



**St. Augustine Orchid Society**

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## **Buying Seedling Orchids**

by Sue Bottom, [sbottom15@hotmail.com](mailto:sbottom15@hotmail.com)

Some people only buy orchids in bloom so they can choose which orchid flower they like best. These plants are usually older and so are more expensive and mature enough to flower. If I see a drop-dead gorgeous flower, I may throw my Scotch heritage to the winds and buy the flowering plant, but more often than not, I can be found at the seedling sales tables where small plants in 2 or 3 inch pots are being offered.

Buying seedlings in small pots is a cost-effective way of expanding your collection. Additionally, a seedling grown under your conditions becomes adapted to the environment you are providing your orchids. Sometimes, a newly purchased mature orchid in flower may take several years before it flowers again as it adjusts to your culture and environment. Of course, you must grow your new seedling into a mature plant before it will flower well for you. This is contrary to the instant gratification we often seek. But, there is something special about growing a small plant into a large plant and seeing the buds form and the flowers open for the first time. Additionally, each seedling is unique unless it is a mericlone, an exact replica of a special orchid that has been cloned.



*How do you decide which or how many seedlings to bring home?*

It is easy to be overwhelmed by trays of seedlings. Which variety should you buy? Which is the best plant? Some reflexively buy one of each seedling offered. Seedlings from two hybrid parents may be highly variable with respect to color, shape, etc. Seedlings from two different cultivars of a species will be less variable as are seedlings of primary hybrids where each parent is a different species. If you want a plant that is exactly like a photo you need to purchase a mericlone but few orchids have been cloned. Hybridizers can provide some guidance on what the flowers of a new hybrid will look like but it is impossible to know exactly. The thrill of seeing a seedling bloom for the first time is special and usually worth the wait. Many savvy hobbyists buy multiples of a hybrid that promises the spectrum of flower colors,



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sizes, and shapes they like and then select the best ones to keep in their collection after they all flower.

When shopping benches of seedlings ask which plants are mericlones. These will be exactly like associated photos. If you see a tray of mericlones you like, look for a healthy, vigorously growing seedling that you can bring home. You only need to buy one.

In nature, pollinators visit flowers that attract them without regard to floral characteristics that would attract the orchid hobbyist. Nurseries wishing to improve a species to conform to what hobbyists want combine select forms to improve on Mother Nature. If you see a tray of a species propagated from seed, check whether it is a selfing (mom and dad the same clone), a sibling (brother and sister parents) or an outcross (distant relatives are parents).

If it is a sib cross, the hybridizer was likely trying to improve some aspect of shape, form, size, color, etc. while maintaining vigorous growers. Expect a relatively uniform group of progeny hopefully with a few that have improved floral characteristics superior to the parents. Sibling can produce dramatic forms of a species but be aware that unwanted characteristics can be concentrated as well. Better flowers are always found in cultivars that grow well so look for seedlings with a vigorous growth habit. You might just select one from the tray, or if you really like the species, maybe a few to bloom out and select the one you like best.



*Ctsm. fimbriatum* 'Golden Horizon', photo by Fred Clarke



*Ctsm. saccatum* 'Dark Wonder', photo by Fred Clarke



*Ctsm. Dragon's Teeth* 'SVO' AM/AOS, photo by David Nickerson

*You can see the open hairy lip from the Ctsm. fimbriatum and the wide sepals from the saccatum in the primary hybrid Ctsm. Dragon's Teeth.*

If it is a selfing, where the pollen from a plant is placed on its own stigma to form seeds, either the hybridizer only had one clone to produce more, or the hybridizer is trying to tease out some recessive traits from the parent plant by concentrating genes. Be sure to select vigorously growing seedlings if you are buying selfings. You might just get lucky and find a rare alba or coerulea flower.

With hybrids, the degree of variation depends on the parents. Primary hybrids are the product of two species so the offspring get half the genes from the pod parent and half from the pollen parent. Primary hybrid seedlings typically look similar, with only a little variation. In many cases one species dominates. In others, hybrid characteristics may be intermediate between the two species. Typically, primary hybrids exhibit hybrid vigor and are easier to



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grow than either of their parents. Species have often evolved to thrive in a unique ecological niche, so meshing genes from two species often results in plants that can tolerate a broader range of climatic conditions than either parent species.



*Ctsm. expansum* 'Linda'



*Ctsm. Orchidglade*  
'Davie Ranches'  
AM/AOS



*Ctsm. Susan Fuchs* 'Burgundy  
Chips' FCC/AOS

*Ctsm. Orchidglade* is a primary hybrid between *expansum* and *pileatum*, it was backcrossed to *expansum* to produce *Ctsm. Susan Fuchs*. photos by Fred Clarke

If one of the primary hybrid's parents is a tetraploid (usually denoted as 4n on the plant tag), it will contribute twice the number of chromosomes as the other diploid (2n) parent and have a greater influence on offspring, with offspring looking more like the tetraploid parent.

If the primary hybrid is then crossed with another cultivar of the same primary hybrid in a sib cross, there will be a lot more variation in offspring as compared to the initial primary hybrid between the two species but still carry the same name as the original cross. In such cases individual have varying proportions of chromosomes from the two initial species producing more variable seedlings. As Courtney explains in *American Cattleyas*:

*The only hybrids that always contain a specific proportion of chromosomes from one parent are primary hybrids, a cross between two species. They inherit one set from each parent. If two siblings of a primary cross are used to make a hybrid, individual seedlings may contain any combination of chromosomes that originated with either grandparent species from 100% to 0% although the probability for such an extreme event is rare.*

If you decide to buy more than one plant, you might select your seedlings based on plant morphology, selecting one having the widest leaves, one having the tallest growth habit, or one having lots of red pigment showing in the leaves if looking for dark colored flowers or no pigment if looking for an alba.

When primary hybrids are crossed with different species or hybrids, the progeny are known as complex hybrids. The goal of most hybridizing is to blend the desirable characteristics of each species in the ancestry to produce a plant with flowers that are an improvement over either parent. The hybridizer might be trying to combine the flower size



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from one parent with the flower color of the other parent. After several generations of breeding and cross breeding, it can be difficult to see the contributions of the various species in its ancestry.



*Ctsm. Red Dragon is a hybrid between Dragon's Teeth and Susan Fuchs, and only contains the genes from four species, but look at all the variety in the seedlings. If you only bought one of these seedlings, what are the odds that you would have been lucky enough to bring home your favorite?*

*photos by Terry Bottom*

The more complex the hybrid, the more variation you expect to see in the progeny. When you find a seedling you think might be interesting, ask the vendor how variable he or she expects the seedlings to be. You might consider buying multiples from a tray of seedlings that strikes your fancy, so you can enjoy the variety imparted by different genes inherited from the species in its background.

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