days. At this time of the year I water 3 times a week, early in the morning with overhead sprinklers, so the plants are well saturated. This will allow time for the plants to dry out before the sun gets too high and will prevent any possibility of water burn. This will also ensure the plants are dry before nightfall. Some growers may be tempted to water on hot evenings but I, personally, avoid this at all cost. Water left in the axis of the leaves at night only encourages rot and water borne disease. I find if the plants are watered heavily the next morning, they seem to thrive on the fact they have been forced to dry out somewhat overnight. If excessive heat is forecast over consecutive days, you will need to watch plants in small pots and increase the watering as necessary. Watering is highly dependent on the composition of your potting mix and its ability to retain moisture. For beginners, a test pot of just potting mix in the growing area is recommended, until you understand the water holding capacity of your mix. You can empty the pot at any stage to see what water has been retained. The mix should be just moist throughout the bottom half of the pot. As the plants are still in active growth, keep a weak fertilizing programme going on a weekly or fortnightly basis, depending on your time constraints, with a $\frac{1}{4}$ to $\frac{1}{2}$ strength high nitrogen based fertilizer. This is in order to maximize the new growths before the flowering season. Ensure that you flush the mix with water between fertilizing, which will flush out any excess salts. In the glasshouse on very hot days, the use of misting sprays under the benches will be beneficial by increasing the humidity levels. It is equally important that plenty of fresh air, which is essential for the plants' health, is available in the glasshouse. Do not remove any extra shade that you may have installed over the summer months.

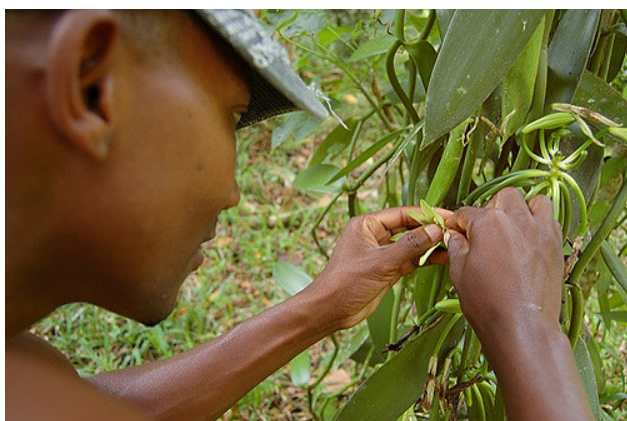
Vanilla flavour and *Vanilla planifolia*

Vanilla is one of the most popular flavours. Vanilla flavouring is so common that in modern colloquial usage, one meaning for the word "vanilla" is "ordinary", but the story of vanilla is actually quite interesting!

Natural vanilla flavour comes from the seed pods ("vanilla beans") of a few orchids of the genus *Vanilla*, mostly *Vanilla planifolia*. This orchid is native to southeastern Mexico, where it is pollinated by the melipona bee. Until the mid 1800s, vanilla beans were rare, and vanilla flavouring was expensive and mostly only available to European elites. Things started to change in 1841, when Edmond Albius, a slave in the French colony of Réunion, worked out how to pollinate vanilla flowers by hand. Hand-pollination led to much increased production of vanilla beans at plantations in Réunion and then in Madagascar, which today produces about 80% of the world's natural vanilla.



Flowers of *Vanilla planifolia*



The technique developed by Edmond Albius helped to make vanilla flavouring less expensive and available to the masses. Nevertheless, vanilla beans are slow to grow and a kilogram of cured vanilla beans only yields about 20 grams of vanilla flavouring, so the demand for vanilla flavouring far exceeds the worldwide production from *Vanilla* orchids. These days, less than 1% of vanilla flavouring comes from vanilla beans, the rest (about 18,000 tons annually) is manufactured.

Pollinating *Vanilla planifolia* by hand, in Madagascar



Vanilla beans grown in a plantation in Kerala, India



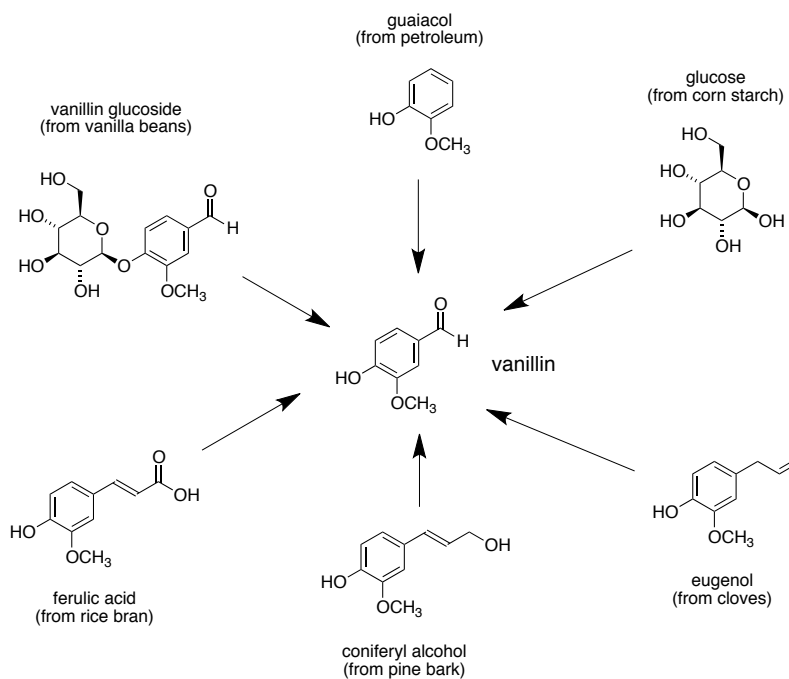
Seeds in a mature Vanilla bean



Dried Vanilla beans

The main component of natural vanilla flavour is a compound called vanillin. In the vanilla bean, vanillin is part of a more complex compound with glucose, but during the curing of the bean, the glucose part is

removed. In the late 1800s and the 1900s, organic chemists discovered compounds that are related to vanillin but can be obtained in much greater quantities from other plant sources. To try to satisfy demand for vanilla flavouring, chemists developed processes to convert compounds such as ferulic acid from rice bran, coniferyl alcohol from pine bark, and eugenol from cloves, into vanillin. These processes are relatively simple, because the structures of ferulic acid, coniferyl alcohol, and eugenol are closely related to the structure of vanillin. Biochemists figured out ways of converting glucose (from corn syrup) into vanillin, but this process is much more complicated, and uses microorganisms (bacteria, yeasts, etc) and enzymes to do the work. In the 1970s, a method was developed to manufacture vanillin from guaiacol (a compound obtained from petrochemicals), and this method now accounts for about 85% of the annual production of vanilla flavour.

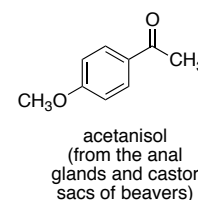


Vanilla orchid growing on a palm tree

Even though synthetic vanillin is chemically identical to vanillin extracted from vanilla beans, there is a consumer preference for natural ingredients over synthetic ("artificial") ones. Consequently, demand for natural vanilla flavouring is increasing. At the same time, production of vanilla beans is in decline. Output from Madagascar was down 50% last season, to 1100 tons of beans, which correlates with about 22 tons of natural vanilla flavouring. Pre-2012, a kilogram of vanilla beans cost about US\$25 and a kilogram of natural vanilla flavouring cost about US\$1250, but in 2016 a kilogram of vanilla beans cost about US\$225 and the price of natural vanilla flavouring hit US\$11,000 per kilogram. For comparison, a kilogram of gold costs about US\$38,700, but gold does not taste as nice as vanilla.

Artificial vanilla flavouring is based on synthetic vanillin of high purity. Natural vanilla flavouring contains traces of perhaps 250 other compounds that get extracted from the vanilla beans along with vanillin, so natural vanilla flavouring has a slightly different taste to artificial vanilla flavouring. Curiously, in blind taste tests, tasters tended to prefer artificial vanilla flavouring.

Castoreum is sometimes used as a substitute for vanilla flavouring. The main component of castoreum is a compound called acetanisole. Castoreum is obtained from the anal glands and castor sacs of beavers. Beavers spray it around, to mark out their territories. I don't know what possessed the person who first thought to try this stuff as a flavouring, but apparently because castoreum is extracted from beavers and is not synthesized by organic chemists, it is classed as a "natural" flavouring. Perhaps not surprisingly, the worldwide consumption of castoreum is relatively low, about 140 kilograms per year.



Another flower of *Vanilla planifolia*

Every few months, OSWA receives an enquiry from a member of the public wanting to buy a vanilla orchid. Over the last few years a couple of vendors (including Ezi-Gro Orchids) have stocked *Vanilla planifolia*, and I *think* one OSWA member has managed to flower the orchid, but I wonder how the average person would go with this plant. These suckers can grow BIG.

Coincidentally, The February 2017 issue of *Orchids Australia* contains an article about *Vanilla planifolia* by John Rees. Jan Heitman and Barry Wilson, two members of John's local orchid society, grow this plant at their homes just north of Brisbane. The article includes detailed pictures of the flower and advice on how to pollinate by hand. If pollination is successful, the vanilla beans are ready to pick after 4 weeks, and Jan pollinates enough flowers to yield her a year's supply of vanilla. The Australian Orchid Council also has an extensive article about *Vanilla planifolia* on its webpage (<http://www.orchidsaustralia.com/vanilla.htm>). OSWA members can borrow issues of *Orchids Australia* from OSWA's library. The magazine has lots of interesting articles, so many members have personal subscriptions (\$55 for 6 issues a year; to subscribe, go to <http://www.orchidsaustralia.com>).

References.

There is lots of stuff about vanilla orchids and vanilla flavouring on the internet. In addition to John Rees' s article in *Orchids Australia*, information for this article is mostly from three sources—these two very readable articles:

Melody M Bomgardner, *The problem with vanilla*, in *Chemical and Engineering News* volume 94, issue 36, pages 38-42, 12 September 2016.

<http://cen.acs.org/articles/94/i36/problem-vanilla.html>

C Rose Kennedy and Kaitlyn Choi, *The Flavor Rundown: Natural vs. Artificial Flavors*,

<http://sitn.hms.harvard.edu/flash/2015/the-flavor-rundown-natural-vs-artificial-flavors/>

...and this more technical one:

Jun Ni, Fei Tao, Huaqing Du, and Ping Xu, *Mimicking a natural pathway for de novo biosynthesis: natural vanillin production from accessible carbon sources*, in *Scientific Reports*, volume 5, article 13670, 2015.

<http://www.nature.com/articles/srep13670>

Sources of photos that appear in this issue of the Bulletin.

Phalaenopsis bellina. mcgarret88: <https://www.flickr.com/photos/bonsaitree/14334993418>

Dendrobium farmeri. Kroton: https://commons.wikimedia.org/wiki/File:Dendrobium_farmeri_-_Kroton_001.JPG

Two *Vanilla planifolia* flowers. Michael Doss:

https://commons.wikimedia.org/wiki/File:Vanilla_planifolia112686509.jpg

Hand pollinating a vanilla orchid in Madagascar. Helen Graham:

<https://www.flickr.com/photos/glowingz/2111886295>

Vanilla beans grown in a plantation in Kerala, India. Sunil Elias:

https://commons.wikimedia.org/wiki/File:Vanilla_beans.jpg

Dried vanilla beans. B. Navez: https://upload.wikimedia.org/wikipedia/commons/3/30/Vanilla_6beans.JPG

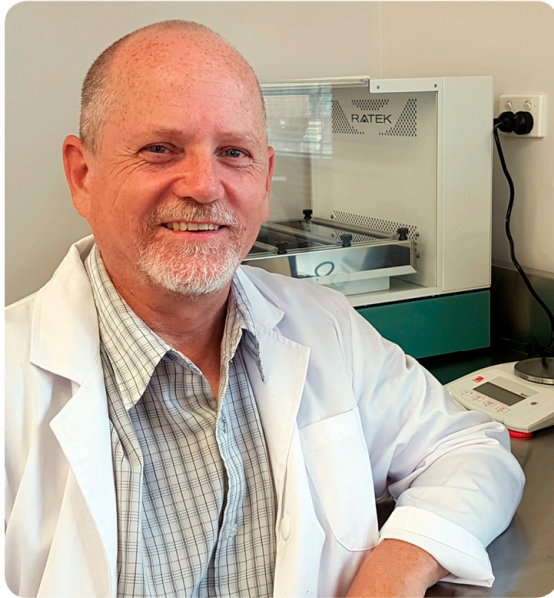
Vanilla bean seeds. RF Orchids: <https://www.flickr.com/photos/readontheroad/sets/72157615187768108>

Vanilla orchid on a palm tree. RF Orchids: <https://www.flickr.com/photos/readontheroad/sets/72157615187768108>

Another *Vanilla planifolia* flower. Everglades National Park:

https://commons.wikimedia.org/wiki/Vanilla_-_/media/File:Vanilla_planifolia_1.jpg

Research Scientist Dr Uwe Stroehler appointed to Neutrog



Australian owned biological fertiliser manufacturer, Neutrog Australia, has recently appointed research scientist, Dr Uwe Stroehler Ph.D., to head up its Research and Development team.

Announcing his permanent appointment, Neutrog Managing Director Angus Irwin said Dr Stroehler's background as a highly regarded scientist together with his expertise in molecular biology will allow Neutrog to continue to be at the forefront of biological fertiliser development.

"Innovation is central to Neutrog's strategic agenda and by employing a research

scientist with the right combination of knowledge, skills and curiosity, we will further strengthen our position as a leader in the development of biological fertilisers worldwide," Mr Irwin said.

Dr Stroehler will play a pivotal role at Neutrog, conducting field research and running trials on which to base further development of biological products that are able to pinpoint, extract and proliferate specific soil bacteria which are known for their roles in the soil such as unlocking phosphorus and fixating nitrogen.

Dr Stroehler's background ensures Neutrog's manufacturing methodologies and processes, like batch and DNA testing of raw materials and finished products, providing customer reassurance by far exceeding mandatory safety standards.

Dr Stroehler has consulted to the company for the past ten years, initially during the concept stages of GOGO Juice (a liquid probiotic for soil). He's been involved in developing processes and technologies aimed at maximising the beneficial microbiology in all of Neutrog's fertiliser products.

Orchid Society of WA Dates for 2017

Month	General Meetings <i>Manning Senior Citizens Activity Centre unless indicated otherwise</i>	Committee <i>2 Morrish Place, Como</i>	Shows and other Events
January	Friday 27th BBQ at the Baylis Residence		
February	Friday 24th AGM + Wine & Cheese Night	Friday 3rd	
March	Friday 24th To be confirmed: Quarantine Laws	Friday 3rd	
April	Friday 28th WAOS News (guest speaker, Bruce Larson) + Entering plants in OSWA shows	Friday 7th	Saturday 22nd: Tropical Colours Nursery Visit Sunday 30th: Shed Clean up and BBQ
May	Friday 26th Orchidup Nursery (guest speaker David Edmonds)	Friday 5th	Tuesday 9th (setup) then Wednesday 10th - Saturday 13th: Autumn Show Riverton Forum Shopping Centre.
June	Friday 23rd "Five Minute Lightbulb Snippets" + Deflasking	Friday 2nd	Sunday 25th, 10 am - 3:30 pm: Home visit (Rosemary McGrath)
July	Friday 28th Auction / Casserole Night	Friday 14th	Saturday 1st: Ezi-Gro Orchids Nursery Visit Friday 7th (setup in the evening) and Saturday 8th: Winter Show Manning Senior Citizens Activity Centre.
August	Friday 25th To be confirmed: Neutrog (guest speaker Brian Klepzig)	Friday 11th	Friday 4th (setup etc), Saturday 5th & Sunday 6th W.A. Orchid Spectacular Conference & Show ("WAOS 2017") Tuesday 29th (setup) then Wednesday 30th Aug - Saturday 2nd Sept Spring Show , Kardinya Shopping Centre
September	Friday 22nd Mounted Orchids (Lynn Brooks)	Friday 1st	
October	Friday 27th To be confirmed: Diseases in Orchids	Friday 6th	Sunday 22nd 9.00 am – 4.30 pm Potting Workshop Manning Senior Citizens Activity Centre.
November	Friday 24th To be confirmed: Oncidiums	Friday 3rd	
December	Friday 15th Trophy Presentation & Christmas Party	Friday 1st	Christmas Dinner Details to be announced.