



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

(Established in 1947)

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15th August 2022

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

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Committee James Clugston

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

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

Society email : kuringgaiorchidsociety@gmail.com

Next Meeting : Mon 15th August 2022

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

Same as last month – Attendees must be double vaccinated. *Your vacc. certificate will be checked (unless it was previously checked and registered at a meeting). Please cooperate with those managing this process.* Also, if you aren't feeling well on the night, please stay home. Think of your friends.

Face masks are no longer mandatory but are strongly recommended where 1.5 M spacing can't be maintained!!

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 – We will have a **talk by Craig Miles from Orchids of Distinction** in Victoria. Craig is an experienced orchid nurseryman up here for the St Ives Fair and we are lucky to have him come to our meeting before the fair. A few years ago, he did a wonderful talk on Miltoniopsis for us and many members took home some of the great plants he brought that night. His talk this meeting is called "Where did my Orchid come from?" which sounds rather enigmatic but Craig is a knowledgeable, confident and very accomplished speaker so let's see where this leads.

BOE Open Species – *Paph. venustum* - grown by Christine Rethers

Paph. venustum is a very distinctive species from north eastern India on the slopes of the Himalayas, between about 300 and 1300 m elevation. It's distinctive features are it's green and white striped dorsal, the unusual prominent veins in the pouch, and the colourful petals but the latter two features can vary dramatically from plant to plant and have given rise to many named varieties.

This one of Christine's is beautifully grown and the petals are nice, but I couldn't give it too high a score competitively. The species varies so much that specialist growers can collect dozens of venustum seeking that perfect and most different one.

A very worthy Best of the Evening Christine, but have a look at some of these others. Perhaps there is space in your collection for a few more different ones just yet.



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

President Dennys' Desk for August – It was good to be back in the chair for the July meeting. It was a busy meeting with a lot of lovely plants benched on the night. We had 38 people attend which included 5 visitors and 13 apologies. Again, I hope those that were unable to attend are managing whatever situations in which they have found themselves in a hopeful way. I thank Graham Larkham for making the long journey to give us his talk which evolved into a good tutorial session with lots of participation by our experienced growers – good job everyone. I also thank Garrie for the history of the famous SIOS fruit cake – so good.

July bulletin mail out – The mail may have been a bit wonky this time but be assured that I was able to mail out the bulletin on time to those members who rely on the mail out for their bulletin. I also received many thanks from some of these members who enjoyed the SIOS, KOS Member's Information Pack.

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**, as Geoff Le Marne confirmed at our last meeting. 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.

St. Ives Orchid Show – Our roster of helpers has gone into the SIOS committee. In this bulletin is a **KOS volunteer list** of those who have put their names down to help. Remember, this is not a roster but simply a reminder for those members who have volunteered so they can refresh their memories. On Thursday morning we will need folk to help setup the display. Please re-read the SIOS, KOS Member's Information Pack which has important information to help make your volunteering a worthwhile experience. I also congratulate Lina Huang for her acceptance of the role of our display coordinator for SIOS 2022. I also thank James Clugston and Jean Hocking for the wealth of theme ideas they have offered for our display.

Benching card records – I am happy to report that Lina Huang has offered to take over as benching card recorder from Graeme Mohr. I will leave it up to Lina and Graeme to sort out the changeover.

Voucher expiry dates – Please remember that any \$5 vouchers you still have will expire at the end of the September 2022 meeting.

Pot orders – As you are aware we offer support materials for our members each meeting night. There is a limit to how many items can be brought to the meeting. However, if you have a large order of pots and we have them in stock they can be brought to the meeting as a batch, or you can contact me and you can pick them up from my home. I have 3 bags of bark in stock at \$35 each (2 x 12-18 mm and 1 x 9-12 mm).

Coffee and Tea – We will still be offering coffee and tea and biscuits at the August 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.

UPCOMING EVENTS:

1. 12-14 Aug -- National Orchid Extravaganza & Paphiopedilum Society of NSW, The Arena Sports Club, Rookwood Rd, Yagoona.

Cymbids, Paphs, and many others. Fantastic plants, many vendors, a great show.

2. The St Ives Orchid Fair - 19-21 Aug

St Ives Showground,
Mona Vale Rd, St Ives

THE BIGGEST OF THEM ALL, BACK AT LAST

Members - We are one of the clubs that run this fair and we also put on one of the displays. This is your show – We need your Support.

The Volunteer Rosters – The Fair Management

committee has assembled a combined roster from shifts volunteered by members of the 4 partner societies and at the fair, will use that combined roster for assigning volunteers to specific roles day by day as volunteers check in.

Being the humans we are, sometimes things just don't go to plan and plans change moment by moment as some turn up late or early, or fail to show up, or make special last minute requests.

We don't publish preplanned assignments but be assured, the roster managers have recorded each volunteer's requested specific roles and/or limitations on physical capabilities, and will try to accommodate. We ask for your understanding and flexibility when you check in.

St Ives Orchid Fair
'The Big One'

ST IVES SHOWGROUND
Mona Vale Road, St Ives

Friday 19th August 2022 9 am to 4 pm
Saturday 20th August 2022 9 am to 4 pm
Sunday 21st August 2022 9 am to 3 pm

ADMISSION \$8

Major Sponsors
Rosella Orchids - Garden City Plastics - Swagman Sprayers

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

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

St Ives Fair 2022 Volunteer Rosters (showing Kuringai Orchid Society volunteer shifts only).

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

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

You must check in and be assigned separately for each shift you have volunteered.

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

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

Thursday 18 th August		Friday 19 th August	
9.00am to 12.30 pm	12.30pm to 4.00pm	9.00am to 12.30 pm	12.30pm to 4.00pm
Graeme Mohr	Di Flinders	Herb Schoch	Trevor Miller
Chris Wilson	Bill Saunderson	Jessie Koh	Nancy Yao
Lina Huang	Janine Angove	Christine Rethers	Di Flinders
Jim Brydie (display)	Dennys Angove	Chris Wilson	John Chang
Cynthia Brydie (display)	Lina Huang	Annie Tao	Stuart Ruthven
Janine Angove (display)	Jon Hestelow	Betty Ng	Lina Huang
Dennys Angove (display/setup)		Bill Saunderson	
Jon Hestelow (display/setup)		Jim Brydie	
		Cynthia Brydie	
		Jon Hestelow	

Saturday 20 th August		Sunday 21 st August		Sun. 21 st August
9.00am to 12.30 pm	12.30pm to 4.00pm	9.00am to 12.30 pm	12.30pm to 3.00pm	3.00pm to close
Trevor Miller	Bob Ellis	Jean Hocking	Bob Taffel	Graeme Mohr
Herb Schoch	Geoff Le Marne	John Hocking	Herb Schoch	Bill Saunderson
Jessie Koh	Stuart Ruthven	Christine Rethers	Jessie Koh	Dennys Angove
Christine Rethers	Lina Huang	Henry Frydman	Graeme Mohr	Chris Wilson
Loretta Au		Janine Angove	Chris Wilson	Jon Hestelow
Paul Au		Dennys Angove	Sonja de Jong	
Bill Saunderson		Lina Huang	Bill Saunderson	
Dennys Angove		Jon Hestelow	Stuart Ruthven	
Janine Angove			Janine Angove	
Jon Hestelow			Dennys Angove	

1. The Ku-Ring-gai Orchid Society Display

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

Set up day is Thursday and we need both flowers and foliage. They need to be there by 9am Thursday 18th Aug.
This enables the set up team to assess what material is available and to begin organising the display.

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

Providing orchids and foliage for our display is entirely voluntary, but the number of members who usually contribute is alarmingly small compared to the number of members who bench every month at meetings. Please members, don't leave it all to others, we especially need your orchids.

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

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

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

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

We need your Nom. Form list submitted to Dennys Angove by email at dennys.angove@bigpond.com by 6pm Tues 16th Aug to enable us to start making the large decorative plant name cards used in the display. When the public admires the displays, the big cards help viewers identify the plants they admire.

(C) **Marking your plant pots** - You also need to **mark each pot** clearly with your name or initials so that the plant

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

Best of the Evening Open Hybrid - *Oncidesa Trinity 'Mayfair'* grown by Garrie and Lesley Bromley



This orchid is a bit of a surprise to me. The flower shape, colour, and inflorescence remind me strongly of *Zelenkoa onusta* (more recently known as *Oncidium onustum*). I imagined it was one of the new hybrids exploring intergeneric combinations with that species.

So what is an *Oncidesa*? Well the genus name means a hybrid combining species of just *Oncidium* and *Gomesa*, but as those are two of the largest *Oncidiinae* genera, that leaves a pretty wide field. I looked up the hybrid in Orchidwiz, and surprise, surprise, there is not a drop of *onustum* anywhere in its background.

Mayfair is a hybrid registered in 1998 by Fuchs Orchids in Florida. It involves only three species – *Onc. sphacelatum*, *Gomesa flexuosa*, and *Gomesa varicosa*, but the breeding story involves

several criss crosses and backcrosses between those species and their close hybrids, obviously with the aim of bringing out some of the best characteristics and tuning out the worst.

So let us see examples of those 3 progenitor species to see how on earth they got to *Mayfair*.



Onc sphacelatum



Gomesa varicosa (used to be *Onc. varicosum*)



Gomesa flexuosa (was *Onc. flexuosum*)

You can see none of the three look anything like *Mayfair* but there are some characteristics that aren't obvious. Let us examine them a bit more closely.

1. *Onc. sphacelatum* is a relatively large grower with big pseudobulbs up to 15cm tall and broad grassy textured leaves that are 40 to 60 cm tall. It has prolific, upright to arching and branching spikes that can be 180 cm tall but are more usually only a metre or so. The flowers are about 3 cm diameter, mostly yellow but nearly always with brown or reddish brown splashed on the inner part of the segments. The mature plant pictured above belongs to the Cushways and it is a nice baby still growing. These are big plants. They have round flowers but not well filled in. They are good strong growers that seem to grow well in Sydney.

2. *Gomesa flexuosa* is a rambling climber type as you can see from the elongated rhizome between its growths. It prefers growing mounted and often just languishes if grown potted. It likes its roots in the air. When mounted, it quickly covers its mount with a mass of pseudobulbs, leaves, and aerial roots. It is much smaller in growth parts than

sphacelatum and smaller in flower, but it also has tall branched spikes with clouds of lovely flowers. Flower form varies from plant to plant but they always have pretty much the same shape. Taller than wide, the petals and dorsal sepal sitting together at the top, then a gap, then a pair of labellum wings that look like little petals, another gap then the main lobe of the labellum.

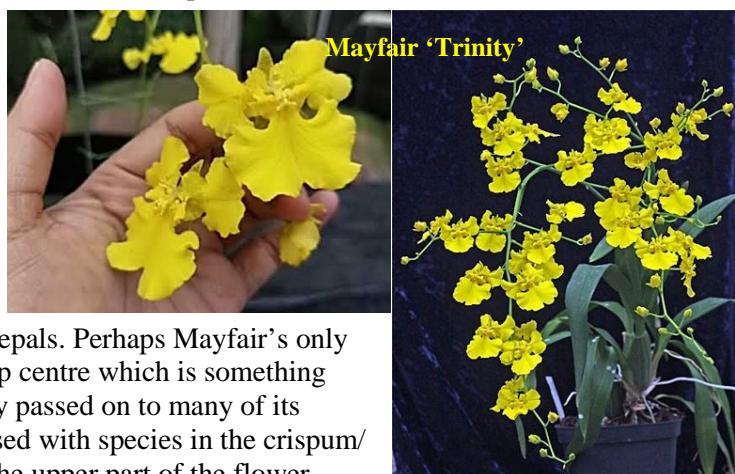
3. *Gomesa varicosa* is the species on which the expression dancing lady orchids is based. It is the prettiest of the 3 and has an extravagantly broad lip reminiscent of a flamenco dancer's skirt at full swirl. As a result it is at the heart of the majority of 'Oncidium' hybrids aimed at attractive, large yellow flowers.

These are moderate size plants. Pseudobulbs about 5 or 6 cm, grassy 20 - 30 cm leaves. The inflorescence can get bigger but is usually 40 – 60cm and carrying around 50 flowers. A well flowered varicosum is an impressive sight. However, these are not the easiest *Gomesa/Oncidium* to grow and flower. In nature they experience a distinct rest period through late autumn and winter. For 5 months they get between 0.5 and 1.5 cm of rain per month. Just enough to stop them shriveling too much, and they certainly aren't actively growing then. In Sydney's climate they will not start to show signs of waking up until about October when they start to show a new root emerging and/or a shoot. They grow actively from October to about March and then flower in autumn, followed by the rest. If they are watered heavily during the rest, the existing roots will frequently rot off and the plant will decline.

So How On Earth did they get *Oncidesa Mayfair*??

As you can see, Mayfair doesn't seem to look like any of its prime progenitors. The spike is much more like varicosum than the other two but the others may have contributed some branching characteristics.

The flowers are sort of squarish in shape which could be reminiscent of flexuosum but Mayfair's flowers are much larger. The lip is bold, not as flamboyant as varicosum but wider and fuller than flexuosum. As in most *Oncidium* types, the lip hides the ventral (lower) sepals. Perhaps Mayfair's only negative character is the tiny dorsal sepal at the very top centre which is something also particularly noted in varicosum and is unfortunately passed on to many of its hybrids. It is one of the reasons varicosum is often crossed with species in the crispum/enderianum group in an attempt to increase the size of the upper part of the flower.



But where does the all gold come from? All of the species in the parentage have strong red or brown flower markings.



Perhaps it was this 'all gold' that made me think of *Zelenkoa onusta* (*Onc. onustum*)?

Let's have a look at the close ups of the flowers to compare them. See the onustum close up (far left) and Mayfair (above).

Now we can see them together, although they are similar there is one key characteristic of onustum that is missing in Mayfair. The lip of onustum has a big pair of upper lobes (or wings) that look like make believe petals.

The picture at the far left is not a very high class onustum but because all onustums have those wing lobes, I chose that picture because it shows them clearly as part of the lip. And because of the shape of the wings and the gaps in the flower, you can also see the 2 ventral sepals behind the wing lobes of the lip. However, just to show what a better onustum looks like, compare the far left picture to the other onustum beside it. The second onustum has bigger broader petals and fuller lip parts that fill the shape of the flower.

So, I was wrong thinking onustum was involved in Mayfair.

As I said earlier, in the breeding background of Mayfair, there is some obvious backbreeding. There are only 3 species involved so the primary hybrids (i.e. species x species) must be prominent. *Flexuosum x sphacelatum* is called Goldiana and that name occurs 3 times in Mayfair's breeding history. *Sphacelatum x varicosum* = Guinea Gold and that hybrid is used twice. Goldiana x Guinea Gold makes Gower Ramsay and that hybrid is also used twice. It is all a trifle incestuous isn't it? Especially when Goldiana, Guinea Gold, and Gower Ramsay are crossed with each other or to one of the primary species.

I would love to now show you pictures of those three key hybrids but there don't seem to be any pictures of Guinea Gold readily available anywhere. It was another surprise to me that, in the official hybrid register, Guinea Gold has only ever been used to make one registered hybrid and that was Gower Ramsay, but at least in that one they got a good one. Gower Ramsay is very well known and popular. It was first registered in 1966 but I am sure has been remade many times since with different cultivars of the parents. Gower Ramsay is a combination of the same 3

primary species as Mayfair, just in a slightly more primitive combination and in different percentages. Gower is a very prolific flowerer and a tough little orchid. It is less touchy about its growing medium than some of the other dancing ladies and it makes a great producer of cut flowers.

So let me show you a few background pictures anyway. The direct parents of Mayfair are Oncidesa Fuchs Gold and Oncidesa Gower Ramsay. The parents of Fuchs Gold are Taka and Gower Ramsay. So in Mayfair we have Gower Ramsay on both sides with Oncidesa Taka added.



Goldiana

Taka

Taka

Fuchs Gold

First, let's look at Goldiana (left) which is *flexuosum* x *sphacelatum*). Taka (middle 2 pics) and Fuchs Gold (right). Taka is Goldiana crossed with the species *varicosa* which also gives it genes from all 3 species. Despite the extra genes, Taka & Goldiana are very similar but in any seed cross there will be a range of variations among the babies. On these two examples, the top half of the flower is similar to *sphacelatum* but with petals and dorsal reduced in size. The lip is more like half way between *flexuosum* and *varicosum*.

In the case of Taka, one of the best cultivars is "Green Man's Hula" (right) which has been awarded an HCC. The only picture I could find showed an orange flower but the award description says the flower was canary yellow with brown barring. In one description it calls the brown "mahogany" and in another "chocolate". As a result, I decided to fudge the orange picture to make it yellow, and when you do that, this picture is what it looks like. It is obviously a much superior cultivar to the one above but neither looks anything like Mayfair.



Fuchs Gold seems much the same as Taka to me. I could only find one picture (above) and that was in Orchidwiz. It isn't a great picture but it looks like an average Taka. Perhaps somewhere there might have been an exceptional cultivar, but failing that, Mayfair leaves us scratching our heads with Gower Ramsay the only avenue left to explore.

When we look into Gower Ramsay, a first examination isn't very promising from a flower shape point of view. The average Gower Ramsay, for all its great flowering characteristics, looks very similar to Taka and Goldiana. Sort of *sphacelatum* with a better lip. However, there are some very unusual Gower Ramsay cultivars that give us some clues.



Lynnie

no name (Larsons)

Lemon Heart

Sunkist

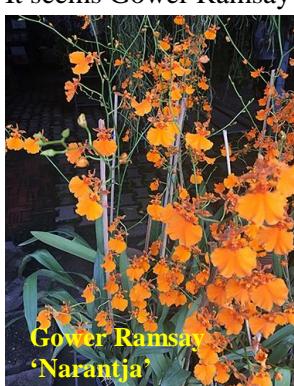
left typical – right Sunkist

Yellow Fantasy

It seems Gower Ramsay is more variable than some of the others. The most typical form if one can use that as a descriptor is quite similar to Taka. Again, something like an improved *sphacelatum* with a huge yellow lip and with a shorter, more compact inflorescence. But it also comes in quite different colours such as the almost pure yellow Lemon Heart, and several bright orange cultivars - the 3 most prominent that I found were Sunkist, Orange Delight, and Narantja.

And finally, I would never have guessed it but there seems to be a petaloid form (Yellow Fantasy) where the petals have some of the genetic characters of the lip. In other words it has three lips but the lower one, the real lip, is much bigger. The effect of the three together makes the overall flower take on a rectangular shape – Just like Mayfair 'Trinity'.

Seeing all these possibilities allows me to quite easily imagine a rectangular form Mayfair in almost pure yellow colours, just like 'Trinity'. All pure guesswork on my part of course but why not, and who knows when we might even see an orange version of the same?



BOE Novice for July – Wilsonara? Pacific Panache ‘Dorothy Jean’ grown by *Loretta Au*



Well WOW. Now that is an orchid. I saw Loretta walk into the hall with this one the other night and it was a gob-smacker. A Christmas tree shaped inflorescence about 90cm tall with the lower branches 30 to 40 cm each side. And the flowers were red!!

This orchid would have come from the nursery originally as a Wilsonara, which was one of those complex intergeneric man-made genera but with all the taxonomy changes to the oncidiinae group, Pacific Panache is now regarded as a straight Oncidium hybrid.

The hybrid genus Wilsonara was defined as a cross between species of Oncidium, Odontoglossum, and Cochlioda. Unfortunately for Mr. Wilson for whom the genus was named, the combination can no longer exist because the Cochlioda species, including the popular Cochlioda noezeliana which was very widely used as a parent in hybrids, has now been redefined as an Oncidium.

Similarly, the old genus Odontoglossum was wiped out by moving the vast majority of its species into Oncidium and the remaining few to other genera like Rhynchostele. Just to make it even more complicated, one of the species in the background of Pacific Panache (Oncidium fuscum) was known for many years as Miltonia warszewiczii. Thus, while it was a Miltonia, Pacific Panache would have been defined as a Burragera and in fact it was exactly labelled that way for a while.

But now you can forget all that background. Today it is now an Oncidium.

The red does all come from Onc. noezelianum (the old Cochlioda) and that species has been the source of bright red in Oncidiinae hybrids for over 100 years.

As to whether noezeliana should be an Oncidium, I guess genetics don't lie but this has to be the most un-Oncidium like Oncidium I could ever imagine. It comes from wet rainforests in Bolivia and Peru, high up at around 1800 m. The spikes are up to 45cm long, arching to pendulous, and the stunning red flowers are usually about 2.5 to 3cm diameter but can be bigger. I have never grown it and haven't seen it benched so I always assumed it must be hard to get or hard to grow well, but on the internet there are many pictures of plants grown by orchid growers so it is obviously possible. And with those amazing red flowers it has to be worth a try.



Pacific Panache is a really lovely orchid. The red isn't quite fire engine red but what a mass of good sized, well shaped flowers it produces. Loretta must have been very proud when she walked into the hall with this one the other night. She certainly had a good happy face on.

Pacific Panache is a complex combination of at least a dozen species, involving 10 generations of hybridising. The most recent species introduced was Onc sphacelatum, a large species with a similarly massive Xmas tree shaped inflorescence that can be up to 2m tall (usually less). It has 3 cm, mostly yellow flowers with some red and brown.

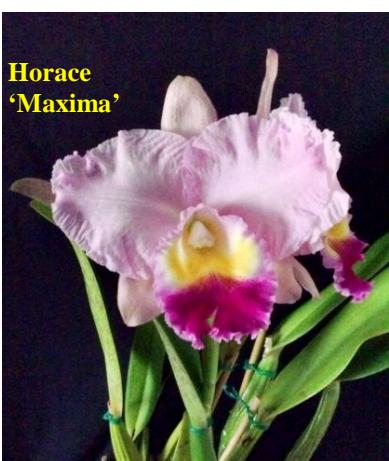
But in a hybrid with such a long and complex background, it is hardly useful to look at the species contributors to guess what they contributed. Crossing and back crossing to strengthen one factor or another is a very complex business. For example, noezeliana officially only represents 2.4% of the Pacific Panache gene pool but as you can see, we have a good expression of its flower colour considering there are no other reds in the gene pool.

Congratulations Loretta. There isn't a grower in the hall who could have done any better than that.

An Oldie but a Goodie – Among the great collection of benched plant pictures that Trevor Onslow took for me last month, I noticed this famous old time beauty benched by Allan and Gloria Cushway, Cattleya Horace ‘Maxima’. The cross was registered in 1938 and this cultivar was first awarded in 1963, so it has a bit of old time history.

But look at that flower. Not bad for an old guy is he? (or is it gal and she?).

Unfortunately for Trevor, this isn't his picture though. The orchid had two flowers facing more or less away from one another and Trev's pic captured a sort of front on angle that didn't show me the face I wanted, so I got Allan and Gloria to send me a shot they had. No reflection on Trev's pics, he got some great shots of everything, just not what I wanted here.



Horace is a hybrid between Catt. Trianae and Catt. Woltersiana, a hybrid you won't see about today as it was made in 1923, nearly 100 years ago. It was a mix of 6 of the big flowered Catt. species.

Article Introduction - The following articles both deal with the curious subject of evolution. So what is evolution? Well the answer depends on the way you use the term.

Charles Darwin was more or less the first to propose that this was change created as a result of the pressures of survival in a changing environment. In other words, as situations change, living organisms also begin to change to better fit the changed environment they face - essentially survival of the fittest.

Living organisms deliberately create variations within their progeny, and in fact depend upon it for survival. Your children will rarely be the same. If the environment favours those who can reach higher to access some resource, then taller progeny may be favoured and will prosper. Tall breeding with tall will produce a greater percentage of tall progeny and the form of the population changes - 'evolution'.

But 'evolution' doesn't always mean such a Darwinian process. Language isn't mathematical or scientific. Humans deal with feelings and ideas. I think you will greatly enjoy both these articles.

Evolution of Orchids by Behar Moises, courtesy of the American Orchid Society

(JB: and with my personal thanks to Sue Bottom of the St Augustine Orchid Society, Florida, USA)

Life started in a turbulent sea about 4,000 million years ago. The first recognizable forms of life were unicellular organisms, which multiply initially by simple division and evolved, therefore, slowly. By about 400 million years ago, however, the large algae had arrived. Since they already have chlorophyll and multiply sexually, gene interchange and thus a more rapid evolution was possible.

The algae represent the more advanced forms of vegetable life that were able to develop in the sea. Some of them advanced onto the land and became mosses and ferns. These first terrestrial plants could not, however, reproduce in a dry environment. The male gametes could reach the female ones only by swimming, so these plants had to be wet at least occasionally to reproduce.

The next big step in plant evolution was the appearance of seeds in conifers. Thanks to their encapsulated, drought-resistant male gametes - the pollen, and their equally resistant embryos - the seed, - the conifers were among the first plants able to invade the continents and form large forests. Their pollen was dispersed by the wind. They must produce, therefore made copious amounts of pollen to ensure that some will reach the female cones and fecundate the ovules.

The flowering plants (*ie Angiosperms*) appeared 140 million years ago. Their stamens ensured the transport of the pollen, a sticky powder to be carried mainly by insects from one flower to another.

Flowering plants were a great success in evolution. They dominated the land, evolving in partnership with the insects. With their great diversity and more than 250.000 different species, today they constitute more than 80 percent of all green plant species. Their transport of pollen is much more efficient than in conifers, but most of the pollen produced by flowers is still wasted or consumed by insects as food for their larvae. Only a small proportion is effectively used for the production of seeds.

Another major evolutionary step is seen in the orchid family. The stamens and pistils are combined in one organ, the column. Orchids are designed for the utilization of all or most of the pollen for seed production, with the pollen packed as pollinia. Insects are forced to take all of it and deposit the whole package - or a large part of it - in the stigma of another flower. Once pollination has been achieved, the pollen tubes start to grow into the column to reach the ovary. At the same time the ovules are formed in response to the amount of pollen deposited. When the capsule is mature, it splits and releases thousands or even millions of tiny seeds to be dispersed by the wind. This major difference between orchids and other flowers is the result of utilizing masses of pollen.

The Role of Pollination. To ensure that insects perform this more difficult job, orchids have to be much more convincing than most other flowers. Pollinators are attracted first by scent - either strong fragrances perceived by insects from far away (*stanhopeas*) or milder ones reminiscent of coconut (*Maxillaria tenuifolia*), honey (*Encyclia baculus*) or many others. Some orchids, such as *Pleurothallis tribuloide*, have odours that are unpleasant to humans but irresistible to their pollinators, in this case, carrion flies. There are many more orchids with scents than those evident to humans. The capacity of bees and other insects to perceive and discriminate among odours is much greater.

Once pollinators are within visual contact, they are attracted by color and form. Yellow and purple are common in orchids because they are more easily distinguished against a green background by bees and other common pollinators. Remember, the color vision of bees is quite different from that of humans. Bees do not see red, but they do see ultraviolet, which is invisible to man. There are orchids in all the colors of the rainbow, except black. Red orchids are usually pollinated by butterflies or by birds. Orchids pollinated by nocturnal insects, like moths, are typically white or pale green.

Nectar is also frequently used by orchids to attract their pollinators, but in general very sparingly, more as a bait than as a reward. Usually only a small amount of nectar is available and at the bottom of the spur. To reach it, pollinators must push hard, and in doing so, the pollinia are attached to their heads. The case of *Angraecum*

sesquipedale, which was first described by Charles Darwin, exemplifies this situation. Some tiny inconspicuous orchid flowers, like those of *Campylocentrum*, seem to have nectar as the main attraction and reward for their pollinators.

Stingy Rewards. Orchids are in general less generous than other flowers in compensating their pollinators. In many cases, they deceive insects with a great variety of tricks. The petals of some orchids look like pollen (pseudo-pollen). Many draculas have lips that look and smell like fungi: they attract small flies as pollinators. The white appendices of *Pleurothallis schiedei* (syn. *ornata*) are in constant movement and attract pollinating flies. The antenna like formations on the petals of *Myoxanthus reymondii* are osmophores - glands that secrete a scented oil that attracts the pollinators. Male euglossine bees collect the perfume secreted in the slippery underside of the labellum of gongoras. In trying to store it in a special container in their hind legs, they frequently drop into the chute below, taking the pollinia or depositing them in the stigma of another flower with the same operation. By similar attraction, bees visiting species of *Coryanthes* fall into the liquid-filled modified labellum. Escaping by the only exit, a narrow opening, they take or deposit the pollinia. *Pleurothallis amparoana* also seems to be a trap flower. Insects entering its labellum, which is modified into a little bucket, have only one exit without prickles, going out through it they pollinate the orchid.

The Role Lips Play. There are no insectivorous orchids, but some genera have "sensitive" articulated lips that act as real traps. When an insect lands on the lip of a *Porroglossum*, the lip closes. Again, the insect can go out only through a small window, forcing it to carry the pollinia to be deposited in another flower by the same operation. *Mormodes* have a more direct approach. As a flower matures, the elastic stipe of the pollinia is put under tension. When the flower opens, the system is ready. The slightest touch on a trigger placed over the labellum releases the tension, projecting the pollinia onto the intruder, which is usually the pollinating insect.

These are only a few examples of the incredible mechanisms by which orchids attract their pollinators and force them to transfer pollen, frequently without any reward. Orchids are not the only flowers that employ deception to lure pollinators. They are, however, masters in this art. As Darwin wrote: "*In my examination of orchids, hardly any fact has so much struck me as the endless diversity of structure — the prodigality of resources — for gaining the very same end, namely, the fertilization of one flower by the pollen of another.*" And again: "*I am sure that many other plants offer, in the means of fertilization, analogous adaptations of high perfection; but it seems that they are really more numerous with orchids than with most other plants.*" He concludes, "*special and admirable contrivances were necessary for safely placing the pollen-masses on the stigma; and thus we can partially understand why orchids have been more highly endowed in this respect than most other plants.*"

Orchids have even used one of the strongest forces of attraction - sex. Case in point: Mediterranean *Ophrys*, which has been carefully studied. Its flowers simulate the female of its pollinator, not only in appearance and texture but also with an aphrodisiac perfume, inducing the male to pseudocopulation. The same mechanism is apparently used by *Haraella odourata* (syn. *retrococca*). It is probable that some species of *telipogon* and *trichoceros* may simulate the male of a territorial fly; the real fly will then try to repel the intruder. The contacts in this case would be brief and rude. This could explain why the pollinium is provided with a hook, instead of the usual sticky viscidia, to ensure its attachment to a leg or any part of the angry attacker.

It is indeed incredible to realize all the efforts that orchids go through to ensure pollination with the whole pollinia, and, as a rule, between flowers of different plants. All this, it seems, is in order to produce copious quantities of seeds, a large proportion of which will be lost.

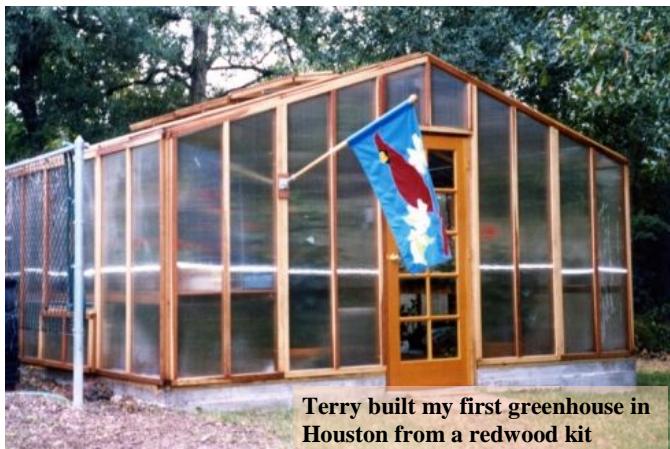
Seeds Continue the Saga. Since only a small proportion of the seeds produced by orchids end as adult new plants, it can be asked. "Is there a difference between wasting most of the pollen, as is the case in other flowers, and wasting most of the seed, as in the case with orchids?" It seems there is. With a large number of seeds, there is a greater number of combinations of genes and, therefore, a greater diversity, a greater potential for adaptation and for evolution. This seems to be the explanation for the success of orchids. They were among the last of the flowering plants to develop, and today they constitute the largest family, with species wherever there are other green plants. The diversity in the family of orchids seems to indicate that the whole family is still in rapid evolution, with a great capability of adaptation. The fact that they utilize most of the pollen, and produce a very large amount of seed, might be the mechanism underlying this situation.

The orchid family is indeed an extraordinary one. But major habitats - tropical forests - are being rapidly destroyed. The beautiful and rich rainforests are located mainly in poor countries, which are in a struggle for survival. Rarely do these countries have the interest or financial resources to protect their forests. They have many other much more urgent problems to solve. Because of their enormous biodiversity, the rainforests should be considered a patrimony of humanity, and we all should be interested and cooperating in their conservation. In regard to orchids, we should know that if these forests are destroyed, we will not be losing only a number of species. We will be in fact stopping the process of evolution, preventing the development of still unsuspected marvels.

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Evolution of an Orchid Grower by Sue Bottom, sbottom15@hotmail.com

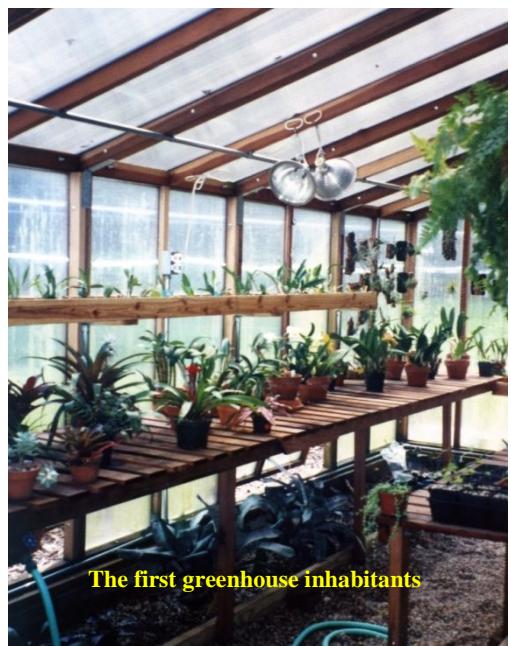
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I planted my first garden at the age of 10 in the woods next door to our house. My Dad said he'd plow up a section of the yard for my vegetable garden if I could justify the cost, so I sold tomatoes 3 for a quarter that summer and my Dad thought he was raising a good capitalist. Mom was always playing in the dirt and as time went by we developed a Saturday morning routine where we visited as many nurseries as possible, sometimes followed by an afternoon wine tasting, though that's a different story. Terry and I have spent many Saturday mornings continuing the tradition.

One fateful day in Houston Terry said he was going to build the greenhouse I had wanted for 20 years, at which point, I

thought OK, guess I better learn to grow orchids.



The latest edition of Rebecca Northen's *Home Orchid Growing* had just been released and I still think that is the best orchid book for the hobbyist although William Cullina's *Understanding Orchids* is another great source of information.

There are many steps in the evolution of an orchid grower. The first seems to be that you'll go anywhere and spend anything to have more orchids. You buy half dead plants from the marked off table, you know what day the bag babies from Better-Gro arrive at the big box stores, you pick out orchids

from other people's garbage, you pot up any back bulbs you can find, and road trips always involve stops at orchid nurseries. All you know is **you need more...**



We built the greenhouse before we built our house.



Lots of delicious bench space, .. for a while

Somewhere along the line you start hunting for specific types of orchids. My first hunt was for nodosa (*Brassavola*) hybrids. That was the year we got a Mazda MX6 and promptly drove from Houston to Austin to San Antonio buying every nodosa hybrid we could find along the way, all in the name of breaking in the car.

You find that you are attracted to certain types of orchids. I've always been drawn to primary hybrids, even before I knew what a primary hybrid was, perhaps it was the hybrid vigor. Except for some of the incredibly lovely species like Laelia (now Cattleya, ugh!) *purpurata* I usually prefer the primary hybrid to either of the parent species.



A potting shed and pergola added. Now, what are we going to build in that old vegetable garden?

How about a big shade structure to summer orchids outdoors, with lots of air movement?

Of course, you fill up your allotted space very quickly so you have to keep expanding your growing area. You find you need more space, and if your significant other is as handy as Terry, new growing areas are created for your orchids to inhabit even if you experience a little overcrowding problem before the new home is ready.

Then one day you become a bit more selective. You start giving away backbulbs rather than potting them up and having them take up valuable bench space. You decide you don't want to run an infirmary for sick orchids so you discard those genetic weaklings or disease prone plants. You become more selective in your purchases. And, you turn a critical eye to the plants you are growing, asking yourself if there are enough blooms to justify the bench space or if the bloom has a pleasing enough color or shape or would you prefer a different cultivar. Once you learn how to evict plants from your growing area, you have learned the fine art of culling your collection, and have earned an advanced degree in orchid growing.



The hoop houses started showing their age.

Time for a new greenhouse!

I'm not sure quite how I got so obsessed with orchids, but the obsession doesn't have any signs of abating. In the beginning it was Phalaenopsis. It was an exciting time for Phallies, the hybridizing for yellows was in its heyday and the harlequin phals had just been introduced. How can you not love Phals with their long lived graceful blooms? Then I heard a presentation on Catasetums, so naturally I started growing them. What is easier than a plant that requires no winter care during its dormancy but grows like mad in the summer? Next, there was the Vanda phase, so many colors, sizes and shapes! After that it was the ephemeral Stanhopeas. That addiction started with a Stanhopea grandiflora that bloomed 8 times in one year. Can you spell hooked? It took a bit of observing how others succeeded with theirs and some trial and error until I could reliably rebloom them and by then I had almost two dozen different varieties. After that came the angraecoids in their white and green glory, Dendrochilums with their chains of mini flowers, Bulbophyllums with their wild shapes and articulated lips, Habenarias with their exotic flowers and variegated foliage, and... well, you get the idea.

Cattleyas will always be my true love, though when I see an unusual this or that I start a flirtation with other genera. Who knows what tomorrow's obsession will be, although several Paraphalaenopsis have followed me home recently. At the end of the day, you have to ask yourself what you're trying to achieve. For me, it's being the best orchid grower I can possibly be, having fun talking about orchids and finding new friends along the way.

Paddy's in the bathroom and Murphy shouts to him. "Did you find the shampoo?" Paddy says, "Oi did, but it's no good. It's for dry hair and Oi've just wet mine."

Parting Humour

The engineers Solution

There was once an island kingdom whose people were all fabulously wealthy. Even though they could have afforded to live anywhere they wanted, tradition dictated they stay on their tiny island home.

Eventually, their king became frustrated and called a meeting of the tribe's elders. He said he wanted them to figure out a way he could enjoy his wealth, and still stay within traditional guidelines.

After much consideration, the elders suggested he build a magnificent throne but the king objected that there wasn't enough room in his hut for a throne so the elders called in an engineer to solve the problem. Soon, the king's tiny hut was rigged with an elaborate system of ropes and pulleys. He could lower the huge and bejeweled throne for use during the day, and at night, he could haul the throne up, and lower his bed. This was truly the best of both worlds for the king.

Unfortunately, after a few months of constant use, the ropes frayed, and one night, the throne slipped and came crashing down on the king, killing him.

The elders of the island recognized the lesson in this experience and so it became part of the lore of their people that :

"People who live in grass houses should not stow thrones."

Down to Earth Country Logic

A cowboy, who just moved to Montana from Texas, walks into a bar and orders three mugs of Budweiser beer. He takes them to the back of the room and sits, drinking a sip out of each one in turn. When he finishes them, he comes back to the bar and orders three more.

The bartender approaches and tells the cowboy, "You know, a mug goes flat after I draw it. It would taste better if you bought one at a time."

The cowboy replies, "Well, you see, I have two brothers. One is in Arizona, the other is in Colorado. When we all left our home in Texas, we promised that we'd drink this way to remember the days when we drank together. So I'm drinking one beer for each of my brothers and one for myself."

The bartender admits that this is a nice custom, and leaves it there.

The cowboy becomes a regular in the bar, and always drinks the same way. He orders three mugs and drinks them in turn. One day, he comes in and only orders two mugs. All the regulars take notice and fall silent.

When he comes back to the bar for the second round, the bartender says, "I don't want to intrude on your grief, but I wanted to offer my condolences on your loss." The cowboy looks quite puzzled for a moment, then a light dawns in his eyes and he laughs.

"Oh, no, everybody's just fine," he explains. "It's just that my wife and I joined the Baptist Church and I had to quit drinking." "It hasn't affected my brothers though."

