Cymbidium Chatter

One of the first blooms to open on (Woman No Cry X (Pixie Dust x Parish Elf)) in late March 2024.

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Latest News

Welcome to the first issue for 2024. Hopefully by now growers in the southern hemisphere are seeing plenty of spikes (more on that later) and have enjoyed the Easter long weekend (here in Victoria the weather was warm and sunny – ideal for getting outside and doing some gardening).

In this issue are another two articles reproduced from *Australian Orchid Review* with the permission of David Banks. These are intended as a follow-up to the previous issue, which focussed on Dean Roesler and his contribution to the orchid hobby. The other two articles are linked by the common thread of our recent weather, with one noting its impact on spike initiation and the other an overview of rot (with contributions from Colin Gillespie and Greg Bryant). I hope you enjoy reading them.

Edited by Joshua White.
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Cym. Red Beauty – The Story Continues
by Rob Smith

Editor: *This article originally appeared in Australian Orchid Review Vol. 67 Nos. 5 & 6. David Banks, AOR editor at the time, has given permission for me to reproduce it here. The original is available online at the Internet Archive: Vol. 67 No. 5 and Vol. 67 No. 6. Some minor edits have been made to combine the two halves and position the photos near the relevant sections of text.*

When the first ever issue of Cymbidiums Australia appeared in the Australian Orchid Review, Vol. 60 No. 4, way back in August 1995, a feature article on Cym. Red Beauty written by Dr Geoff LeMarne graced its pages. Geoff wrote his article at a time when Cym. Red Beauty was on the rise as a major stud plant, particularly in crossings of the large flower type and with strong colours often being the aim. Since that time, and Geoff's excellent overview of Cym. Red Beauty hybridising up to that point, the grex has passed through a period where it was something of a "flavour of the month" in Cymbidium terms in that it was crossed with just about everything available. With the availability of a number of the Cym. Red Beauty clones in converted tetraploid form, including the very large flowered dark pink 'Rembrandt' (syn. 'Nettie'), the large-flowered orange/red 'Prins Frederika', the dark pink/red 'Carmen' and the red 'Bronze Delight', the way opened up for a range of new tetraploid hybrids with the possibility of hybridisers developing new material for future breeding.

Today [Ed: October 2002], the Cym. Red Beautys have probably passed their peak of popularity, although hybrids with potential are, or still can be, made and hybrids made since Geoff's article are still being flowered. Numerous second generation Cym. Red Beauty hybrids are also flowering, growing up, or are being made with some results shown to date providing encouraging results. Certainly, the Cym. Red Beautys, in combination with other well-chosen grexes have helped develop some striking and outstanding large-flowered hybrids. A degree of vigour and floriferousness has been added to the red coloured large-flowered cymbidiums, not exclusively by the Cym. Red Beautys, but they have certainly been major contributors. For some people the results achieved in terms of large flower size may be the stand out contribution from the grex, while for others the results achieved when the aim has been high colour development in oranges, fiery ambers and red has been the most appealing.

Cym. Kirby Lesh 'No. 6' – owned by Kimberley Orchids.

Cym. Kirby Lesh 'No. 4' – owned by Kimberley Orchids.

The following observations and accompanying pictures are not intended to make up a comprehensive review of Cym. Red Beauty as a parent, there are simply too many of its hybrids in existence and

Cym. Kirby Lesh 'Kirsty'
– owned by Kimberley Orchids.

Cym. Cathleen Mitchell 'Amber'
– owned by Rob and Noe Smith.

many of those made overseas are unavailable here in Australia. Rather, this article is an attempt to illustrate the results seen from a number of hybrids that, hopefully, represent a part of Cym. Red Beauty's effect on modern Cymbidium hybrids.

Cym. Kirby Lesh is perhaps one of the most well-known Cym. Red Beauty hybrids grown and flowered in Australia and has been popular since its first show bench success at the inaugural National Cymbidium Show at Ararat, where a seedling from this Andy Easton cross of Cym. (Red Beauty 'Rembrandt' x Pink Champagne 'Featherhill') won Grand Champion of the show. The results achieved from this crossing have tended to be in pink tones as might be expected, with some showing quite heavy spotting and striping where the generally stripey markings from Cym. Red Beauty have combined with the spots from Cym. Pink Champagne. Most of the progeny have exhibited good flower size and long, naturally arching inflorescences with average to good flower counts.

Cym. Irene Martin 'Golden Years'
– owned by Rob and Noe Smith.

Cym. Camouflage Candy 'The Lip'
– owned by Rob and Noe Smith.

Cym. Julie Hawkes, originally produced by South Australia's noted show bench grower Vic Haskard, combined the popular show standard Cym. Kelly's Winter 'Patricia' with Cym. Red Beauty 'Bronze Delight' 2n, producing a hybrid with an impressively wide colour range. Cym. Julie Hawkes, both in the original crossing and in the remakes, has delivered colours from white through to yellow and green, to pink, orange, salmon, amber and bronzy tones. Dean Roesler remade the cross using Cym. Red Beauty 'Prins Frederika' 4n, as did Peter Sunderland who used 'Rembrandt' 4n (syn. 'Nettie'). The combination of the white Cym. Winter Wonder, the green Cym. Vanguard, the red Cym. Tapestry and the green, yellow, and polychrome producing Cym. Lois Kelly, all in the make-up of the two

parents of Cym. Julie Hawkes provided the genetics for such a rainbow of colours. In all its incarnations Cym. Julie Hawkes has produced large flowers in good numbers on strong inflorescences and, while many have shown pastel tones, strong colour has resulted in some examples. Labellums have generally been bold and highlighted by red bands, either solid or spotted and blotched. While many examples from the cross have delivered show bench shape, the spike habit and floriferousness of the cross has meant that a number of potential commercial cut flower clones have also resulted.

Cym. Julie Hawkes 'Melody'
– owned by Kimberley Orchids.

Cym. Julie Hawkes 'El Questro'
– owned by Kimberley Orchids.

Cym. Julie Hawkes 'Alanis'
– owned by Kimberley Orchids.

Cym. Julie Hawkes 'Rebecca'
– owned by Kimberley Orchids.

Cym. Camouflage Candy, (Radiant Harry x Red Beauty) is another Cym. Red Beauty hybrid from the Andy Easton stable, Geyserland Orchids. Mr Easton possibly produced as many Cym. Red Beauty hybrids as anyone else to date. Cym. Radiant Harry tends to be dominant for long spikes and strong pink colour, and the results we've flowered from this crossing have featured some very impressive spikes with good flower counts, although flower shape and size has been poor except for one striking example – but then that's what growing seedlings is all about – they can't all be champions, but the good ones make up for all the also-rans.

Cym. Julie Hawkes 'Hot Ginger'
– owned by Kimberley Orchids.

Cym. Irene Martin 'Pepper'
– owned by Rob and Noe Smith.

Cym. Janet Lees, Cym. Irene Martin and Cym. Cathleen Mitchell are included together here as they have all been bred from the little used Cym. Red Beauty 'Daphne' 4n which is a strongly yellow coloured flower with a heavy overlay of red lines and spots giving it a fiery orange colour. While not producing huge flowers, the results flowered out so far have been floriferous, vigorously growing plants with strong spikes. The other parents used in the three crossings were a yellow Cym. Surman's Delight, the green Cym. Valley Zenith 'Tetrahigh' and the red/brown Cym. Talarico. All plants flowered so far have been in yellow, orange and amber tones, many with dusting or spotting in red.

Cym. Cathleen Mitchell 'Cathy'
Owners and Hybridisers: Noe and Rob Smith

Cym. Julie Hawkes 'John's Jaffa'
Hybridiser: Dean Roesler; Owner: John Hedger

In Cym. Janet Lees, the Cym. Valley Zenith parent has influenced the lip colour and markings while Cym. Red Beauty has dominated for colour and provided the spotting across petals and sepals. In the Cym. Irene Martin cross the influence in shape of Cym. Coraki, one parent of Cym. Surman's Delight, has shown through in many examples, but Cym. Red Beauty has dominated for size, lip markings, strength and length of spike and flower count. Cym. Wallamurra, one parent of Cym. Talarico has influenced the darker amber-brown tones in the Cym. Cathleen Mitchell cross.

The aforementioned Cym. Cathleen Mitchell cross was also made with another variety of Cym. Red Beauty. In the second version, 'Bronze Delight' replaced 'Daphne'. So far, results from this version have been in terms of fuller flowers and more red tones, with lips that are neatly banded in red. Otherwise, the cross has shown the same general plant vigour and tall, strong-spiking properties, and floriferousness, of the Cym. Red Beauty 'Daphne' version.

Cym. Hypno Beauty 'Gorgeous' HCC/AOC
Hybridiser: Bryants Orchids; Owner: David Keanelly

Cym. Hypno Beauty 'Strawberries & Cream' HCC/AOC
Hybridiser: Bryants Orchids; Owner: David Keanelly

Cym. Hypno Beauty (Red Beauty 'Rembrandt' x Khan Flame 'Raquel'), a crossing made by Bryants Orchids and registered by David Keanelly has already received two awards, both going to seedlings flowered by David. Anyone who viewed the recent Cymbidium Orchid Festival at Ararat may have noticed a number of examples of this hybrid among David's plants and also in other growers displays. This hybrid is characterised by tall, strong spikes with good flower counts produced on relatively young, small plants. Most examples seem capable of producing good-sized blooms with reasonably broad floral segments and flower shape reminiscent of the Cym. Khan Flame parent. Colours range from pink to deep red. As various examples of this grex mature into larger and stronger plants, flower count, size and overall shape will almost certainly improve.

Cym. Hypno Beauty 'Shiraz'
Hybridiser: Bryants Orchids; Owners: Noe & Rob Smith

Cym. Rembrandt Rose 'Ready'
Owner & Hybridiser: Bryants Orchids

Cym. Rembrandt Rose (Red Beauty 'Rembrandt' x Yowie Rose 'Vulcan') is another hybrid from the Bryants stable and, like the above cross, is exhibiting vigorous growth and fast maturation. In our

own collection we've seen several of this grex flower on their second bulb in four-inch pots. All of those flowered to date have been in purple-red tones, some with large and full flowers. Again, the indications are that even better results should come from more mature plants over the coming seasons.

Cym. (Cronulla X Red Beauty) 'Caramel Cup'
Hybridiser: Rob Pollock; Owners: Noe & Rob Smith

Cym. Kakadu Sunset
Hybridiser: Schaefers Orchids; Owner: Kimberley Orchids

Cym. (Cronulla 'The Khan' x Red Beauty 'Prinses Frederika') is a hybrid from Rob Pollock. Again, first results from this crossing have been promising, with tall spikes carrying good flower counts. The example pictured carried 13 blooms on a 900mm tall raceme on the three-bulb plant. As with many other Cym. Red Beauty hybrids featured, this one also produces spikes on relatively small, young plants. Cym. Kakadu Sunset (Smokestack Lightning x Red Beauty) is a cross made by Schaefers Orchids and registered by Dean Roesler. It has produced some strikingly coloured flowers and one notable peloric variety which is owned by David Keanelly and was featured on the cover of AOR in October 1997. Most of the others from this crossing have exhibited intense orange-red tones.

Cym. Kakadu Sunset 'Fireglow'
Hybridiser: Schaefers Orchids; Owner: Dean Roesler

Cym. Persian Bronze 'Tavurvur'
(Red Beauty X Mighty Mouse)
Hybridiser: Geyserland Orchids; Owner: Dean Roesler

Cym. Fat Chance (Red Beauty 'Carmen' x Sleeping Nymph 'New Generation') is one of what I'm sure will turn out to be a number of hybrids between the variety 'Carmen' and pure colour parent. It was made during the time when some breeders and nursery persons believed that 'Carmen' carried the pure colour factor. While it is now accepted that this isn't the case, we have been quite happy with

Cym. (Baltic Harvest X Alexandra Beauty)
Hybridiser: Schaefers Orchids; Owner: David Wain

Cym. Fat Chance
Owners & Hybridisers: Noe & Rob Smith

the results we've gotten from this cross so far. The variety pictured carried nine 110mm blooms on a tall straight raceme on only a two-bulb plant in an 80mm pot.

Cym. Karen (Red Beauty x Coraki) and Cym. Alexandra Beauty (Tracey Reddaway x Red Beauty) are two hybrids used by Schaefers Orchids, a nursery that has produced numerous Cym. Red Beauty hybrids with most featuring strong, bright colours. Cym. (Karen x Alexandra Beauty) was exhibited at the 2002 National Cymbidium Show in Port Adelaide and gained an HCC/ACS for its owner, David Wain. The flowers showed the intense orange colour that would have been expected, and hoped for, from this crossing. In the same display and also shown by David, was a seedling from the cross Cym. (Baltic Harvest x Alexandra Beauty), again showing orange tones and good flower form. David exhibited another example of the same crossing at Ararat a few weeks later that also showed intense orange tones.

Cym. (Karen X Alexandra Beauty)
Hybridiser: Schaefers Orchids; Owner: David Wain

Cym. (Red Beauty X Katydid)
Hybridiser: Schaefers Orchids; Owner: Andy Tran

Cym. (Red Beauty 'Rembrandt' x Elegant Valerie 'Cher') is another hybrid from Bryants Orchids which has produced examples with tall, many flowered inflorescences with dark pink blooms. As with many of the grexes featured, the potential that may be realised when such cymbidiums as these are combined with the best parents available, whether other Cym. Red Beauty hybrids or not, must fill the hybridists with enthusiasm and excitement.

While most of the hybridising work undertaken using the Cym. Red Beautys has concentrated on large flower breeding, a number of crossings have been made which bring Cym. Red Beauty traits into the intermediate flower size range of cymbidiums too. Hybrids such as Cym. Marilyn Levy (Red Beauty x Ruby Eyes), Cym. (Mary Pinchess x Red Beauty) and Cym. (Red Beauty x Katydid) have all shown potential. Interestingly, most examples I've seen from these crosses seem to point to the miniature parent in the cross being particularly dominant for flower size, with blooms on many seedlings being little larger than those of the smaller flowered parent. Cym. (Red Beauty x Katydid), grown by Andy Tran and hybridised by Schaefers Orchids shows the input from Cym. Red Beauty most noticeably in its tall, strong inflorescences, flower colour and labellum.

Cym. Alexandra Beauty 'Orange Globe'
Owner and Hybridiser: Schaefers Orchids

Cym. (Red Beauty 'Rembrandt' X Elegant Valerie 'Cher')
Owner and Hybridiser: Bryants Orchids

Showing various examples of Cym. Red Beauty hybrid results which are not show or award quality flowers among those features has been a deliberate decision. No hybrid produces only show or award-winning results, but such results are not necessarily the only gauge of a successful hybrid or stud plant. It is often the case that particular grexes attract a degree of fame based on one, two, or very few outstanding varieties, but with the vast majority of progeny disappearing without trace. Enthusiasts often seek out available seedlings from a crossing where one variety has proven to be outstanding, only to be disappointed when their plants flower with few, if any, of the attributes of the successful variety. Likewise, it is often the case that particular grexes or varieties are used in a flurry of hybridising because they produced one or two outstanding successes but, somehow, the winning formula cannot be reproduced.

Perhaps the success of the Cym. Red Beauty grex can be attributed to the traits of vigour, long and strong inflorescences, good flower counts, attractive and varied colours and markings, and eye-catching labellums — all of which seem to be dominant traits in the majority of their hybrids. Whether these traits have been used to correct deficiencies in the other parent in the cross, or to complement and enhance those same traits also present in others, the results have so often been to consolidate a range of features which must be considered desirable in any modern Cymbidium hybrid.

Certainly, there have been Cym. Red Beauty hybrids which have produced less than successful results, whether due to an incompatibility with the other parents used, or some other factor, but that happens at times regardless of the orchid used, some combinations will fail in spite of the pedigree or apparent potential of the parents used. But, overall, Cym. Red Beauty has been and will continue to be an important addition to the gene pool of better Cymbidiums, particularly in the large-flowered

pink, red, orange and brown tones. How important the input and influence of the Cym. Red Beautys prove to be in the future remains to be seen, but I'm sure you'd agree they have helped make some very beautiful and desirable Cymbidiums up until now.

Cym. Red Beauty 'Evening Star' at Phipps Conservatory, circa March 2009.
Photo taken by Wikimedia User Piotrus and licenced under CC-BY-SA 3.0.

Cym. Red Beauty 'Carmen' at Missouri Botanical Garden (MoBot), St. Louis.
Photos courtesy of Scott A and available at garden.org as photos #616404 and #794552.

Above are a selection of photos that were not part of the original Red Beauty article but are included here for reference.

Two Men's Legacy
by Noe Smith with photography by Dean Roesler

Editor: *This article originally appeared in Australian Orchid Review Vol. 72 No. 2. David Banks, editor of the AOR at the time, has given permission for me to reproduce it here. The original is now available online at the Internet Archive: Vol. 72 No. 2.*

Dr. Miles Seton (seated) and Dean Roesler.

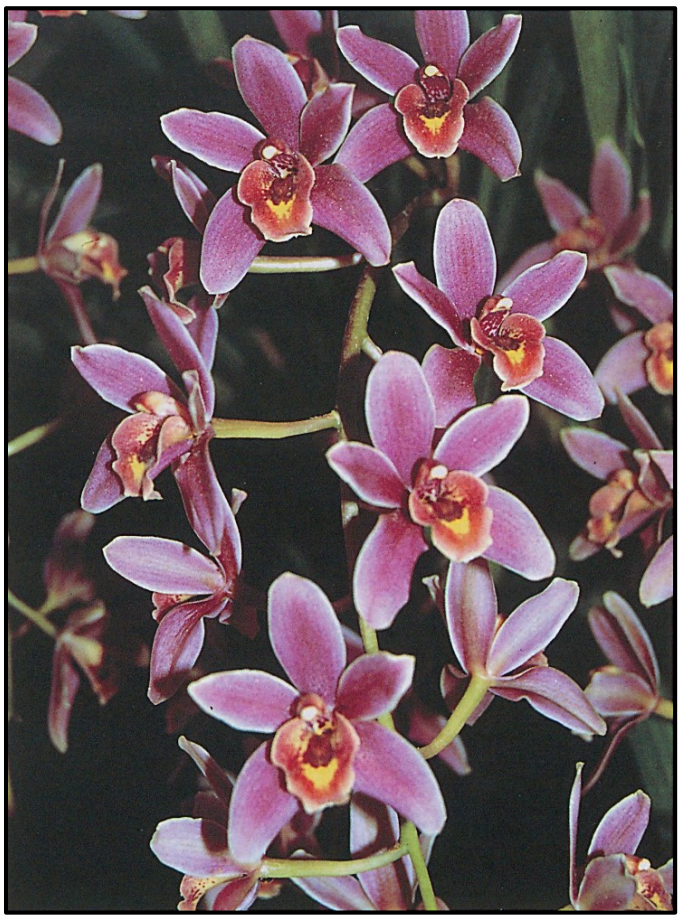
Cym. Jumbuck 'Dark Invader' – typical of the darkest forms from Cym. Jumbuck, a crossing that produced colours from smooth reds to dark red-browns.

Australian native Cymbidium hybrids incorporating the species *Cymbidium suave* have hardly been mentioned among these pages since the passing of Dean Roesler on Anzac Day 2005. That fact only indicates the level of respect and affection Cymbidium growers accorded the man and the need for time to pass. Such was Dean's enthusiasm for these particular unique Cymbidium hybrids and his championing of the man who created more of them than any other single hybridiser, that hybrids such as Cymbidiums Jumbuck, Koala, Bunyip and Piccaninny became well known and popular orchids rather than just obscure footnotes among the thousands of Cymbidium registrations.

The hybridiser Dean came to respect and regard as a dear friend was Doctor Miles Seton and through these pages Dean told the story of the years of work, trials, failures, and successes involved in Dr. Seton's efforts to produce hybrids from the species *Cymbidium suave*. Between these two men an outstanding legacy has been left for the rest of us to enjoy and through Dr. Seton's work and Dean's telling of his story, together with his own hybridising experiments with *Cymbidium suave*, the impetus has been created for others to continue working along similar lines.

Cymbidium suave is no easy subject to work with and hybridising with it can produce many more failures than successes, but through the work of Dr. Seton and Dean Roesler, those who follow have data available to provide a starting point for success. It is always the case that trail blazers have to do much more work for limited returns than those who have the benefit of

drawing on their work. Certainly, others produced hybrids using *Cymbidium suave* and deserve recognition for their efforts, but I doubt anyone devoted the time and single-minded commitment to working with *Cymbidium suave* and trying to understand the problems and complexities of this species than Doctor Miles Seton did. Dr. Seton's work was undertaken purely for the challenge *Cymbidium suave* provided, his fascination with the species and the enjoyment he got from the meagre results his early years working with the orchid provided. For Dean, his imagination was captured by the beauty he saw in the distinctively marked labellums of the hybrids flowers and the floriferous little plants that resulted from *Cymbidium suave* hybrids.



Cym. Bunyip 'Lucy Delilah' – typical of the bright pink tones from this crossing.

Cym. Koala 'Kid' – orange tones from a cross which produced mainly bright yellows.

Dean's biggest disappointment was the difficulty he experienced in getting pods from his own *Cymbidium suave* crossings to maturity in the often-inhospitable South Australian climate, where during the summer months extreme temperatures and low humidity levels could wreak havoc with developing seed pods. Some seasons every pod would be lost within a few days of a spell of hot weather where daily temperatures could reach into the forties and night temperature might remain in the mid to high thirties. All of those yellowed pods which dropped so quickly from the plants were lost possibilities, even though many *Cymbidium suave* crossings would produce pods barren of viable seed, just some of them may have been fertile. Despite the problems of a less than ideal climate, Dean was successful with some of his crosses though sadly his failing health and passing meant that he only saw a few of his *Cymbidium suave* hybrid seedlings flower.

While these orchids will never be to everyone's taste (they don't exhibit classic showbench flower form, flower during the show season, or suit commercial requirements), they are extremely popular with hobby growers. It is often the case that photographs of individual flowers do not flatter them as the lack of fullness of shape is highlighted, but to see these little orchids in full bloom on a well grown plant of reasonable size is to see them at their best – a mass of cascading flowers with colour and

Cym. Koala 'Cuddles' – probably the best of the Koalas in terms of full flower form.

Cym. Piccaninny 'Precious' – a lighter-coloured form from this cross, which produced strong red to almost black flowers.

charm which never fails to draw attention and admiration. Some have criticised Dr. Seton's hybrids for a lack of attractive colour, a statement which could only be based on experience of a very limited selection of the many clones of his best hybrids, or from having seen only a few inferior photographs. Unfortunately, many of the photographs in Dean's collection were hastily taken and or were shots of substandard flowerings on small divisions in poor condition after their shipment from Doctor Seton's home in NSW where they had suffered from little care and attention in the months following his passing. Gradually a library of photographs is being compiled by those friends of Dean's who were charged with preserving the collection and continuing to experiment with the next generation of hybrids and as photographs become available of representative flowerings we aim to feature them in these pages. Certainly, there is no lack of colour among Doctor Seton's hybrids with soft and lipstick pinks, bright clear yellows, greens, oranges, smooth vibrant reds, dark browns and almost black reds featuring.

After a number of years flowering and assessing Dr. Seton's collection, Dean Roesler began to mericlone a number of the hybrids he considered to be the best, based on growth habit, floriferousness, colour and overall eye appeal and those plants are now either growing in hobbyist collections around the country, or are being grown on by commercial nurseries for sale both in Australia and overseas. In this way, Dean's dream of making these charming Cymbidiums available to as many Cymbidium lovers as possible and providing stock for future hybridising work by those interested will be realised.

In the year before Dean's passing, the Cymbidium Orchid Society of Victoria staged an auction of divisions from some of Doctor Miles Seton collection, with plants being selected by Dean. Dean would be pleased and satisfied to see many of those divisions now appearing in flower on club benches at September, October and November meetings. Likewise, in terms of ongoing hybridisation, several of Dr. Seton's *Cymbidium suave* hybrids have already been identified as fertile (though the amount of viable seed produced from crossings is generally quite low) and no doubt more will be found over

coming years. With breeding being undertaken by several hybridisers across the country based on Dr. Seton's hybrids, *Cymbidium suave* itself and the other two Australian native Cymbidium species, Cymbidiums *madidum* and *canaliculatum*, as well as their hybrids, the work of these two gentlemen is already providing the impetus for future generations of hybrids based on these unique orchids.

While both Doctor Miles Seton and Dean Roesler led full lives and gave much to society in areas other than in orchid terms, the contribution they made through their work with and championing of *Cymbidium suave* as a parent in Cymbidium hybrids, is a legacy they could both be justifiably proud of.

Cym. Piccaninny 'Braveheart' – a red form from this cross of suave *and Tethys.*

Cym. Koala 'Bear' – a fuller flowered clone from this cross, again in orange tones.

Cym. Jumbuck 'Corey Jack' – another dark and richly coloured Jumbuck with full flower form. (Ed: the original scanned image spanned two pages and suffered from a fold down the middle, so Photoshop has been used to reduce the visibility of the missing section along the fold).

Cym. (Piccaninny X madidum*) – one of the first seedlings Dean flowered from his own hybridising efforts using Dr. Seton's* Cym. suave *hybrids.*

Weather, Heatwaves and Spike Initiation

The past few years have been unusual to say the least, with three consecutive years of La Nina followed by a single season of El Nino (with another potential La Nina currently being forecast by the Bureau of Meteorology). We had a relatively wet spring in 2023 and a mostly mild summer – except for several brutal record-breaking heatwaves. The heatwaves were typically followed by a sudden cool change and wild storms, particularly those on the 13th of Feb that knocked out power, brought down trees and damaged homes across the state. This variability and extreme weather events are unfortunately more and more likely as a result of climate change, with 2023 being the warmest year on record and February 2024 being the hottest February on record[1].

The last heatwave of the season in Australia was the Labour Day long weekend (9th through 11th March in Victoria), with night-time minimums were in the mid to high 20s °C and temperature records broken in both Victoria and neighbouring South Australia. Apart from the significant threat to human health, many plants suffer under these conditions too and both myself and other growers I have spoken to lost plants through the heatwaves through January to March.

*Cym. (*ensifolium *X* erythraeum*) in bloom early March 2024. Photo courtesy of Karl Olsen.*

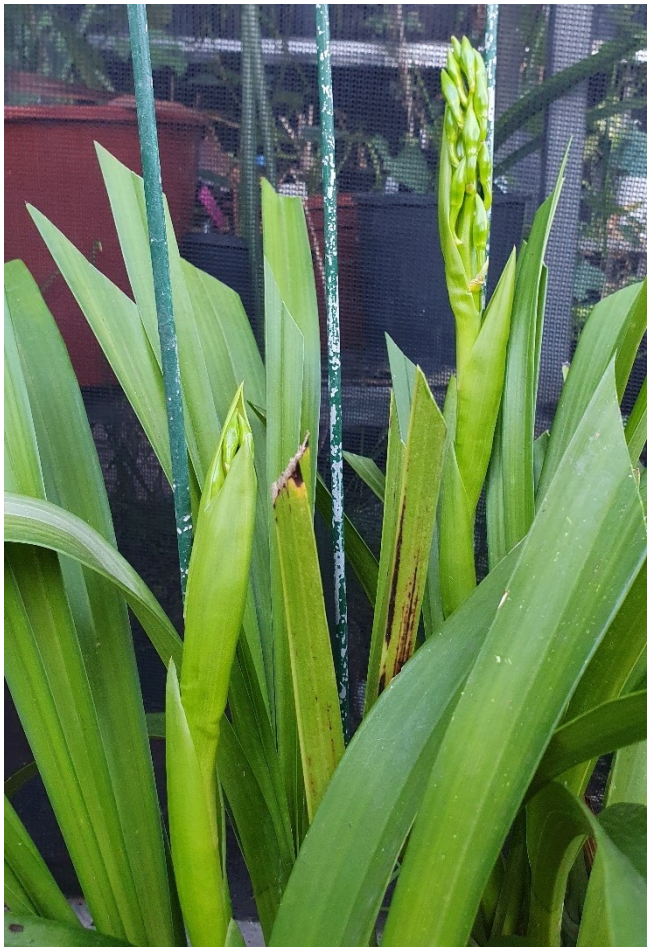
What I didn't expect was the impact this weather had on spike initiation.

As the reader may know, many of the *Cymbidium* species that make up our modern hybrids are the cooler-growing species and require a diurnal temperature variation of over 10°C in autumn (fall) to initiate spikes. This requirement reduces to about 5°C for many of the warmth and heat-tolerant species and their hybrids. In certain climates, plants are able to spike whenever a bulb matures (Andy Easton has seen this behaviour in Colombia, which does not have the strong seasonal patterns like majority of readers experience).

Cym. ensifolium and its hybrids particularly seem to have benefited from the highly variable weather these past few months, as my plant of Grcym. Pakkret Adventure (25% *ensifolium*) produced two rounds of spikes – the first pair opened in early February (and what was left was done in by the heatwave in mid-March) and the second pair have been opening the past week or so. Karl Olsen in South Australia has reported similar behaviour with his plant of (*ensifolium* X *erythraeum*[2]), which had flowered in February-March and is in spike again.

[1] Whilst a debate over climate change and the accuracy of global climate models is not appropriate for this publication and would take far too long to discuss in detail, it is worth noting that the data from 1979/1980 onwards includes modern satellite data and so we now have over 40 years of global monitoring from which to identify a clear increasing trend in global temperatures and greater weather instability driven by these changes.

[2] I am not sure which variety was used, but I suspect *Cym. erythraeum* var. *flavum*.



Significantly advanced spikes on Karl's large tracyanum *plant, already emerging from the sheath in late March. Photo courtesy of Karl Olsen.*

Then there is my plant of the warmth-tolerant cross (Woman No Cry X (Pixie Dust x Parish Elf), which started opening in the last week of March.

Looking at other plants, some are more advanced than expected for the time of year, such as Karl's *tracyanum* (which has two advanced spikes and another two only just emerging) and one of my *erythrostylum f. album* plants (last year this plant flowered in June, yet this year the first bloom was open on the 31st of March!). *Cym. erythrostylum* 'Springfield' isn't far behind either and like the alba, it flowered in June last year.

Cym. tracyanum hybrids seem quite happy, as my largest piece of Bennett-Poei 'Galleria' has 6 developing spikes on it – a significant increase from previous seasons. Mine is way behind that of Simon in NSW, though, who has his Bennett-Poei in full bloom already! Catch The Wind (~26% *tracyanum*) has put up 3 spikes and all are well out of the sheath already. Pywacket 'Royale' is about a month ahead in its spike development too and Henri Choo 'Craigburn' has been in spike for over a month at this point.

Cym. Bennett-Poei with two spikes in full bloom at the start of April. Photo courtesy of Simon Theresianto.

Unexpectedly, Cym. Elf Dance is already in bloom again after flowering in late winter/early spring last year. This is potentially due to the influence of *floribundum*, which initiates its spikes early autumn but then waits until spring before they mature.

That said, there are plants that I would have expected to be in spike by now that are not. *Cym. erythraeum* var. *erythraeum* is apparently taking the year off (flowers around late April and into May for me, with spikes visible as early as late Jan) and I suspect Floreat Eagland (*mastersii* X *elegans*) might as well, or at least flower later than normal (typically flowers in May or June with spikes becoming visible around now). That's Outrageous, which normally has spikes starting to emerge by now for flowers in June, is still quiet.

Finally, at the March meeting of the COSV one of the members brought in their plant of Cym. Hugh Gordon 'Freckles', which had constantly been in bloom for almost a year and still wasn't finished! It was overdue for repotting, but due to its continuous bloom the member had not been sure when to tackle it. Opinions varied but generally agreed that the best time would have been spring (even if it interrupted flowering) as that is when most plants are starting to grow new roots.

This Cym. Hugh Gordon 'Freckles' has not stopped blooming for almost a year and still has developing spikes.

It will be interesting to see what kind of flowering season we have in the southern hemisphere, especially as spikes will still be emerging over the coming weeks for the majority of the late winter and spring-flowering plants. If the initial indications are anything to go by, the plants that do bloom will probably bloom well and a little early.

Dealing with Rot

Fungal and bacterial diseases can be a frustrating problem for the orchid grower – under the right conditions, they can take hold and spread through a plant in a matter of days. The recent heatwaves here in Melbourne all but beat me over the head with this fact, as I had several plants that I lost to rot in a short period of time. In one case, I had a plant that had developed rot in the weeks preceding the March heatwave. I tried to salvage it by cutting out the affected portion and repotting it in a new pot with fresh media. I clearly did not get all the infected tissue, as once the heatwave hit the rot (which I suspect was bacterial) consumed the remaining few bulbs in by the end of the second day.

Fungal-Like Pathogens

The two common fungal-like pathogens encountered are *Pythium* and *Phytophthora* species, both of which cause black rots. They are technically Oomycetes, or water moulds, and are typically found in water supplies. They like excessively damp conditions and a temperature range of 16-28°C.

Phytophthora attacks the foliage and can move into the bulbs. Too much moisture becoming trapped in the neck of the bulb provides ideal conditions for this pathogen to take hold. Development in the foliage makes this a bit easier to detect and catch before it spreads through the plant.

Pythium, on the other hand, is a root rot and attacks new root growths. The result is that the root system declines and can no longer absorb sufficient nutrients or moisture to sustain the plant, so it starts to dehydrate and shrivel up. Unfortunately, the application of water in this instance only hastens the decline of the plant!

Unidentified rot infection (possibly Phytophthora*), as rainwater runoff had collected in the neck of the bulb. The root system was fine, but I had to cut out about half the plant to save it (May 2020).*

Both *Pythium* and *Phytophthora* can be treated with the same fungicide, although the diseased part of the plant must be removed first (discussed later in this article). Fongarid (active ingredient furalaxyl) has been discontinued in Australia and can be substituted with fungicides based on metalaxyl, metalaxyl-m (such as Rot Stop) or phosphonic acid aka phosphorous acid (e.g. Sharp Shooter Rid-a-Rot or Yates Anti-Rot). In forestry applications it has been noted that phosphonic acid is more effective than metalaxyl-m at

Rot consuming a new lead in a matter of days during May 2023.
Unfortunately, despite my best efforts, I was unable to save this plant.

controlling *Phytophthora*[3] and in orchid applications[4] the combination of metalaxyl and mancozeb is preferred (e.g. Ridomil, an industrial fungicide). Both metalaxyl-m and phosphonic acid fungicides can be used as either a drench or foliar application, although the foliar application is recommended especially in the case of *Pythium*[5]. Importantly, phosphonic acid is **not** effective against bacterial rot. Several growers I have consulted consider phosphonic acid to be most effective as a preventative or tonic, rather than a treatment once rot is established.

Mancozeb + Sulphur is readily available from Bunnings and other hardware stores and is effective at preventing the spread of pathogens between plants. It is best applied as a foliar spray, but personal protective equipment (PPE) should be worn – gloves and long sleeves to protect the skin, an N95/P2 mask to protect the lungs and safety glasses to protect the eyes.

Bacterial Pathogens

I suspect bacterial rot is the one I have had the most issues with recently, as the relatively moist spring in 2023 and heatwaves earlier this year have provided ideal conditions for it. *Erwinia* species

[3] Garbelotto, M., Harnik, T.Y. and Schmidt, D.J. (2009), Efficacy of phosphonic acid, metalaxyl-M and copper hydroxide against *Phytophthora ramorum in vitro* and *in planta*. Plant Pathology, 58: 111-119. https://doi.org/10.1111/j.1365-3059.2008.01894.x

[4] Bag, T. K., Dutta, P., Hubballi, M., Kaur, R., Mahanta, M., Chakraborty, A., Das, G., Kataky, M., & Waghunde, R. (2024). Destructive *Phytophthora* on orchids: current knowledge and future perspectives. *Frontiers in microbiology*, 14, 1139811. https://doi.org/10.3389/fmicb.2023.1139811

[5] Koike, S.T., Tjosvold, S.A., Mathews, D.M. (2020). *Agriculture: Floriculture and Ornamental Nurseries Pest Management Guidelines – Pythium Root Rot*. UC IPM Pest Management Guidelines: Floriculture and Ornamental Nurseries, UC ANR Publication 3392. https://ipm.ucanr.edu/agriculture/floriculture-and-ornamental-nurseries/pythium-root-rot/

are the typical cause of bacterial rot in Cymbidiums and are again a water-born pathogen, taking advantage of the slightest wound in a plant.

Physan 20 was recommended to me as an effective control for bacterial rot and damping off. Unfortunately, it is no longer readily available in Australia and must be imported. Instructions for its use are available from the official website: https://www.physan.com/potted-plants.html. For rot in particular, the manufacturers recommend the following: "Remove compost from plant, then soak entire plant 10 for minutes or more. Cut away all rot with treated tool. Soak plant wounds again for 10 minutes. Repot in Physan 20-soaked compost." The usage guide for this application is 15ml (1 tablespoon) of Physan 20 per 3.7 litres (1 gallon) of water. This equates to roughly 4.06ml of Physan 20 per litre of water.

For those with difficulty sourcing Physan 20, at least one of the active ingredients is readily available in other products here in Australia. The two active ingredients in Physan 20 are:

- 10% Alkyl Dimethyl Benzyl Ammonium Chlorides (C12-C14-C16-C18)
    - Commonly referred to as Benzalkonium Chloride in the Australian market
- 10% Alkyl Dimethyl Ethyl Benzyl Ammonium Chlorides (C12-C14)

Many pool algaecides available in Australia contain Benzalkonium Chloride. The trick is to calculate how much of a particular algaecide product to use to match the Physan 20 concentration. *The Bulletin of the Canberra Orchid Society* Vol. 29 No. 3 contains advice from Jim Brydie on the use of Alginox and other pool algaecides that contain 150g/L of Benzalkonium Chloride (or 15% w/w) and is available on their website[6]. In my case I am experimenting with Hy-Chlor Pool Algaecide available from my local Bunnings, which I used at a ratio of 1.35ml/L as a drench on some recently deflasked seedlings from contaminated flasks.

Suspected case of bacterial rot. Note the roots are fine, but the bulb and lead are just a mushy brown-black mess.

[6] Bulletin of the Canberra Orchid Society: https://www.canberraorchids.org/newsletter.html#2014

Preventative Measures

Preventing rot infecting a plant is easier and more effective than trying to save a plant once rot has gotten a hold. There are some simple cultural measures that can help:

- Ensure good air movement around plants and keep them off the ground (see Greg's comments below).
- Try to protect plants from physical injury. Strong winds, hail and insect damage all create wounds that provide the opportunity for disease.
- Use sterile blades and treat wounds created when repotting or dividing plants. Hydrogen peroxide or fungicides are a good option for treating cuts in the rhizome. I do not water plants the day I repot or divide them to ensure the wounds have time to seal over.

Greg Byrant of Bryants Orchids advised me that he uses Alginox in his weekly or fortnightly watering regime (depending on weather) as well as spraying a several times a year (especially during the wetter months) with Mancozeb. These treatments largely control leaf fungal problems but have limited effectiveness at preventing bulb rot from *Pythium* or *Phytophthora*.

He stressed that plants should be grown on raised benches above the ground, as growing on the ground increases the likelihood of rot (due to the natural presence of pathogens in the soil). At Kurnell, Greg grows his plants on benches under shadecloth and notes that even this practice has not completely prevented rot – in the past few years they have received higher than normal rainfall and instances of multiple days of rain. He recommends growing under cover, as at least then the amount of water plants receive can be controlled – a vital step in treating rot.

Greg also shared his experience with several products he has used in treating rot:

> "Rot is usually associated with various cultural conditions that are exacerbated by adverse weather conditions. So how can we successfully treat rot if we cannot prevent it? Previously we relied on Fongarid as our go-to rot treatment but sadly it is no longer readily available.
>
> Phosphonic acid (Agri-Fos & various other trade names) is effective in suppressing fungal pathogens and indirect stimulation of host plant defence responses in many crops. It should be regarded more as a preventative and a tonic rather than a curative treatment for rot in Cymbidiums. Likewise, Popul8 is a promising preventative tonic which may have some value, although we haven't had any luck using it on already rot infected plants. Specific fungicides are available for the treatment of *Pythium* rot (Previcur or Banol) and *Phytophthora* rot (Aliette). We have had some success treating rot using these fungicides.
>
> There are so many fungicides on the market these days that it is easy to spend a fortune on fungicide prevention, treatment, and control. To make things more difficult, in addition to the two common bulb rot-causing fungi described above, there are other potential rot-causing fungi for Cymbidiums such as (but not limited to) *Glomerella* spp., *Colletotrichum* spp. and *Fusarium* spp. Different fungicides are effective against some of these fungi and not others.
>
> My father, Alvin, was a very experienced and knowledgeable Cymbidium grower who strongly believed in the use of copper-based fungicides to control and prevent fungal diseases in Cymbidiums. Until recently, I have not recommended using copper-based

fungicides on Cymbidiums due to my previous experience of the cytotoxic (cell death) properties of copper sprays. However, in late February this year, I applied a copper oxychloride spray to our Cymbidiums late in the afternoon on a mild day. The spray was deliberately lightly applied in the cool of the day. Fortunately, this resulted in minimal damage with only some mild burning where the spray pooled in the centre of some new growths. This is possibly a case of 'back to the future'.

There are no magic wands available for curing plants infected with rot and despite my best efforts I have lost a few. I choose to grow under shade cloth and to take advantage of the rainwater that nature provides to be more environmentally sustainable. As a consequence, sometimes nature does provide too much of a good thing."

As Greg mentioned, there are other pathogens that can cause rot. Sue Bottom at the St. Augustine Orchid Society put together a very handy list of pathogens and the recommended product to treat them. Although this is targeted at a US audience, the active ingredients are listed and this may be of assistance to other growers who can look for a local equivalent available to them:

https://staugorchidsociety.org/PDF/OrchidDiseaseControl-InfectionsbySueBottom.pdf

Colin Gillespie of Devon Meadows Orchids recommended the use of H_2O_2 (hydrogen peroxide) for sterilising orchid mix (i.e. gnats, mould, etc.) and runs a 2% solution through his watering system once a month. H_2O_2 is not to be used on seedlings, however, as it dries out the roots and damages the velamen (even mature Phalaenopsis suffer badly with hydrogen peroxide). Instead, Colin only sterilises the media for seedlings and sprays them with a solution of Physan before potting up. He also oxygenates his water supply using an air stone (this can help prevent an anerobic environment developing in the media as well as preventing root death due to lack of oxygen, hence minimising the risk of rot gaining a hold).

Cleaning Up a Plant

Only this past week I had to cut out a rotten lead from a plant and thought it would make a good opportunity to photograph the exercise. In this case, the rot had spread from the lead where I first spotted it to the adjacent bulb in the few days it took for me to find the time to tackle it. In removing the plant from its pot and cleaning out the old media, I noted that the root system was generally okay – this made me suspect bacterial rot may be the culprit.

I used a fresh blade to cut away the visibly diseased portion of the plant and found that that was not enough. The core of the interconnecting rhizome was black, indicating that the rot had spread further into the plant. As a result, I used another fresh blade to cut the next bulb out. This was the centre bulb, which left me with two small pieces — a bulb and lead, and a bulb and backbulb.

The affected plant with the media removed. The root system was generally in good condition.

Note the black spot in the centre of the rhizome. This is rot spreading through the plant.

One of the remaining pieces after cutting out all the rot-affected tissue.

The two pieces with healthy-looking rhizomes were treated with hydrogen peroxide to sterilise the cuts, then potted them up separately in fresh media. Later in the day I sprayed them, and the surrounding plants, with Mancozeb + Sulphur. The following day I watered them with dilute algaecide. So far, the surviving pieces are looking okay, but with the cooler weather we are now experiencing it may take another week or two to show any signs if the rot is still present.

Acknowledgements and Contributions

I hope you have enjoyed this issue. If you have any feedback or would like to contribute (whether it be just one or two photos, an idea for an article, or to volunteer for an interview), please get in touch! I can be reached at jwhite88@gmail.com.

Previous issues are available at https://www.cosv.com.au/publications-and-resources. All material is copyright © the original owners and used with permission. Thanks to all those who have contributed to this issue, including Scott A., David Banks, Greg Bryant, Colin Gillespie, Karl Olsen and Simon Theresianto. The next issue is planned for June 2024.