

WARRINGAL ORCHID SOCIETY INC.



www.warringalorchidsociety.com.au

October
2020

PRESIDENT Andrew Fernandez 0438 210 033	TREASURER Alf Magnano 0403 006 104	EDITOR Mohammad Bisri 0434 022 920
SECRETARY George Dimech 0411 372 537	MEMBERSHIP Lenore Shepherd 0400 677 486	SHOW CO-ORDINATOR Jerry Karbownik 03 9817 3699

All correspondence to be addressed to: The Secretary, 77 Carrington Blvd. Thomastown, Vic. 3074

WARRINGAL ORCHID SOCIETY ZOOM MEETING

Our upcoming ZOOM meeting will be on October 21st, 2020 @08:00 PM. Members can log on from 7.45 so we are ready to go at 8.00 PM.

Details of Zoom Meeting

ID: 822 1733 1958

Password: 097621

The next Committee meeting will be at 7.30pm on Wednesday 4th November 2020 via Zoom.

The Warringal Orchid society meets every third Wednesday of the month at the Senior Citizens Hall in Hawdon Street Heidelberg. **Due to government regulations (COVID-19), the October Meeting will also be held virtually via ZOOM.**

Facebook Photo Appreciation

WOS continues to run the Facebook photo appreciation. Link:

<https://www.facebook.com/warringalorchidsociety/>. This platform is to enable members to share their flowering orchids and growing conditions. Hopefully this will enable other members to get ideas and see what can be grown in Melbourne under their conditions. For Bulletin purposes, please add information of the picture you submit including, name of the orchid, growing condition and name of the grower. It would be great if you can write something about your orchid.

For those who are not familiar with Facebook. Please feel free to send me email. I have updated my email to: BisriMohammad@outlook.com.

Welcome to new members:

WOS tradition is welcoming new members to other pre-existing members and will be presented with an orchid gift (usually Cymbidium) on their first meeting attendee.

Welcome to our new members this month:

Michael Coker
Murray Harding & Di Lester
Sylvia Zorbas

Zoom Meeting

Our monthly club meeting will be held via Zoom. Please see the details on the first page.

Zoom participants can organise Power Point slides to show orchids currently in bloom from their collection on zoom too. It would be great for other members to enjoy your orchid pictures and few questions may be asked by members to get growing tips from you.

Michael Coker will give a presentation about the OSCOV show winners (2019).

Photo Appreciation

It is springtime, most orchid collections have flowers at this time of the year. As the spring show this year has been cancelled due to COVID-19, we would miss the opportunity to view the beautiful orchids grown by WOS members. Fortunately, technology can assist us to get through this difficult situation and we can still enjoy the orchids.

This is a compilation of orchid pictures from the Facebook photo appreciation, the Zoom meeting and emails directly to me.

Cattleya

Cattleya Free Spirit 'Laina x Gold Country'

Growing condition: this plant is grown in a green house without heating required, growing cold.



Grown by Andrew Fernandez

Laelia Excanienco Blue



Grown by Felix & Joyce Spiteri

BLC Marcella Koss 'pink marvel' (C.Bob Betts x lanquedoc)



Grown by Mario Borstelj

Australian Native Dendrobium

Dendrobium "Bardo Rose"

(D. falcorostrum and D. kingianum)
Chris has had this cross for close on 20 years. A lovely pink with approximately ten 15-20mm inflorescences per raceme.

Growing condition: It is a prolific flowerer, tolerates all sorts of conditions and seldom disappoints in its flowering and growth. It puts out a few kiekis and divides easily. Fertilising is carried out as with his other orchids.



Grown by Chris Krolikowski

Den.Brinawa Charm x Bardo rose



Grown by Mario Borstelj

Dendrobium Tetragonum

Growing condition: Grown cool in shadehouse.



Grown by George and Christine Dimech

Dendrobium Australian Luscious Lip

Growing condition: Andrew grows this orchid in a green house without heating required/ grows cold.



Grown by Andrew Fernandez

Dendrobium Deemac x speciosum var speciosum



Grown by Andrew Fernandez

Dendrobium adae

Growing condition: Andrew grows this orchid in a green house without heating required/ grows cold.



Grown by Andrew Fernandez

Dockillia / Dendrobium Australian Ginger

This is a cross between the Australian species Dockrillia striolata and the New Guinea Dockrillia fuliginosa. The striolata provides the cream or sometimes lime green to the sepals and petals and the fuliginosa provides the reddish tinge colour in the flower. The rear of the flower has brownish red stripes along the back of the sepals and petals.



Grown by Chris Krolikowski

Dendrobium/Dockrillia Luscious Lip 'Pinky JD'



Grown by Chris Krolikowski

Dockrillia striolata

This is an Australian species orchid found on the east coast of Australia from NSW down to Tasmania. It happily grows on rocks as a lithophyte.

As a species it tends to vary according to its provenance (locality). It has slender terete leaves up to 150mm in length.

Colour can be bright or pale yellow to a green with a white labellum.

It has been used as a parent in many Dockrillia hybrids

Growing condition : In the greenhouse, Chris grows this orchid on either a cork slab or in a basket but these days he prefers to use the mesh baskets. In the basket he uses an open mix which is a combination of small and medium bark with charcoal and scoria to open it up.

Dockrillias do not like wet feet, so let them dry out between waterings.



Grown by Chris Krolkowski

Dendrobium dolichophylla x Australian Luscious Lip



Grown by Andrew Fernandez

Dockrillia Virginia Jupp

This cross was one of the very early hybrids crossed back in 1969 with the parents being Dockrillia linguiforme x Dendrobium teretifolium and named after one of the breeders of the cross. This one of mine grows in a bark mix in a mesh basket.

Chris purchased this orchid back in 2014 in a small basket. Since then he has repotted it into a 200mm basket.

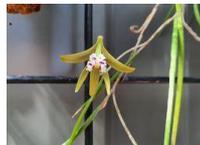
Growing condition: Keeping in mind that dockrillias like good air circulation around their roots the mix is an open one. The mesh basket assists in the drying out after waterings. During winter he gives a light misting rather than a heavy watering. Fertilising is the same as with all his orchids, weak and regular, but little if any during the winter.



Grown by Chris Krolkowski

D. Grumpy x fuliginosa

Growing condition: grown in an open pergola area.



Grown by Kerri Ridgway

Dendrobium gracilicaule



Grown by Andrew Fernandez

Den Aust. Artist x Spec. Windermere

Growing condition: Grown cool in shadehouse.



Grown by: George and Christine Dimech

Dendrobiumm saboteur



Grown by Andrew Fernandez

Den. Ped Herberton x Spec. Windermere 'Josephine'



Grown by: George and Christine Dimech

Dendrobium Falcorostrum

Growing condition: Grown cool in shadehouse.



Grown by: George and Christine Dimech

Dendrobium Australian Artists #1
(Cobbler 'Lavender and Lime' X Speciosum 'Windermere')



Grown by Rianne Burroughs

Dendrobium delicatum



Grown by Kerri Ridgway

Dendrobium Unknown

Growing condition: the orchid below is growing in open air at the balcony, east facing.



Grown by Kate Sloane

Den. Aust. Rose Beauty x Rosy Cheeks

Growing condition: Grown cool in shadehouse.



Grown by: George and Christine Dimech

Dendrobium unknown



Grown by Kerri Ridgway

Den. Jonathan's Glory

Growing condition: Grown cool in shadehouse.



Grown by: George and Christine Dimech

Dendrobium unknown



Grown by Kerri Ridgway



Grown by Mario Borstelj



Grown by Mario Borstelj

Plectorrhiza tridentata

Growing condition: Australian native grows under shade cloth, needs to be kept in a humid environment.



Grown by Mario Borstelj

Cymbidium

Some WOS member shared their cymbidiums flowering in September.

Cym. Gladys Whitesell 'The Charmer'



Grown by Kerri Ridgway

Cym. Alexander Flame x Flaming Vulcan

Growing condition: this cymbidium is grown at the balcony, facing east.



Grown by Kate Sloane

Plectorrhiza tridentata



Grown by andrew fernandez

Cym. Ginger Cym. Dolly x Sarah Jean 'Cindy Lou'



Grown by Kate Sloane

Cym. Chilli Pepper x President Gorbachev



Grown by Zac Giavris

Sarcochilus

Sarchilius hartmannii



Grown by Andrew Fernandez

Cym. Meggs 'Tiger Kelly'



Grown by Kerri Ridgway

Cym. Lowigrandiflorum



Grown by Zac Giavris

Cym. Blazing Fury x Deep Throat

Growing condition: the orchid below is growing in open air at the balcony, east facing.



Grown by Kate Sloane

Sarcholchilus falcatus



Grown by Kerri Ridgway

Cym. Sara Jean 'ice cascades' x Beaw guest 'daffodil



Grown by Mario Borstelj

Cym. Unknown



Sylvia Zorbas

Sarcochilus falcatus

Growing condition: grows outside all year under shade cloth, flowers for me every year.

Cym. Wiganium (Eburneum x Traycianum)

Growing condition: a lovely old fashion one, grows in a basket under shade cloth.

Cym. Unknown



Sylvia Zorbas

Coelogyne

Coelogyne Memoria W. Micholitz (hybrid) - lawrenceana x mooreana
I grow this in the shade house, it is very prolific and flowers between August and October, I keep up the water to it during the growing season. The flowers are quite large and very eye catching.



Grown by Helen Robinson

Coelogyne Linda Buckley

Growing condition: the orchid below is grown in open air at the balcony, facing east.



Grown by Kate Sloane

Coelogyne Linda Buckley

Growing condition: Grown cool in shadehouse.



Grown by George and Christine Dimech

Coelogyne Cristata Lemonara



Grown by George and Christine Dimech

Coelogyne Speciosa

Growing condition: Grown in unheated glasshouse.



Grown by George and Christine Dimech

Pleionie

They are delightful miniatures that occur in the Himalayas from Nepal to china at moderate to high altitudes, with one species recorded as high as 4200 m. They grow in deep moss and leaf litter, either on rocks or tree trunks. The inflorescence consists of a single flower, which is large in comparison to the size of the plant. They are related to Coelogyne.

Pleione Noojee

Growing condition: Helen grows the pleionies in shallow pots in very open mix which drains very easily and keep them in the shade. The flowers appear in spring and last for few weeks.

After reading article on Pleiones in the WOS November 2019 Warringal bulletin, she decided to give them another try and as they are very interesting orchids.



Grown by Helen Robinson

Pleione Formasana Cairgorm W2



Grown by Helen Robinson

Pleione Tongariro 'Trudy'



Grown by Mohammad and Brian O'Reilly

Any Other Orchids

Paph. Sukhakulii x Masterianum



Grown by George and Christine Dimech

Pholidota chinensis



Grown by Rianne Burroughs

Maxillaria porphyrostele



Grown by Kerri Ridgway

Oncidium Twinkle 'Red Fragrance'



Grown by Kerri Ridgway

Bulbophyllum longifolium

Growing condition: Grown in unheated glasshouse



Grown by: George and Christine Dimech

Mas. Copper Angel 'Highlands'

Growing condition: Grown cool in shadehouse.



Grown by George and Christine Dimech

Ansellia Africana



Grown by Mario Borstelj

Arundina graminifolia

(bamboo orchid)

Growing condition: likes a bit of heat, grows in my glass house, flowers every year.



Grown by Mario Borstelj

Dendrochilum

Dendrochilum orchids are mainly epiphytic and lithophytic, although some species are terrestrial. Dendrochilum Orchids are native to Borneo, The Philippines and surrounding countries.

The natural habitat is on trees where they attach themselves to the mossy surfaces. The moss retains good moisture, and as they grow in elevated forest areas, they are also subject to moist air conditions for much of the time.

They are an orchid that requires good light and will take direct sun for part of the day. They also are naturally subjected to windy conditions, so good air flow is another important factor.

With an increasing number of species being cultivated this fascinating and attractive group of orchids is becoming more accessible to the home grower.

Reff: <https://www.nurseriesonline.com.au/plant-index/orchids/dendrochilum-orchids/>

Dendrochilum wenzelli



Grown by Mohammad and Brian O'Reilly

Dendrochilum tenellum

Growing condition: Grown in unheated glasshouse.



Grown by George and Christine Dimech

Dendrochilum Latifolium

Growing condition: Grown in unheated glasshouse



Grown by George and Christine Dimech

Zygopetalum Unknown



Grown by Zac Giavris

Seedling 1st time flowering for the first time

Sarcophilus Galaxy x Gail



Grown by Andrew Fernandez

Article:

DEFLASKING ORCHIDS

Written by Kevin Western

[Recompiled 4/5/2020]



Reff: <https://westernorchids.com.au/product/cattleya-laelia-gouldiana-flask/>

Introduction

Orchids have evolved to make seeds that are absolutely diminutive.

By having such tiny and light seeds the orchids can guarantee those seeds will

easily be carried on wind or water for great distances.

There are known instances where seeds have travelled thousands of kilometres from Malaysia to Krakatoa in Indonesia or from near Sydney to New Zealand – again thousands of kilometres.

Normal seeds that we are all familiar with are Maize, wheat and similar grains, Almonds, Cashews, Macadamias etc and they are large and the embryo comes provided with a heap of starch and essential nutrients from which they can germinate and commence life with only water needed at first to get life started.

Though orchid seeds are so small that, instead of a package of starch and general nutrient, they have just a microscopic drop of high energy oil associated with the embryo which the embryo uses to turn on and control a specific, particular type of invading fungus.

The embryo grows by controlling and robbing the fungus of its nutrient. In doing so, the orchid embryo grows on a portion of the nutrient that the body of the fungus has acquired including the essential macro, micro and trace elements plus carbon compounds and water from that fungal network mass.

Orchid seeds then may not begin life having an energy source in its general seed structure, but they've learned to turn on a would-be invading fungus and draw the nutrient they require to germinate and grow from that fungus.

To ARTIFICIALLY raise orchids from seeds then, we need to provide the same range of essential macro, micro and trace elements, carbon and water as they would normally get from the fungus.

We have produced formulae which provide the same essential macro, micro, trace elements, carbon and water. Those formulae are rather like a bowl of meat and vegetable soup for Human nutrition.

We all know what would happen to a bowl of soup left at room temperature for any time – it would become an inedible mess of fungi and bacteria. Just like a bowl of soup, the orchid nutrient medium formula would grow fungi and bacteria just as well.

As a result, to raise orchid seeds in tissue culture, we must make the medium and sterilise it by heat. We must take the seeds from orchid seed pods when they are mature but before the pods split open, so the seeds are still sterile. We must take them using sterile tools and equipment and in a sterile working environment with sterile gloves or with sterilised hands and with superb sterile technique. We can also, usually successfully, sterilise seed taken from pods that have split by exposing the seeds to either Chlorine (Bleach) or Hydrogen Peroxide, each at the right concentration for the right length of time. The flasks we use must be able to breathe but must still maintain sterile conditions within.

GERMINATING

If all goes well and the seed pod from which the seed was taken was actually intact, the seed was actually sterile, and the seed was actually viable – or the loose, dry seed we sterilised in bleach or peroxide was both actually viable and was effectively sterilised by the bleach or peroxide; in time that seed reacts to the presence of the nutrients in the medium and the embryo becomes active and multiplies until it becomes visible as what we call a protocorm. With time the protocorms grow larger and become green with chlorophyll and they may become very, very numerous. If so, they are taken under sterile conditions and some are transferred to fresh flasks of sterile medium in sterile work sites and spread over the new medium to grow into true, tiny plants with leaves and roots. These tiny plants are then transferred in counted numbers to fresh, sterile flasks of medium under sterile conditions using sterile tools and they are then left under lighting to grow large enough to

be robust enough to survive transition from flask and into pots or on to mounts to grow into flowering size plants.

DEFLASKING

Deflasking is the name given to the process where seedlings or clones that have been growing in a tissue culture flask are removed from the flask and transferred to grow-on in pots of suitable growing medium and cared for under suitable conditions or where they are taken from the flask and fastened on to suitable mounts and cared for under suitable conditions.

While in the flask, the small orchid seedlings or clones experience sterile growing conditions and quite high humidity and there is a popular, absolute and total misconception that these sterile and humid conditions must be maintained upon their removal from the flask. This is NOT the case and this misconception generally results in the death of those plants.

The flasks of medium and orchids must be sterile because, if they weren't, bacteria and fungi, so commonly found everywhere on this planet, would take over the medium, poison the medium and take over and destroy all the orchids in the flask.

In nature, orchid seeds are actually germinated by special naturally occurring fungi and actually depend on them to survive at first. There is no need, repeat; no need to attempt to raise your seedlings in an imaginary microbe free state brought about by applying fungicides or anti-bacterials to them after deflasking. I suspect a lot of failures are at least partly due to THE DAMAGE DONE DUE TO the use of such treatments.

It is obvious to anyone examining a flask that the environment within is very humid. There are recondensed water droplets on the inside of the flask. True it is humid but that just happens because the medium is about 90 – 97% water and some evaporates and then condenses on the glass, runs back down to the medium and

evaporates over again and so on. The humidity is unavoidable. We do not engineer its presence in any way. It is not brought about by any contrived process other than the laws of nature. The seedlings don't need to have near 100% humidity after deflasking. The Bull here is that some people will advocate that after deflasking, those seedlings continue to need to be kept in near 100% humid environment. Not so at all in most cases. Most will be fine in your regular growing area unless it's particularly inhospitable to the particular type of orchid you are deflasking.

If other plants of the same type of species or hybrid orchid are already doing well enough for you in your growing area, then expect the newly deflasked seedlings to do so also.

Conversely some of the known difficult ones such as Phrags, multifloral Paphs, Dendrobium cuthbertsonii etc., may initially, or even permanently, benefit from a mini greenhouse or cover over the pot or mount

Another problem of significant concern is that a great many pathetic orchid tissue culture laboratories cannot or do not bother to grow their seedlings or clones to a decent size or stature for deflasking before selling them to you. This is a particular problem where, even if you have ideal conditions and practices for deflasking and growing them, they are almost certainly doomed to failure because they are so puny. We see lots of flasks from other labs where the seedlings are just 'elongated pieces of green spaghetti with the occasional leaves on them'.

Avoid purchasing such rubbish. Those laboratories don't know how to do their work properly. Avoid also those who produce flasks with many tens to 100's of cramped, tiny seedlings per flask as they will all die – expect 100% death. Better to pay the same or more for flasks containing less but sturdy, well-formed seedlings where near

100% survival after deflask is probable.

It is possible to grow 30-40 cymbidium seedlings or clones to a good size and stature in a 750mL flask containing about 160-180mL of medium with most plants doing very well and ok for deflask. Conversely only 12-15 sarcochilus seedlings will grow to ideal deflask size and stature in exactly the same flask. Cattleya and Phalaenopsis fall somewhere in between that while the oncidium alliance tend to be like the cymbidiums.

DEFLASKING WITHOUT THE STUPIDITY

What I am going to say from here on is based on my own and others more modern approach to deflasking and it's based on my own failures by applying the garbage that was and is still being promulgated by orchid growers who are living in the past and on my own, more recent, logical approaches.

In my case, the conditions my seedlings or clones experience are based on the conditions typical of the southern states of Australia and the types of orchids that I bother to try to grow are those that it is known to be likely to accept my conditions or those that I have determined by research to be likely to grow here. The following text certainly applies to the southern states conditions, but the principles outlined apply to anywhere on the planet.

What I have to say will very largely fly right in the face of that old, stupid, ignorant and outdated garbage that is still very generally promulgated by the wider, general orchid community of today – very much, unfortunately, including South Australia.

That garbage is based on complete ignorance and utter stupidity and it is one of the reasons for quite high deflask failure rates which still tend to range regularly from 40 – 100% failure.

For those who actually do experience it, there is absolutely no need for such

a failure rate and my friend's and I currently expect 85 – 100% survival after deflask. Admittedly some things are easier than others but the Cymbidiums, Dendrobiums, Cattleyas, Sarcochilus, Oncidium, Zygopetalum etc alliance that we see so commonly grown here in S.A. and the southern states of Australia are very easy to deflask and raise here.

GARBAGE BELIEFS

1. It's claimed that because the flasks of tissue culture are sterile that it's necessary to try to keep them sterile after deflask. Rubbish! The flasks are only required to be sterile because microbes such as bacteria and fungi would overrun the medium and poison it and prevent seed germination or growth.

A. It's impossible to keep them sterile once they leave the flask. There so many microbes just everywhere that it's just impossible.

B. Not only is it impossible but from the way orchids germinate by controlling a microbe from the very beginning they have superb immune systems that will effectively resist microbial attack as long as we let them. Applying anti fungals and anti microbials may well damage the epidermis of the seedlings and make them prone to attack.

As I have previously indicated, there is ABSOLUTELY no need then to try to maintain anything remotely sterile at or after deflasking. Applications of bactericides, fungicides or any form of antimicrobials such as Condy's Crystals solution is a total waste of time. If it appears they are needed, then the conditions YOU are subjecting your seedlings to are unsatisfactory and IT IS THE CONDITIONS OR PRACTICES that need to be changed.

I don't believe use of the likes of 'Envy' or 'Vapour Guard' are needed but if you must use such products then assure the roots don't get coated in it or they won't work.

I've seen many a flask where the plants have grown reasonably well

and then, by chance, a microbe may get into the flasks and grow. It may be a time before the lab manager finds that and then the plants can still be taken out, have the agar hosed off and then be potted up with often good success despite having actually grown with the fungus or microbe in the flask with them.

2. Covered in earlier text but another piece of absolute garbage that continues to be promulgated is that because the flasks interior obviously is near 100% humid that you must attempt to provide near 100% humidity to your seedlings after deflask. It's claimed that the flask seedlings will not have control over the stomata on their leaves and that they will not have enough cuticle on the leaves to resist water loss and that they will die from dehydration.

With very, very few exceptions such high humidity is not only not required – it's responsible for the rot that can take the seedlings over. If one thinks about it even the native Cymbidiums, Dendrobiums, Bulbophyllums, Sarcochilus etc that are found on the east coast of Australia where humidity levels of from 45% and greater are common but it must be remembered that there are also plenty of occasions there, that when the wind comes in from the north west, from the west and even occasionally from the south west, the humidity is very low from 10% and the plants have evolved to cope with that. This is generally true of locations where our most commonly grown orchids come from in that they too occasionally experience periods of quite low humidity. Thus, our deflasked seedlings are, generally, inherently able to cope with much lower humidity than many a twit postulates.

3. Those same absolute twits will also claim that if your orchid flask arrives by courier or by Post, and that if the flask has been jostled and if the agar has ended up among the plants leaves that it has burned the leaves and they will all die. Again absolute rubbish postulated to explain why

their seedlings had died for some other reason but not correct. When I replant seedlings into final saleable flasks, I plunge them into the medium to arbitrary depths and it does not harm them. I have some cultures immersed in fluid medium and they absolutely prosper. It's all just more total garbage promulgated as an explanation for failure by absolute, ignorant idiots.

4. Some of these same absolute twits blame fertilising for the death of their newly deflasked seedlings. Total garbage! Either they died from one or a barrage of idiotic deflasking practices or the fertiliser solution used was perhaps too concentrated. I actually deflask and jet the agar off with my standard, dilute orchids fertiliser – either a typical NPK soluble fertiliser with trace elements or a dilute solution of a mixture of 50/50 Calcium Nitrate and Magnesium Nitrate. I fertilise my newly deflasked seedlings with that same rather weak fertiliser every watering and in some cases, I actually stand their pots in that fertiliser.

Without applications or the availability of fertiliser, the seedlings have to exist on whatever nutrient they have within them at deflask so they have limited chance to acquire nutrient on which to grow more plant structure.

5. Too dark! Poor light levels are often claimed to be best for newly deflasked seedlings. Sure, newly deflasked seedlings generally do better for the first 2-3 weeks under slightly lower light level than their established peers but they need as much light as you can give them without damage. They need light to enable photosynthesis and it is this that allows the seedlings to generate the energy they need to fire their metabolisms for growth and to power their immune systems to naturally fend off attack as do your mature plants.

6. Idiots also claim that it's necessary to dry the deflasked seedlings roots off before they are

potted up or mounted. Again, absolute rubbish. Cymbidiums, Disas, Phragmipediums and, to a lesser extent, slipper orchids absolutely dislike having their roots dried out. I just deflask, sort into sizes, pot or mount and put them in a suitable spot to grow which is often outside in the shade house next to their established cronies and if I'm worried I may stand their pot in a shallow dish of weak fertiliser or water. If the weather is too hot or dry, then I may place them in my evaporatively cooled glass house just until I can put them out with their established peers. Alternately I used to place them under the benches of their peers perhaps standing in water if the weather was rather hot and dry.

7. There are, no doubt, other absolutely crazy practices or recommendations out there that I haven't come across so far but, take it from me, complex practices and weird ideas just don't cut it. Keep it sensible and simple and you will do well.

PREPARATION

Not absolutely necessary in all cases, but it might help to remove the flask lid or bung for 3 – 10 days to expose the plantlets to drying while their roots are still able to draw moisture from the agar. This may toughen some genera beneficially, but I don't personally find I need to do that for good results. Bacterial or fungal growth on the medium, should it even start, should not be a problem as the plantlets will have removed most sugar and nutrient by the time they are ready for deflasking and 3 - 10 days is not long enough for any contaminating microbes to pose any sort of problem.

Removal

Deflasking starts with the removal of the plants from the flask. Conical flasks usually need to be broken if the roots are too entangled to remove the plants separately without damage to their roots. Plants in straight-sided flasks are easily removed as a plug of roots and agar without risk of damage.

Washing

Once taken from the flask, the agar can be removed from the roots by a moderate to vigorous stream of water from a garden hose with the plants supported in the hand or on a fine wire sieve. Even plants with brittle roots may have the agar removed by careful use of this technique. Generally, whilst desirable, it may not be essential or possible to remove all the agar from the roots as by the time the plants have grown large enough to deflask, there may be very little nutrient or sugar left in the agar so it will not be a source of fungal rot when potted out.

Optimal Season

With a little care and some experience, most plants can be removed from flasks at most times of the year if care is taken to avoid extremes of hot and cold. I tend to prefer early autumn and early spring then cool periods in summer and try to avoid mid-winter unless your climate or conditions are suitable then also. Growers with temperature and humidity-controlled glass houses can deflask whenever it suits them. Conversely, deciduous and many terrestrial orchids may be fussy in the extreme as to when they can be deflasked so you had better do some research there.

Planting Out

It is preferable to separate the seedlings and to grade and pot them together or singly depending on their size. Sometimes it is impossible to separate the plantlets without causing significant damage to many roots. If this is the case, then it is preferable to plant the whole lot as an intact clump and wait for the seedlings to grow on and make new roots. At repotting time, it will be fairly easy to separate the plants without damage to the new roots. Quite large plantlets are best potted singly and seem to do far better that way. Smaller ones can be planted into community pots either in rows across the pot or as a ring around the perimeter of the pot. I find

that 'perimeter planting' permits easy fertilising at the centre of the pot and I believe that growth is faster. [It uses more pots and takes more time though.]

TIME TO DEFLASK

Most epiphytes can be deflasked just about any time of year in a fairly high proportion of cases but there are more ideal times of year than others and it is best to deflask if possible when the plants would be coming into active growth. All orchids have distinctive seasons in nature, these should be observed for optimal results. "Google it". It's not always intuitive as to which season is best. Some experimentation may be necessary. If in doubt, the start of their growing season may be best. Some prefer to be deflasked during winter so they can toughen up without drying stress to slow them down. Some will be guaranteed to die if deflasked in winter and prefer a mid-Spring deflask or perhaps a bit later so they will get under way quickly. The terrestrials and deciduous orchids such as *Catasetum* alliance do best only when deflasked while they are really in active growth in the flask which is late spring – early summer for us. They also must be of good size and sturdy plants in the flask to have high survival at deflask. Best check with someone in your area who has already been successful in deflasking them or do lots of research and relate that to your own conditions.

Ignore the absolute twits who preach that if the flask is so jostled during postage to you that the agar will burn the leaves – this is absolute bullshit to put it mildly and such persons need to be completely ignored! More bull is to leave the seedlings in flask under poor light and so long that they start to go backwards and then deflask them. That's a formula for failure.

POTTING MEDIUM

I generally do very, very well using good sphagnum moss to pot up the

deflasked seedlings: - *Sarcochilus*, *Cymbidium*, *Oncidium* alliance, *Zygopetalum* alliance, *Stanhopea* alliance and numerous other, normally pot culture loving orchids. So good in fact that *Sarcochilus* seedlings grown to decent size in the flask and taken out in late February to very early April here in the southern hemisphere and put straight away into the *Sarcochilus* shade house under good sun light, may produce flower spikes and flower in the same year. Sphagnum is expensive but first year survival and growth is very good and at first report they then go into whatever you find cheapest and best for the genus concerned.

If sphagnum moss is used, then you must ignore the completely idiotic suggestion to use tightly packed moss. I find that just enough well teased and then very loosely packed moss to just support the seedlings gets absolutely excellent results. Potting up can be as a community pot or in single pots depending on the size and stature of the seedlings involved.

Generally, any potting medium that suits mature plants of the same species, genus or family of orchids should also be ok for your deflasked seedlings. Perhaps a slightly finer grade is better at first.

MOUNTING ORCHIDS

Some genera seem not to grow in any situation except when mounted. Some prefer to be mounted direct on to naked cork with all roots in contact with the bark or other suitable material while others want only the terminal 1-3 cm of the roots tied to the mount and the plant itself not in contact with the mount at all. Some prefer to be mounted over a pad of live moss. Some prefer to be mounted with a pad of moss over their root system. Unfortunately, what the plants prefer in your environment will only be discovered more or less by trial and error. Reference to successful growers in your area may be of help.

FERTILISING

This is a very personal thing and will depend on what is giving you good results already. They must be fertilised and ideally quite regularly to have any chance to survive and grow quickly for you.

In my opinion, Sphagnum moss must only be fertilised with weak soluble fertiliser solutions else use of solid fertilisers such as blood n bone, chicken manure-based products or slow release, pellet type fertilisers seem to be an absolute disaster with sphagnum.

Conversely, typical bark, coconut, perlite, vermiculite, etc., potting mixes don't suffer that problem and normal fertilising can be done according to your previous successful experiences.

Always remember frequent weak fertilising seems safest. For soluble fertilisers, Don't exceed 500 PPM; that is about one level teaspoon of products such as or similar to Aquasol, Thrive, Campbells products etc, etc per 10 Litres of rain water.

My own experience with Campbells "19 Carat" fertiliser has been good where 4-5 waterings are done with that then the next with a 50/50 mix of Calcium Nitrate / Magnesium Nitrate mix at the same rate for the next watering then back to the "19 Carat" and so on. This provides absolutely everything the plants need. Occasional use of Seasol and Power Feed at about 1/4 the minimal recommendations on the packs seems to be quite beneficial too.

Source:

Western Orchids / Laboratories
Coromandel East, South Australia,
5157

P.O. Box 276, Blackwood, S.A. 5051
Mob 04120 642 215. Email
kevin@westernorchids.com.au

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