

They Didn't Send Me the Right Plant!...Or Why Cultural Conditions Matter

"This flower is not the same color as the sample I saw!

"Doesn't look like the picture in the catalog!"

Judge: "The color and markings are not the same as the previous award. Must be a different flower."

These are all comments I have heard. What many of us fail to realize is how much culture can affect color, form and other characteristics of a flowering orchid.

Those of us who grow *C. (Sophronitis) coccinea* hybrids are quite aware of the effects of temperature and light on the color of these flowers. In cool weather, flowers will be red while in warm weather the color may be orange or even pink!

In this article, I will show you some of the changes due to light and temperature that I have observed.

These variations were made starkly evident when we moved from New Jersey to Santa Fe, NM. For those of you who have never been to Santa Fe, a little background on our climate will be helpful. Santa Fe is high desert at 7000 feet above sea level. So what does that mean? First, we rarely have summer day temperatures above 95 F that quickly cool down at night into the high 50s to low 60s F. Since I keep a minimum night temperature of 62 degrees F, the plants experience a day-night temperature differential of 20 to 25 degrees F.

The other important piece is the 340 days of full sun that we have...even in the winter there are very few cloudy days! This is also coupled to 30% stronger sunlight because of our altitude...sunscreen, hats and sunglasses are standard survival equipment here.

Most pictures that accompany this article are of the same plant photographed either in New Jersey and New Mexico or a summer versus a winter flowering of the same orchid. Others show the

difference between the blooming of plants purchased in bud from Hawaii and then flowered again later here.

The first example is Lc. Allie's Spice 'Peppermint', a cross of Lc Pink Spice X L alaorii. The lighter color flower is the blooming in New Jersey. The bright, almost florescence pink splash is what we see here in New Mexico. I might add, that I until I divided it, the plant was in nearly constant bloom for 4 years.



The next few pairs of photos show the typical summer versus winter blooms for C. (Sophronitis) hybrids.



This is Pot. Apricot Sands 'Fire Brand' AM/AOS. The flower on the left is typical of the color for a summer or early fall blooming. The picture on the right is the color of the winter bloom and the color it was when awarded its AM/AOS.



This pair is of Pot. January's Child 'Luscious' HCC/AOS. Again the flower on the left is a summer bloom and the one on the right is the winter bloom. It was awarded on a winter blooming.

Sometimes the effect is a bit more subtle as shown in the pair of pictures below of Pot. Jim's Gold 'Diane'.



In this case, the difference is a richer yellow color with the throat of the lip showing a much deeper orange color in the flower on the right.



These pictures are of two flowers on the same inflorescence. The flower on the left was opening when I received it from Hawaii. The flower on the right opened in my greenhouse about a week later. Both photos were taken on the same day. This illustrates the dramatic difference how the conditions in Hawaii differ from mine in Santa Fe, NM. The plant is from my cross RM-1007 Rlc. (Blc.) Atalanta Venture (C. (Lc.) Atalanta Lane X Rlc. (Blc.) Verdant Venture).

These color differences with conditions also affect orchids other than Cattleyas. Next is an example with *Zygopetalum Advance Australia* 'HOF' AM/AOS.



The flower on the left was in bud when received from Hawaii. This is also the color in the Awards Plus for this cultivar. The darker color flower is on the SAME plant pictured on the left but one year later. Very one of these plants that has spent a year or more in my

conditions will bloom with the almost solid chocolate brown petals and sepals, and the more vivid, darker lip.

Besides these changes due to conditions, some flowers, as they age, can show a dramatic change in color. This is particularly true when chlorophyll present in the flowers slowly disappears as the flower matures. Green Cattleyas bred from yellow flowered plants will start out green or chartreuse and as they age become yellow. Most of us are familiar with the latter. However, you can find a similar change in other Cattleyas as well. The pictures that follow illustrate what I mean about the changes due to loss of chlorophyll in the flower segments.



This is a plant from my cross RM-1035 Bc. Daiana ADV (C. Chocolate Drop X Bc Pastoral). The age progression is from left to right. The first picture was taken 7 days after opening, the second 1 week later and the third 2 weeks after the first picture. To me, the colors are different enough, that were I to see them at different times and not know they were indeed the same plant, I might think them different cultivars. Just a note about this cross, it was also made and registered by A. D. Vastik.

As you can see from this rather short article, cultural conditions can play a large role in the color of our flowers. My move to Santa Fe has reinforced what I have observed in my 50 years of growing orchids. While I emphasized mostly temperature and light effects, we should also be aware of how the maturing of a flower can have a big impact on color as well. In addition, particularly Cattleyas with a significant part of their gene pool derived from C. (Soph.) coccinea can take two

weeks or more to fully expand the flower segments and develop color.