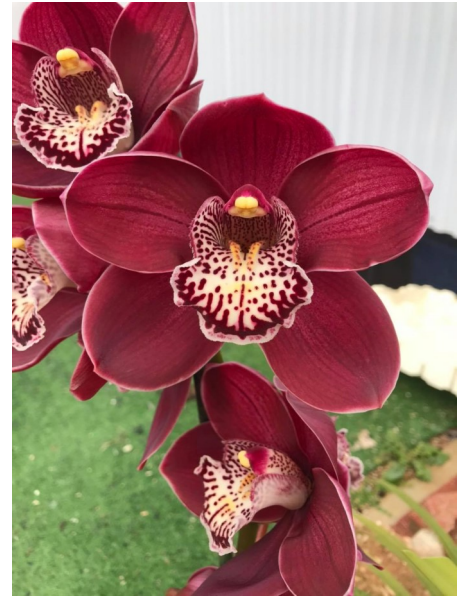


'Cymbidium Chatter'

Edition 12 July 6 2020



First flowering seedling - Serhan's
Passion 'Marion' x Lunar Blaze 'Ruby'
Photograph: 3 Amigos

Welcome to the next edition of Cymbidium Chatter. Sadly, the news concerning the virus has worsened and I imagine it will be sometime before we can meet again. Many shows have already been cancelled, so all we can do is enjoy our Cymbidiums as they begin to open. The cold weather has certainly slowed down the development of the flowers.

This edition of CC has been extended to eight pages, thanks to the contributors who sent me photographs and short articles to share with you all. Thank you to Joshua White and Bryan Nitz (COSV members) Justin Priddy (Queensland) and Andy Easton (Colombia) for their contributions. While I could probably find things to write about and report on, it makes the preparation of CC so much easier and it is always good to hear from others. As you will see in this edition, all I have to do is to copy and paste articles and photographs into the document. I could spend a lot of time on the overall layout, however I do have other things to do, so I really do appreciate the efforts of others.

A very special thank you to Joshua White, who has prepared a series (4) of articles on viruses in Cymbidiums, these will be presented to you over the next four weeks.. The articles are well written and very thoroughly researched. They are easy to understand and the accompanying photographs are an excellent guide as to what to look for. As you will discover, viruses in orchids, all genera, are not to be toyed with. You can isolate or quarantine suspect plants but you only have one choice, once a positive diagnosis is made - destroy the plant!

It is fantastic to be hearing from our younger growers. Like Joshua, Justin is certainly one of the younger growers, however he does have considerable experience in growing and hybridising Cymbidium orchids. Hopefully I can encourage Justin to share some of his knowledge in future editions of CC. In this edition he shares some excellent photographs of the different forms of the species Cymbidium, Cym dayanum. In corresponding (via email), with Justin, it would seem he is still as enthusiastic as ever, however he did mention that he stays away from orchid societies. This is something all clubs need to address, how do we attract and maintain the interest of younger growers - not an easy task!

All contributions to grb17@bigpond.com - thank you!

— Orchid Viruses —

By Joshua White

Part 1: How to Prevent the Spread of Viruses

In my opinion, viruses are one of the worst problems that an orchid enthusiast can face in the hobby. Unlike pests or other diseases, which can often be treated, viruses are incurable – the only option is to destroy the infected plant to prevent further spread. The viruses themselves often cause unsightly markings on the leaves (and sometimes blooms), loss of vigour and reduce (or even prevent) flowering. Commercial growers also need to ensure they control viruses, as an infected mother plant can result in the loss of an entire clonal run or damage to the business' reputation.

Prevention is the best approach – the risk from viruses can be drastically reduced with some straightforward hygiene practices. Even if you don't think you have any virused plants, it is still worth implementing these measures, as infected plants can be asymptomatic (i.e. they have no leaf or bloom markings to suggest a viral infection). Most growers will have encountered infected plants during their time in the hobby and a significant percentage will have virused plants present in their collection, whether backyard or nursery.

There are some simple measures that everyone, from the backyard enthusiast to the commercial grower, can implement to help reduce the spread of viruses in their collections. They are summarised as follows:

- Always clean your tools between plants.
- Do not reuse pots without thoroughly cleaning them first. If you suspect a plant is infected or it tests positive, discard the pot.
- Do not reuse stakes and clips for different plants (especially bamboo or timber ones, as these cannot be adequately disinfected).
- Wash your hands thoroughly with soap or change your gloves between plants.
- Don't splash water between plants or let water drip from one plant onto another.
- Never reuse media for other Orchids.
- Maintain good pest control – the false spider mite (*Brevipalpus californicus*) and Australian cockroach (*Periplaneta australasiae*) have been shown to transfer viruses.

There are three main viruses that a Cymbidium enthusiast will usually encounter: Cymbidium Mosaic Virus (CymMV), Odontoglossum Ringspot Virus (ORSV) and Orchid Fleck Virus (OFV). Each of these will be covered in more detail in later parts of this series.



Stopping Viruses Getting Into Your Collection

Source Plants from Reputable Sellers

Ideally, you want to avoid introducing infected plants into your collection to start with. Try to source plants from orchid nurseries with good reputations; since their main focus is growing orchids, they will be more aware of the various diseases and viruses that can be present. I recommend avoiding unnamed or unlabelled plants (sometimes called NOIDs for “No Identification”) from Gumtree, eBay or local markets, as unfortunately these have a higher risk of being virused.

If you decide to source a plant from a market or online trading site such as Gumtree or eBay, check their feedback (if possible) to see what the comments are like from previous sales. Never bid on or buy a plant on eBay/Gumtree sight unseen; check the photos or ask for some if none are available. Look closely at the foliage for any signs of pests, pest damage or viral symptoms (examples of these will be covered later in this series). If there are any questionable markings, be aware of the possibility that it is virused. You will need to weigh up the cost of having it tested against how much you want that particular plant (personally, I have occasionally taken this risk when I was keen to get a particular plant; sometimes they were virused, sometimes not).

Quarantine New Acquisitions

When acquiring new plants, it is good practice to keep them separate from your existing collection for a while. Having designated areas to keep batches of plants quarantined is helpful; if you regularly order from multiple suppliers, it is a good idea to keep the different suppliers’ plants separated until you are satisfied with their health.

Any new acquisition should be checked and treated for pests, especially since these can spread viruses (if present) to the rest of your collection. My own approach depends on the source of the plants; if I know (or suspect) that the supplier has had a particular virus in their collection, I keep those plants isolated for the incubation period of that virus and then test them. Otherwise, I test plants from each new supplier soon after I obtain them to gain an idea of how well they control viruses in their collection. I recommend testing historical plants (i.e. those from old collections) regardless of the source, as the risk of a plant being infected goes up with the age of the plant.

Stopping Viruses Spreading in Your Collection

Keep Plants in Groups

I’m sure most people understand the problem of having more plants than available space. Ideally every orchid would be spaced far enough apart that they weren’t touching; in reality this is often impossible to achieve or, for commercial growers, not a cost-effective use of space. I suggest an alternative approach: keeping plants in groups. When I introduce plants into my main collection, I tend to group them by supplier and/or order. That means if a virused plant is later identified from a particular order, I only have to be concerned about that particular tray of plants; I haven’t increased the risk of widespread infection by scattering all the plants from that order throughout my collection.

It also helps not to rearrange or move plants around too often; if you keep them in the same place, then only those in the immediate vicinity are likely to be affected by it. If you do move plants around, though, remember to disinfect the bench where it was sitting as a precautionary measure. As an aside, benches should be metal mesh (preferably in removable segments) that can be easily disinfected. Timber and other porous materials are unsuitable for benches, as not only can they trap virus particles in the material itself, but they are hard to suitably disinfect without damaging them.

Disinfect Tools and Pots

The most reliable way to sterilise tools between plants is to wipe them with a disposable rag or paper towel soaked in isopropyl alcohol, then flame them until the tool starts to heat up (both the AOS and OSCOV recommend this approach). You need to remove the debris and sap from the tool and get the surface above 130°C to ensure inactivation of any virus (a small butane torch, such as the one pictured and available from hardware stores, is ideal for this task). The unfortunate trade-off is that this can affect the heat treatment of blades and dull them over time.

Beyond the above, there are a variety of approaches and recipes online for disinfecting tools and pots. One approach suggested by the AOS is to soak tools in a saturated solution of trisodium phosphate (TSP, available in Australia as Tricleanium) for at least 5 minutes (personally I allow at least 15 minutes). Hu (1994) notes that a 1% solution of NaOH (sodium hydroxide) is also effective, but unfortunately does not state the timeframe required.



Ceramic pots, due to their porous nature, need to be baked in an oven for at least an hour at 130°C. Often it is necessary to soak and wash them first in order to remove any traces of media or roots that may have gotten stuck to the sides. Care must be taken to allow them to dry out before baking lest the pot crack in the process. Plastic pots are more straightforward to clean; wash them in warm, soapy water (I recommend having a set of gloves and brush specifically set aside for this purpose) to ensure all debris is removed from the pot. The AOS then recommends soaking in a bleach solution (approx. 1 litre of household bleach to 16 litres of water) for at least 30 minutes; other sources, such as Critter Creek Lab, recommend stronger mixes (1 litre of household bleach to 10 litres of water) for an hour. One grower I know even soaks their pots overnight, using a lid over their trough to prevent the chlorine evaporating out of the bleach solution. Always rinse the pot thoroughly afterwards.

Dispose of Old Media

Never reuse media for other Orchids. Apart from the fact that it usually breaks down with time, it will be thoroughly contaminated if the plant is virused. Depending on the media, you may be able to use it as a compost dressing in your garden. If you do reuse it in this way, any orchidaceous material should be removed and the media left to sit for a day or so to ensure any OFV present is no longer viable, as other plants can be a host for OFV as well (more on this later in the series).

In the Next Part...

In Part 2 of this series, I will cover virus testing options and provide some suggestions on what to do if you suspect you have a virused plant in your collection.

References

Freitas-Astúa, J. *Virus*. Originally published in the September 2003 issue of Orchids – The Bulletin of the American Orchid Society. Available at: <https://www.aos.org/orchids/orchid-pests-diseases/virus.aspx>

Hu, I.S., 1994. *Transmission, Movement, and Inactivation of Cymbidium Mosaic and Odontoglossum Ringspot Viruses*. Plant Disease, 78(6), p.633. Available at: <http://dx.doi.org/10.1094/pd-78-0633>

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Hi Geoff,

An experiment of mine. Hope it is of interest.

This Cym. photo attached had a serious rot problem. The plant is not a top one, so I decided on an experiment. Going from the point of knowing that rot/fungal problems like wet conditions to flourish, I decided to do two things. First I removed the rotted part of the plant, and repotted into fresh mix. I use a Coir/Perlite mix. It was rotten down the axels. I then placed the plant in a position where it got NO water at all. This was with the intention of denying the rot moisture.

I remembered that an old timer in MEOS, Bob Evans, used to use the dry method, by stopping watering on Anzac day, and start watering on Show Day. A long dry period and certainly would not be done these days. His plants not only survived, but flourished, producing quality flowers. Remember Borough Green 'Opal'?

So I kept this plant completely dry for six months, and then resumed water. The photo shows the plant now after a further approx 12 months.

Looks pretty healthy to me!

-- Cheers, Bryan Nitz JP10910 FRVAHJ

Hello Geoff,

Here are some photo's of the various colour forms of *Cymbidium Dayanum*

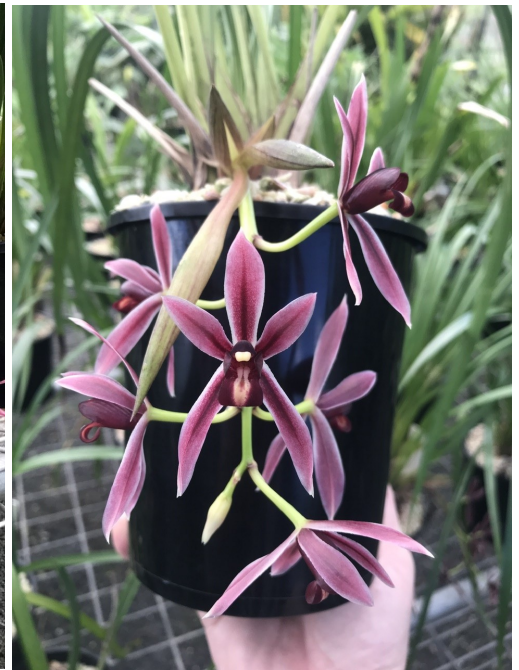
I purchased a flask of *Cymbidium Dayanum* Red that had been treated for ploidy conversion.

Out of the 20 plants that I grew onto flowering size I managed to get 3 tetraploids. The flower comparison photo is to show the variation in plants from flask. With the middle left flower being a standard colour form and the bottom left flower being a tetraploid form, which you can clearly see stands out from the rest

I also got lucky this year with all 3 flower forms flowering at once. Usually they all flower at slightly different times

Warm regards,

Justin Priddy

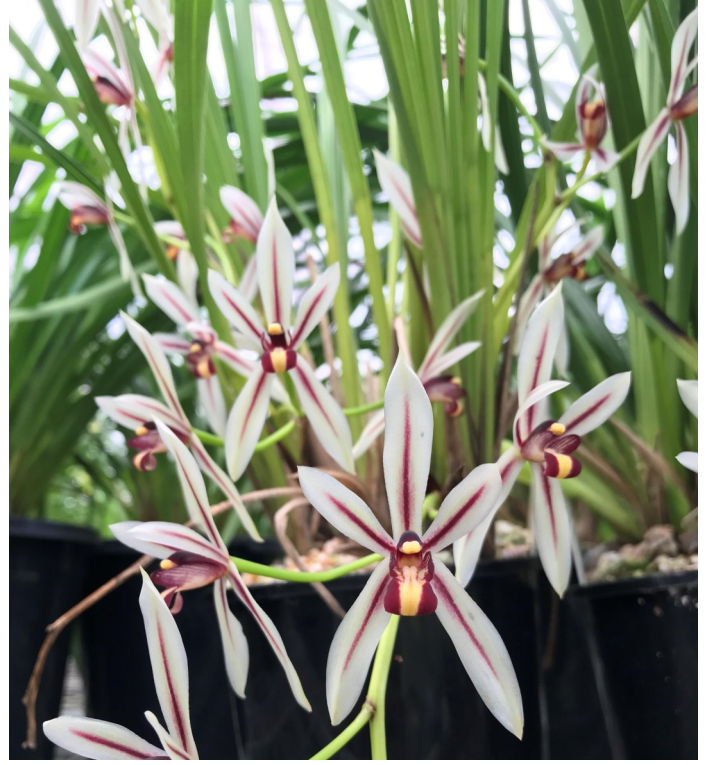


Above left: the three color forms of *Cymbidium dayanum*

Above right: the tetraploid (4n) red form of *Cymbidium dayanum*

Left: showing the variation in plants from flask. Middle left the standard color form and bottom left the tetraploid (4n) form.





Top left: a 2n form of a red *Cymbidium dayanum*

Top right: the common form of *Cymbidium dayanum*

Bottom left: *Cymbidium dayanum* Alba

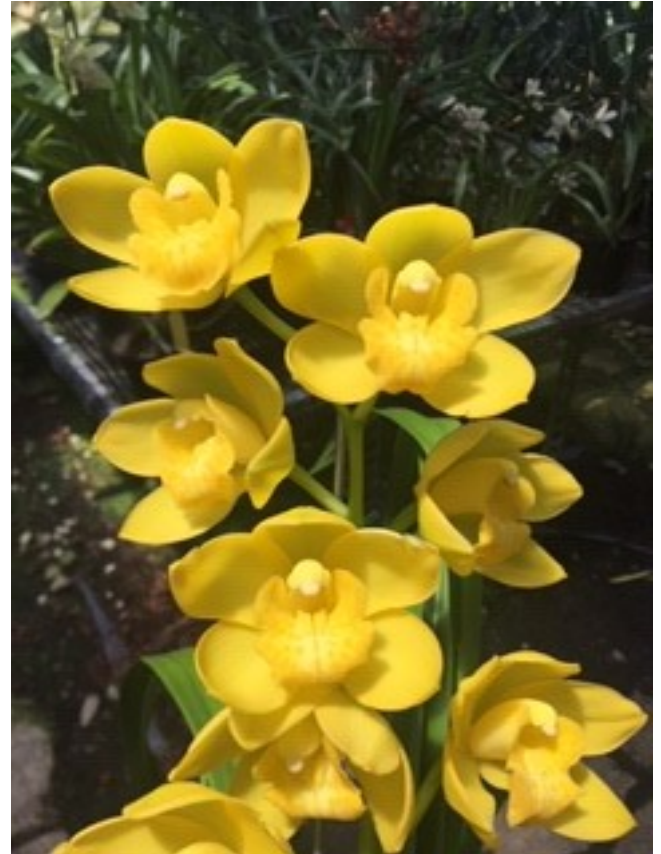
Bottom right: the common form of *Cymbidium dayanum*

Some photographs from Andy Easton, New Horizon Orchids, now based in Colombia.



Enzan Floss 6n x Cym pumilum 2n

Very interesting 4n line. Mini with two spikes of 20+ blooms on each spike. Seedlings coming along nicely from this parent. Gamechanger!



William Petterson 'NH' 4n

Still the best alba yellow WT intermediate we have in the collection. All photographs and text below photographs from A Easton.



(Don Wimber x Gold Rules) #1 4n



(Phar Lap x Devon Parish) 'El Retiro' 4n