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

(Established in 1947)
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20th March 2023 Volume 64 No. 3
Annual Membership : **$15 single, $18 family**

. ***Patrons - Pauline and Trevor Onslow***

Next Meeting : Mon 20th March 2023

Venue : ***The West Lindfield Community Hall, corner of Bradfield Rd and Moore Avenue, West Lindfield***.
Attendees must be at least double vaccinated. Please tick your name off the attendance list on arrival & enter 'DV' for double vaccinated if your status has not already been recorded. Face Masks recommended.

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

Our Culture class for March will be **Chris Wilson** – Bark based mix suitable for culture under shade cloth conditions

The usual ***monthly raffle***, and the ***library*** will be operating, the usual ***sales table*** will operate for sale of members plants and for small quantities of pots and other growing supplies. BUT anyone expecting to purchase a larger volume of any one item should contact Dennys Angove in advance as previously explained.

The Supper Break – Our supper Volunteers this month are **Di Flinders** and **Sonja de Jong.** Thanks so much for managing this for us. Our suppers are a huge and integral part of our meetings and enable all members to get to know one another just that little bit better each time. Members please note - the society supplies tea, coffee, milk, sugar etc, but ***we ask all members to bring in a contribution of cake or biscuits etc for the supper table, AND please bring your own mug.*** Also note that Supper is not self-serve, a member will be assigned to serve to minimise handling. For those who forget to bring their own mug, we have a few disposable cups but why not put a spare set of mugs in your car right now, as soon as you get this bulletin.

After the break, ***our guest speakers will be*** **Dennys & Janine Angove** telling us about their **orchid finds on a recent holiday in WA**. The orchids of that little corner of the world are truly amazing so this will be a session you shouldn't miss.

Best of the Evening Hybrid – Cattleya Mari's Love 'Taka' - *grown by Gloria & Allan Cushway*

This lovely orchid has been Best of the Evening a number of times before so I guess that tells us something. First it is a pretty classy orchid, and second, Allan and Gloria are pretty classy growers.

Mari's Love was registered in 1999 by H&R Orchids in Hawaii.

At least 12 different cultivars have been awarded so far and the Cushway's 'Taka' got its AM in 2022.

There are a dozen different Cattleya species involved in Mari's Love's breeding but as I have mentioned before, the one that gives it that attractive 'splash petal' colour arrangement is Catt intermedia var aquinii.

Here are a few other Mari's Love cultivars to show the quality of the cross.

Unnamed cultivar

Sunset Valley Orchids

Dianne

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

President Dennys' Desk – Our February meeting was attended by 41 people and 82 plants were benched. We had a significant number of apologies at our February meeting and so I hope the circumstances preventing those members from attending are benign and free of a challenge. I look forward to catching up with you all when you return.

Plant Doctor's dividend – At the plant doctor's session I brought in a sick looking Lycaste. Trevor and Peter advised a course of action which I took soon after and re-potted and cut loose the bad bits. Between the February meeting and the committee meeting the following Wednesday the plant came to life in a bang and a flower emerged in three days. The problem is, I lost the label, but the flower was amazing. It is still in flower. There is no doubt in my mind that our plant doctor sessions are worthwhile.

Culture session restart – The culture lesson on an *Introduction to Benching* went well with 15 attendees. There was a little noise coming from the main hall which we will have to manage but thank you all for attending. We had some nice feedback and Jim is always a value-add-person – thank you Jim.

GCP purchases – We are still working on this, but our problem is having a satisfactory place for the delivery to occur.

Bulk purchases at meetings –If you need large numbers of items that we normally stock, please email your requirements to me IN ADVANCE so I can bring them in as a special order. I only have limited space in my vehicle so therefore, I am limited in the numbers of items I can bring to our meetings.

Membership Renewal – Members are reminded that it is now time to renew your membership. This is the last time this reminder will be in the bulletin. You can do this on-line or with Jessie Koh at our next meeting, who will gladly assist you to do so.

Wearing masks – Although COVID Safe rules have changed, the wearing of masks in indoor spaces is still recommended. If you are unsure about this, please visit, https://www.nsw.gov.au/covid-19/stay-safe/guidance-on-wearing-face-masks. If you are still concerned about the transmission of COVID or flu, then please feel free to continue to wear a mask at our meetings. I will continue to wear a mask until I feel it is safe not to.

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.

Other News Items

1. Membership – FINAL NOTICE – If you aren't sure if you have already paid or not, please ask at **kuringgaiorchidsociety@gmail.com** - Fees are $15 single, $18 family. You can pay 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** or your **phone number** if your financial institution does not allow you to enter a name. You can email **kuringgaiorchidsociety@gmail.com** to confirm your payment if you feel it necessary.

2. Future events

15-16 April – 9am – 4pm both days - Collectors' Plant Fair, Hawkesbury Race Club, 1 Racecourse Rd, Clarendon – see **www.collectorsplantfair.com.au** - Hundreds of vendor stalls. Fantastic plants including orchids.
16 April - MWOS Auction, Cromer community Centre, catalogue out shortly.
26 – 28 May - Orchids Out West, Many club displays, many orchid vendors in the vendors hall. held at Hawkesbury Race Club, 1 Racecourse Rd, Clarendon

Quick Thinking after a Night Out

The other night I was invited out for a night with "the girls" from my old school and I told my husband that I would be home by midnight. Well, the hours passed and the margaritas went down WAY too easy, and when I headed for home it was way after midnight. Just as I got in the door, the cuckoo clock in the hall started up and cuckooed 3 times. Quickly realizing that my husband would probably wake up, I cuckooed another 9 times.

I was really proud of myself for coming up with such a quick-witted solution in order to escape a possible conflict. (Even when totally smashed I had figured out that ... 3 cuckoos plus 9 cuckoos totals 12 cuckoos = midnight.)

The next morning my husband asked me what time I got in and I told him "midnight!" He didn't seem mad at all. Looks like I got away with that one!

Then he said, "We need a new cuckoo clock."

When I asked him why?, he said, "Well, last night our clock cuckooed 3 times, then after a pause said, "Oh crap", Cuckooed 4 more times, cleared its throat, cuckooed another 3 times, giggled, cuckooed twice more, and then tripped over the coffee table and fell on the floor laughing.

Oncidiinae for Beginners – 2023 Jim Brydie

Following on from last month's culture class on benching, I thought it would be useful to examine some of the key orchid groups in our benching classes. The first group I will explore is Oncidium and its relatives.

You may have noticed that I am sometimes saying 'Oncidium and relatives' and sometimes using the fancy name 'Oncidiinae'? Well Oncidiinae is the correct terminology and from now on I will use that term.

There is a good reason. The genus Oncidium is probably the best known of the Oncidiinae but there are many other genera involved. There are large numbers of them benched at every meeting and every orchid grower crosses their path at some time. When we use vague terms like Oncidium relatives it just avoids trying to explain the breadth of the wider group. You need to know these things sooner or later so let's start now.

***What are Oncidiinae?* -** Well unfortunately, I must delve at least a little into the evolution of orchids to answer.

Obviously, all orchids have a single common ancestor way back in the mists of time. A key common feature in all orchids is that they have that same integrated sexual organ we call a column. No separate male stamens and female pistils. The orchid column is a combined sex organ that contains both. It has waxy balls of pollen hidden under a cap at its top and a female receptor (stigma) lower down on the underside, separated from the male end by a distinct ridge.

The common ancestor is believed to be an extinct ground dwelling orchid from the ancient combined southern continent of Gondwanaland. But, as Gondwanaland broke up and our present southern continents drifted to their locations, orchids were exposed to different climates and habitats and began to spread and change. For one thing they developed the ability to grow as epiphytes. But, did you know that orchids evolved completely independently in multiple geographic locations at the same time? It means that different evolutionary strains of orchids are unique to specific continents. For example Cattleyas and Laelias and their close relatives come only from the Americas. Oncidiinae are also unique to the Americas. On the other hand, Cymbidiums and Dendrobiums come only from Asia and the Pacific. Other genera , like Aerangis and Aeranthes and many others come only from Africa and Madagascar.

Where land masses are joined together, such as India and Asia, there is much evolutionary criss-crossing of genetic lines but even then you can backtrack changes in DNA from one species to another to work out where a particular genus of the orchid family most likely popped up. That's how they build up a diagram of the orchid family tree.

Oncidiinae is one of those tree branches of evolution and it covers about 70 different genera and over 1000 species. The genus Oncidium is probably the biggest and comprises over 300 species so it isn't a great surprise that the name for the wider 70 genus group stems from that name. But don't forget that the group is not just the genus Oncidium. There are many popular species and hybrids within this wider subtribe and every month we see large numbers of these 'others' benched at our meetings. The correct description for the group is Orchid ***subtribe Oncidiinae***.

So how do you know which orchid is in Oncidiinae??

It would be no use me telling you to count pollen grains, or lip hairs, or to examine the shape of bumps on the column or any such thing. Not that any of those are valid technical things anyway, ***so I have decided that pictures are a far better way to tell the tale.***

Luckily for us, although Oncidiinae covers 70 genera, it is a much smaller number that we see more commonly benched at meetings. And, bearing in mind that this article is aimed at up-and-coming growers rather than old hands, I think the following 8 genera will serve my purpose of typifying and describing the subtribe and give growers a feel for it. The 8 genera I will focus on are : ***Oncidium and its sister Gomesa, Psychopsis, Rhynchostele and Cuitlauzina which were once both called Odontoglossum, Miltonia and its sister Miltoniopsis, and finally Brassia.***

For the pictorial representation, I will initially stick to the species in the 8 genera above, and then at the end show pictures of some representative intergeneric (man-made) genera.

1. **Let's start with Oncidium and Gomesa**. Following recent DNA studies a very important section of Brazillian Oncidiums were redefined as Gomesa but for visual identification I must group them together as there are also a very large number of hybrids between these species.

O. varicosum

O. sphacelatum

O. sarcodes

O. excavatum

G. enderianum **G. crispum** **G. gardneri** **G. forbesii**




These are all species you will see on our benches from time to time in the Oncidiinae species section. They are also prominent parents in many Oncidiinae hybrids. However, don't forget that these are just 8 of the 300 Oncidium/ Gomesa species. They do come in all shapes and sizes and although most seem to be yellow/orange/brown, there are a couple of pink species, one red, and many in white combinations.

2. Rhynchostele and Cuilauzina

These genera were both part of the old genus Odontoglossum. Most of the old Odontoglossums moved to become Oncidiums but some became Rhynchostele and a new genus Cuitlauzina was created to accommodate the beautiful Cuilauzina pendula and a few other species that had previously been Osmoglossum.





Cuit. Pendula **Cuit. pulchellum** **Rhynch. bictonense** **Rhynch. cordata** **Rhynch. aspersum**

3. Miltonia and Miltoniopsis

There are about 20 species of Miltonia and 5 or 6 species of Miltoniopsis. For the purpose of hybrid registration, Miltoniopsis hybrids are still being registered as Miltonia, a quirk that I think relates back to the time before the 1979's and 1980's when Mitoniopsis was finally split from Miltonia and recognised as a different genus. The wonderful Miltoniopsis hybrids we all admire today generally spring from the wonderful flowers of just one species, Miltoniopsis vexillaria, although the other Miltoniopsis species have contributed greatly to colours and patterns.






Milt. clowesii **Milt. flavescens** **Milt. spectabilis** **Milt. moreliana** **Mtps phalaenopsis** **Mtps. vexillaria**

4. Psychopsis and Brassia

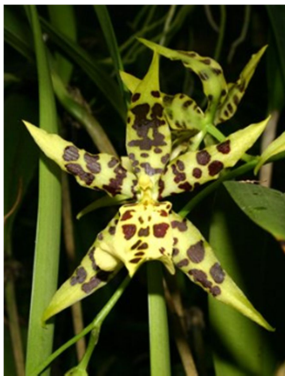
The genus Psychopsis is only small with 4 species, but 3 of them are the flamboyant 'Butterfly' orchids ***(below left)*** that every grower falls in love with at first sight. Species of the genus Brassia are equally distinctive but in a different way. They call them spider orchids. Nothing else looks like a Brassia and all Brassias have the same spidery look although some more than others. Intergeneric hybrids using Brassia are pretty readily identifiable by the same spidery shape.



Psy. versteegiana **Psy. papilio** **Brassia verrucosa** **Brassia keiliana** **Br. arcuigera**

So what happens when you mix all these genes together? Well the hybrids are still Oncidiinae **IF** all the species in the make up of the hybrid come from the subtribe Oncidiinae. Some breed together relatively easily, some not quite so well but they are all interrelated. Some hybrid combinations can contain 4 or more different genera, so the more complex the mix, the less predictable the outcome and the harder it may be to assess required cultural conditions.

Just the same, there are some brilliantly coloured and easy to grow Oncidiinae intergenerics and they are one of the most popular groups among orchid growers. Here are some examples.



Maclellanara Pagan Lovesong

Miltassia Royal Robe

Degarmoara Winter Wonderland

Beallara Diana Dunn

It probably wont surprise you to hear that Brassia is a component is each of the above hybrids. But wait, there's more.

Burrageara Living Fire

Rhynchonia Lawrence McLaughlin

Oncostele Blackwood

Vuylstekeara Lensings Favourite

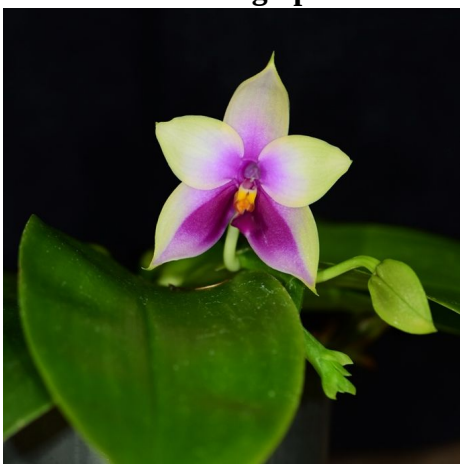
By now you are probably surprised to see such bright reds in an Oncidiinae hybrid. Well the secret is just one single species that used to be called Cochlioda noezeliana **(right)** but DNA studies have recently shown it to more correctly be just another Oncidium.

As you can see from even these few pictures, Oncidiinae and its hybrids are a dramatically diverse and colourful branch of the orchid family tree, even if they are all cousins.

Benching Classes at our Meetings - We have 4 classes for "Oncidiinae Alliance" at our meetings. There is one class for ***Oncidiinae species***, and ***three classes for hybrids***. The hybrid classes were once split on the basis of a sort of notional split of the bigger rounder flowered types versus the more traditional big skirted yellow and brown types. However, the many changes in taxonomy within the group eventually made those splits untenable.

Today, the 3 hybrid classes are separated purely on flower size, ***measured as the natural horizontal breadth***. Just read the description cards in front of each class to decided which is right for your orchid. It is just simply big flowers vs medium size flowers, vs small. Bring a ruler or look for the small ones we place near the Oncidiinae class cards.

Best of the Evening Species – Phalaenopsis bellina (or is it Phal violacea var bellina?) grown by Jean Fulcher



What a lovely orchid. It looks more like an artist's interpretation of the beauty of an orchid. No real orchid would be coloured like that would it?
Well, as a matter of fact, it would.

There has long been argument as to the distinction between the very similar species Phal. violacea and Phal. bellina. The first described was Phal violacea, way back in 1861. Some years further on, in 1884, what is very likely what we know today as Phal. violacea variety bellina was described by Heinrich Reichenbach.

The distinction between the two was supposedly based mainly on flower colour and geographic distribution. Violacea is coloured "usually rose-pink but may be white ... or bluish." Phalaenopsis bellina is described as "white, greenish white, or yellow ... tepals with an intense deep-purple blotch on the inner halves of the lateral sepals.

Geographically, Phal violacea is described as the Malayan type and bellina the Bornean type.

However, In 2007, on the basis of a fine plant of Phalaenopsis bellina submitted to the Mary Selby Botanical Gardens for confirmation of identification, The curator of the gardens, Mr Stig Dalstrom, wrote a paper entitled “Phalaenopsis violacea in a Broader Sense”. This paper can view viewed online via the internet but for the purpose of this brief explanation I will try to provide you the essence of it.

Two colour forms of violacea -►

First, “…“the source of the plant originally described by Reichenbach in 1884 *(JB: as variety bellina)* is unknown. If we check the distribution of Phalaenopsis violacea in Williams' book ‘The Orchid Grower's Manual’: (1894), however, we read "Malay Archipelago." Additionally, Rolfe (1891) reported that in 1881 Mr. Curtis *(JB: a famous explorer and orchid collector of the day)* sent a consignment of plants from Palembang (southern Sumatra) to Veitch that were "very variable in the colour of its flowers, which range from almost uniform violet shade down to cream-white, with the segments somewhat barred and spotted in some varieties. In the light-coloured varieties, however, the front lobe of the lip usually retains its violet colour, and in some cases also the contiguous halves of the lateral sepals, forming a very elegant contrast."

“So the question is: what separates Phalaenopsis bellina from Phalaenopsis violacea? According to the author of the former species *(bellina)*, the difference is based on morphological and chemo-taxonomic data; but it is also mentioned that the two species generally represent separate geographic distributions, where Phalaenopsis bellina is horticulturally known as the "Bornean type" and Phalaenopsis violacea represents what is known as the "Malayan type," although the type plant of the latter species was collected in Sumatra. These "type" definitions seem to have been coined by Janet and Lee Kuhn (1965), the creators of J & L Orchids, who imported large numbers of Phal. violacea over the years. To complicate things, both "types" (at least the "Bornean" type) reportedly occurs throughout the entire area of distribution, making this geographic "typification" unreliable for taxonomic purposes.”

“On the other hand, the fact that both "types" grow sympatrically, or at least in the same country (even though they may be isolated by other factors such as altitude or habitat preference) supports the possibility that they may indeed be distinct species. What speaks against this, however, are the selected distinguishing features for Phal. bellina on which the species diagnosis is based. The first feature mentioned by Christenson is a difference in color. The flowers of Phal. violacea are "usually rose-pink but may be white ... or bluish." The color of Phal. bellina is described as "white, greenish white, or yellow ... tepals with an intense deep-purple blotch on the inner halves of the lateral sepals. In some color forms of P. bellina there are either purple spots or purple flushes on the proximal portions of the petals and lateral sepals. The perianth *(petals and sepals)* of P. bellina, however, is never uniformly pigmented as in P. violacea." When analyzing these descriptions, my impression is that we are dealing with a certain degree of natural variation in color range for both taxa that merge into each other. Looking at the chosen photographs and illustrations in Christenson's (2001) monographic treatment of the genus strengthens this impression, with at least Phal. violacea f. coerulea displaying the coloration pattern typical for Phalaenopsis bellina.”

“In general, vague and inconsistent color differences alone are not particularly reliable for taxonomical purposes, and this case seems to be no exception.”

Other colour examples ►

var bellina **a striped violacea** **violacea var. alba**

“The second feature of distinction between Phal. bellina and Phal. violacea is based on morphological differences in the shape and size of the sepals and petals, where one extreme is considered as one species, and the opposite extreme is considered the second species. No other morphological differences are apparent to separate these two taxa. When I analyze these features in various publications and descriptions … it becomes clear that both size and shape of the sepals and petals vary a lot, and merge into each other as well. This diffuse "distinction" is not satisfactory to consider the two entities as separate species either. ….. with many plants representing one form originating in Sarawak ("Bornean" type) but found elsewhere as well; and the smaller, often more unicolored forms, commonly referred to as the "Malayan type," generally originating in Malaysia and Indonesia ...”

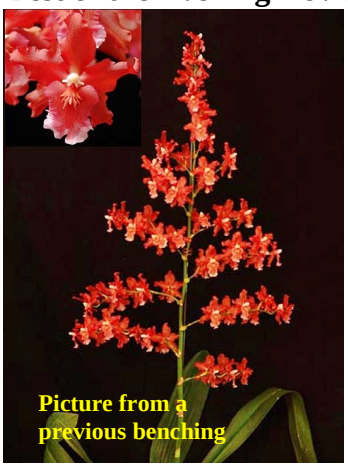
“The third feature is the chemo-taxonomic difference. Christenson and Whitten (1995) analyzed the floral fragrances between Phalaenopsis bellina and Phalaenopsis violacea, and concluded that they were different enough, together with the above listed color and morphological features, to distinguish between these two species. This result was never published, however; and when asked about this, Whitten (pers. comm.) explains that differences in fragrance composition provide evidence supporting that the two are distinct, but it provides no conclusive proof about species status. ……. Variation in floral fragrances or in leaf essential oils is common within some species (chemotypes). Without analyses of population samples of Phalaenopsis bellina and Phalaenopsis violacea, we don't know whether these differences in fragrances correlate with morphological differences, …. or play a …role in pollinator specificity

…. *(also)* depending on which part or combination of *(flower)* parts is used in the analysis, the outcome may be different."

"Conclusions : .. I cannot but conclude that Phal. bellina just represents selected individual plants of a variable Phal. violacea. The terms "Bornean type" and "Malayan type" are misapplied, .. What we really have are forms of a species that display certain slightly deviating characteristics, such as bow-legged lateral sepals, bluish color, or unusually broad petals. … The World Checklist of Monocotyledons recognizes only Phalaenopsis violacea and treats all varieties and forms as synonyms. Thus the Orchid Identification Centre treats Phal. violacea in a broad sense."

Final word by JB : That sounds good enough for me. My Phal bellina is now a violacea var bellina, but I guess each can decide for themselves. AND regardless of what you call it, Jean's "bellina" is a gorgeous cultivar and I am envious. Congratulations Jean. Wonderful growing.

Best of the Evening Novice – Onc. Space Mine 'Red Rendezvous' grown by Loretta & Paul Au



Wow, what an eye catcher and what a perfect example of my discussion on Oncidiinae intergenerics in the article on Oncidiinae benching. Before any of you read about this one, I suggest you read that article first.

Although Orchidwiz lists this one as a straight Oncidium hybrid, its generic background is rather interesting. The two main contributors to its genes are the brilliant red Oncidium noezeliana which until this century was in genus Cochlioda, and the Oncidium with the huge tree shaped inflorescence – Oncidium sphacelatum.

It is listed as having two more known parents, and two more listed as unknown. The two known parents are species (O. nobile, and O. Alexandrae) from the old genus Odontoglossum, the kind with the wonderfully filled in round flowers and the exotic patterned tepals that make such amazing hybrids. The two unknowns are curious. It comes from the registration in 1907 of a hybrid registered as Odontioda Coronation. A delightful red, multiflowered and highly patterned flower. Now although the parents were listed as 'unknown' the fact that the genus name it was given was Odontioda tells us all we need to know. An Odontioda is a cross involving the genus Cochlioda and the genus Odontoglossum, which is exactly what Coronation looks like. So that means it is likely that one of the two unknown parents was Cochlioda noezeliana, and the other was either an Odontoglossum hybrid, or one of the flossy flowered Odontoglossum species like Odont nobile..

So what does all that mean? Well all the aforementioned species are now Oncidiums, so "Space Mine" is also an Oncidium hybrid. Although I must admit that still doesn't sit quite right with me. I know the DNA evidence says so but my goodness noezeliana is a most oddball Oncidium and those old Odontoglossums were also the most distinctive Oncidiums you ever saw as well. Just goes to show you can't please all the growers all the time.

Congratulations yet again Loretta and Paul. Very good growing as usual.

Wonderful Cattleya alliance orchids from last month

Catt. hybrid 'Streeter's Choice'

Cattlianthe Fitz Eugene Dixon

RLC George King 'Southern Cross'

Cattlianthe Meadii

So many excellent growers bring in these fantastic Cattleya flowers every month that we begin to think that such quality and skill is normal. But not so. Even as recent as 30 years ago most of the Laeliinae hybrids were slightly ordinary and few growers grew the family really well. We still have few growers dominating our ranks, like the Cushways, the Bromleys, and the Onslows, but there are now many more members regularly benching wonderfully grown Cattleyas and Laelias and we are frequently seeing really unusual orchids as well.

The ***RLC George King*** benched by Lee Payne is an example. It was registered over 50 years ago and was a real weirdo of its day. Its parentage includes yellow flowers, orange flowers, whites, many classy pinks, and the big lipped green Rhyncholaelia digbyana. Most of the resultant seedlings were more or less pink with some much paler than others. But there were a few white flowered seedlings, a few yellows, some sort of flesh coloured, and some almost orange. How is that for a palette of cultivars from one cross. Lee's looks half way between a white and a yellow and is

very attractive. Well it is to my eye anyway. But if you prefer pink or another colour there is a George King somewhere to float your boat.

Lee also grew the ***Cattlianthe Meadii*** which has a bit of history. It was registered over a hundred years ago and is a cross between the cute but not so easy to grow, yellow or green or olive Cattleya forbesii, and what was at the time Cattleya bowringiana (now a Guiaranthe). It is an unlikely combination but produced medium size plants with a range of bowringiana size heads of pink flowers. It has been remade a number of times in more recent years using select parents and I presume Lee's is one of those.

And as an example of the variance you can get in one species, compare the basic loddigesii on the left here with Trevor Miller's ***loddigesii var impassionate*** *(right)*. Var. impassionate has a distinctive lip form with regard to the end lobe of the lip being narrowed into an isthmus. Not every impassionata looks the same though. In some the isthmus is wider, or more twisted, and in some is much more pronounced.

And finally, I wonder how many members noticed the D'Olier's cute little species ***Cattleya alaorii***. This rather rare little orchid is one of the group we used to call rupicolous Laelias but the whole group were recently shifted to become Cattleyas.

There are about 35 species in the section, although the fact that many are isolated to very small areas indicates that there may be more species to be identified in coming years. Most of the group are found in the higher elevations of the Brazilian states of Minas Gerais, Rio de Janiero, and Bahia in a narrow area of eastern Brazil. Their habitats are bleak, dry, rocky areas where the rainfall is very seasonal, there are few if any trees, and the plants experience bright light all year round. The plants mostly grow on sandstone bedrock with their roots protected by moss, lichens, and other low-growing vegetation like grasses and low shrubs.

They come in bright colours including pink, yellow and orange. The plants are tough and almost cactus like in their adaption to their habitat.

They seem to be an example of micro evolution where individual species have developed in tiny isoloated geographies. This habitat definition for Cattleya aloarii from the Baker's plant description gives you a perfect example.

"ORIGIN/HABITAT: Brazil. Plants grow in a limited area of a small range of coastal mountains near Ilhéus in the central part of the state of Bahia. The original discovery was reported at 500 ft. (160 m) along the Rio Salgado not far from the village of Santa Luzia. Because many rivers in Bahia are named "Rio Salgado," the habitat of this species could not be relocated for a number of years. Fortunately, however, there is only one village known as Santa Luzia in Bahia. It is close to Una, just south of Ilhéus. Fowlie (1989) reported rediscovering Laelia alaorii in this area at about 1800 ft. (550 m). The plant he found was growing on a horizontal, moss-covered branch in a huge old tree that was laden with bromeliads and other orchids. Unfortunately, the habitat in this region is being destroyed rapidly as the land is cleared for huge cocoa plantations.

Such is the way with what I will now call the rupicolous Cattleyas. Different species on different hills.

Cattleya alaorii plants are very small with a 2 to 3 cm pseudobulb topped by a thick 5 or 6 cm egg shaped leaf. The 8 cm flowers come in soft pinks, white, and in combinations of white and pink. A very few are white with a lightly blue tipped flare to the lip tube.

These habitat pictures from Miranda Orchids to give you an idea of the harsh habitat the rupicolous Cattleyas occupy.

Cattleya lilliputiana in situ

Cattleya kettiana in situ

Cattleya flava in situ