

## My *Catasetums* and Their Relatives

Before I start this article I feel it is necessary to firstly expand on the title. Indeed, the article is about *Catasetums* and their close relatives such as *Cycnoches* and *Clowesia*. However, the photos and the text along with some anecdotes, in the main concern the ‘modern hybrids’; my ‘relatives’ and intergenerics that are primarily derived from the *Catasetum* species *pileatum*, *expansum* and *fimbriatum*. Now having got that of my chest and subsequently lost all the species buffs, we shall sally forth into the contextualization of my passion for what can be arguably described as the most sanguinely exotic of all orchids.

I first became ‘really interested’ in the genus *Catasetum* in 1988. Well known hybridizer and grower Dr. Greg Williams and wife Claire, were selling some of their collection prior to a proposed move from Rockhampton to Western Australia. Consequently, it was a visit to their place with some purchases in mind that sparked an abiding admiration of this genus that remains to this day. Previously, like many novice growers I had not bothered with *Catasetums*, because of initially receiving some ‘bad advice’. The discussions that take place at the monthly meetings, weekend workshops and while musing over the show displays, are often the crucibles that produce well meaning but often biased advice. Many times this ‘advice’ is founded on personal growing experiences realized through disappointment. Unfortunately, this can often be the way when starting out in any collecting endeavour and so it was with this skewed perception given to me by my senior orchid growing peers, that I also sub-consciously began to view *Catasetums*.

The story went something like this, “Yep, very attractive, but not worth bothering with as the flowers only lasted a few days”. While this was a very generalist statement with some element of fact, alas; it was not the complete story. Regrettably, the uninformed, as I was then, tend to go along with what information the supposedly more knowledgeable growers choose to impart. Often the denegation of a particular genus or species is not intentional and can be just a matter of a grower’s exuberance for another genus; a state which after this article, you may consider me to be in, –hopefully not yet! Ok you get the message, don’t always believe what you are told if you want to try growing a particular orchid, ask someone who grows that genus! To place this in a chronological context and cut to the chase, my early enthusiasm for *Catasetums* was unintentionally duded!

Now let’s travel back to 1988, most notable for being the year of the bi-centenary, Expo 88 in Brisbane, Bob Hawke was in power, John Howard was mister 16% in the popularity stakes, INXS rode the top of the music charts, Christopher Skase was making plans for an extended Spanish holiday, Bondy owned XXXX, if only tenuously, and Joh Bjelke-Petersen had been toppled from power –enough Queensland parochialism you say! Meanwhile in the orchid world, it would be fair to suggest that around this time, hitherto unknown spectacular results were being achieved worldwide in hybrids and clones of the three most commonly grown genera in the Rockhampton area; *Cattleya*, *Vanda* and *Denrobium*. For example, these were the days of the evolution of the famous Hazel Boyd clones, Fuchs’s *Vandas* and multiple Thai produced clones of super- floriferous *Dendrobiums*; ah! - the 1980’s an age of excess. Hence, very few growers in our area had time for weird looking flowers that lasted a few days and literally spat part of their body at you when being transported or bumped in the greenhouse and then died even quicker – sometimes over night.

Now back to one of my first experiences with *Catasetums*. Always harbouring a desire to be that little bit different in every endeavour I undertake; I subsequently purchased a *Catasetum* Susan Fuchs and a *Catasetum*. David Ranches seedling, along with the other orchids from my first visit to Greg and Claire’s - both were in spike! Greg explained to me that often when well grown and given a mandatory dry spell over winter you could achieve up to four spikes or more from the one bulb. So what! You might say, as I did then. Greg further espoused that I should think about doing some mathematical calculations about the flowering time from a pseudo-bulb that can produce multiple

spikes with up to 20 flowers each and over a 3-6 month period. Compare that to a *Cattleya* that often only flowers once from each pseudobulb for 2-3 weeks per year and your worried about a 5-7day flowering time. Now he had me thinking; as I said goodbye with the two extra unplanned purchases in the box; I now confide as I got into my car a fleeting thought crossed my mind that I may be returning soon for more *Catasetums*.

In about three weeks' time, after the *Catasetums*' flowering, plus a recent overtime payment and after mowing the lawn, I told my wife Norma I was going to visit the Williams again. I remember her later telling her sister in a subsequent family BBQ conversation 'it could be worse it could be the pub', as a dutiful smile filed my face while trying to hide the stubby behind my back! Greg welcomed me as usual, no doubt thinking here goes a few more I won't have to worry about shifting. "Did the *Catasetums* flower he asked?" "Why do you think I am here again," was my reply. As I cast my eyes around his greenhouse, knowing that some of my fellow orchid collectors had also been visiting Greg recently and wondering what those 'carcass pickers' had denied me, naturally I didn't put myself in this class, Greg said "come over here I have something to show you." Well I remember it must have been the gravel on the floor that was irritating my tongue combined with the excessive salivating that made me regain my senses enough to gurgle a response. Even though I may be guilty of a slight over description of my reaction, it was still a severely embarrassing event when I reflect on this episode today. *Catasetum. pileatum* 'Green Giant' was the object of my disgusting loss of self control. Consisting of two inflorescences with ten and eight sparkling lime-green 6-7inch wide flowers respectively, I think it remains to this day in 24 years of collecting and judging orchids perhaps one of the most stunning examples of orchid beauty I have ever seen. Did Greg sell me the orchid? I might tell you at the end of the article.

Ok, let's leave the anecdotal narrative for a while and discuss some of the history of modern hybrids and their culture. The genus *Catasetum* (pronounced kat-uh-see tum) and derived from combining the Greek word *cata* meaning 'downward direction' and the Latin *seta* meaning 'bristles', belong to the sub-tribe *Catasetinae* which in turn is a member of the tribe *Cymbidieae* (Holst, 1999). That they are relatives of *Cymbidiums* may come as a revelation to some growers as it first was to me. I now boast to my southern compatriots that I grow and flower *cymbidiums* in the tropics; to many this is naturally a source of much surprise, doubt and mirth. After some enjoyable ribbing I usually reveal my deception and many are equally surprised as I was with the genetic connection. However, back on to some more serious matters; the four members included in *Catasetinae* sub-tribe are *Clowesia*, *Cynoches* (the renowned swan orchids), *Mormodes* (the goblin orchid) and *Dressleria*.

From the derivation of the name *catasetum* and for anyone who has grown them, it is easy to understand that perhaps the feature that attracts most interest is the explosive-like release of the pollinarium in an attempt to fasten to any visiting insect. The two bristles or antennae found in the male flower extend downward to the lip cavity and when touched trigger this amazing process, which never ceases to produce wonderment and awe for first-time observers. The speed at which this process occurs has been measured at 10ft. or 300cm per second (Holtz, 1999). The fact that the members of this sub-tribe produce male and female flowers as a means of avoiding the production of inferior progeny through self pollination; combined with the pollination method identifies these orchids as advanced members of orchid evolution and qualifies their uniqueness in the orchid world. (Holst, 1999). The detailed description of the pollination process and other features is beyond the scope of this article and it is probably now timely to direct readers to what is considered by many as the foremost contemporary publication on *Catasesums*, *The World of Catasetums*, by Arthur W. Holst, Timber Press 1999 USA. The title given to Chapter 4 by the author, 'The Miracle of Pollination' is perhaps paramount testament to the uniqueness of this process.

While discussing this most wondrous feature, please allow me to digress with another anecdotal experience. My daughter Kristy who is now 22 and engaged to be married next year; as a child was what is endearingly referred to as a 'tom boy'. Having grown up as an 'orchid-kid' being dragged to

shows, waiting in cars with her brother and mother on family holidays while dad visited orchid nurseries; events I am sure many readers can relate to, leaves me with an enduring *Catesetum* related memory. I can still see her and three of her mates as 7 year olds running around our backyard with pollina stuck all over their arms and faces with her yelling to me as they excitedly ran by “I showed them the spitting orchids daddy” ! Needless to say I didn’t exhibit any *Catesetums* at the show that was on the following week. Ah well! These things happen; it is much easier to appreciate the funnier side 15 years later.

Our knowledge of *Catesetums* in the modern world can be traced to being first mentioned by Linnaeus as one of the 69 species described in his seminal 1753 publication *Species Plantarum* (Holtz, 1999). Over the next few centuries despite the areas of South America most notably Brazil, being restricted for centuries to exploration by only people from each country’s respective colonial masters; some contact was made by explorers/adventurers with an interest in nature rather than precious metals and trade goods. For example, Australians will be surprised that Sir Joseph Banks and Solander while accompanying Captain Cook on his voyage in which he is overtly credited with discovering Australia; collected plants around the Rio de Janeiro coastline in 1768, even after being refused entry by the Portuguese. It is thought that *Catesetums* may have been among the plants collected by these eminent scientists (Holst 1999). However, it is in the nineteenth century, and the age of the ‘aristocrat collector, inspired explorations, and after Brazil became independent and opened to ‘foreigners’, that our formal knowledge of *Catesetums* comes into being. Again I direct readers to Holst’s book for a fascinating read on historical aspects of the genus *Catesetum*.

I prefaced that in the article I would mostly discuss modern hybrids but to get hybrids of course you must have the natural species. The main species contributing to the ‘modern hybrids’ are *Catesetum pileatum*, *expansum*, and *fimbriatum*. Gene Monnier the owner of JEM Orchids in Florida who is a hybridizer at the forefront of *Catesetum* breeding, states in ‘*Hybrids and Breeding Trends*’, ‘Chapter 9’ in *Holst’s World of Catesetums*, that ‘modern breeding of *Catesetums* only began in the 1950’s’. This is fairly recent considering other orchid hybridization such as in the *Paphiopedilum* genus began in the early 1800’s. He also declares that *pileatum* is the species that is most widely used in breeding, a fact that for anyone who is familiar with the genus would readily concur. Admired especially for its size, it is actually the largest flowered of all *catesetums*.

At the end of 1996, 55 hybrids had been registered with *Ctism. pileatum* in their background (Monnier, 1996). Being mindful that this statistic is now 10 years old a quick look through recent Sander’s addendums will attest as to how popular the breeding of new *catesetinae* hybrids has been over the last decade. *Catesetum expansum* is the second most commonly used *catesetum* species. Its popularity can also be attributed to its flat lip and overall size. Perhaps the most widely known of all *Catesetum* hybrids is *Ctism. Orchidglade* (*Ctism. pileatum* x *Ctism. expansum*) registered in 1974. This orchid became very popular because of the size of its lip inherited from *Ctism. pileatum* and the wide range of colour the progeny produced. The next level of breeding crossing *Orchidglade* back to *pileatum* and with *expansum* and *fimbriatum* also produced some enduring hybrids. *Ctism. Orchidglade* x *Ctism. pileatum* becomes the well known *Ctism. Bound for Glory* and *Ctism. Orchidglade* x *Ctism. expansum* becomes the even more widely known *Ctism. Susan Fuchs*. *Catesetum Spotted Dragon* is yet another *Ctism. Orchidglade* cross materializing with the infusion of *Ctism. fimbriatum*.

Unfortunately, it is this line of breeding that produces the shorter –lived flowers, a point that I discussed previously which I believe is compensated for the flowers’ showiness and repeat flowering from the one pseudobulb. Of the *pileatum* crosses produced in the 1980’s and now classed as an intergeneric, *Clowsetum Raymond Lerner* (*Clowesia russelliana* x *Catesetum pileatum*) became one of the most sought after hybrids. It makes a beautiful display as a mature plant and I have flowered my specimen with over 80 flowers on 4 inflorescences -a sight to behold. Two other very popular and enduring *Ctism pileatum* crosses of the 1980’s were, *Ctism. Penang* (*Ctism. pileatum* x *Ctism. Susan Fuchs*) and *Ctism. Doris’s Choice* (*Ctism. fimbriatum* x *Ctism. pilateum*) while *Ctism. Fuchs Delight* (*Ctism. Susan Fuchs* X *Ctism. expansum*) is the most widely seen 1980’s *expansum*

hybrid. There have been many hybrids both intra and intergeneric made in the last decade and we are now starting to see them imported into Australia as most breeding is done in America and Taiwan. A quick look through Sander's recent addendums listings in the Catasetiane hybrids sections will give you an insight into the current breeding trends and an indication of the increasing popularity of these plants.

Without wanting to be accused of making rash statements Catasetums and their relatives are troubled by very few pests and diseases bar one extremely troublesome pest. Their nemesis is without doubt the spider-mites. These mites will literally crawl over other orchids to get to Catasetums. The problems these pests cause to Catasetums throughout a season can be relentless if not controlled. They rasp and suck the undersides of the leaves, hence destroying the photosynthetic cells, stressing the plant, rendering the leaves devoid of life and useless until they eventually come away from the pseudo bulb. Fortunately, combined with constant vigilance and mitesides they can be controlled. Again referring to Arthur Holst's book, he also recommends a constant watch (eternal vigilance) for this pest as the best method of pro-active management. Being able to see the tell tale signs and acting quickly is the best approach. I have included a photo showing the tell tale silver appearance on the underside of leaves that equates to spider-mite damage. One of the best tools you can use to confirm their presence is a magnifying glass. Young eyes and maybe if you have still have good eye sight not commensurate with you age you may be able to see them with the naked eye. However, a magnifying glass will allow you to confirm their presence and act appropriately. Kelthane is the active constituent in most commercially available miticides and will control them; but the problem with these pests is that they can quickly develop resistance to the constant use of the same chemical agent. The pests thrive in hot dry weather and we have had plenty of that this summer in Rockhampton. I have had lasting success of late rotating the use of Kelthane with an insecticide and miticide soap product. Your spraying regime should be carried out over a three-week period from the first spraying. The eggs have a ten-day hatching period and are not susceptible to chemical control. Thus 2-3 sprayings in a 3week period kills all of the infestation not just the adults present when the damage is first noticed but also the ones that hatch ten days after the first treatment.

The only other real problem is rotting of the bulbs and dormant eyes during winter. Many Catasetums in their natural habitat are deciduous and during winter go into a distinct dormant phase. (Horst, 1999), classifies Catasetum species into natural geographical climatic zones which have several species overlapping and should you be interested in growing specific species, again I direct you to his seminal work. However, the point to consider here is because we are in the most concerned with growing hybrids the sensible regime to undertake in winter is to enforce a complete dry rest on all your Catasetums to be on the safe side. I have had plants with withered pseudo bulbs in July you would swear have gone to 'join their maker', shoot again almost magically in the first week in September, as if some mystical switch was thrown. Whilst on the other hand early in my passion for Catasetums, I have continued watering thinking they were drying out too quickly and come the 'cold' in late June and July these bulbs have turned into black evil smelling plant-cadavers. So the upshot of this melodramatic description is too avoid the rots associated with climatic change, err on the side of dryness and if they drop their leaves this winter and not the next, go with it, overall dryness in winter, is the best answer to avoid the 'rots'.

Potting mixes are always a contentious subject, while I have grown catasetums in bark; sphagnum moss mixed with granulated polystyrene has been the best performer for me. The only problem is when growing in a mixed collection; care is needed with the amount of water used. Catasetums during the growing season will handle all the water you can give them provided it is accompanied with good air movement. The problems will be with the other orchids in your collection resenting the copious amounts of water. Vandas and Phalenopsis make good companions as these genera also appreciate lots of water and fertilizer in the tropical summer growing season. Division is the most popular method of repotting followed by potting on 'pups' or plantlets which are produced by many catasetum hybrids and species. The obvious thick green velum tipped roots produced at the onset of the growing season make the timing for repotting almost foolproof.

Well I hope along with the text and photos I have wet your appetite to give these majestic beauties a try as an alternative to some of the more commonly grown genera. I am conscious that our more southern comrades will need to give them artificial heat in winter, but many growers of tropical genera in the south of the country already have this facility so putting a few among your collection could give you a surprise come summer. However, they are tropical orchids and when I was considering my advice on where to get some plants I thought of all the nurseries from which I have made *Catasetum* purchases. They range from Sydney to Cairns and most admittedly were in Queensland. Many of the well known multiple genera nurseries have been listing *Catasetum* seedlings for sometime in their catalogues, these include Aranbeem Orchids, Charm Orchids, P&R Orchids, Robertson Orchids, Royale Orchids and Wolf Orchid Culture to name a few. To get a copy of Holst's book you need to look no further than the Australian Orchid Foundation's bookshop and our great traveling orchid book store Orchidaceous Books, both have stocked and advertised it in the past.

Before I close there was the result of a potential sale I was going to let you in on wasn't there; I did purchase *Ctsm. pileatum* 'Green Giant' one of the two plants Greg had at the time, the other I believe went to a commercial nursery. Unfortunately, I also have a confession to make, remembering that this was early in my lust for *Catesetums*; sadly, it became a victim of the winter rots. I can't begin to tell you the quantities and varieties of fungicides I put on those pseudobulbs trying to re-ignite a dormant eye but alas it was to no avail. I did learn a valuable lesson though -if your culture is right you don't need chemicals, a point I now appreciate applies to all orchids. Greg and Claire didn't move away, he still talks to me, but not about *Ctsm. pileatum* 'Green Giant'. I don't know the fate of the second plant, and Kristy, well she still teases me that one day when I am not home, she will again show her now decidedly 'young lady' friends the 'spitters'.

**J T Glover:     May 2004**

#### References:

- Holst, A. W., 1999. *The World of Catasetums*, Timber Press, Portland, Oregon USA.  
Monnier, G., 1999. 'Hybrids and Breeding Trends', Chapter 9 in *A. W. Holst's World of Catesetums*, Timber Press, Portland, Oregon USA.