



THE MONTHLY BULLETIN OF THE KU-RING-GAI ORCHID SOCIETY INC.

(Established in 1947)

A.B.N. 92 531 295 1258

19th August 2024

Volume 65 No. 8

Annual Membership : **\$15 single, \$18 family**

Patrons - Pauline and Trevor Onslow

President : Dennys Angove 043 88 77 689

Secretary : Jenny Richardson

Treasurer : Lina Huang (and Sales Table)

Vice President : tba

Editor (and stand in C. member) Jim Brydie

Society mail to - PO box 1501 Lane Cove, NSW, 1595

Next Meeting : Mon 19th August 2024

Committee Jessie Koh (Membership Secretary / Social Events)

Committee Herb Schoch (Community outreach, Sales Table)

Committee : **New committee members are required**

Committee : **Please put your hand up to help**

web site (active link) : <http://kuringaiorchidsociety.org.au>

Society email : kuringaiorchidsociety@gmail.com

Venue : *The West Lindfield Community Hall, corner of Bradfield Rd and Moore Avenue, West Lindfield.*

COVID remains in the community. **In consideration of others, PLEASE stay home if you are not feeling well.** We prefer all meeting attendees to be Covid vaccinated, masks are optional.

Please note : For insurance purposes, you now need to **SIGN the ATTENDANCE SHEETS** at the **front door on arrival.** Please sign against your name rather than just using a tick.

The hall is open from 6.30pm This is initially to set up the hall (please help). Benching can begin from 7 pm but please no benching until all the class dividers are in place. Give the set up team time to get everything organized.

Our Culture Class this month will be **Jim Brydie** to help you with any **conceptual orchid growing problems or questions.** From the front table I can't do a full plant doctor session because only the front rows would see what I am talking about. eg discussing symptoms like spots or bugs or whatever. However, if you are worried and have nowhere to turn you can bring a plant in and I will do my best to guide you. We will play it by ear.

The sales table will be open as usual but as announced previously, please respect the **"Sales Table Open / Sales Table Close"** sign and work with the sales table managers.

The Supper Break – The society supplies the tea, coffee, milk, sugar etc, **but members are asked to bring along a contribution for the supper table** - cake, slice, or biscuits, etc. **Please bring something to add.**

AND - please everyone, bring your own mug or cup for tea or coffee.

NOTE - Supper is not self-serve, PLEASE DON'T SERVE YOURSELF - helpers are used to minimise handling But once again we don't have any volunteers scheduled. If you could help, please see us at the hall.

Still no supper volunteers this month. I think we have volunteers next month but lets not run out again – help please.

After the tea break, our **Guest Speaker** will be **Chris Wilson** telling us about **"Softcane Dendrobiums"**. Chris is a thoughtful and investigational grower who applies deep common sense. He has experimented making a few Softcane crosses, flasking and deflasking, and has produced some lovely flowers. This should be yet another interesting talk.

New KOS Life Members

At our last meeting our President Dennys announced the appointment of two wonderful new life members – Garrie and Lesley Bromley. Although Garrie and Lesley have shared Presidents duty at North Shore for many years on and off, they have also been long term members at Ku-Ring-Gai and have been great leaders for all growers in Sydney.

It was Garrie who put together the conglomerate that is today the St Ives Fair and included 4 clubs from the north side to run and manage it. It has been a huge success and all along the way it has been Garrie's strength and leadership which has got it done and kept it together with the help of Lesley's background organisation and much hard work by both. An amazing effort by the two of them and for which all Sydney growers thank them.

The pair are still amongst the best growers in our club and I don't know what we will do when they finally give up on bringing boxes and boxes of wonderful flowering orchids to our meetings. They are a treasure and always will be.

Congratulations Garrie and Lesley. Well deserved, and very much appreciated.



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Society News (if anyone has a news item, please phone Jim on 9476 3383, or email at jimbrydie@aussiebroadband.com.au)

President Dennys' Desk – Well, what a great night was had at our July meeting. Although it was still very cold outside, **46** people attended a busy and enjoyable meeting. We also had 8 apologies and I hope that those who were unable to come to the meeting are managing ok. There were lots of flowers to look at with a total of **146** plants benched so the judges were well engaged. **Lorretta** mentioned to me that it was so good to see so many flowers. I even managed to bench 3. It was also a very special night since our society proclaimed **Lesley and Garrie Bromley as Life Members**. It was 50 years ago to-the-day when **Garrie** first judged at a KOS meeting at Pymble in 1974.

Geoff LeMarne gave us a great culture class on growing Cymbidiums and handed out an informative note on their culture. **Geoff** has kindly made this available for publication in our monthly bulletin. **Geoff** also indicated that Cymbidiums are flowering about 1 month early this year. **Trevor** gave us a deeply reflective and interactive talk on *Oncidium* (*Gomesa*), many of which are no longer available commercially. Hopefully some of them are still in personal collections - just wonderful. Also thank you, **Di** and **Anthony**, for working so well to give us an enjoyable supper, again. We still need some helpers for August. I also thank **Mary** for selling raffle tickets, and once again I thank all those people who helped set up and pull down the audio system, tables and chairs. Including our new members **Celeste** and **Ethan**. Lastly, I thank **Jim** for his kind donation of a remote slide changer and pointer.

Parking at our Meeting Hall– We had a small parking dilemma at our last meeting. The bus service through West Lindfield still operates during our meeting. So, please be careful to ensure you do not park in the bus stop zone. There is more (shopping centre) parking nearly opposite the hall.

St. Ives Orchid Fair – Preparations for the fair are well advanced. The KOS information pack has been sent out so please have a good read. Many members have volunteered already but more volunteers are always welcome to help with operations. You may get to wear a hi-vis vest if you are lucky. **Thursday morning setup in the Vendor's Hall** is particularly important. Many hands make light work, and, for our society (KOS), the fair is our main source of funds. Thursday in the Display Hall we will also need people to help separately with the display. I was unable to take my speciosum to the SIOF last year since it flowered too early and was ruined by bugs and birds and all sorts of things. This year I am hopeful since currently; it has 18 spikes.

AND - remember if you ARE selling plants at the SIOF they must be tagged as necessary, be in good order, disease free and free of weeds. All plants will be inspected before they go on to the SIOF sales area benches.

Benching Tip - In KOS, all flowering plants benched will receive a benching point. The idea is to improve your skill by getting the best you can out of your benched plant. Unfortunately however, as applies to all of us, if the plant has a disease or pest infestation it will have to be removed from the bench. If you are unsure, ask and we will find someone to advise you.

Native Orchid Conservation – Orchids are in the news again since recently the ABC published an article on their news website by Gavin McGrath. It is a great read, and the link follows:

<https://www.abc.net.au/news/2024-07-07/native-charming-spider-orchid-evolution-conservation/104054088>

Member's plants sales – Members who have plants for sale at our meetings please make sure they are in good order for sale. Just bring them in and put them on the 3rd table with a yellow label with the price and your name. However, it should be remembered that **sales cannot occur until the sales table is OPEN**.

Attendance – Please remember that we now require a signature on the attendance sheets. Just find your name and sign to help keep our insurance risk as low as possible.

Wearing masks – COVID is still around. So, please feel free to continue to wear a mask at our meetings and hand disinfectants will be available.

Members' welfare – personal challenges occur all the time, so please remember, if you need to speak to someone immediately then you are most welcome to contact me at any time, 24/7 on 043 88 77 689.



Other Society News

1. New Members/name badges – Welcome aboard to two new members this month – Celeste and Ethan Pyne. I hope you enjoy your time with Ku-Ring-Gai and make friends among us. If you need a little help finding your way around our meetings, understanding benching, or about orchids, don't be afraid to ask one of our existing members. They will answer your query or know who can help you.

2. National Orchid Extravaganza - This is another big event just before St Ives. It is run by the Cymbidium Club of Australia, but also incorporates the Paphiopedilum Society of NSW. Many beautiful and top class Cymbidium & Paph displays and lots of plant sales from visiting vendors. It is at the Arena Sports Club 140 Rookwood Rd Yagoona, Fri/Sat/Sun 9, 10, 11 Aug. (9am – 4pm on Fri/Sat, 9am – 3pm Sun).

Coming events

Fri 9 – Sun 11 Aug – National Orchid Extravaganza & Paph Society of NSW, The Arena Sports Club, Yagoona

Fri 16 – Sun 18 Aug – St Ives Orchid fair (see advert at the right, and notes below)

Thur 22 – Sat 24 Aug – Berowra OS, level 3 Westfield Hornsby, Shopping Centre hours

Thur 12 – Sat 14 Sept, NSOS, St Ives shopping centre

Fri 20 – Sun 22 Sept, MWOS, Belrose super centre

Sat 21, Sun 22 September Plant Lovers Fair at Karing.

St Ives Orchid Fair

‘The Big One’

ST IVES SHOWGROUND, Mona Vale Road, St Ives

Friday 16th August 2024 9 am to 4 pm
Saturday 17th August 2024 9 am to 4 pm
Sunday 18th August 2024 9 am to 3 pm

ADMISSION \$8

Major Sponsors
Rosella Orchids - Garden City Plastics

ORCHID VENDORS
Alice's Orchids, Barita Orchids, Dark Star Orchids, Ezi-Gro Orchids, Fong Ping Orchids, Hills District Orchids, Kings Orchid Nursery, Macquarie Native Orchids, Nicky's Slippers Orchid Care Services, Orchid Species Plus, Orchids of Distinction, Orchids on Newbold, Robertson Orchids, Rosella Orchids, The Orchid Mart / Serhan's Orchids, Tinonee Orchids, Woolf Orchidculture

For more information: Show Marshal: Garrie Bromley Ph: 0425 336 049
<http://www.stivesorchidfair.com/>

The St Ives Orchid Fair – 16 - 18 Aug - St Ives Showground - Mona Vale Rd, St Ives

Members - We are one of the clubs that run this fair and we also put on one of the displays.

This is your show – We need your Support.

The Volunteer Rosters – The Fair Management committee has assembled a combined roster from shifts volunteered by members of the 4 partner societies. Fair Managers will use that combined roster for assigning volunteers to specific roles day by day as volunteers check in.

Being the humans we are, sometimes things just don't go to plan and plans change moment by moment. Some turn up late or early, some fail to show up, or make special last minute special requests. As a result - we don't advance publish preplanned assignments. However, *be assured*, the roster managers have recorded each volunteer's requested specific roles and/or limitations on physical capabilities, and will do their very best to try to accommodate. We ask for all volunteers understanding and flexibility when you check in.

St Ives Fair 2024 Volunteer Rosters (showing Ku-ring-gai Orchid Society volunteer shifts only).

**** These tables are published to help remind KOS members about the shifts they have offered**

**** All helpers MUST first go to the entry ticket table at the front door of **Vendors Hall**.**

You must check in with **Jenny Richardson and be assigned separately for each shift you have volunteered for.**

**** Assigned roles may differ between each shift. You will be given your pass at check in.**

Please note : your requested roles or physical limitations have been considered by roster managers but flexibility is requested.

Thursday 15 th August (Vendor Hall set up ONLY)		Friday 16 th August	
9.00am to 12.30 pm	12.30pm to 4.00pm	9.00am to 12.30 pm	12.30pm to 4.00pm
Pearl Tong	Julie Iyengar	Jessi Koh	Trevor Miller
Geoff Le Marne	Nancy Yao	Herb Schoch	Nancy Yao
Seb Torrisi		Jon Hestelow	Betty Ng
Chris Wilson		Helen Wong	Stuart Ruthven
		Jeanne Lam	
+Jenny Richardson – on roster every shift		Chris Wilson	
+Lina Huang - on roster every shift			

Saturday 17 th August		Sunday 18 th August		Sun. 18 th August
9.00am to 12.30 pm	12.30pm to 4.00pm	9.00am to 12.30 pm	12.30pm to 3.00pm	3.00pm to close
Bob Taffel	Stuart Ruthven	Jon Hestelow – Sales Table please	Lina Huang	Chris Wilson
Trevor Miller	Brenda Walker	Janine Angove	Brenda Walker	Jim Brydie
Jessie Koh	Jeanne Lam	Dennys Angove	Willie Liu	
Herb Schoch	Lina Huang	Helen Wong	Pak Liu	
Jon Hestelow	Dora Law	Lina Huang		
Janine Angove		John Hocking		
Dennys Angove		Jean Hocking		
Helen Wong				

1. The Ku-Ring-gai Orchid Society Display at St Ives

***** The following is set out in detail in the SIOF KOS Member Information Pack, but to summarise.**

Set up day is Thursday. We need both flowers and foliage from members AND they need to be at the display hall by 9am Thursday 15th Aug. (to enable the team to assess the available material and to begin organising the display)

Plants for our display - We know that many of our members also belong to other societies. Many traditionally support the 'other' society in their displays, **but can we ask even those members to find a couple of plants for us?**

Providing orchids and foliage for our display is entirely voluntary, but please members, don't leave it all to others, we especially need your orchids.

Getting them to the show - If you can't get your plants to the show, we may have some limited capacity to transport them for you but we would greatly appreciate it if you can get them there yourself.

If you do need help to get your plants there, please phone Dennys on 043 88 77 689, to see what can be done.

(A) **Plant preparation and condition** – Plants should be clean, in good condition, and free of pests and diseases. Please attend to any clean up, staking and preparation in the week or more leading up to the show.

(B) **Orchid flowers will be judged for prizes** – All orchid flowers in the displays are also entered into the show classes set out in the show schedule distributed to members. Because they are separately judged in their classes, we need members supplying plants to fill in a nomination form (already supplied to members) so that we know who owns each orchid and what the orchid's name is. Remember, you may be putting your orchids up to win some prize money for yourself. Try to fill in the form as best you can with at least plant names and your name.

We need your Nomination Form list submitted to Dennys Angove by email at dennys.angove@gmail.com by 6pm Tues 13th Aug to enable us to start making the large decorative plant name cards used in the display. When the public admires the displays, the big cards help viewers identify the plants they admire.

(C) **Marking your plant pots** - ***You also need to mark each pot clearly with your name or initials*** so that the plant comes back to you. *Most of us use small white removable paper sticky labels available from office supply stores.* However, *a piece of common paper masking tape* is also good. ***Put your sticker on the back of the pot, away from where the flowers face,*** and write your name or initials boldly and clearly. The display pull down process on Sunday afternoon can be a mad-house. Labelled pots help us quickly sort which plants belong to whom.

Best of the Evening Species – *Aerides quinquevulnera* - grown by Garrie & Lesley Bromley

Aerides is a delightful genus of 29 species in the Vandaceous alliance. Those are types that grow ever upward year by year, making new leaf growth but no pseudobulbs. The unusual species name *quinquevulnera* means 'with 5 wounds', referring to the coloured tips to the sepals and petals, making it look fancifully as if it is bleeding from its flower tips.

Until recently, *quinquevulnera* was thought to be endemic to the Philippines but has now also been found near Madang on the northern coast of PNG. The species is found at elevations from 300 m to 2000 m so it should tolerate moderately cool but not cold temperatures. Growths generally get up to 45 cm, and as they mature produce side growths that eventually form a bushy cluster of leaves, stems, and roots.

The inflorescence arches up, out, and away from the main stem and then the flowering section dangles sharply pendent. It has up to 30 (2.5 cm dia.) flowers in various colour forms from all pink, to pink with darker tips, to white, and the classic white with pink or purple tips. It is a very pretty orchid and older plants with multiple side stems are nothing short of spectacular in flower. The example below left is a picture (all rights reserved) by NTGerald on flickr, to show what larger plants can look like.



In nature, *quinquevulnera* experiences a distinctly two part growing year. Translated to Australian seasons, it gets a LOT of rain Dec through March, is still wet in April and May but slowing right down to a fairly dryish June through October. However, don't forget these orchids are from the tropics so it is never totally dry. What the seasons imply is a sharp and fast growing season, followed by a much slower maturing and waiting period until the rains comes back. I would grow it warm in Sydney and grow it all year round but with the awareness that it isn't doing much May through Oct while it is colder here anyway. Time your growing of your orchids to when they want it.

Congratulations Garrie and Lesley. Another beautiful orchid for us to all envy.

Inanimate Objects all have Gender

The gender of many object is obvious. For example, a car tyre is male, because it goes bald and it's often over-inflated. However, gender is not always so obvious. Consider a TV remote control.

Are you surprised when I say a TV remote is female? I bet you thought it would be male, didn't you? But consider this – the TV remote gives great pleasure and comfort to a man, he's lost without it, and while he doesn't always know the right buttons to push, he keeps trying.

Best of the Evening Hybrid – Cymbidium Regal Fury ‘Venus’ - grown by Geoff Le Marne



What stunning colour. A deep rich, red/black burgundy tone if I dare describe it that way. Reds are a terrible colour to describe but always loved by growers. The darker and deeper the better, but sometimes they don't show up as well in lower light and in displays in the background they can be missed.

I have to apologise here for my fiddles with this full spike picture. Our Cymbidium bench in the hall has all sorts of kindergarten hall user stuff in the background and this shot of Geoff's magnificent orchid was just a trifle spoiled by backdrop. I gave a try here at using an editing tool to stamp out the worst backdrop with a clone



tool. I think it displays the full glory of the spike better, despite the obvious artificial attempt at wiping out the kindergarten picture background. I hasten to add that there is no criticism intended of our photographer. The hall is just full of the Kindy stuff, but at least you can see how classy this orchid is from Jane's perfect shot of a single flower.

So what can I tell you about Regal Fury. I have always admired attractive Cymbidiums and I am amazed at what high quality they are

these days, but I am afraid they are not my cup of tea as a grower. Regal Flare is a cross Geoff made and registered himself in 2017, continuing a similar line of breeding developed a little earlier.

The parents of Cymbidium Regal Fury are Cym. Regal Flames (ie Wyong Flame x Alexandra's Flame) x Khan Fury (ie Khan Flame x Blazing Fury). The only pictures shown in Orchidwiz for Regal Fury are for a nice pink un-named cultivar submitted by Joshua White. However, from Geoff's cultivar 'Venus' we know there are deep reds too.

Let's look back to the grandparents Regal Flames and Khan Fury.

Regal Flames is Wyong Flame x Alexandra's Flame. That's a lot of flames there, so presumably there are plenty of reds. Regal Flames was one of the legendary breeder Gordon Giles's crosses from out at Dural. I know Geoff grew this cross because he won a Best of the Evening in 2015 with the dark cultivar - Regal Flames "Queen of Hearts" (picture far right), but Regal Flames also comes in a variety of other pink and pinkish red colours. If you like the dark reds though, it is hard to go past 'Queen of Hearts'.



K.F. "Kurnell"



R.Flames. Queen of Hearts

The other Regal Fury parent is Cym Khan Fury which also comes in a wide range of colours between pale pink and red. I suspect it has an even wider colour range than Regal Flames. Both crosses are high class orchids for shape and even the pink ones are wonderful Cymbids.

Despite the other classy cultivars, I guess if you are looking for that deep burgundy red colour in your breeding outcome, you go for the parent cultivars in the colours you want. "Queen of Hearts" has to be one, and judging by the "Kurnell" picture above, maybe that is the other but only the breeder knows because the registrations never tell you.

I spoke to Geoff the other night and he was pleased with his new flowering seedling of Regal Fury from a remake he made himself. It was a similar dark one to 'Venus' shown in the best of evening pictures above. His new one got best seedling at our meeting the other night and Geoff told me he also had a whole batch more that he is keeping until they flower to see if he might have another champion. Now isn't that just the epitome of the orchid challenge. Make it yourself and see how good it is. Find that exclusive champion.

Geoff gave us permission to publish the "Introduction to Cymbidium Culture" notes which follow on after this Best of Evening item.

Thank you Geoff, and congratulations on another Best of the Evening. It is such a privilege to have growers like yourself passing on your skill and learning, and congratulations on your seedling and your BOE.

Did you hear that the neighbourhood barber just got arrested for selling drugs???
We had been his customers for 8 years and we had no idea he was a barber.

Introduction to Cymbidium Culture by Geoff Le Marne

General

Geoff's Cym Regal Fury

- As always recommended, if you are going to change how you grow your cymbidiums experiment on just a few plants first.
- Cymbidiums are a commercially grown orchid and ideal cultural requirements are known
- Many of the species in the background of modern cymbidiums come from monsoonal areas at altitude - high light and moderate temperatures with daily rainfall in summer

Light

- This is probably the most important factor in getting cymbidiums to flower.
- Cymbidiums can tolerate, and flower best, if given bright light eg ideally 30% shade in autumn, winter and spring. **Cym. Vanity Fair x Spring Flame**
- With our hot summers in Sydney, they grow best under 70% shade in summer from December - ideally just drag another layer of shade cloth over your growing structure.
- Up until about 15 years ago, many growers grew under 50% shade year round. But with a changing climate and 47° C days that is no longer ideal.
- Stripping of old leaves in early spring helps light get to new bulbs and therefore spike initiation
- Shorter plants should be benched in front of taller plants.

Cymbidiums can be successfully grown under sparsely shaded trees and pergolas, however :

- if growing in the garden grow under a tree with bright filtered light not in dense shade, preferably where it gets cooler morning sun and not so much hot afternoon sun in summer.

** Cymbidium leaves should be pale green, not dark green. In low light they get darker green

Watering

- Cymbidiums like to be kept moist year round, and can be watered heavily if in an open mix
- In summer watering is usually required every 1 - 2 days
- In spring and autumn every 2 - 3 days
- In winter about weekly, preferably avoid watering the flowers. If you do water overhead do it in the morning so the blooms can dry by nightfall
- In late spring and summer watering/misting around dusk helps drop the plant temperature and helps with spike initiation -most cymbidiums need the temperature drop below 15 degrees in spring to initiate flowering. This makes it harder to flower them in say Brisbane however I've heard of growers watering them with ice water!
- a good heavy watering every few weeks prevents fertiliser build up.

Potting Mix

- For many years cymbidiums were grown in compost and in those days got much of their nutrients from the mix - eg sawdust chicken manure and sand, Scottsdale - horse manure and straw
- These days most growers view the potting mix as just a way to hold moisture and support the plant and they supply nutrients in liquid or slow release forms
- Many specialist cymbidium growers now grow in either :
 1. coco husk chips/mulch plus perlite plus dolomite, or
 2. Good quality treated pine pink in a 8-12mm size plus perlite plus dolomite. I've found Orchiata brand to be quite good. Bark is probably easier if you have a mixed collection of orchids however if it dries out too much it is hard to re-wet.

** Cymbidiums are commonly grown standing in saucers by cymbidium club members and some commercial nurseries. Remove the saucers in winter

Waterwell pots, and **Anova pots** also work well. (*Anova (pictured right) are a kind of waterwell pot where the well is created inside the bottom of the pot.)

Fertilising

Cymbidiums can be grown quite successfully just by fertilising with a good quality slow release fertiliser in Spring such as Osmocote Exact high K or Nutricote. Preferably go for one with a N:K ratio 1 or less and which has a 8-9 month release rate at least.

How much? : 125 mm pot - 1 tsp // 175 mm pot - 2-3 tsp // 200 mm pot - 3-4 tsp // 300mm pot - 6 tsp



Cymbidiums grow better if this is supplemented with regular weak complete liquid fertiliser such as Peters Excel Cal mag finisher. Remember there is no magic fertiliser and other factors are more important in the health of an orchid. If I was told I could only use one fertiliser for the rest of my life I would pick Cal mag Finisher!

If you have an Ec meter, the recommended EC for fertilising cymbidiums is about 0.4 mS in winter and 0.6mS spring summer and autumn. Many types of orchids grow well on this fertilising regime.

(*An electrical conductivity meter [EC meter] measures the Electrical Conductivity of a solution, and among other things, is used to monitor the amount of nutrients, salts or impurities in water).

Avoid urea and ammonia based fertilisers on flowering sized plants.

Repotting and Dividing

Best done in spring and autumn. Avoid summer - too hot and less roots to take up water. Avoid winter- not much root activity and pot will remain too wet.

Repotting into a bigger pot is done if :

1. A plant has filled it's pot
2. A plant has been in the same pot /mix for more than 3 years
3. A plant looks sick and you suspect "off" mix

Dividing i.e breaking the plants up into smaller pieces, is done if :

1. The plant is too big for your requirements
2. You want more than 1 plant of a desirable plant

When dividing aim for at least a 2 bulb plus a new growth division to maximise likelihood of flowering the next year. Use steriprune spray to seal the cut on the rhizome.

A leafless bulb -"back bulbs" can be potted 1/3 down into some mix and may well grow a new lead.

Always use a pencil to write name of plant on label, never a texta/permanent marker

Pests and Diseases

- o Slugs and snails love flower spikes don't forget to use some baits when the flower spikes start to appear and reapply regularly
- o Boisduval Scale is a major pest if let go - preventative sprays with eco-oil, spot treat seriously infected plants
- o Red Spider Mites (two spotted mite) are a major pest in hot dry weather, particularly if growing under cover. Increase humidity and spray a miticide or use predatory mites if bad. Unfortunately mites especially false spider mite are a major vector in transmitting virus between plants.
- o Botrytis appears as small dark spots on flowers - once flowers start to open place under cover.
- o Fungal spots on leaves are common , mancozeb in spring helps . Bulb rots like pythium , phytophthora and fusarium often happen in summer heat when the plants are stressed - phosacid helps prevent these .

Virus Diseases

Cymbidiums are frequently infected with viruses - the main ones are Odontoglossum ring spot virus (ORSV) Cymbidium Mosaic Virus (Cym MV) and Fleck Virus (the worst of the lot). There is no cure for virus and I routinely test new acquisitions with a virus test kit for ORSV and CymMV. About 1 in 5 plants I get from other growers test positive with no obvious signs (symptoms).

The older a plant, or the longer a plant has been in circulation, the more likely it is to be virused . Species cymbidium are often infected as they have been divided many times in cultivation.

Practice good hygiene when dividing, disinfect cutting tools (Tricleanium) or flame, keep your plants well-spaced, and treat spider mite outbreaks promptly.



Growing Orchids 4 – Designing Mediums for Epiphytic Orchids (updated 2024) by Jim Brydie

Here is an Amazing Scientific Discovery – not a single epiphytic orchid grows in a pot in its natural environment.

Epiphytic orchids grow on trees, rocks, and occasionally in the upper layer of organic detritus on the surface of soil. There are some orchids that genuinely grow in soils but these are called ‘Terrestrials’ as opposed to ‘Epiphytes’.

Orchid growers grow orchids in pots purely for their own convenience. AND, because of our desire to ‘pot’ orchids, we have also had to devise a range of materials to put in the pot that will accommodate the roots of each special kind of orchid. Various kinds of artificial root environments are acceptable to each kind of orchid.

There are many experienced growers who can offer you their accumulated knowledge and interpretation on this subject. Each is probably a little different in expression but they may all be sound because there is always more than one answer. For example, there is another excellent and extensive article on pots and mediums by Seong Tay here in Sydney if you can find it. I will try and get permission to put it up on our website.

This article is not a list of “if you have this use that”. Answers come from understanding, purpose, & reasoning.

Q1 - what kind of environment do Epiphyte Roots need?

The natural epiphytic environments that various wild orchids have made their own is almost ridiculously varied so it is impossible to generalise on needs or preferences. And even if we narrowed the discussion to one particular type of orchid, we can’t reproduce the wild root environment for that orchid in a pot or in any kind of man made culture.

But what we can do, in our artificial growing houses, is to provide “close enough”. Assess the kind of orchid you are working with and plan the root environment you are aiming for. You want a benign root environment that the orchid can tolerate, with an appropriate balance of air, moisture, and mechanical support. Luckily for us, orchids are pretty adaptive little devils and most will take to our pot culture without too much fuss.

A very small number of orchids seem to insist on being mounted on a wood or cork plank etc, and a few have rather narrow bands of tolerance, but these exceptions will only confuse the process I want you to follow so for the moment they are excluded. Once you gain experience at engineering orchid regimes, you can extend yourself to cover them.

The 3 Potting Medium Factors – AIR, Moisture, Physical Support

First - Physical Support - In nature each orchid has developed a root system that (usually) holds the orchid to face a direction (to light?) and not fall over or off. When we put an orchid into a pot, the roots will eventually bind to medium and to the walls of the pot, joining it all into one and sufficiently supporting the orchid as well as in nature. But a freshly potted orchid may well need temporary artificial support with stakes and ties.

On this basis, we rarely choose physical support as the factor upon which to design an orchid’s potting medium.

The other two factors (Air and Moisture Retention) are the real keys and are pretty much bound hand in hand. In general if you increase one you reduce the other, so what we are choosing is the make-up of the medium blend to get the balance suitable for the orchid we are potting.

The balance of air and moisture in the pot seems to be the critical factor. Orchid epiphytes will nearly all put up with being saturated temporarily when we water them, just as they would get drowned when it rains hard in the rainforest. But they need excess water to be shed pretty quickly. As the pot dries out in the days following watering, the medium needs to provide an airy but moist environment in which the roots can live and thrive and do their job of taking in water and minerals and sending the supplies up to the top parts of the plant.

The need for moisture hardly needs explanation but keep in mind that air is an equal necessity. Roots are a living organ of the plant and they have to breathe as they function. In a well functioning medium, fresh air will be drawn into the pot as the medium dries out, and will be exchanged evenly throughout the pot. Excess water draining out the bottom pulls in air at the top, and similarly, as air is used within the roots, more will be drawn in. Ideally there will be no stale pockets of air.

Different plants require different rates of drying out and it is this that we design into the various mixes we use. Any number of the commonly used potting materials will do the job provided that :

- you get the air/water balance within bounds acceptable to the plant concerned,
- you give the plant regular food and water. **Note:** the mediums we generally use have no food for the orchid. WE need to supply fertiliser to keep the orchid’s internal factory running.
- the mix must provide a reasonable pH in which the roots can live and grow and have a capacity for ion exchange. Both of these are characteristics of the potting materials themselves.

Roots are still the vehicle for taking up water and nutrients and transporting them to the upper parts of the plant and those involve chemical processes. (for a better understanding of pH – see the article “Growing Orchids 5 - Understanding pH” on our website)

Which finally brings us to the discussion about the various potting materials.

I am going to describe 5 different key materials that I recommend that you regularly stock as supplies. These are Pine Bark, Peat Moss, Perlite, Sphagnum Moss, and Coconut Fibre. The latter is sometimes called Coco fibre or Coco Coir. However, although I call them “5” base mediums, many of these come in multiple forms or ‘chunk’ sizes so depending on the nature of your orchid collection you may well need to stock multiple different forms/sizes of each.

Pine Bark in particular, comes in a variety of chunk sizes. In addition, different brands process the bark in different ways before it is bagged for use and so different brands/types work slightly differently. I suggest that you stock at least 2 sizes of bark and if it is composted bark like Debco brand, then also stock a bag of less processed Orchiata brand bark – perhaps 9-12 mm size. You are going to need a “shed” for all the tools and bags of supplies.

Why so many mediums? - In any reasonably sized, mixed orchid collection you will have orchids from vastly different natural environments (or orchids developed from those orchids). The scope is far too wide for any one medium to suit all. You need a wider choice of materials for that wider range of requirements. It's as simple as that.

Each medium type has different characteristics and its own pros and cons. There are also a range of other “add-in” materials that are useful, such as styrene foam, pebbles, sand, etc, but I consider these to be fringe additives as opposed to major components and I am sure you can succeed without them until you decide you want them.

One complicating challenge in a mixed collection is that the plants are usually all jammed together in one growing area. Watering takes place for all at the same time, regardless of the different moisture requirements and drying times for different orchids. Some differences can be accommodated through choice of different microclimates within the growing area. For example, hanging specific plants higher, placing them in the bright end versus the shady end, or nearer the fan etc, but beyond that, it is by choosing particular design in your potting medium that can give the greatest difference in growing characteristics for different orchids. So, let's have a look at each medium component.

Common Orchid Epiphyte potting Mediums

1 – Pine Bark

“medium” bark

‘Bark’ is readily available, relatively cheap, and comes conveniently graded by the size of the bark chunks. It is usually a byproduct harvested from huge man planted pine forests harvested for timber for construction works and for paper manufacture.

One brand grades their bark as ‘fine’, ‘medium’, or ‘coarse’. The ‘medium’ from that range is shown in the picture here and the coins are Australian 5, 10, 20 cents. In US coins, their ‘dime’ is about the same size as our 5 cents, their ‘quarter’ roughly the same as our 10 cents. That makes the chunk size in Medium as about 18 mm to almost 30 mm with most around 25, but as you can see, it has quite a wide range of particle sizes.



Another bark supplier (Orchiata) lists their components by approximate chunk size in millimetres – such as 6 to 9 mm, 9-12 mm, 12-18 mm, 18-25 mm. There are also other brands and types. One specialised bark based mix is labelled “Miscellaneous Mix” (a combination of bark sizes and other components perfect for Australian native Dendrobiums). Another bark type is “Cymbidium Mix” (from various brands and in various forms).



In most forms the pine bark has been at least partially composted to reduce its tannin content, but Orchiata brand looks quite raw (un-composted) and that can be a useful characteristic in blending components to extend the useful life of a blended mix. I am presently experimenting with Debco Coarse and it seems to be pretty much the same as an older ‘medium’ brand I had been using.

Bark is a good staple for orchid epiphytes - but with these qualifications. - Pine bark quality isn't what it was 20 years ago. Most orchid barks come as a bagged product and the product in the bag is usually rather dirty. It carries far too much dust, useless fine materials, and other accidental byproducts like stone and wood chips. In my opinion all barks should be washed off and sieved before using them. In addition there are frequently accidentally included chunks of wood left from the originally harvesting off the felled tree trunk. If left in the mix these wood chips can become infested with wood decomposing fungi and will change the way the mix works as an orchid medium. Some growers ignore them and leave them in and I imagine that most of the time that works well enough provided you keep an eye on potted orchids for signs of the bark acting funny.

For me, although it is tedious and time consuming, once the bark is rinsed and sieved, you can easily see the wood chips by colour so I manually pick them out and discard them. I haven't found any more clever way to do it but I still think the effort is worth it. I also discard the odd stones mixed in by heavy ‘bucket’ equipment during processing.

I use medium and coarse grade barks as a base for Laelias, Cattleyas, Vandaceous, and other coarse rooted, dryer growers, and I use bark in a blended mix of smaller bark sizes and other components for various other orchids.

If you are a heavy waterer, highly composted bark can tend to go off in the pot more quickly. Depending on your watering and practices, it may go off even as quickly as just two years. The bark will gradually stay wetter and wetter after each watering as it begins to further decompose. However, there are ways to extend the life of the mix in the pot. The options, either alone or together are :

- including a good proportion of raw bark in the mix
- judiciously sprinkle just a little garden lime or dolomite over the top of the mix once a year. This not only extends bark life, it will also aid in balancing the pH. But care must be taken not to overdo the use of lime. Too much will end up creating an alkaline mix that may kill the roots or change nutrient uptake.
- Add other components like styrene foam. Especially in the bottom of the pot to ensure drainage.

With bark, the pH in the pot is a serious factor and it will gradually become more and more acid (lower pH) and can eventually sink down to as low (acid) as pH 4 in 4 years or so unless you are very clever with the addition of lime. For more information on Understanding pH, see the separate article on our website.

When you use bark, make sure you feed the plants regularly and watch the wetness of the pot. When fresh, the bark mix drains quickly so will need regular watering. As the bark ages, it holds water longer and longer, and so watering should be reduced to match. If the pot looks like it is staying too wet it almost certainly is. Either try to water less often or place the plants where they will dry out more quickly.

2 - Sphagnum Moss - Sphagnum Moss is an amazing medium. It has terrific remedial properties for sick plants and there is nothing better for striking back bulbs and divisions.

As little as 10 years ago (2015?) it could be obtained as freshly harvested live moss but nowadays it is generally purchased as dried compressed bales. The dried product keeps well for long periods, and you can just rehydrate the amount you need from your dry bale, portions at a time as needed. Our website has an article on how to properly rehydrate Sphag.

Every grower should have at least a small supply available. Even for healthy plants it is a very good medium in its own right but like all media, it has its drawbacks.

It is expensive and it is getting harder and harder to obtain good quality moss. Good moss lasts about 1 year being used wet in a pot. Perhaps a little longer if you are very careful with water and very dilute with your fertiliser. If it gets too much fertilizer or is over watered the sphagnum moss dies and begins to quickly decompose. Dark green algae grows over the surface, the sphag looks a darkish brown and it goes airless. Once the sphagnum moss has “gone off”, you need to get the plant out of it quickly. Its positive qualities reverse, it quickly becomes untenable and roots die.

In summary, a great medium to have in your armoury for specific purposes but if used widely as a potting medium it needs care and an experienced eye.

3 – Peat and Perlite (“P&P”) - Perlite is an expanded volcanic glass that is completely inert & pH neutral. The perlite most Aussie growers use comes from Chillagoe in Queensland and comes graded in particle sizes called “coarse”, “super coarse”, and “jumbo”. Jumbo is the largest particle size

(around pea size) and is most orchid grower’s perlite of choice.

Perlite on its own doesn’t provide any organic interchange buffer for fertilizer and once it starts to dry out, perlite by itself goes from moist to dry very quickly. As a result, perlite is used in combination with peat moss to provide the moisture retention management and the organics in the medium for ion interchange. The mix most people seem to use is 1 part high quality peat moss (Lithuanian) to about 5 or 6 parts jumbo or super coarse perlite. I have experimented with ratios of 12, 16, and 20 : 1, but I concluded that it doesn’t work properly with less and less peat.

Be Aware – there are many forms and types of ‘peat’. Peat forms in wetland conditions where flooding or stagnant water obstructs the flow of oxygen, slowing the rate of decomposition. Peat properties such as organic matter content and saturated hydraulic conductivity can exhibit very uneven distribution within a wetland area. Peatlands, particularly bogs, are the primary source of peat; although other wetlands types, also deposit peat. Peat is mainly the decayed remains of Sphagnum moss but it also contains many other species of decayed plant material.



Because the organic matter that forms peat accumulates over thousands of years, peat deposits provide important records of past vegetation and climate. But for horticulturists the interest is different. The best peat for use in potting mediums is what used to be called German peat or European peat and was probably laid down many thousands of years ago in sphagnum moss bogs when Europe was part of Pangea and the Earth was much warmer. This created a very evenly constituted stable peat product. The only peat of this type that seems to be available in Australia at present is sold as Lithuanian Peat and it comes in at least two or more grades, in large bales. Buy the coarser type.

P & P mixes are very stable. The perlite is inert and the ancient sphagnum peat has already reached a point of almost nil decay over thousands of years in the ground. The combination has a slightly acid pH around 6.0 (perfect for most orchids) and lasts virtually forever. However, you still need to repot relatively regularly because plants outgrow pots and because dead orchid roots eventually accumulate in the mix and need to be cleaned out.

Another characteristic to note is that peat and perlite mixes when used properly are generally wetter (comparatively) than fresh bark mixes. But if they get too dry they can initially be hard to wet again. As with any potting medium, the watering frequency depends on prevailing weather, your watering tendencies, and judgement. Don't dry it right out.

Variations – to get slightly different results for unusual plants you can vary the peat/perlite ratio, or use finer or coarse grades of perlite - add styrene foam or washed quartz pebbles to the mix. Each will give you some control over how quickly the mix dries. I use P&P mainly for finer rooted orchids like Pleurothallids, Dendrochilums, and others. Some growers use it successfully for everything.

4 - Coconut Fibre (often called **coco fibre**) -- Although commercial nurseries here and overseas have been using this product for quite a few years, coconut fibre is a relatively new medium to many. It obviously has potential.



There are two types of coco fibre products. For epiphytes we use the version chopped into more or less cubes as shown in the picture at the left. However, Cymbidium growers often use a version called Coco mulch – see the picture below the chipped version pic.

As a medium, either product is fairly long lasting, slow to bio-degrade, and depending on the brand and the washing process, has a pH of about 6.0 – 6.5. The material comprises two natural materials which form the husk of the coconut. A coarse, stiff, woody, thread like material we call coir, which is the same fibre used to make coir doormats etc., and a peat like material that fills the spaces between the coir fibres in the coconut husk.



The commercial orchid potting material, is basically the chopped up fibrous husk off coconuts. It is a byproduct of the copra production plantations in India and Sri Lanka among other places. It comes in dried, compressed blocks of either chopped cube like chunks or of more finely ground up material. There are various brands available.

Bunnings hardware stores used to sell both types but may not have the cube chipped version these days. The chipped type can be found online from various other suppliers but avoid niche, blended 'multi component' versions. Buy the compressed 4.5 kg brick form. (ie the

solid thing, far left, lower pic)

Coco material needs to be soaked and rinsed before you use it. Stories are told that some supplies are contaminated with sea salt from the discarded coconut husks being stored too close to the ocean before they are processed and compressed for horticultural use. Hence there is a need to wash and rinse to remove high levels of Sodium..

To prepare the material for use, I soak a **half of a compressed dry block** (or the whole block if you are in a hurry) in a garbage bin for one to three days to let it thoroughly stew, then tip it out through a sieving process to get rid of the stewed water. I have tried several ways to do this but the method described to our members by Cymbidium guru Geoff LeMarne sounds the winner to me. He uses a 70 litre garbage bin for the soaking and a second 70 L bin with holes in the bottom and a big plastic sieve jammed in its bottom as the drain off. Just tip the soak bin into the other so the water is disposed of, rinse it through with fresh water, then tip the drained coir back into the first bin for a second soak. He has found that two 1 day soaks and rinses is sufficient to clean out contaminants. Be careful when you rinse it however, especially the cube chipped version that we use for epiphytes. All these coconut fibre products include a significant proportion of the fine peaty material. It continually sheds from between the coir stands and you need to retain a decent proportion of these fines as an integral part of the mix. If you remove too much of the fines by washing and sieving, the mix dries faster than is practical for most orchids and doesn't retain sufficient water. A dry mix can be a useful trick for one or two oddball orchids, but it isn't suitable for most.

Another good tip that Geoff gives us is that after cleaning, the coir product needs to be 'buffered' before it is used. Buffering is the addition of the macro minerals that are missing for the washed product. It simply means adding a

tablespoon of so of a quality soluble fertiliser like Peters Calmag Finisher to a final soak to let the coir absorb a base dose of minerals. This stops it buffering itself by sucking the life out of the mix when you apply your first fertiliser after putting an orchid in the mix.

As with bark, or perlite mediums, you can adjust the moisture content of your coconut fibre potting medium by choosing the coarse or fine grades (size of chunks), or by reducing the peaty component, or by adding other components like perlite or crumbled styrene foam.

I have only used the cubed version but have experimented with mixes of various size cubed coco-fibre, with added coarse perlite and styrene foam. I was very impressed with results in the first 6 months or so but after that I began to experience rots killing off some plants and others just suddenly stopping their forward progress. I am not sure why, but I suspect that part of the problem was the finer, peaty materials gradually washing out from between the coir strands and accumulating in the bottom of the pot creating an airless bog zone and leading to root decline. Perhaps this could be solved by improving drainage mechanisms at the bottom of the pot but I am only guessing.

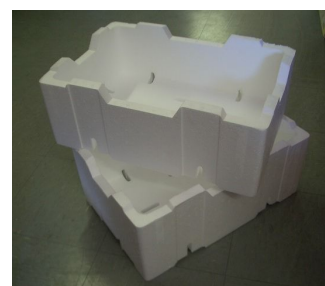
At present, I have just about cut out my use of coco-fibre. I only use it as an additive to some of my specialist mixes aimed to deliberately retain a little more moisture – eg for Paphs. However, I know many nurseries and other growers are still getting excellent results in coco-fibre mixes. Perhaps my problem was just be the way I was using it.

Concerning the excellent results obtained by commercial orchid nurseries, I am suspicious that part of their success may be because they raise very large batches of deflasked plants, all potted at the same time, and frequently potted on to larger sizes. They are growing forward so quickly they never sit in the old mix too long.

Additional Fringe Materials - As I mentioned earlier, there are dozens of side components that experienced growers use as additives or even as major components. For example: shell grit, charcoal, pebbles or stones, wine corks, crumbled cork. Over the years, I have tried just about all of them as each wave of “new discovery” swept the orchid grower world. I probably still have half bags of some of the stuff stashed away in the shed somewhere.

Many are useful, and have their place, but none are the new magic potting material that they were once thought to be. For example, shell grit is fossilised micro shell husks and can be very useful in supplying a slow release source of Calcium to delay acidification of bark mixes.

However, there is one ‘side material’ I do use in nearly every blend, and that is crumbled styrene foam. I use it in quantities from 10% to 25% in nearly every combination and I am convinced it provides a substantial positive benefit - mainly in improving drainage and air content in the pot.



However, before you rush off to smash up one of those white foam boxes the fruit stores carry produce in, or to buy a bag of bean bag balls, let me stress that there are many types of styrene foam. The fruit boxes are very dense, heavy, strong foam with little air space between the styrene particles. They are unsuitable for my purpose. Nor do I like bean bag balls. Their roundness and shiny surface makes them too hard to blend with other components and their hardened surface seems to repel water.

The foam I use is the softer more easily crumbled type that is often used as packing material in glassware, or electrical equipment. But even this more easily crumbled foam can vary a lot. I search out the types made from ‘larger’ rather than ‘finer’ bubbles of styrene, and that can be fairly easily broken up by hand, or shredded on the equivalent of a cheese grater.

note size of styrene ‘granules’ – the sheet is 4 cm thick

The one big problem when handling styrene foam, smashing it up, or when grating blocks or sheets of styrene, is electrostatic attraction. It makes the stuff cling all over you and can be very annoying. But there is a practical solution and that is water. You do your shredding or crumbling directly into a tub of whatever bark or potting mix you are adding it to and make sure the mix is adequately moist. You need to keep mixing the foam into the moist mix as you shred or crumble the styrene. Just take your time. The moist mix will absorb and balance the electrostatic charge.



sheets of soft, coarse textured styrene

Next Week - So Now you have an understanding of a reasonable range of options for core Potting Mediums

What you need next, and finally, is how to go about choosing which for what and why. It has taken a while to get here, but next month you will get the final episode. I think I will call it - ***“Growing Orchids 5 – being the Orchid Potting Detective”***. It is about understanding and interpreting physical characteristics in an orchid, signs of the plant’s health, and understanding the statistical info that you read about for each orchid.