



St. Augustine Orchid Society

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## Catasetums and Their Kin

by Sue Bottom, sbottom15@hotmail.com

Are you tired of taking care of your orchids in the winter? Wouldn't you like an orchid you don't have to water or fuss with during the cold months? If the idea of a winter vacation appeals to you, the Catasetinae are for you. This group, consisting mainly of the *Catasetum*, *Clowesia*, *Cycnoches*, *Mormodes* and their hybrids, grow rapidly during the summer months requiring copious amounts of water and fertilizer to fatten the pseudobulbs and then go into a deep winter sleep when they can be largely ignored. Simple!



*Ctsm. pileatum* is one of the most beautiful *Catasetums* with large flowers ranging in color from white through yellows and greens as well as the red *imperiale* variety.

Most are easy to grow and bloom once you understand their cultural needs. The plants are from warm tropical regions in climates having distinct wet and dry seasons. This knowledge is the key to understanding their seasonal growth and dormancy cycle. When the bulbs begin to wake and sprout new growth in the spring, water is withheld until the roots are 3 to 5 inches (7.5 to 12.5 cm) tall and the new growths are large enough that the leaves unfurl. If you water too soon, water will inevitably get inside the whorled leaves and cause the crown to rot. Once the new growth is ready to be watered, watering and fertilizing should be started gradually, increasing as the growing season progresses to perhaps daily or every 2 or 3 days as your potting mix and other growing conditions warrant. Be sure to fuel their rapid explosion of summer growth with sufficient fertilizer. Many use timed release fertilizer in addition to providing water soluble fertilizer with every watering. Their light requirements are similar to the brightest growing cattleyas, so make sure they get enough light, perhaps 50% to 65% shade. They are accustomed to warm temperatures, with summer highs ranging from 75° to 95°F (24° - 35°C). They enjoy abundant air movement, particularly during the hottest weather because the moving

air helps cool the leaves. Inexorably, summer turns to fall and the growing season nears its end, after which the leaves start to yellow and drop as the plants enter their dormant period. The plants should be prepared for dormancy by reducing the frequency of watering and fertilizing to harden off the bulbs. While the leafless bulbs slumber, water and fertilizer are withheld and winter low temperatures should not drop much below 50°F (10°C). Depending on the plant, new growth begins in late winter to early spring marking the beginning of the annual growth cycle.

Once you get "Catasetinae Fever" you start growing the different varieties and begin to learn something about the subtle difference in their growth habits. *Catasetums* and *Clowesias* are the most easily grown of all the Catasetinae. These vigorous growers are less sensitive to cultural mistakes than the *Cycnoches* and *Mormodes*. At one time, *Clowesias*



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and *Catasetums* were all considered to be in the *Catasetum* genus, but the *Clowesias* were moved into their own genus due to differences in the sexual differences in their flowers. *Catasetums* produce flowers that are either male or female, although some flowers express a degree of hermaphroditism. You may have heard that bright light conditions cause female flowers to form, but cultural factors also have a large influence over the sex of the flowers than the light intensity. Only a very healthy and robust plant can carry these very large seed pods through the dormant period, so only vigorously growing plants with sufficient energy stores produce female flowers, while male flowers are produced by plants having less resources. The *Clowesia* flowers have both male (pollinia) and female (stigma) flower parts, so in botanical parlance they are considered perfect flowers.

**Catasetums.** It is believed there are over 170 species of *Catasetums*, with perhaps two dozen species commonly used in hybridizing. They come in a variety of colors, sizes and shapes. Some species have gorgeous flowers and some are just plain weird. One of the most elegant is the species *Ctsm. pileatum* with its wide lip, others are weirdly beautiful like the bearded *Ctsm. barbatum*. *Catasetums* bloom from the base of the new pseudobulbs while the plant is in active growth. Most have arching to pendent inflorescences so they are well suited to growing in baskets and hanging pots, and there are a few with upright flower spikes. There are more than 200 registered *Catasetum* hybrids. The plants bloom from spring through early fall, often blooming two, three or four times a year depending on their parentage.

*Catasetums* have a winter resting period when they lose their leaves and water is withheld. The plump bulbs that developed over the summer sustain the plants through their rest period. There are a few *Catasetum* species that require only a brief dormant period. These plants have a tendency to hold their leaves through the winter and some growers are inclined to continue to water these plants but at a greatly reduced frequency. Other growers prefer to mimic the conditions in the wild and completely restrict water to force their plants into dormancy. The bulbs may look a little wrinkled by the end of winter, though this is normal and the bulbs will fill



*Ctsm. barbatum* is one of the bearded *catasetums* that is weirdly beautiful.

out when watering is resumed in the spring. If the bulbs appear grossly shriveled, they may be watered once or twice during winter although this not usually necessary.

Some *Catasetums* start their new growths in late winter and others in early spring. If you repot your plant during the dormant period, you will be all set when the annual growth cycle begins in the spring although you will not be able to winter water to replenish desiccated bulbs after disturbing the plant's roots. It may be preferable to allow the plant to stay in the pot with all the roots intact until new growth appears. Waiting will also help you orient the plant in the pot, so you can center the new growth and allow it the most room to grow. You have to monitor your plants at least weekly for signs of emerging growths because this is your signal to immediately repot the plant before roots appear. It is far too easy to damage



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the tender new growth, so repot plants as early as possible in the growth cycle. If you miss the window of opportunity, simply slip pot the plant into the next larger pot and vow to repot earlier next year. At least two and better yet three or four bulbs should be kept together in a clump during repotting. Single bulbs will usually sprout new growths that grow well although they may not bloom for you until the next year.



*Cl. russelliana* is a beautiful large flowered *Clowesia* with a long pendent inflorescence.

photo courtesy of Stephen Moffitt

**Clowesias.** There are differences in the growth and blooming habits of *Catasetums* and *Clowesias*. *Clowesias* are strong growers that are very resistant to rot. They tend to have shorter pseudobulbs that grow closely together in clumps. There are two general types of *Clowesias* although they are not separated into different sections. We'll call them the large and small flowered varieties. The large flowered species include *Cl. russelliana*, *thylaciochila*, *dodsoniana* and *glaukoglossa*. These you grow similarly to *Catasetums*. They have long pendent, fragrant, greenish flowers that typically bloom in the summer while the plant is in active growth. You'll follow the same repotting practices as with *Catasetums*, repotting just as the new growth begins. Keep the clumping pseudobulbs in the same pot only separating them when the pot would be too large for your growing area.

The small flowered species include *Cl. amazonica*, *rosea*, and *warczewitzii* that easily grow into large specimen plants that are truly spectacular. These bloom in winter on leafless bulbs, typically with multiple inflorescences on short pendent inflorescences. The greenish to pinkish flowers tend to be slightly cupped and very fragrant. Some of the fragrances have been compared to Vicks VapoRub and Lemon Pledge. You may think your plant is not going to flower as the winter drags on, but be patient. These *Clowesias* like to grow cramped with multiple bulbs in a pot, you may have in excess of ten bulbs happily growing. Don't be in any rush to divide these clumps, they flower profusely with multiple inflorescences covering the entire plant.



*Cl. Jumbo Grace 'Jumbo Orchids'* (*Cl. Rebecca Northen* x *Cl. Grace Dunn*) is a small flowered *clowesia*, a cross between two famous grexes





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*Clo. Sandy Kasner (Cl. dodsoniana x Ctsm. Alexis Pardo)* is a cross with a large flowered *Clowesia* that blooms in the summer usually with several long pendent inflorescences.



*Clo. Jumbo Circle 'Claire' AM/AOS (Cl. Jumbo Grace x Ctsm. cirrhaeoides)* is a cross with a small flowered *Clowesia* that throws off multiple long lived inflorescences in the winter from tightly clumped pseudobulbs.

The intergeneric **Clowesetum** is formed when *Catasetum* and *Clowesia* are combined, producing plants with perfect flowers. The *Catasetum* parentage tend to impart more color and increased size in the flowers while the *Clowesia* influence tends to increase the flower life and number of inflorescences. The *Clowesetums* are very easy to grow, just like their parents. They tend to produce medium sized clumping pseudobulbs that are rot resistant. When the large flowered *Clowesias* are used in the hybrid, the result is long pendulous inflorescences that appear in the summer. When the plants come of age, there may be three or four flower spikes at the same time. If the small flowered *Clowesias* are used in the hybrid, a very floriferous winter blooming plant can be expected. With a mature plant, six flower spikes that last for a month would not be unusual.

When repotting, don't be too eager to divide the plants. If you keep the pseudobulbs clustered together in a large diameter, shallow pot you will be rewarded with a very showy blooming. Particularly with the small flowering *Clowesia* hybrids, keeping the small clumping pseudobulbs together in the same pot means that you'll have multiple new pseudobulbs from which you'll get more than one inflorescence per new bulb.



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*Cyc. Swan Cascade (Cyc. cooperi x Cyc. Jean E. Monnier) is a reliable grower and bloomer, perhaps due to hybrid vigor.*

**Cycnoches.** The Swan Orchids are beautiful although more temperamental in their growth habit. *Cyc. cooperi* is stunning, with its greenish to bronze pendent display of graceful flowers. The Swans are irresistible, and you may keep buying them despite dispatching some to the orchid graveyard, if you are committed to learn how best to grow them. Sometimes the most rewarding plants are those that prove to be difficult to cultivate. Some of the yellow flowered species like *Cyc. chlorochilon* may be a little easier to grow, not surprisingly because this species is widely distributed over a large geographical range so it has adapted to grow under more diverse conditions.

*Cycnoches* normal growth habit is in small groups with only several live pseudobulbs. They grow a new pseudobulb each year and the older pseudobulb sometimes softens and rots so there may be only one bulb left standing by winter, rarely more than two or three. This is alarming perhaps, but appears to be part of their natural growth habit. The new *Cycnoches* hybrids are a little easier to grow, perhaps due to hybrid vigor.

When well grown, the tall pseudobulb produces a cascade of swanlike flowers from the middle to upper portion of the new growth. They may flower twice, once in the fall after the growth matures and still carries its leaves and once in the winter on a leafless bulb. Similar to *Catasetums*, *Cycnoches* flowers can be either male or female. Some only have subtle differences between the two flower types (the *Cycnoches* section), while others have flowers that are radically different (the *Heteranthes* section). Given the fact that they don't have many pseudobulbs, small baskets or shallow pots that can accommodate only one or two new pseudobulbs should be selected. Don't overpot them, select a smallish container that will allow for no more than two years growth. Use plenty of Styrofoam or other freely draining inorganic material in the bottom of the pot.





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Breeding *Cycnoches* with the hardier *Catasetums* (to form the intergeneric **Catanoches**) or *Clowesia* (to form the intergeneric **Clowenoches**) would be expected to increase plant vigor although these intergenerics are not widely available. *Clw.* Jumbo Valor is an easy to grow winter bloomer. Interestingly, these and the other intergenerics all have perfect flowers with both male and female segments, even the *Catanoches* that are a cross of two unisexual genera.



*Clowenoches Jumbo Valor (Cl. Rebecca Northen x Cyc. warszewiczii) grows well*



**Mormodes.** The Goblin Orchids have vibrantly colored if somewhat bizarrely shaped flowers. The species have a reputation for being more difficult to grow, presumably because duplicating the environmental conditions under which they grow is more challenging, so Caveat Emptor. Hats off to all you successful *Mormodes* growers out there! The *Mormodes* hybrids may be easier to grow.

*I have somehow managed to keep this Mormodes warszewiczii alive for the last several years.*

When *Mormodes* is combined with *Clowesia*, the easy growing **Mormodia** is created. The vast majority of the *Mormodias* have been made with the small flowered *Clowesias*, so they have inherited many of their delightful characteristics. Most *Mormodias* are small flowered, fragrant, winter bloomers that bloom from small clumping pseudobulbs. Sound familiar? They grow and bloom very similarly to their *Clowesia* parents. The *Mormodes* is used to vary and intensify the coloration of the flowers, and thankfully does not tend to impart its oddly shaped flowers to its progeny. Repot and grow a *Mormodia* as you would a *Clowesia*, trying to keep the multiple pseudobulbs together in the pot for a more spectacular winter show.



*Mo. Jumbo World (Cl. Grace Dunn x Morm. buccinator) is a colorful beauty.*

The product of *Catasetum* and *Mormodes* breeding is the intergeneric **Catamodes**. These are not widely available suggesting the crosses have been disappointing, although you would guess that the *Catasetum* influence would improve the ease of cultivation.



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*Cycd. Jumbo Puff (Cyc. warscewiczii x Morm. badia) had a beautiful fat new pseudobulb this year*

When *Cycnoches* are combined with *Mormodes*, the intergeneric ***Cycnodes*** are created. It is amazing to see the hybrid vigor that occurs when individuals from these two challenging genera are interbred. The flower shape tends to resemble the *Cycnoches* parent while the color of the *Mormodes* tends to dominate. These intergenerics bloom from the middle to upper part of their long pseudobulbs. Similar to their *Cycnoches* parents, *Cycnodes* often bloom once during the growing season on leafed pseudobulbs and once during the dormant season on leafless pseudobulbs. Given their parentage, smallish pots that can accommodate one or two new growths should be used when repotting along with Styrofoam or similar inert material in the bottom of the pot.

**Complex Intergenerics.** Complex intergenerics are formed when 3 or more catasetinae genera are combined. The most well known of these is the ***Fredclarkeara*** (*Catasetum*, *Clowesia* & *Mormodes*), particularly the black orchid *Fdk. After Dark*. There are other complex intergenerics including ***Cloughara***, ***Cyclodes***, ***Monnierara*** and ***Georgecarrara*** though they are not too widely available except for the popular *Monn. Millenium Magic*. The next generation of *Fredclarkeara* breeding is producing grexes with a wider variety of colors, larger flowers and improved form. Depending on the parentage, these may bloom anywhere from midsummer while the plant is actively growing through winter on leafless bulbs. These complex intergenerics tend to grow well but are somewhat reluctant bloomers, requiring very large pseudobulbs before they will flower well.



*Cyclodes Jumbo Freedom 'SVO' AM/AOSt (Mo. Emiina Watouy x Cyc. warscewiczii) grows well*



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**Lessons Learned.** No matter how many years you've been growing this or that type of orchid, you are always learning new tricks, trying out new ideas and tweaking your culture. Here are some of the catasetum lessons learned in recent years.

*How Often to Repot?* In the past, my catasetums were repotted every year until last year, when I couldn't remember why they were being repotting every year. The plants were all potted in long fibered New Zealand sphagnum moss which can easily last 2 years in the pot so they were not repotted last year. It seems like the catasetums bloomed earlier and more prolifically when left in the pot the second year. During repotting, timed release fertilizer is added between layers of sphagnum moss because catasetums are such heavy feeders. By skipping the repotting step, the plants only got their water soluble fertilizer (about 50 to 70 ppm nitrogen that works well for the cattleyas) with each watering. Probably the pots should have been top dressed with timed release fertilizer at the beginning of the second year to supplement the water soluble fertilizer.

*Growing Outdoors* The catasetums used to hang over the cattleyas in the greenhouse where they were watered every second or third day. Fred Clarke of Sunset Valley Orchids had been encouraging me to try different things including growing outside with little protection from either the sun or extended rainy periods. Some seedling catasetums potted in sphagnum moss in 2 inch pots were moved to one of the open vanda shade houses where they got bright light and daily watering/fertilizing. By midsummer, the greenhouse catasetums had been treated four times for spider mites while the ones growing with the vandas had no mite damage. I tried syringing the bottom of the leaves in the greenhouse using a Fogg-It nozzle to simulate the outdoors conditions and this not only didn't dissuade the mites but it caused a nasty crown rot on about a dozen plants. Perhaps the day night temperature change is more extreme outdoors allowing some condensation on the leaves that dissuades the mites and the air movement is more buoyant drying the leaves. At any rate, all the catasetums were moved out in the spring to a new open hanging structure that has a 50% shade cloth covering. Because the plants also receive uncontrolled rain water, everything was potted in smaller clay pots with large chunks of Styrofoam at the bottom and a sphagnum moss/sponge rok mix that occupies perhaps the top half of the pot. Even if these plants are wet for a week during long rainy periods in Florida, there is not so much sphagnum moss in the small pot that the roots will be soddenly wet plus there are plenty of air pockets into which the roots can grow.

If you are just starting out with *Catasetums*, consider trying the hybrid *Catasetums*, *Clowesias* and *Clowesetums* first. The *Catasetums* and *Clowesias* are the easiest to grow and you'll benefit from hybrid vigor. Once you've mastered the basics of *Catasetum* culture, try the *Catasetum* species, intergeneric *Mormodias* and *Cycnodes*, or even some of the *Cycnoches* hybrids or complex intergenerics. You'll find which ones grow best for you and reward you with the most blooms. But be careful, or you too may find you are on a first name basis with "Catasetinae King" Fred Clarke!

**Acknowledgements:** Thanks to Fred Clarke for his insights on growing the Catasetinae, along with the many growing tips he has shared over the years. Don't miss his "State of the





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Catasetinae” article in the 4<sup>th</sup> quarter special issue of the *Orchid Digest* in 2016. Thanks also to Stephen Moffitt and Bernie Butts for their comments and suggestions on this article.

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