



Grower: *Fordyce Orchids*

Photographer: *Richard E. Fleig*

Sophrolaeliocattleya Ginny Champion 'Mini-Bouquet', HCC/AOS (78 pts.)

(*Cattleya Baby Kay* × *Sophrolaelia Psyche*)

Tips for Growing Miniature Cattleyas

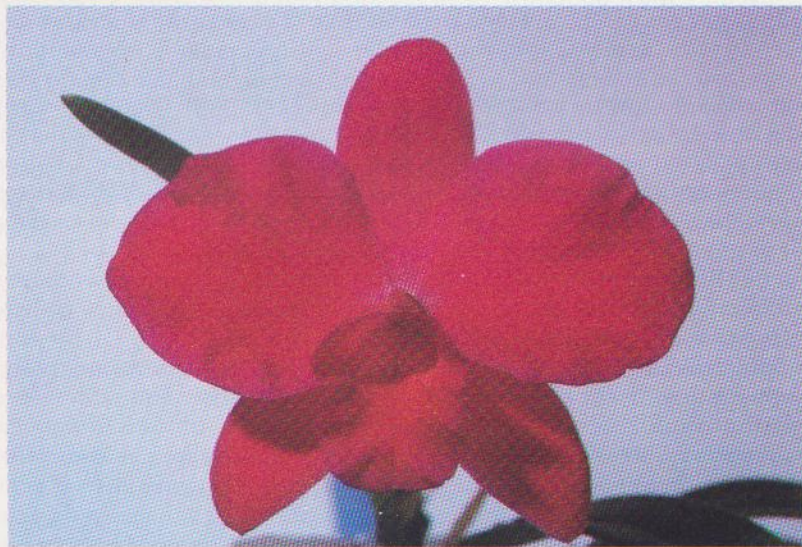
FRANK FORDYCE¹

AS MINIATURE cattleya-type hybrids increase in popularity, the question is asked, "Are miniatures grown differently than standard-type cattleyas?" The answer — as so frequently found in orchid growing — is "yes and no." That is to say, the general rule of thumb is to grow the miniatures that are

Sophrolaelia Orpetii 'East Wind', AM/AOS (85 pts.)

(*Sophronitis coccinea* × *Laelia pumila*)

Grower: *Masaharu Shishikura*



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either species or primary hybrids in an environment as close as possible to their natural habitat. The more complex hybrids, such as *sophrolaeliocattleyas*, *cattleytonias*, *potinaras*, and *otaaras*, do well under the standard *Cattleya* growing conditions of 80-85°F days, 60°F nights, with humidity of 40-75%.

Because many of our modern miniature hybrids are derived from tiny *Sophronitis* species, I refer readers to an excellent article by Cecilia and Alvaro Pessoa entitled "The Culture of the Brazilian *Sophronitis*" in the December 1983 A.O.S. BULLETIN. Their superbly written personal observations conclude with eight general recommendations for their culture. Should you be able to duplicate the conditions outlined, you will succeed. However, many of us who experience summer temperatures of 90-95°F during the day, with 20-50% humidity, will not be so fortunate. This is especially so if night temperatures do not drop into the 50s and we are trying to grow *Soph. coccinea*, *acuensis*, *pygmaea*, and *mantiqueirae*, the cool-night growers.

While it is true that these species do require lower temperatures, when combined with hybrids that are already warmth-tolerant, the results are plants that will grow at normal *Cattleya* temperatures or somewhat lower. As noted in the Pessoas' article, *Soph. coccinea* will withstand up to 86°F and down to 32°F if 70-90% humidity is maintained. Typical of mountain-growing orchids, they enjoy a misting of their leaves at dawn during the summer. They may be grown in or on a variety of growing media, including sphagnum moss. Moist sphagnum near the plant itself provides constant evaporation throughout the year and keeps the pots cool close to the roots. If grown in sphagnum, little or no fertilization seems to be required.

Because of the difficulty in duplicating the above-listed conditions in California's hot, dry atmosphere, I find *Soph. cernua* grows and blooms much more easily than *Soph. coccinea*. In no way does this deter me from using the pollen of *Soph. coccinea* to make delightful hybrids. But as a hybridizer, I find that *Soph. cernua* more frequently dominates its progeny's plant size when used with complex hybrids. *Sophronitis coccinea* produces progeny one-half to two-thirds the size of the complex hybrid in the combinations. I have yet to find the hybridizer to set seed on *Soph. cernua* itself, whereas *Soph. coccinea* does so repeatedly.

After having grown miniature cattleyas for a number of years, I can make the following observations:

***Sophronitis coccinea* complex hybrids** — These will tolerate the general *Cattleya* growing conditions of 60-85°F if *Soph. coccinea* does not dominate the genetic combination. However, they will grow even better at 75°F days and 55°F nights and will produce smaller bulbs with thicker, heavier leaves at 75 and 50°F. Blooms will open more slowly and be larger and more intensely colored at the lower temperatures — provided that humidity of 60-75% is maintained.

Pot in fine fir bark ($\frac{1}{8}$ "- $\frac{1}{4}$ " in $2\frac{1}{2}$ "- $3\frac{1}{2}$ " pots, using such additions as charcoal or perlite for aeration. When plants require 4"-6" pots, medium fir bark ($\frac{1}{2}$ "- $\frac{3}{4}$ " in) may be used.

Sophronitis hybrids prefer to be grown slightly damp but airy at the roots, with constant humidity. Never allow potting media to decompose and retain water for any length of time. These hybrids thrive in bright light conditions provided leaf temperatures remain cool to the touch. If you are unable to keep leaf temperatures cool to the touch by use of humidity and fans, I encourage you to lower light conditions to achieve that purpose.

I am in complete agreement with the findings of Dr. Robert J. Griesbach ("Orchid Flower Color — Genetic and Cultural Interactions," A.O.S. BULLETIN, October 1983) that light and temperature can affect flower color dramatically. During

periods of high light intensity, photosynthesis occurs at a very rapid rate, producing increased amounts of sugars in the plant. At cool temperatures, the growth of the plant is slowed, limiting the amount of sugars needed for respiration. (Respiration is the reverse of photosynthesis. It is an oxidative process in which stored sugars and fats are broken down, releasing carbon dioxide, water, and energy to be used by plants.) Cool temperatures combined with high light intensity allow the plant to accumulate a reserve of sugar. Sugar molecules are bound to anthocyanin molecules and have the effect of stabilizing color. In addition, at high light intensities, increased anthocyanin production occurs. Anthocyanins help protect the cell from harmful effects of increased irradiation. Griesbach also discusses a most interesting possibility that the pH of the petals appears to be controlled by a small number of genes, thereby allowing the hybridizer to cross flowers that are acidic in pH to produce even redder flowers.

Smaller-flowered Brazilian laelias and their hybrids — It's interesting that the majority of the small-growing "new" *Laelia* species were not brought to our attention until recently. I make no claim to be an authority on the subject of laelias because I have been growing these charming, hardy plants for only a few years. However, *Laelia briegei*, *esalqueana*, *sincorana*, *ghillanyi*, *lilliputiana*, *bradei*, *jongheana*, and *lucasiana* rapidly are becoming parents of many new hybrid combinations. *Laelia flava* and *L. milleri* have been utilized for years, lending stem length and color to their hybrids as a dominant characteristic. *Laelia punila* is dominant for good form but restricts its hybrid to two blooms per stem.

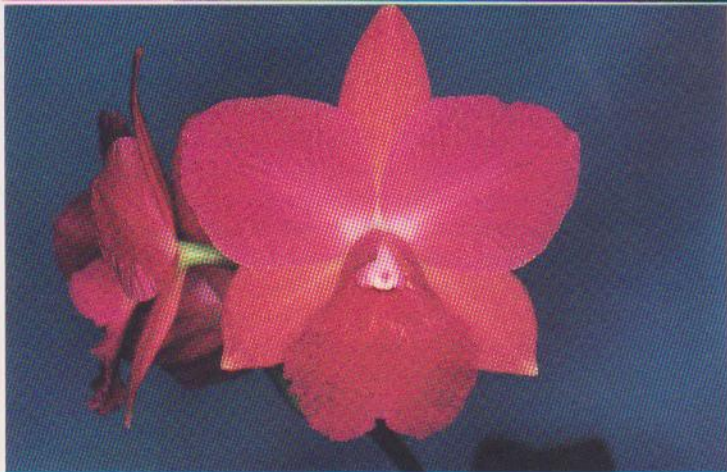
The rupicolous (rock-dwelling) *Laelia* species and other small-flowered species listed above generally have leaves that are noticeably thick and withstand maximum light for optimum growing and blooming. Temperatures should run in the low 50s in winter (cooler than most standard cattleyas). Day temperatures of 80-90°F are fine.

Because these species are rock-dwelling, their roots often are exposed to the air. Thus, when they are warmed by heat from the rocks, rain and dew dry quickly. This condition must be simulated in your own cultivation by utilizing airy, open mixes, shallow baskets, or large slabs of bark allowing the many roots to attach themselves. Artificially-made, fired clay pellets do well as a growing medium, too.

These plants should be watered once or twice weekly if grown in airy mixes. Keep humidity at 60-70%. A most important growing tip to remember, that can make the difference between failure and success, is the fact that most laelias rest after blooming and subsist primarily on moisture from natural humidity and morning dew until new growth resumes with the early spring rains. To duplicate these conditions, cease watering after blooming and mist leaves occasionally. Resume watering when new growth begins. Feed the plants with normal *Cattleya* food during active growth.

***Cattleya walkeriana*, *aclandiae*, *schilleriana*, *luteola*, *violacea*, and hybrids** — All these delightful species grow best when mounted on plaques and treated in the same manner as the *Laelia* species discussed above. Hybrids from these species grow much like those standard cattleyas requiring the same temperature.

Broughtonias and their hybrids — *Broughtonia* species are native to Jamaica. They prefer semi-shade, although in nature it's not unusual to see them growing in full sun. They like day temperatures of up to 90°F and night temperatures of 60°F. They prefer being mounted on plaques but can be grown in pots. I find the hybrids like damp and airy mixes. Never allow them to dry out completely. The more *Cattleya* or allied types added to *Broughtonia* species in hybridization, the more the



Grower: H & R Nurseries, Inc.

Photographer: Sadao Okuhara

LEFT,
Hawkinsara Alice Iwanaga
'Ruby Lips', AM/AOS (84 pts.)
 (*Sophrolaeliocattleya* Tropic Dawn
 ×
Cattleytonia Keith Roth)



Grower: Paphanatics, unLtd.

ABOVE,
Sophrolaeliocattleya
Dixie Jewels
'Browning's Red', HCC/AOS (78 pts.)
 (*Sophrolaeliocattleya*
Madge Fordyce
 ×
Cattleya aelandiae)



Grower: Fred A. Stewart, Inc.

BELOW,
Laeliocattleya
Tiny Treasure
'Star Amethyst', HCC/AOS (78 pts.)
 (*Cattleya* Porcia
 ×
Laelia lucasiana)

Grower: Richella Orchids

Photographer: Sadao Okuhara



RIGHT,
Cattleytonia
Jamaica Red
'Richella', HCC/AOS (79 pts.)
 (*Broughtonia sanguinea*
 ×
Cattleytonia Keith Roth)

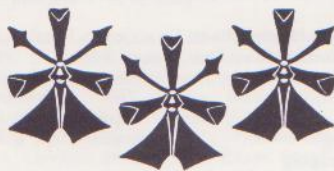
hybrids react like standard cattleyas and not broughtonias. A word of warning should be passed along that broughtonias and their primary hybrids are more susceptible to foliage burn by insecticides than are cattleyas or laelias.

Epidendrums, encyclias, and their hybrids — For easy-to-grow, rewarding, outdoor cattleya look-alikes, this group hits the target. Hybrids from *Encyclia mariae*, *nemoralis* (= *adenocaula*), and *radiata*, along with the cold-resistant *Epidendrum conopseum*, lead the way to the hardy, colorful, new hybrids. Grow these in intermediate to warm temperatures on plaques or in pots.

As I have traveled across the U.S., I have noted that there are a growing number of hobbyists taking their cattleyas outdoors during the spring, summer, and fall. They only utilize growing space in their greenhouse or "under lights" during the winter cold. This aids in solving the space problem, and to many hobbyists' delight, the plants adapt well to cultivation under screen or open-crowned trees. I know for a fact that *Sophrrolaeliocattleya* Hazel Boyd 'Frae', AM/AOS-RHS has been grown under a wide variety of temperatures from a 45°F night temperature to as high as 98°F daytime with good results. If you live in an area where low humidity is a problem, you will have to mist the foliage frequently during the summer if growing outside.

Having just returned from visits with Pennsylvania, Michigan, and New York orchid societies, I was truly impressed with the overall good culture seen in plants grown indoors in apartments and under artificial light conditions. Those of us growing under optimal California and Florida conditions must admire the dedication to plants and the pride of accomplishment found among growers from the eastern United States. Obviously, the miniature hybrids are a boon to these "cramped-quarters" growers, allowing them to grow a wider range of blooming-size plants in a given space. Also, many of these plants bloom twice a year!

Whoever said "small is insignificant" hasn't seen the latest in the vividly colored miniature cattleyas. These trend setters are unique because they are beautiful, not cute because they are unique!



Reminder: Third Annual Speakers Day This Month

THE THIRD ANNUAL Speakers Day is scheduled for Sunday, November 17, at the Holiday Inn-North at Newark International Airport, Newark, New Jersey. This popular program is sponsored by the Joint Presidents Council, made up of the presidents of orchid societies from the New York metropolitan area. Four speakers will make presentations at the day-long forum: the Honorable Alasdair Morrison of England, Sr. Jorge Verboonen of Brazil, and Lance Birk and Robert Dugger of California. In addition, there will be an orchid plant sales area and raffle. Because of space limitations, registration will be limited to 300 persons on a first-come, first-served basis. The price for the event will be \$23.50 for members of societies belonging to the JPC, and \$25.00 for others. For further information, contact: Mrs. Rita Cohen, 1433 Kew Avenue, Hewlett, NY 11557.