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

(Established in 1947)
A.B.N. 92 531 295 125

January 2022 Volume 63 No. 1
Annual Membership : **$15 single, $18 family**

Patrons - Pauline and Trevor Onslow

Next Meeting : **Unfortunately there will be No January meeting this year. With the Covid case numbers through the roof, testing clinics and labs overloaded, and rapid antigen tests in short supply, the committee has decided to call off our January meeting and hope things settle down quickly enough for us to hold a February meeting.**

Just when we thought we were getting back to normal, another disaster. But what can you do?

We hear that Omicron seems to be fading out in South Africa already. We have to hope it does here too.

Report from the December Meeting

I was beginning to think I would never get to use that "Meeting" title line again. How good was it to actually have a monthly meeting once again last month. Congratulations to all who attended, to those who benched the lovely orchids we saw, and to Dennys and his crew for getting us off the ground and running the meeting. Thank you all.

From the December Virtual Benching – Cattleya Hybrids - *Benched by many.*

Rsc Lisa Taylor Gallis

Horace x Little Toshie

Catt unknown

I don't grow these "Catts" the way I used to, but I still have a few old favourites kicking around the shadehouse. And every month, our better growers treat us to tantalising beauties like these few here. With Growers like Trevor and Pauline Onslow, Gloria & Allan Cushway, Garrie & Lesley Bromley, and many others, there shouldn't be a grower in our club without at least a handful of these magnificent orchids in their collections. And there are so many hybrid combinations. We have heaps of experts in our club to teach us how to tune up our culture to get the best results.

And how about this 10 pot display of Catt. Lynn Spencer from Allan and Gloria. 10 pots of a famous old Catt. The beautiful white Catt. Lynn Spencer was made way back in 1964 and both the cultivars in this picture (Pearl, and Cha) have been awarded.

A great display Allan and Gloria, and that is not to ignore the amazing two specimens of Laelia purpurata you also brought along to our December meeting. They were magnificent.

Many thanks to all of you great Cattleya growers at our club. We delight in ogling all your fantastically colourful and showy orchids every month.

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

President Dennys' Desk – Due to personal isolation difficulties that have emerged and that continue to do so with the spreading of the Omicron COVID variant, it is with disappointment that we must cancel our January meeting. I am hoping after some clarity emerges and most members have received their booster vaccinations that our AGM will go ahead in February. As President and with the advice of our Committee, I will continue to ensure that our meetings will be conducted in such a way that the personal Covid risk of members will be reduced to the lowest level possible.

Ann Williams Clark (AWC) Award – It was such a pleasure and an honour to announce and have our new patrons Pauline and Trevor Onslow present the Garden Clubs of Australia, AWC Medallion to Jenny Richardson at our last meeting. The award was gazetted by the GCA last July but because of the restrictions it was not able to be presented to Jenny in person until our December meeting. Jenny worked tirelessly with Jim Brydie and other experienced members to produce the Virtual Benching editions over almost two years to keep our members connected through their own orchid experiences and growing outcomes. So, if you haven't caught up with Jenny yet, be sure to give her a well-deserved elbow bump when you do. Note that masks were removed only for the photo.

Gundah Ridge Track update – Last month I presented a talk on Orchid Finds on Local Walks. The talk was produced as a collaboration with Chris Wilson and Jim Brydie. One of the walks that Janine and I included in that talk was the Gundah Ridge Track walk which starts at the end of Beaumont Road, Mt. Ku-ring-gai. The first time Janine and I found no orchids, but I am pleased to report we just completed the walk again and found many *Dipodium variegatum* on the Southern side of the track after about 500 metres and none on the Northern loop. If you would like a copy of the talk as a pdf file, please send me an email.

Another rare orchid observation – There have been a number of good wild orchid observations over the last year. The following link is to a good ABC article on a "*Secret crop of near-extinct Oaklands donkey orchids discovered in the Riverina*". You may wish to do a Google follow-up on the *Wild Orchids Project*, which is funded by NSW Environmental Trust.

https://www.abc.net.au/news/2021-12-21/secret-crop-of-near-extinct-native-orchid-discovered/100715998

Member's welfare – 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.

---

1. Welcome to our new club Patrons – At our December meeting, President Dennys announced that following their final retirement from committee duties, Trevor and Pauline Onslow had been invited to become our new club Patrons and they had accepted. Pauline and Trevor actually resigned last year but due to the covid problems and our inability to hold an AGM for committee elections, they graciously agreed to stay on until circumstances stabilised.

What a great privilege it has been for us to have dedicated and knowledgeable members like the Onslows at Ku-Ring-Gai. As I mentioned with their formal resignation last year, they had served on the committee for over 30 years and had filled a wide variety of roles wherever they were needed. Trevor also served as President for many years. I am so pleased that they have agreed to become our Patrons. Their continued involvement and participation in the club will be of great value to us all.

Thank you, Trevor and Pauline. It has been a pleasure to serve with you over the years and I have learned a great deal from you. Welcome to your new roles and your first duty as our patrons to present Jenny Richardson, our wonderful secretary and VB editor, with her Garden Clubs of Australia "Anne Williams Clark Award".

2. The Anne Williams Clark Award – Dennys has said it all above but I just wanted to add that I have worked closely with Jenny over the past few years in producing the bulletin and doing some edit work on the VB, and there could not be a more worth award recipient. Congratulations Jenny. Great work and well done.

3. Growing Competition - This has to be the most unusual growing competition we have ever had. So much growing and so few meetings to share sucesses and failures. I know many have flowered your plants already but the February meeting (hopefully) will be our first chance to organise a real "benching". Please bring in your growing comp babies (or grown up babies?) and lets all have a look and compare notes. If yours has flowered already, perhaps bring us along a picture to show us what it looked like? No cheating though, it has to be a pic. of the benched plant.

4. Membership Fees – Haven't you paid yet?? Membership fees are due. Current fees are $15 single, $18 family. You can pay in person at the front table at the next meeting, or by mailing in a cheque, or you can pay online by bank transfer to ***Westpac Bank, BSB No 032 188, account name - Ku-ring-gai Orchid Society Inc. and account number 103568***. If you use this method, please use ***your full name as the payment description***.

Please note though, if you pay in person or by mail, we want you to include a completed '***payment advice form'*** to submit with the payment to Jessie Koh. It gives us a paper record & helps keep track of who has paid. A copy of the form will be sent out with this bulletin and forms will also be available at the meeting.

5. Notice of February Annual General Meeting - As you all know, the pandemic has totally screwed up all organised plans to do anything and this includes our supposedly 'Annual' General Meetings which have been variously deferred, called off, or delayed.

However, February 21st 2022 is now to be the AGM we were supposed to hold last October. With Trevor and Pauline Onslow finally standing down, we have an urgent need for other members to stand up and accept roles in our administration. Nominations should be submitted on a nomination form which will be sent to all members shortly. If you can't quite make up your mind in advance, nominations can be made from the floor on the night.

As a past committee member, let me assure you that it isn't a particularly onerous task and there are many benefits in getting to know some of the senior and most experienced members of our club. Committee meetings are usually held once each month and run for a couple of hours, reviewing proposals put to committee and organising the tasks associated with running each meeting and participating in other events such as the St Ives Fair etc. If you need to talk to someone about how it all happens, why not call President Dennys or one of the committee to talk.

Future Dates – Well what can anyone say? Our January meeting is off, and so are the meetings of many other clubs in Sydney. The Species OS meeting is off and so is the Species show and auction scheduled for 19 February. There is just a chance Species will hold their February meeting but there were just too many advance organisational issues to go ahead with the show and auction day. That had to be cancelled.

Such is our way of life at the moment. We now have to wait until we see where this pandemic leads us next.

December Best of the Evening Species – Paph. philippinense, <u>and</u> **B.O.E. Hybrid – Paph. Berenice 'Beauty'**

I have combined this pair this month because the hybrid Berenice is the cross between the multi flowered species philippinense and lowii so the species and the hybrid sort of naturally lend themselves to be discussed together. In fact I did this very thing to some extent in the January 2020 bulletin which featured the Fulcher's lovely Paph Berenice 'Beauty' which has been awarded an AM by the Australian Orchid Council.

But before I get into the lovely Berenice, I want to look at Peter and Jane's delicious Paph. philippinense.

From the name, this species obviously comes from the Philippine islands but does occur widely throughout that system from the top of the northern island Luzon, to Mindanao in the south and Palawan in the west. It is a lowland tropical orchid, mostly growing among leaf mold and on limestone cliffs and boulders. It is almost never found above 500m elevation so this is a warm grower and comes in many varying forms. Some 'forms' have been given species status in the past and then later reverted back to a variety, some are still regarded as separate species but to my mind you would have to say they must be at least very closely related to philippinense.

The point is though, that when you buy a Paph. philippinense seedling you can never quite be sure what you are going to get. To illustrate the point, let's look at pictures of a few different cultivars and varieties of philippinense and its close relatives. All have narrow striped petals with at least some corkscrew twist, but the twist is far more pronounced in some. The colours vary from very dark to very pale and there are even albino green and white varieties. In some the petals are held in a wide, outward sweep, in others they dangle vertically each side of the pouch. Some have a nice tall inflorescence to say 45cm, in others it is short (25cm?) with the flowers scrunched close together. Very variable.

Petals spread, minimum corkscrew

dangling petals, big twist

tall spike

pale, long pouch

var laevigatum

short spike, squashed flrs

var roebbelenii

adductum

anitum

glanduliferum/praestans

As you can see above, there is a lot of variation in shape, colour, and form within the related group that involves Paph philippinense. Two of the above are presently accepted as species in their own right, i.e. Paph adductum, and Paph glanduliferum and there are a large number of synonym names. Anitum was known as a species for some time but is now a synonym for adductum. Glanduliferum is a species but praestans and striatum have been folded into the definition of glanduliferum and thus become synonyms. The old species roebbelenii and laevigatum are now regarded as just horticultural forms of philippinense. What a mixed bag? Are you keeping up, because I am having trouble.

In Keith Bennet's Paph book from the mid 1980's he gives these descriptions for the separation of laevigatum and roebbelenii from philippinense – *"laevigatum owes its name to its lack of hair (laevigatum meaning smooth or slippery). Laevigatum's petals are pendant and untwisted, not outstretched as in philippinense."*

The description separating roebbelenii says *"Very similar to philippinense but is slightly smaller, has a more warty staminode (the flat shield on the column), and petals which are more pendulous and twisted."*

Unfortunately, the more examples of what is essentially now understood to be 'laevigatum', contains many with much more outstretched petals and many that have at least some twist in the length of the petals. I am not sure about levels of hairiness or any other details of botanic separation but I am suspicious that the wider you look the more the distinctions fail in intermediates.

With Paph roebbelenii, again, the more individuals you see, the more half way forms you find between the distinctions between what was supposed to be roebbelenii and what was philippinense.

In fact, the more you see of the whole group that make up the philippinense 'family', the more variation you find.

** *Please take note that in selecting the pictures for the little mini gallery above, I tried to select plants that represented what is understood to be what that form looks like. There are many variations. Darker/lighter, very twisty/hardly twisty, etc etc. Don't expect that all plants of that name will look just like these pictures.*

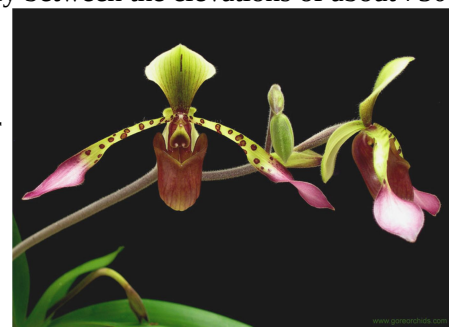
Within the philippinense 'group', I can't help wondering where drawing any lines of separation will end up. It is evolutionarily natural for any species to create mutations that test environment changes where they grow, including variations in pollinator. And now that man is doing so much line breeding and selecting for particular characteristics, who knows what variations will pop up. Still, that is not for me to worry about, I will just keep telling you what the present day gurus think.

To sum up then, is Peter and Jane's philippinense a good one? Well I sure think it is. I am not a judge but I like to see striking, or at least eye pleasing colour and as I happen to like dark sharply contrasting flowers, the D'Olier's plant meets that criteria very well. Next, I like a tidy, organised layout of petals and sepals. In some cultivars the petals tend to flop all over the place or criss cross each other – this orchid passes that test well too. I think its inflorescence could be a little taller but I suspect their plant is still a bit immature so we need to be patient there. Congratulations Peter and Jane, it's a beauty. Let's see how you bring it on over the next few years as it gets bigger and stronger.

And now on to Paph. Berenice 'Beauty'. **--** The 2nd parent of Berenice is Paph lowii which is one of 4 species in

Paphiopedilum Section Pardalopetalum. The other 3 are Paph dianthum, Paph haynaldianum, and Paph parishii. In the section name, 'Pardalis' refers to 'Leopard' in reference to the spotted pattern in the petals.

P. lowii comes from the Malay peninsula, Borneo, and parts of Indonesia, usually between the elevations of about 750 – 1350m. It is a humus epiphyte, sort of a quasi-terrestrial, with its roots penetrating thick moss on trees, or pockets of leaf litter on boulders or cliff faces, always near water or in areas of high rainfall. They mostly grow in bright locations, sometimes even in a little full sun for just a bit of the day. The flower scape can be from 60cm to a metre long, carrying about 6 large slightly successive flowers, somewhere around 14cm wide by 7cm high.



When you look at Berenice's petals (see P3), you can see where its spotted, & purple tipped petals come from, but in its sepals, the stripy philippinense has prevailed. Isn't it curious how different sides contribute different features?

Anyway, I won't repeat all the detail I wrote up for Berenice in its last two Best of the Evenings but I think it is worth repeating Geoff Fulcher's advice on how to grow it.

"We grow Paph. Berenice probably more toward the conditions for the Paph. philippinense parent than Paph. lowii. Although the temperature regularly gets down to 8°C in the heated glasshouse, this only occurs for a couple of hours in the early morning before dawn, the rest of the night the temperature would be closer to 12°C. All our multifloral Paphs. get considerably more light than other sections of the Paphiopedilum genus. They can develop quite large root systems and generally end up being grown in a coarse bark."

Congratulations Geoff and Jean. A beautiful orchid.

Dec. Virtual Benching - Dendrobium mutabile

I was intrigued by this picture of a D. mutabile flower submitted by Peter and Jane. It had a sort of frosty look about it that I hadn't seen in plants of mutabile that I have grown. However, when I did a bit of research it turns out that it isn't all that unknown.

It is hard to show texture properly with this enlarged picture for the bulletin, but I assure you it looks as though the flower is about 2 cells thick and that you are seeing the cell structure. The flower is also an almost white form which I used to think was rather rare because every mutabile I saw when I first started to grow them, was pink.

But, if you do a google images for Den mutable today you will find the majority seem to be white or close to. I am not sure whether that is because it is the more popular colour, or my original colour assumptions were just wrong.

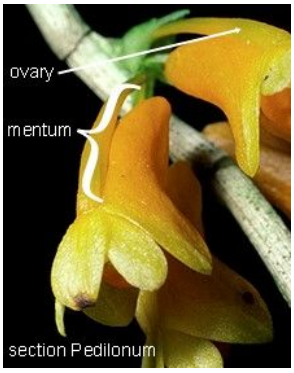
Trevor and Pauline also submitted a nice mutabile picture in the Dec. VB and it is also a white form, but in this case I think I can guess exactly where it came from. Our friend and fellow member, Frank Hofbauer, who passed away a few years back, grew this one beautifully and regularly benched a lovely specimen. When his wife Annemarie was selling off Frank's plants after he died, I made sure I bought a small piece, but I think Trevor already had his through his regular plant swaps with his mate Frank. Trevor's plant is the white (far left,) and a pink one of John Cara's from Melb. to compare to it.

Den. mutabile is primarily from Java and Sumatra but curiously, is also reported from southern India. In Indonesia it occurs at moderate elevations of say 500 to 1500m but perhaps mainly to about 1000m. Despite its tropical habitat and moderate elevations, it seems quite happy to grow in a shadehouse in Sydney, although perhaps not in the more extreme temperature range areas.

> *I know all bulletin readers can hardly wait each month for me to insert a bit more orchid family taxonomy, (or perhaps not?). So here is your dose for January.*

Den. mutabile belongs to a group of Dendrobiums known as Section Calcarifera. The group contains between 60 and about 100 species depending on your authority. The International Orchid Species Photo Encyclopedia site gives the group the following defining characteristics. (I have added explanations of some terminology).

"Characterized by the verrucose (warty, bumpy surface) roots, pseudobulbs slim to fusiform (tapering at the top and bottom), leafy, semideciduous, often pendulous, often growing more than one stem per year, that bloom on numerous, short, lateral, pendent racemes on newer and older leafless stems and the pedicel (flower stalk and ovary) is inserted at a right angle to the mentum (see diagram). This final item of morphology is probably the best distinguishing feature between the section Pedilonum and Calcarifera." (a mentum is the chin like projection formed by the base of the sepals)



**** Picture at right is D. subclausum, and not sect. Calcarifera, but shows pedicel and mentum well ►**

Many of the species in Section Calcarifera are large caned plants but a few of the very attractive ones are much smaller. Mutabile only has stems 30 – 40 cm tall, and the lovely blue flowered Den. victoria-reginae even less at around 25 to 30 cm. Another delightful member is Den. amethystoglossum which obtained Best of the Evening Novice at the December meeting. But, more on that one a little later on.

Den. mutabile is usually grown upright as in the picture at the left, and is quite happily grown in that manner with the support of one or two well placed canes, but it is also one of those oddball Dendrobiums that regularly makes new stems from nodes along the old canes (see 2nd picture at left). Sort of like keikis, but more like branches because these new side node stems don't always form roots.

If you let this orchid just do its own thing, it will have some stems upright, some horizontal, some pendent, and incorporating an untidy mix of aerial roots. It can become rather untidy unless you apply that little bit of guiding care.

Managed, this is a delightful and very attractive orchid. The flowers are about 3 - 4 cm across.

Coelogyne salvaneraniana – P&J D'Olier Well what about this one, and I had never even heard of it before. Orchidwiz doesn't have any data except for an outdated one line quote from the Internet Orchid Species Photo Encyclopedia. The latest IOPSE info tells us:

The name refers to the Salvanera family that provided the specimens that were used to formally describe the species. It is found on the island of Mindanao at elevations around 700 m. No habitat info is provided. It flowers in late spring/early summer on an arching 20 cm spike that arises with the new growths. It carries up to 8 flowers (4cm natural spread).

I found this additional information on the Coelogyne.com website: "This is a very small Philippine and a brand new Coelogyne in the cultivation world. It was only formally described in 2011 by W. Suarez and registered with the Kew World Checklist of Monocotyledens (the grasses - Orchids are in this group). Anyone can check the authenticity of a plant's name on this site. The orchid was named in honour of the Salvanera family of Pulilan, Bulacan.

"It is still early days, this ex-seedling Coelogyne seems to be thriving in my glasshouse. It gets temperatures down to 8^0C in winter but always around 80% humidity. Summer temperatures can reach 40^0C. I suspect it will prove to be an easy-growing, tough orchid. The plant only grows to about 20cm high and the display of half a dozen 4 to 5 cm wide attractively marked flowers simply grabs attention. The sepals & petals have a pale tinge of olive-green but the lip has pure white markings that highlight the brown markings. This brown is quite attractive and ranges from a fudge colour to almost chocolate. The waviness of the lip and the long sharp tip help catch attention. The total picture is very attractive."

This pretty species is one of about 20 in Coelogyne section Lentiginosae (often misspelt multiple ways). We don't see more than a few of this group in collections and although some are quite nice, none I know look this good. In researching the group however, I did find a few other very pretty ones, but I don't know anything about them myself.

Salvaneraniana varies a bit among cultivars. Most have narrow petals but there are a few more full varieties as well, the green is brighter in some, and the red/brown also varies. Just the same I haven't seen a less than gorgeous one yet.

December Best of the Evening Novice – Dendrobium amethystoglossum – benched by Fred Gorginian

This is a really delightful species. It is another from Sect. Calcarifera, the section I mentioned earlier discussing Den. mutabile, but no more taxonomy this month.

This is a really pretty lithophytic species found only on the island of Luzon in the Philippines. It grows on mossy limestone cliffs.

Amethystoglossum is reported to be found up to elevations of 1400 m but I suspect most of its population comes from a bit lower than that 1400 figure. It will grow in the shade house here in Sydney but in my experience it doesn't enjoy temperatures below 5 or 6°C. It didn't exactly die when I grew it in the shade house, but its growth went backwards, and when I moved it back to the warm glasshouse it looked much happier. One of the symptoms of cold damage are black sunken spots on the leaves, representing cell damage.

Interestingly, it's official description says it can have robust canes up to 1metre tall and 2.5cm thick, but in my experience it is much smaller. Mine has much more slender canes only about 45cm tall and this is consistent with other plants of the species that I have seen benched at meetings around Sydney over a long period. If some cultivars get to 1 m tall, there must be some giants hiding in the wild just yet but for me, 45 cm looks pretty good. The 15cm pendent inflorescence carries a dense cluster of really lovely 3-4 cm white flowers with an amethyst lip. Sometimes the petals and sepals have little amethyst tips as well. The colour can vary quite a bit with some tending from a pinkish amethyst to a deeper purple amethyst, but all are really attractive. Congratulations Fred, A lovely orchid and well grown.

Questions in Religion - On their way to their wedding a couple is killed in a car accident and find themselves sitting outside the Pearly Gates waiting to be processed. While waiting, they wondered if they could get married in Heaven? When St. Peter showed up, they asked him. He said no one had asked before and left to find out.

The couple sat and waited, and waited. Three months passed and the couple were still waiting. While waiting, they began to wonder what would happen if it didn't work out; could they get a divorce in heaven?

When St. Peter finally returned, looking somewhat bedraggled. "Yes," he informed the couple, "You can get married in Heaven." "Great!" they replied, "But we were just wondering, what if things don't work out? Could we also get a divorce in Heaven?"

St. Peter, red-faced with anger, slammed his clipboard onto the ground. "What's wrong?" they asked in fright. "OH, COME ON!," St. Peter shouted, "We don't have churches up here and it took me 3 months to find a priest to do a wedding! Do you have any idea how long it'll take me to find a lawyer?"

Water Crystals and Orchids?? by Jan Robinson

During those days of high winds in December, my plants were drying out so quickly, I decided to experiment with water crystals to help with hydration. Have you tried them? They are tiny in the container, almost like salt. The directions say for plants already potted, "poke a number of holes into the potting mix and pour a small amount of water storage crystals into the bottom of each hole." How much is a small amount? - how long is a piece of string?

I tried to poke holes into the potting mix of a cattleya, but the bark mix was not very cooperative. So I got the bright idea to just sprinkle "a small amount" around the top of the pot.

"Water heavily to charge the crystals" was the next instruction, which I thought I did and the pot looked OK, right? Maybe the crystals were a bit close to the pseudobulbs? I got a skewer and pushed them toward the outside of the pot.

Then the rain set in. That "small amount" of crystals expanded until they were overflowing out of the pot!! OOPS!

I scraped them off the top as best I could and hope to reuse them later - in the BOTTOM when I repot the next batch of cattleyas. And only a teaspoon or two!

(JB: Jan tells me that she only tried the crystals on some Catts growing hanging up in a bright, warm zone with lots of air. She plans to de-pot it after 6 months or so, to see what is happening in the root zone. Perhaps we can get an update report after that.)

Orchids, Water Crystals, and other 'Poly' water Products - by Jim Brydie

I had to smile inwardly on reading Jan's great write up of her water crystal experiment. I love her wonderfully candid style. I had been wondering about these water crystal type products for ages but had never tried them and I think if I had tried them I would have done pretty much exactly what Jan did.

So, despite its dodgy start, will Jan's experiment yet turn out to be a huge success? Whichever is the result, Jan's experience finally made me do what I should have done some time ago. I went looking to see what these products are, what others have done, what has been tried and what has worked. I didn't find any magic 'must be followed' instructions but I did find some interesting information that may aid future experimenting.

First, just what are water crystals/water beads etc.

There are several different types but most of the man-made ones are synthetic water absorbing polymers like sodium polyacrylate that can take up huge amounts of water. They are often referred to as hydrogels.

Apart from the horticultural varieties we are concerned with here, this group of chemicals is widely used in many other products. They are used in soil stabilizers, water purifiers, juice clarifiers, animal feed thickeners, the processing of oil, pulp and paper, and fruits and vegetables. They are widely used in cosmetics and other personal products, and have uses in medical application in tissue augmentation. So you can see that these are not a 'just invented' and untested technology.

Unfortunately for us simple orchid growers, the story is never uncomplicated. There are basically two broad classes of polyacrylamide (PAM) hydrogels: soluble (linear) and insoluble (cross-linked).

Linear PAM dissolves in water and lasts about 3-4 months before degenerating.

Cross-linked PAM does not dissolve, but forms a gel when water is added. Insoluble PAM products are marketed as "superabsorbent gels" or "hydrating crystals." Instead of dissolving, these gels absorb water, swelling to many times their original size. As they dry, water is slowly released to the soil. These are the products sold as hydrogel beads or balls. Cross-linked PAM can last from 3 to 5 years but the polyacrylamide does gradually decay and breaks down into smaller components that are less and less effective at absorbing water.

For more detailed information see hydrogels-3.pdf - at https://s3.wp.wsu.edu/uploads/sites/403/2015/03/hydrogels-3.pdf

---

So Can You Use Them In Orchid Culture?

1. Yes, but they are probably not a suitable medium or additive for many orchids. They are more likely to be helpful to orchids that <u>like a moist medium all year round</u> and do not like to dry out between waterings.
   To my mind, orchids that might benefit are :
   - those that have proven they grow well in waterwell pots
   - those that grow well in sphagnum moss (it also keeps the orchid constantly moist or at least moderately so)
   - other orchids that have proven they never like to be dried right out, such as the old Odontoglossum genus, many (but not all Maxillarias), many (but not all) Coelogynes, some Lycastes. You may know others.
2. I do not think Water Crystals/beads/ balls/hydrogel, etc will be a useful medium or additive for orchids that like to dry out between waterings. In other words, those that have a long seasonal dryer rest, or those from lower or more sporadic rainfall areas that evolve to drying quickly between watering.
3. Another group that raises questions for me would be orchids that like to grow on mounts rather than pots or those that insist on pots with aerated sides. For example, those that do best in plastic Vanda pots, plastic net baskets, or slit sided terracotta pots. The first inclination would be that these would be unsuitable subjects but many growers find it hard to balance the different watering regimes needed for a mixed collection of different orchids. Most of us end up averaging out requirements and adopting one watering schedule for all.

   This naturally suits some much more than others and sometimes suits none to perfection. In my own case, my watering habits don't suit mounted orchids too well at all and they struggle with insufficient water.

   Perhaps judicious use of water balls/crystals might help these types last longer between over spaced waterings?

Tales of Success

Most of the stories I found were on chat sites such as Orchidboard but many of the contributors on sites like these are actually quite experienced growers. The trick is separating the useful information from the questionable but I thought these extracts from various sites were worth passing on.

<u>3 items from Orchidboard</u> - *(I believe this item refers to a Phalaenopsis)* (a) The packages that my (water) beads come in say not to use them on orchids but I did it anyways a couple years ago out of curiosity, on a plant that was badly neglected during the summer that year. It only had a couple roots and a few new ones coming out of the base as I recall. Anyways the original roots all rotted off after a few weeks but the new roots grew into the beads just fine and the plant was flowering 9 months later.

(b) I have had one of my phals in these crystals for the last 2 years and it has been growing and flowering perfectly. All I do is add 1/3 strength fertilizer and a tiny bit of rooting hormone to the water I use to hydrate them with and I have never run into any problems at all except for one run in with algae. Simply rinsing the beads took care of that. You only need to water your plants around once a month with this method and it allows your plant to fully utilize it's photosynthetic roots. The round shape of the beads allows for plenty of air pockets in the growing medium and the way the beads hold water there is practically no chance for root rot especially if you use a slitted pot. Just figured I would share my experience because anyone reading this thread is going to figure it's a horrible idea when it actually works wonderfully.

The most important thing is that you put a few unhydrated beads on the bottom of the container to suck up excess moisture and wait until the beads (JB: the hydrated beads) are almost to their original size (dehydrated size) before watering. At this point the phal should be removed from the pot very gently and the beads washed thoroughly in warm water and then rehydrated.

(c) I have read a couple horror stories about these beads and phals, but I have also read success stories and had my own success. I think it really depends on how you use the beads. Are you watering them with the plant still in beads or gently taking it out while you rehydrate them? Are you changing the beads when they get old and start breaking? Are they big enough (*beads come in various sizes) that there are gaps between them? and so on. There are so many factors to take into account before deciding that a media isn't fit for growing orchids. A few people's failures shouldn't mean that a media is deemed unfit for orchids. I mean people get root rot in all sorts of mediums every day and we still use those.

From Houzz website - This particular medium is like little water beads that expand to hold moisture and you're not supposed to need to do anything else to them. I have 3 orchids in them right now. My phalaenopsis seem to enjoy it very much. One has even started growing 2 new leaves. (I was very excited about this) but I haven't noticed any change, negative or positive in the other orchid (its a cane type not sure off the top of my head which one it is). As to letting the orchids roots not dry out, I have noticed I have to rewater the beads about once every 2 or 3 weeks. It takes 6 hours for the beads to expand again. This too is the first time I have really done that too. So this is all trial and error.

From https://herselfsplants.com/?s=experiments+with+water+storing+crystals website – *(note from Jim : this item refers to water crystals, not the bead type balls – it was written as the experiment commenced. I didn't find a later report on success or failure, but the info was interesting)*

Experiments with water storing crystals – NB: Several companies make them and not all use the same formula. Some are polyacrylamide hydrogels (dissolve, last 3-4 months), some are cross-linked (not dissolvable, last 3-5 years) both seem to use potassium. The crystals are in the cross-linked group.

Exposure to heat and light breaks the crystals down, so if you have plants in sunny locations, bury the crystals in the soil. The best results I've seen reported by gardeners is to put the crystals and some dry medium (pebbles, styrofoam etc), and soil, at the bottom of the pot and soil above.

It turned out not to be a good idea for house plants. The crystals didn't work out for house plants. They had to be watered much more often rather than less. The water crystals took up the water but weren't so good about giving the water back up. They were especially bad with the orchids potted in mulch. They formed clumps blocking the roots from getting air.

And finally, I found a quite well written and explored article called **Step By Step Growing Orchids In Water Beads, Planting, and Care** on the https://houseplantspro.com/growing-orchids-in-water-beads/ website . I won't repeat the whole article here, please go to the website for that, but here are a few extracts. However, as I found some of the terminology used a little confusing, I have inserted my interpretation into the wording in places to help us locals. I haven't tried any of this, I don't know if the process works, but it certainly sounds plausible enough :

"The transparent water beads are mixed with other components of the orchid mixture (pine bark, peat, coconut chips or fiber, fern roots, sphagnum moss). The water beads store nutrients that are released by other ingredients.

***Important**: It should be noted that the water beads do not moisturize the soil mixture. Orchids first absorb the evaporated moisture from the soil and then from the water beads. This feature allows you to provide plants with moisture, even when the substrate is completely dry. The roots can use the moisture accumulated in the water beads when they germinate (grow) into it. This will take about two weeks. It is often sufficient for the roots to be in close contact with the granules."*

Planting an Orchid In Water Beads Potting Mixture

1. Prepare a separate container for beads swelling.
2. Place granules in it and pour water according to the instructions. The most commonly recommended ratio is 1 g

of water beads (1 teaspoon, without a slide) per 1 litre of water. The material cannot absorb more water than it should, so water can be poured safely.

3. Stand 2 – 3 hours
4. In the orchid pot, alternately place orchid medium and swollen beads. Fill about ¼ of the pot.
5. Place the orchid roots in the pot and continue filling, alternating the water beads with the nutrient mixture. There is no need to compact, the roots need sufficient aeration.

How To Feed Orchids In Water Beads Potting Mix?

There are many special fertilizers for orchids on the market, both mineral and organic.

The method of their introduction does not differ from what is indicated in the instructions. But together with the growing orchid in water beads, the effectiveness increases significantly.

In an ordinary substrate, the top dressing dissolves and is washed out rather quickly. Water beads absorb nutrients and gradually release them to plant roots. This ensures a long-term metered supply of nutrients. Thus, fertilization is necessary much less frequently, which leads to savings in nutrients.

PS from Jim : I am not sure how this would work. I haven't looked into the chemistry of hydrogels but I would have thought that it would just be pure H^2O that evaporates through the skin of the hydrogel, and that the solution in each bead would become concentrated as it shrinks, but perhaps I am wrong. If the surface of the roots interacts directly with the hydrogel skin I can see that working. The writer says it works so give it a try.

How Long Can Orchids Be Kept In Water Beads?

On average 2 years. As a rule, this is the period before the planned transplant. Freshwater beads are placed in a new pot, and the old one is discarded.

Conclusion : It seems there is still much more to learn about how we might take advantage of this unique technology. Perhaps there will be many more effective ways to adopt them into our standard orchid culture. And, with our older materials such as sphagnum moss becoming much more difficult to obtain, now might be the time to change the way we do things and incorporate man made medium additives.

I can see some drawbacks. The relative short life of some hydrogels will need to be taken into consideration, and uses as a medium that require depot/medium clean/repot every few months certainly will not suit nursery orchid growers.

But then, we haven't really tested these things properly yet. If you like to experiment and be at the leading edge, here is your chance. If you try them out, do it on a select group, mark them clearly, and record what happens and results.

Great backyard Oncidiums for Sydney

Onc. leucohilum

Onc. sphacelatum

Onc. Splinter

Onc sphacelatum just loves Sydney and grows easily so long as it gets plenty of light and a bit of space. Long (1.8 m) branching spikes covered in 2.5cm yellow flowers with red/brown marking. When they tire of repotting huge plants, many growers put in in the fork of a tree and just let it do it's thing. But there is also a close cousin equally popular if perhaps slightly more compact in its growth, and that is Onc. Splinter which is the hybrid between sphacelatum and Onc. leucochilum. The latter has slightly larger flrs (3+ cm?). It can also have a ridiculously long spike (up to 3 m) but with few and shorter branches. The hybrid Splinter, tends to usually look like a slightly more compact sphacelatum with fuller flowers and more brown. There are even some pink lip Splinters coming from select pink lip leucochilums. But just ignore all that. If you want a big, tough, showy yellow Oncid. for the backyard, buy either.

Dreams Come True - A woman was taking an afternoon nap. When she woke up, she told her husband, "I just dreamed that you gave me a pearl necklace. What do you think it means?"

"You'll know tonight," he said.

That evening, the man came home with a small package and gave it to his wife.

Delighted, she opened it, and found a book entitled "The Meaning of Dreams."

Orchids & weeds, weeds & orchids. Oxalis corniculata "The Creeping Oxalis"

an Article by Wayne Turville of Australian Orchid Nursery (AON), https://www.australianorchids.com.au/

I really hate this weed. I mean REALLY HATE THIS WEED! This is one serious little Bugger of a weed and I actually think it is the worst weed in our nursery.

We know it as creeping oxalis and it is a weed you just can't pull out. It grows with a great big carrot like tap root that stays put when the top is pulled, secondly it creeps around the pot with a fast growing stolon that breaks off and reshoots, and thirdly it has exploding seed capsules.

What an arsenal!

One of the greatest issues with this pest is that when weeding you forget to look up at all the hanging orchids that most growers have dangling on wire immediately above their benched plants. The exploding seed capsules of this oxalis spits the seed everywhere. It can spread from below to above and also rain down from the hanging plants to below.

In the case at the left I opted to de pot and pull the weed from among the roots, but as you can see it is a major disturbance and root tip breaker.

So what other option?

Well we use Afalon weedkiller.

↑ **exploding pods**

Yes, straight over all our orchids ***"WEEDKILLER" !!***

It kills all our weeds. Even grasses.

On the next page there are ***before and after photos showing use of Afalon.***

AON uses this product - **HOWEVER -** as always, ***we suggest you try new methods with discretion.***

We have never found damage with the orchids, ever. **But,** ***do not apply near ferns, bromeliads or other ornamentals.*** So far we found it kills them all.

The results can be slow in the cooler months but we are located in Victoria and we have no experience with it in temperate to warm climates. From our observation, it may cause a pause in the orchids growth, perhaps 4 to 6 weeks, so it is best applied when the orchid is not in a period of growth surge. With Australian native

orchids that means the best time to apply would be between the spring growth and the second Autumn growth, and do it on cool summer days. It still works great and you lose no growth time.

In our conditions, it kills the weeds faster in hot weather (2 weeks), but it can take up to 2 months for you to see results in winter. Be patient and don't double dose expecting instant results.

The orchids do absorb the weedkiller and we don't know all the effects. If the orchid's flowering is related to the orchids growth period, then the next seasons flowering may be inhibited or affected.

Please Note – this product works for us **and many other Victorian orchid nurseries. We share this information with you hoping it is beneficial but you <u>have to try this product at your own risk</u>**.

Please use carefully, in accordance with the manufacturer's instructions, and use all precautions recommended. We do not accept any responsibility or liability for any damage to your orchids, to other plants, or anything else.

<u>P.S. from Jim Brydie:</u> *I have never used Afalon but the before and after pictures above look very impressive and boy, do I have a problem with that creeping oxalis and its seed shooting capsules.*

With help from Dr Google, I found that Afalon is based on a herbicide called LINURON, an agricultural crop weedicide. More information can be found via the internet but the following extracts provide some basics.

Afalon Herbicide is a member of the Urea-group of herbicides. The product uses a photosynthesis inhibitor mode of action. It is a selective systemic herbicide, absorbed principally by the roots but also by the foliage, with translocation primarily in the xylem (the plant's natural transport system taking water from roots to leaves). It is a Group C herbicide and does not affect all plants equally. As Wayne has reported, this is lucky for orchid growers but makes its effects on other ornamental plants questionable – test first.

As a crop herbicide its use is suggested when the crop plant is substantially more advanced than the weeds and that the spray is directed primarily at the weeds not the crop, presumably to maximise differentiation of effect. Continuous use in any one situation is not recommended as some group C resistant plants may develop immunity.

Use gloves and protective gear while using. Do not inhale dust or spray mist. Avoid contact with eyes, skin or clothing. If the product gets on the skin, immediately wash the area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Circus – A husband and wife who work for the circus go to an adoption agency looking to adopt a child, but the social workers there raise doubts about their suitability.

So the couple produce photos of their 50-foot motor home, which is clean and well maintained and equipped with a beautiful nursery. The social workers are satisfied by this but then raise concerns about the kind of education a child would receive while in the couple's care. The husband puts their mind at ease, saying, "We've arranged for a full-time tutor who will teach the child all the usual subjects along with French, Mandarin, and computer skills."

Next though, the social workers express concern about a child being raised in a circus environment. This time the wife explains, "Our nanny is a certified expert in pediatric care, welfare, and diet." The social workers are finally satisfied and ask the couple, "What age child are you hoping to adopt?"

The husband says, "It doesn't really matter, as long as the kid fits in the cannon."