



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

(Established in 1947)

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

## *. Patrons - Pauline and Trevor Onslow*

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**Next Meeting : Mon 19<sup>th</sup> September 2022**

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

Attendees must be at least double vaccinated and Vacc. certificates will be checked. Face masks are not mandatory but are strongly recommended.

**The hall is open from 6.30pm.** Please try and get there early to help set up tables and chairs. A small number of members already help but more will make the job much easier and quicker. Don't just leave it all to 'someone else'.

**No benching until all the class dividers are in place.** Give the set up team time to get everything organized, and when benching, if you aren't sure where your orchid goes, ask a more experienced member for help.

**No Culture Classes at present due to Covid,** but the ***sales table*** is operating for sale of members plants and for small quantities of pots and other supplies. There will be the usual ***monthly raffle***, and the ***library*** will be operating.

**The actual meeting commences at 8pm.** We start with the meeting formalities run by the President while the judges review the benched orchids. Once judging is complete, and winners announced, we will break for supper.

**The Supper Break** – Coffee, tea, milk and hot water will be provided at the meeting. But ***remember***, you will still need to bring your own ***sugar/mugs/cups and stirrers***. The club will supply some wrapped biscuits but members may also ***bring their own nibbles. No food sharing please (Covid rules)***.

**After the supper break** – Trevor Onslow will be our guest speaker to ***tell you about the bright red Sophronitis coccineas and some of its sister species like wittingeana.*** He will also tell you how to grow them. Trevor has spent many years teaching himself how to grow these and is one of the most successful at it that I know.

## **Best of the Evening Open Species - Rhynchostylis gigantea** grown by Lesley & Garrie Bromley



Despite the obvious beauty and popularity of this species I was surprised to find that it hasn't had a bulletin write up since Sept 2006. Rhynchostylis is a group of just 4 monopodial species closely related to Vanda. The distinctive feature of monopodial orchids is that that rather than growing from multiple separate pseudobulbs along a rhizome, these grow from an ever elongating single stem, although they do occasionally produce side growths that then each also have a monopodial growth structure.

Rhynchostylis gigantea is a lowland orchid found in quite a few countries: east -west from Burma to Laos and Cambodia, and north - south from China to Indonesia and Borneo. It is a large, heavy

textured plant with thick broad leaves (5 cm or more wide). A mature overall plant can measure around 60 cm wide x 50 to 80 cm tall. The densely flowered inflorescence is only about 30cm long but can carry up to 50, 3cm wide flowers. An impressive beast.

Most giganteas have white petals and sepals speckled with burgundy but there is considerable variability in the depth of colour. Garrie's plant is a relatively dark form but there are some that are just about full magenta and there are rarer forms in all white and even in an almost peach colour.

### **Rhy. Gigantea 'Sagarik's Strain'**

Rhy. gigantea is a warm, moist grower that doesn't like even my best conditions too much. However, I must admit that the sight of a well grown older plant with multiple spikes is highly impressive.

A lovely orchid Garrie and Lesley. You sure grow these Vandaceous types well.



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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](mailto:jimbrydie@aussiebroadband.com.au))

**President Dennys' Desk** – We had such a busy August meeting. There was so much going on. The sales table was busy as was Craig Miles' table. Lots and lots of good stuff was on sale and being purchased and the SIOS had not even started. I extend my thanks to Craig for including us in his Sydney SIOS adventure and thank him so much for his donation of a “flask” for our evening raffle. His talk on the “power” of auxinone was enlightening. I have not been in touch with plant hormone developments since university days many, many moons ago and it was so good to see and listen to his talk. For those folks who were present at the meeting, all 50 of you, and those who are reading this, please remember our society does have auxinone for sale at a good price on the sales table.

**AGM is pending** – Our AGM will be held at the October meeting, which means we are back to almost normal. I intend to nominate again for President and if any of you would like to nominate for any position, including President, please do so. The society works because our committee works well. If you are thinking of nominating for the committee, please have a chat with existing or past committee folk. It is great fun and delivers great social rewards for all committee members as well as social and culture rewards for all our members. It is a team relationship.

**The St. Ives Orchid Show** – I had a ball. So many people came to show. So many people bought goods from the vendors, who became depleted in stock. So many people bought plants from the societies' sales table. It was amazing and I had the feeling that people both within the combined society collective, as well as the public, were so happy it was back on. I extend my thanks to the show committee and our representative for making it work so well. I also thank all our volunteers who helped make it work with the volunteer collective. There were a few minor hiccups here and there, but they did not matter. It did work. Our society display came third behind Eastwood by a fraction of a point but that did not diminish the beauty of our display as well as all the other displays. It was outstanding to see so much beauty on display. I personally thank Lina Huang, who could not let it go, Lina and her helpers worked tirelessly without a break...just wonderful. I hope they were able to get some of Lesley's fruitcake which was superb. You can almost hear Lina's mind ticking over as she starts planning for 2023. Our member's produced some stunning orchids and were rewarded accordingly. I will mention more about this at our September meeting. That said, I extend my congratulations to Geoff Le Marne for being awarded the Cymbidium, Standard Champion, and Grand Champion Orchid of the Show. I also congratulate Jon Hestelow for being awarded, Champion Cymbidium Seedling - just wonderful. Overall, KOS received 13 Class firsts and 9 Class seconds, amongst which were some pleasant surprises. My conclusions reached after the show are that growing orchids is rewarding, and that our show collective is outstanding. Thank you NSOS, MWOS and ANOS(W) – stunning stuff.

**Novice challenge** – The personal reward one gains from entering the SIOS is so good. After a show, the feeling of inclusivity is just wonderful. We always need plants in flower for our display. It does not have to be a prize winning orchid. It does need to be grown cleanly and without disease. So, I challenge all of our novice members to have ago at getting at least one plant ready for the next show in 2023. Such a challenge will also help you to improve your culture expertise, and there are plenty of folk to help you.

**Wearing of masks** – I will not be relenting on this issue until I feel it is logically the time to do so. Please remember that the pandemic **has not gone away**. There is a danger that complacency is emerging in our communities. People are still getting very ill, and deaths are still occurring. Please try and wear your masks at our meeting and use the hand disinfectant dispensers just to help keep the risk as low as we practically can do so.

**Voucher expiry dates** – Remember. Any \$5 vouchers you still have from raffles etc, expire after this next meeting.

**Coffee and Tea** – We will still be offering coffee and tea and biscuits at the September meeting. If possible, please bring your own mugs/cups and stirrers. Bring your own supper if you need to but no sharing, please. We will need one or two volunteers to be on hand to dispense the milk during the break.

**Member's 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.

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#### **Other News Items**

**1. AGM in October** – As mentioned above, this is formal notice that our Annual General Meeting (AGM) will be held 17<sup>th</sup> October 2022, from 8pm at the West Lindfield Community Hall. Despite our last AGM being held in February this year, that was a long postponed event due to the pandemic, and it was always decided we would revert to our standard October AGM schedule. A Member's auction will follow the AGM so start preparing your plants.

**2. New Members** - At our last meeting Adrian Zderic signed up as a new member and also heeded our plea for members to provide plants for our display. He came along to St Ives on set up day with a whole stack of Cymbidiums, including a few from his own crossings. Thank you Adrian, they were a big help.

And now Julie Lyengar has also joined us. Julie comes to us from the Kuringgai Horticultural Society from which we have a number of great members like Christine Rethers, Doreen Clark, and Cynthia Brydie. Welcome to our club Julie and Adrian. I hope you make many new friends among our members and enjoy our meetings. Please other members, seek out all new members to introduce yourselves and make them welcome everyone. It isn't easy to become acquainted in a new group.

### 3. St Ives - Wow What a Show. – I have never seen so many orchid growers and orchid lovers before.

With the two previous years shows cancelled due to the pandemic, orchid appreciators of all kinds were lusting for another big event with glorious and exotic displays of all kinds of orchid flowers, and the vendors stalls in the top hall were packed to the brim with flowering plants for those needing instant satisfaction, and also with more exotic varieties for the growers and collectors.



And, with a couple of years break, we had a changing of the guard with regard to our display set up team. Trevor and Pauline came early and set up the back drop and structure but Lina Huang volunteered to be our new set up team leader and Jon Hestelow did a great job helping, especially with the heavy lifting. Some of the old guard were still there helping. Janine and Dennys shared the fancy label writing for us and Dennys managed plant labelling and paperwork, while others did pot socks, edging, and sage suggestions whether useful or not. But it certainly all turned out well. North Shore's display was judged first as usual and we were just pipped for second by Eastwood who always put on a great show. I thought the following pictures show a perfect picture story of the complex process of many hands that ends up with the finished display.



Great work Lina and team. Well done.

**4. KOS Growing Competition** – This month there will be a judging and commentary on our **growing competition plants** so **please bring them all along to the meeting**. I suspect there will be a table set up out front but wherever it is we will tell you on the night.

Trevor Onslow and Christine Rethers have offered to be the judges on the night. Both are top class growers of just about everything so their evaluations and growing tips should be very informative.

**5. St. Ives Champion.** – It is a rather rare event for Ku-Ring-Gai to have the chance to brag about their display including the Grand Champion orchid of the show but this year we could. A huge congratulations to Geoff Le Marne who grew his *Cymbidium Regal Flames 'Queen of Hearts'* to perfection.

Unfortunately for me, this picture is from an earlier benching of Geoff's champion in 2013 when it was awarded an AM. This year, he had grown the plant on significantly and benched it at St Ives with 6 huge spikes covered in those delicious red flowers (pics above). There were many fantastic flowers in our display but I just have to say that Geoff's was the one most of the public wanted to get a picture of right up close. We were constantly having to ask visitors to remove themselves from our display after they had snuck in for quick (or in some cases not so quick) photo opportunity. I guess that's the way it goes.

Regal Flames is a cross made by Gordon Giles, a famous name in the Sydney orchid scene, but was registered by Colin Grigg from South Australia.

The parents are Wyong Flame and Alexandra's Flame and in the previous generations there was a Lunar Flame, a couple of doses of Khan Flame, and a Yowie Flame. It was clearly born of fire with all those flames in there.

As with all complex modern hybrids with 10 generations or more of man-made selected breeding, it is far removed from the species that contributed to its creation. There are at least 11 species in its genetic background and none of them look anything much like this one. About the only genetic feature I can recognize is that great dark red in the lip which is reminiscent of *Cym. sanderae*. It just shows what can be created from the gene pool of an orchid.

Congratulations Geoff, and thank you for supporting our society with your gorgeous Cymbidiums, and your help on set up day. Very much appreciated.



*Cym. Regal Flames 'Queen of Hearts'*

PS: a little bird told me that after our St Ives show, Geoff's champion was taken up to the Australian Orchid Conference in SE Qld. And also won at least three big prizes up there. I bet it was a tired little orchid by the time it got home, but probably not as tired as Garrie and Lesley Bromley who also went up there after being at the core of running St Ives. Well done guys.

#### **BOE Novice – Oncidium (Wilsonara) Space Mine 'Red Rendezvous'** grown by Loretta & Paul Au

Hmmm, I see a pattern emerging here. I think Loretta must be rather fond of these red complex Oncidiinae hybrids.

This one has a similar genealogy to last Month's Pacific Panache but is slightly less complex. Its species background is listed as 50% *Onc sphacelatum*, and roughly 19% *Onc noezelianum*, 15% *alexandrae*, 12% unknown, and 3% *Onc nobile*.

You might ask how on earth a registered hybrid can have a % of unknown parentage but the reason is that back in the early days some hybrids got away with registration

 without revealing parentage. You can imagine that breeders felt that revealing parents gave away their knowledge of what would cross with what and the kinds of results that might be expected. In this case, it was the registration of a hybrid called "Coronation" back in 1907 when neither parent was revealed.

However, there are still photos of Coronation (see at the left) and as you can see it is a delightful red with a round outline which means that it has strong influence from *Onc. noezelianum*.



Given that orchid hybridization only began in the late 1800's, hybrids from 1907 are unlikely to be more than second or perhaps third generation hybrids and so Coronation most likely involves just 2, 3 or at most 4 species. From Coronation's shape, patterning and colour, my guess would be that it involves *noezelianum*, *alexandrae*, and/or *Onc nobile*. The latter two would have been known as Odontoglossums back in that era and all three species mentioned were heavily used in creating red Odontoglossum types.

It is however something of a surprise to find that Onc. Space Mine, which was registered in 2004, nearly 100 years after Coronation, is only a 4<sup>th</sup> generation hybrid itself. Its parents were Onc. Carmine (registered in 1942) and the species sphaelatum. The parent 'Carmine' was made in 1942 using parents from 1911 and 1918 and then it was another sixty years before they made 'Space Mine' from Carmine. That is quite a spread out history and I suspect that the species sphaelatum was introduced to create a more floriferous and upright flowering hybrid. The results with Space Mine show it was a very positive move.

Still, I doubt too many growers worry about such background information these days.

Instead of most commercial sales stock being made from pollination and raising seed as would have been the case in the first half of the twentieth century, we now buy mericlones of only the best seed raised stock, and the vendor can usually show you photographs of exactly what he is selling before you buy it. Of course you can still buy seedlings in the hope that you might fluke a new 'best of the best' and be the only one who has it. That has to be worth taking a risk doesn't it? And then all this secret breeding stuff might give you an edge sometime. We can dream can't we?

Congratulations Loretta, you are growing these Oncids really well and I am sure you will have many more successes.

### Upcoming Events

Thurs 15<sup>th</sup> – Sat 17<sup>th</sup> Sept., North Shore OS Show at St Ives shopping centre, shopping hours

Fri 16<sup>th</sup> – Sun 18<sup>th</sup> Sept, Manly Warringah OS Show, Belrose shopping centre, shopping hours

Sat 16 – Sun 17 Sept, Kariong Plant Lovers Fair, Kariong High School grounds, Kariong, just above Gosford.

Fri 7 – Sun 9<sup>th</sup> Oct, Sutherland Orchid Spectacular, Basketball Stadium, Waratah Park, Rawson Ave Sutherland

Sat 22 Oct, Species OS show and auction day, W. Pennant Hills Community Church, 41-43 Eaton Rd W. Pennant Hills

### Best of the Evening Open Hybrid – *Oncidium Hilda Plumtree* grown by Trevor & Pauline Onslow



Trevor's - (Purple Wings?)



Golden Gate

Yet another ex Wilsonara bred along similar lines to Loretta's but this one has been aimed to produce a rich red/brown, kind of bronze look.

Registered in 1985, Hilda has been a very successful cross. 15 cultivars have been awarded, 3 AM's and 12 HCC's.

Many of the 8 species in Hilda's background are the same as in Space Mine but there are also 5 yellow/brown Oncidium species which lead to the overall Hilda Plumtree tones.

But that doesn't mean all Hilda Plumtrees look alike, check out these other cultivars.



Orange Sunset

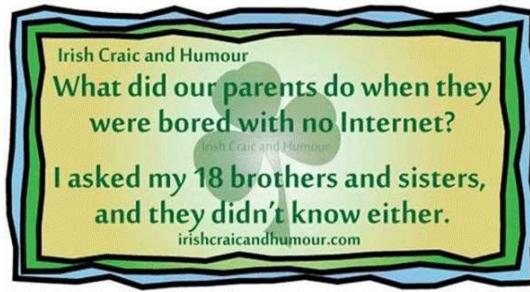
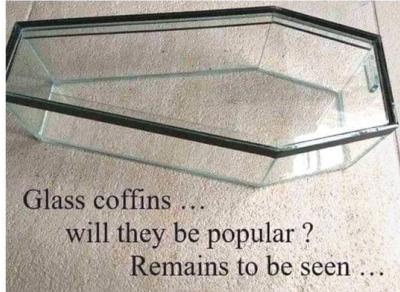


Wei's Gold

### Analysis of male characteristics to aid women in communicating with men

1. Men see in only sixteen colours, like Windows default settings. Peach, for example, is a fruit.....not a colour. Pumpkin is also a fruit. Men have no idea what mauve is.
2. If you are upset about something, and a man asks you 'what's wrong', and you say 'nothing', he will proceed as if nothing's wrong. It's not that he doesn't care. He knows you are lying, but he also knows it's probably something he did or didn't do so it's just not worth the hassle to press the issue further. That's logic.
3. Men believe that anything said more than a month ago is inadmissible in an argument. In fact, all comments become null and void after 7 days.
4. Men have absolutely no mind reading capability. This lack of mind-reading ability is not proof of how little he cares about you. Subtle hints do not work. Strong hints do not work. Obvious hints do not work. Just say it.
5. A man owns 2 pairs of shoes, or 3 at most. There is absolutely no point in asking which of your 30 pairs would go best with your new dress.
6. If you ask a man what he is thinking, be prepared to discuss football, fishing, cars, or beer (or maybe orchids).
7. Don't expect men to know what special day it is. They never will. Mark birthdays and anniversaries etc. on a calendar and remind them frequently, well in advance, and regularly.

**Mahatma Gandhi said If there is an idiot in power, it means those who elected him are well represented.**



### Taxonomy by Morphology or DNA ?? - Jim Brydie, Ku-Ring-Gai Orchid Society

In recent years we orchid growers have seen huge changes to names within the orchid families we loved so much. Families such as: **Laeliinae** which included genera like *Cattleya*, *Laelia*, *Sophronitis* and *Epidendrum*, and **Oncidiinae** which includes well known genera like *Oncidium*, *Gomesa*, *Odontoglossum*, *Rhynchostele*, *Cochlioda* and others. These changes came through analysis of the DNA of orchids.

Our original system of taxonomy, first for plants and later for animals, was developed by Carolus Linnaeus in 1753 when he published a system wherein the world's plants would each be identified by a binomial system. The first name identified a genus, and the second name would identify the specific name (or species).

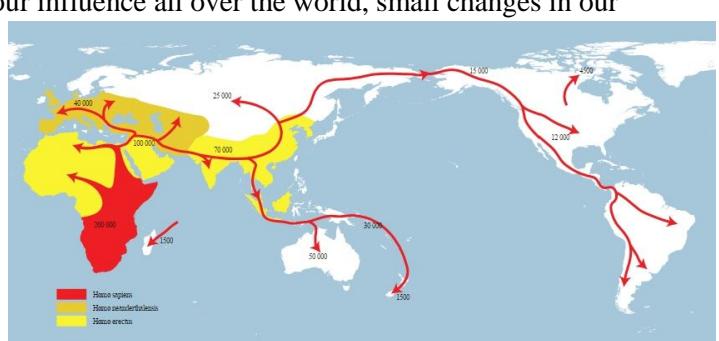
Broadly speaking, plant genera were described by grouping various species of plants that had a clearly common group of morphological characteristics that would seem to indicate that they were closely related and probably part of one evolutionary branch. In the case of orchids this usually included common characteristic of the flowers or more particularly the sexual parts of the flower that relate to reproduction. A good example of this is that one of the key factors used to separate the genus *Laelia* from the genus *Cattleya*, was that *Laelia* species had 8 pollinia (waxy bundles of pollen), and *Cattleya* species had 4 pollinia.

This morphological basis for taxonomy has proven to be quite close to the mark over the 250 years since it was implemented but especially among plants, taxonomists became increasingly aware that some ticks just weren't in the right boxes. Even before the comprehensive DNA analysis we have seen in more recent times, definitions of some species and some genera were debated, and changes made to better fit the evidence that was being discovered.

But now, as science progresses further, full DNA profiles have been mapped for not only humans but many other animals and plants, and with our more complete understanding of evolution through both natural selection (small natural changes over time), and by more radical changes through mutation. It was an obvious next step that analysis of DNA would tell us which species evolved from which and which species were evolved from a common ancestor.

For example, through changes in our DNA in different geographic parts of the world, scientists have deduced the geographic evolutionary path of our own species – *Homo sapiens*.

As our species migrated to each new territory spreading our influence all over the world, small changes in our morphology occur through natural selection. These changes may become stable and 'locked in' because they either help survival where we were, gave us some advantage over competitors, or were just seen as attractive among us and therefore favoured in reproduction. As we migrate ever further, more changes occur and build upon the previous changes, providing a way to measure the sequence of events and link it to geography. All those changes can be seen in our DNA and by examining the DNA of currently living local human populations. We can see the sequence of migration as man populated newer and newer parts of the world.



From that analysis, they have determined that our species originated in Africa, and most likely migrated north into Europe and then west, then south through Asia and north into what is now Siberia and west again across what must have been an ice and land bridge across the top of the Pacific Ocean into the Americas. Thus, they are able to more or less track the sequence of changes as we migrated from one area to the next.

Now if we accept all that amazing understanding of our own species via DNA, how can we not accept that DNA analysis can also unlock the evolutionary path of plants **and** the relationships of species and genera?

Now getting back to orchids, these DNA studies showed that having physical morphological features in common isn't always reliable in separating species or aligning species within a genus.

At the highest level, all orchids obviously did evolve from a common ancestor, but considering the physical diversity they display today, the genetic structure of 'orchids' already had the potential for that evolutionary diversity and it should not be too big a surprise to know that some unusual physical features have popped up independently more than once among different groups of orchids during the 140 million years or so that orchids have existed. This is called *convergent evolution* where different organisms independently evolve similar traits. For example, sharks and dolphins look relatively similar despite being entirely unrelated.

Another good example of this innate variability potential is seen in domestic dogs. Did you know that all types of domestic dogs, from Chihuahua to Saint Bernard, from Pekinese to greyhounds, are all just one species – *Canis familiaris* (or *Canis lupus familiaris*)? They are thought to have all evolved from a now extinct subspecies of the gray wolf some 100,000 years ago. Their association with mankind as a companion or working asset can be traced back at least as far as 14,000 years. But apart from all those statistics, it just goes to show the inherent scope of physical variation that is possible within a single species. In the case of dogs, and perhaps orchids as well, man has almost certainly accelerated the process by purposely breeding dogs to obtain outrageous variation.

Which brings me to the point.

When DNA studies told us that those beautiful little bright red *Sophronitis coccinea* were really *Cattleya* and not *Sophronitis*, why were we so surprised and couldn't believe it?

Likewise, we shouldn't have been so shocked when told that DNA proves that *Cochloida noezelianana* is really *Oncidium noezelianum*.

So get yourselves ready for the next chapter in the story.

In 2001 Barbara Gravendeel (et al) published a study called : **"Molecular phylogeny of *Coelogyne* (Epidendroideae; Orchidaceae) based on plastid RFLPS, *matK*, and nuclear ribosomal ITS sequences: evidence for polyphyly."**

I hope that rather complex sounding title doesn't scare you off. It is available online but is quite detailed. I am not going to try and offer any kind of proper summary here, but at the broadest level it meant that the genus *Coelogyne* needs substantial changes. The findings were that the genus *Coelogyne* (approximately 200 species) "is *polyphyletic*, with species falling into at least two well supported *clades*."

Meaning that *Coelogyne* species did not all evolve from the same source (i.e. Polyphyletic). And, in fact that they fell into two clear evolutionary groups (*clades*).

However, the impact of the study doesn't stop at just the genus *Coelogyne*. Any reorganisation to establish correct evolutionary relationships needed to also involve quite a number of what used to be *Coelogyne*'s sister genera within the subtribe Coelogyninae.

Since the Gravendeel et al paper, there has been much discussion among eminent taxonomists about what to do with Coelogyninae.

The following article by John Varigos of the Species Orchid Society of Victoria catches us up with the latest thinking and tells us of the first set of changes that must now be made to *Coelogyne* and some of its sister genera.

Unfortunately for we growers, the changes John outlines are not the final story in *Coelogyne* and we should brace ourselves for more to come. My personal guess is that part of this now redefined *Coelogyne* will be split off into a yet to be defined or agreed new genus but it is too early to say.

Taxonomy is clearly moving to a more exact science and *Coelogyne* is only the next step of many changes still to come. We will all do our best to help introduce and explain them as they occur.

(A large thank you to John Varigos for help in composing the above - Jim Brydie)

**Philosophy of Life** - Every sixty seconds you spend angry, upset or mad, is a minute of happiness you'll never get back. Life is short. Occasionally bend the rules, forgive quickly, kiss and love truly, don't be afraid to laugh, and never regret failures or missed chances. Life may not be the party we hoped for, but while we're here we should dance

## Controversial Orchid Name Changes - John Varigos, President Species Orchid Society of Victoria

Following last month's summary of the changes to the genera *Calanthe* and *Eulophia*, (\*1) it is time to address the changes to the genus *Coelogyne*, a change which has caused much consternation in our orchid growing community.

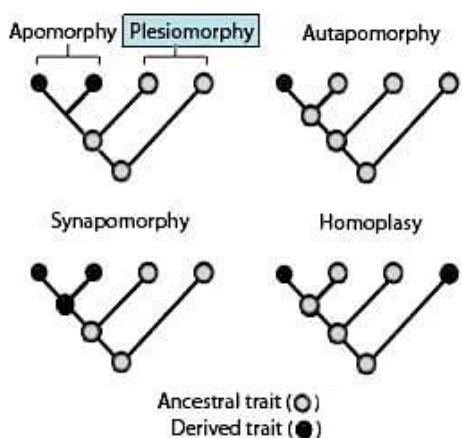
(\*1) (Jim Brydie : in their previous OSSV newsletter, the main orchid name changes affecting hobby growers, was the movement of *Phaius* species into the genus *Calanthe*.)

Many hobbyists have questioned the decision to subsume so many genera into *Coelogyne* as most of us are morphologists, differentiating species based on how they look. Unfortunately, this is not an exact science and many plants have been misplaced because of similarity or dissimilarity of appearance. The advent of DNA testing has led to a more exact science and the ability to determine heredity based on their genetic makeup.

The biological dictionary gives a good description of cladistics and methodologies.

"Cladistics refers to a biological classification system that involves the categorization of organisms based on shared traits. Organisms are typically grouped by how closely related they are and thus, cladistics can be used to trace ancestry back to shared common ancestors and the evolution of various characteristics. Although the classification of organisms began in the early 1900's, cladistics analysis and specific methodology first originated in the 1960's by Willi Hennig, referred to as "phylogenetic systematics". This process involves creating phylogenies using morphological and molecular data to visualize evolutionary history and relationships between species."

Cladistic methodologies involve the application of various molecular, anatomical, and genetic traits of organisms.



Therefore, with the advent of computational modelling and molecular techniques (e.g., polymerase chain reaction [PCR]) cladistics are often used in evolutionary biology for the construction of phylogenetic trees.

Cladistic data is also used to create cladograms (shown left), which consist of diagrams proposing a hypothesis of phylogenetic relationships between species based on shared characteristics. Thus, depending on a given dataset, the resulting cladogram may differ. **For example, a cladogram based purely on morphological traits may produce different results from one constructed using genetic data.**

Today, highly advanced computational methods permit the use of multiple datasets to construct more accurate cladograms. Careful scientific analysis is required to rationally determine which cladogram may be a more correct representation than others.

Based on this evolving science, a number of long held systematics have been called into question often to the chagrin of hobbyists.

These proposed changes have undergone the scientific principal of peer review and publication in respected scientific publications. Many institutions have now accepted these changes based on the scientific evidence and have adjusted their databases to reflect the changes. The old names are still there, however they are now reduced to synonyms.

The key issue is that highlighted in **bold blue** above.

Morphology and cladistics can produce different results. So let's have a look at what the changes mean for the genus *Coelogyne*.

As mentioned in the last issue of the Newsletter, the paper that caused all the consternation and angst was authored by Mark Chase, Barbara Gravendeel, Bobby Sulistyo, Richa Kusuma Wati & André Schuiteman and titled "Expansion of the orchid genus *Coelogyne* (Arethuseae; Epidendroideae) to include *Bracisepalum*, *Bulleyia*, *Chelonistele*, *Dendrochilum*, *Dickasonia*, *Entomophobia*, *Geesinkorchis*, *Gynoglottis*, *Ischnogyne*, *Nabaluia*, *Neogyna*, *Otochilus*, *Panisea* and *Pholidota*" in *Phytotaxa* 510(2) July 2021.

The summary of the paper reads, "*Coelogyne* has been shown in analyses of molecular data to be polyphyletic with 14 other genera of *Coelogyninae* (Arethuseae) embedded. Three possible solutions to establish an alternative classification are considered: 1. lumping all of these in the oldest genus, in this case *Coelogyne*, 2. distinguishing two genera corresponding to the two main clades in the alliance or 3. recognition of many new genera to accommodate the groups of *Coelogyne* that are more closely related to some of these other genera. The second and third alternatives are considered non-viable because there are no reliable morphological characters that can be used to identify these taxa. Here, we make the necessary combinations and new names to make the first option possible."

(JimB: from Wikipedia – A polyphyletic group or assemblage is a set of organisms, or other evolving elements, that have been grouped together based on characteristics that do not imply that they share a common ancestor, ....)

This paper moves to resolve taxonomic issues identified in Volume 4 of *Genera Orchidacearum*, published in 2005. A lot of DNA data has been accumulating since then and this paper summarises all available information and concludes that merging all these genera into one large genus, *Coelogyne*, is the only way to make sense of the information."

A number of the genera subsumed by the change are not common in cultivation so will generally not impact on hobbyists, however several are quite common leading to consternation and push back to accepting the changes.

**So let's have a look at the changes proposed and accepted by Kew and the International Plant Name Index.**

The first genus affected is ***Bracisepalum***, which currently has two species, both endemic to the island of Sulawesi in Indonesia.

Neither species is common in cultivation as not one photo can be found on Flickr, a photo share web site with billions of photos. *Bracisepalum densiflorum* now becomes *Coelogyne confertiflora* as the name *Coelogyne densiflora* had already been used for a different species which is now known as *Coelogyne tomentosa*, and *Bracisepalum selebicum* now becomes *Coelogyne selebica*.

As you can see from the photos to the right, there are some similarities with *Coelogyne* species.

The next two genera affected are ***Bulleyia*, and *Chelonistele***.



*Coelogyne confertiflora*



*Coelogyne confertiflora*



*Coelogyne selebica*



*Coelogyne selebica*

***Chelonistele*** is far more common in cultivation so the changes will have a larger impact. It is a genus of the orchid family consisting of 13 currently accepted species. It is native to Indonesia, Malaysia, and the Philippines (see *C. lurida* and *C. sulphurea* above).

The next genus and most contentious is ***Dendrochilum***.

It is a large genus, with many representatives in cultivation. Who doesn't have a *Dendrochilum*?

Here are a few examples of *Dendrochilum* which are now *Coelogyne*.



*Coelogyne cobbiana*



*Coelogyne hampelii*



*Coelogyne saccolabium*



*Coelogyne schaiblei*

Don't forget, because a species is transferred to a different genus doesn't mean that the specific epithet will remain the same. It depends on whether the name has already been used for a species in the transferred to genus, in which case a new specific epithet must be used.

Then come two more monospecific genera – ***Dickasonia* and *Entomophobia***

***Dickasonia*** comprised just the species *Dickasonia vernicosa*, now known as *Coelogyne vernicosa* (left of two here - photo by Eric Hunt).



*Coelogyne vernicosa*



*Coelogyne entomophobia*

This is followed by another monospecific genus from Borneo. The species was first found on Mt Kinabalu as the name suggests and is called ***Entomophobia kinabaluensis***, now known as *Coelogyne entomophobia*. The photo (far right) is of a plant I found near Bario in northern Sarawak near the Kalimantan (Indonesian) border.

The next genus affected is *Geesinkorchis* which has four species, three endemic to Borneo and the fourth from Sumatra. I have been fortunate to have seen *Geesinkorchis alaticallosa* several times in Borneo and believe this one should be introduced to cultivation in Australia as it is a really nice species. Now known as *Coelogyne alaticallosa*. I find it interesting that 11 years ago when I was trying to identify this species, Eric Hunt posted this comment on seeing my photo, "It's a *Coelogyne* and I'm pretty sure it's in Section *Elatae* but I don't see a match in Elisabeth and Jean-Claude's new book." So back then Eric could see the similarities of this species to *Coelogyne*.



*Coelogyne alaticallosa*

*Coelogyne phaiostele* Photo: Ed Vogel

*Gynoglottis* is another monospecific genus.

*Gynoglottis cymbidioides*, from Sumatra and is so rare that not one photo can be found on Flickr and the only photo I can find is from Jim Comber's book on the *Orchids of Sumatra*.



*Coelogyne cymbidioides*

Next, we have *Ischnogyne*, and *Nabalua*. -- *Ischnogyne* is

another rare monospecific genus with one species (*mandarinorum*) from central and northern China. *Nabalua*, is a genus with three species, one of which I have in my collection, *Nabalua angustifolia*, now *Coelogyne blumea* (label change now required), *Nabalua clemensii* (now *Coel. keithiana*) and *Nabalua exaltata*. All three *Nabalua* species are from Borneo where I have been lucky to have seen two of the three *in situ*.



*Coelogyne mandarinorum*

*Coelogyne blumea*

*Coelogyne keithiana*

The next two genera impacted by the name changes are *Neogyna*, another monospecific genus, and *Otochilus*.



*Coelogyne gardneriana*

*Coelogyne fusca*

Photo: Eric Hunt

*Neogyna gardneriana*, is found from Nepal, Southern Yunnan in China, Assam, Bangladesh, Eastern Himalayas, Laos, Myanmar, Thailand, and Vietnam. It has been seen a couple of times at OSSV, the latest in June 2019.

The genus *Otochilus*, has 5 known species, native to China, the Himalayas, and Southeast Asia. Not seen in cultivation in Australia and rarely seen outside Australia. The two here are *Coel. fusca* and *Coel. porrecta*.



*Coelogyne porrecta*

Photo: Vijay Anand Ismavel

The second last genus impacted by the change is *Panisea*, a genus of about 20 species. It is native to China, the Indian Subcontinent, and Indochina. Two species currently in cultivation in the USA are *Panisea distelidia* and *Panisea unifolia*. I photographed the *Panisea distelidia* in Marni Turkel's orchid collection outside San Francisco. The photo of *Panisea uniflora* was taken by Piotr Markiwietz from Cleethorpes, in the UK.



*Coelogyne distelidia*



*Coelogyne uniflora*

The last genus I need to address impacted by the changes is the relatively common genus in cultivation, *Pholidota*. This genus commonly known as rattlesnake orchids, are clump-forming epiphytes or lithophytes. There are about thirty five species native to areas from tropical and subtropical Asia to the southwestern Pacific including Australia where *Pholidota imbricata* can be found in Queensland.

There are several species found in Australian collections. I have two species in my collection. These are *Pholidota chinensis* now known as *Coelogyne chinensis*, and *Pholidota imbricata* now known as *Coelogyne imbricata*.

So there you have it. I expect to see more name changes as DNA testing is expanded to more genera and species within those genera.

However, we are heading in the right direction as we are classifying plants using better scientific tools utilising DNA analysis. Up until recently, taxonomy has been based predominantly on morphology which has stood us well but is not definitive, especially when convergent evolution is involved. - I'm off to change some labels!



*Coelogyne chinensis*



*Coelogyne imbricata*

*And to finish off, a few lighter thoughts in case we take life too seriously*



**SO, THE CIA CAN HACK INTO MY TV AND LISTEN TO EVERY WORD I SAY, BUT MCDONALD'S CAN'T HEAR ME SAY "NO PICKLES" THRU THEIR DRIVE-THRU SPEAKER ?**

