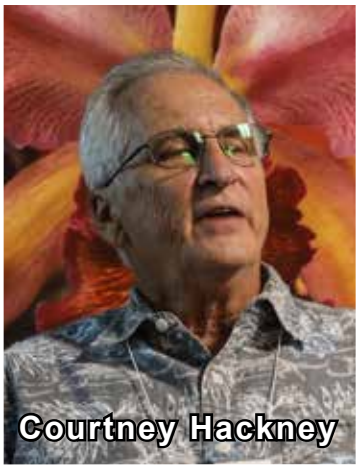
St. Augustine Orchid Society NEWSLETTER
August 2017
Volume 12 Issue #8

Club News



August 1 SAOS Meeting

by Janis Croft,
secy@staugorchidsociety.org

Welcome and Thanks. Bob Schimmel opened the meeting at 7:00 pm sharp with 49 attendees. Bob announced that we will be starting at 7 in an effort to end on time so people with long drives can get home earlier. The doors will open at 6:30 so those that want to shop for plants will have plenty of time. He then thanked Jeanette Smith and Shirley Browning for organizing the refreshments and reminded all to drop a dollar in the basket while enjoying their refreshments.

Susan Smith welcomed nine guests along with 6 new members, Lisa and COB Barrett, Inci Willard, Judy Hannah, Ephraim Badea and Beverly Chulak.

Club Business. The next Ace Repotting Clinic will be August 5 from 9 am until 1 pm. Show season and Keiki Club meetings will resume in September. Three raffle tickets are given to members who exhibit a Show Table plant for their first time.

The new hats ($15) and T-shirts ($20) were available at the sales table along with fertilizer and potting supplies. Email Sue Bottom (sbottom15@gmail.com) if you need potting supplies, special quantities or different items and she will bring them to the next meeting for purchase.

Bob announced that we needed a vote on the By Law changes clarifying the Treasurer's duties. The motion passed unanimously.

Penny Halyburton, Club librarian, brought in two books for loan this month: Understanding Orchids by William Cullina and American Cattleyas by Courtney Hackney. Email Penny (librarian@staugorchidsociety.org your book/DVD request and she will bring the item(s) to the next meeting.

Show Table Review: Courtney Hackney noted that the table was filled with "Summer Bloomers." The Bifoliate Cattleyas grow out of their pots quickly and hate to be repotted and the C. Fair Phyllis (C. Tripp Johnston x C. Netrasiri) was a prime example. Lc. Maui Plum 'Volcano Queen' with its beautiful color and large head of flowers on one inflorescence showed that Summerland Girl is in its parentage. Courtney raised that species when he was just starting out in his career. The Blc. Hawaiian Passion 'Camela' showed its chartreuse-green flower with a waxy, buttery yellow lip. Courtney noted that yellow summer bloomers often rebloom in winter/early spring and have a much better color and flower count. Next was the Blc. Serengeti Sands whose petal surface looks like velvet. Courtney then held up the Epi. cochleatum from Central America and pointed out the lip which hangs up. He then moved on to the unusual Phal. bellina that is a summer bloomer and very fragrant at night. It prefers pure rain water.

Next Courtney talked about the Brassavola bybrid named Bl. Richard Mueller. The Brassavola nodosa is used in numerous hybrids including the show table's highly spotted Bc. Binosa 'Wabash Valley' which loves heat and lots of water. We had two large Grammatophyllum scriptum var. citrinum plants. Courtney stated that they grow to specimen size quickly as long as they don't get lower than 55 degrees in winter. A surprise to most was the mounted Epi. magnoliae commonly known as the "Green Fly" orchid which commonly grows in our backyards on oak trees. It has fragrant green flowers. Next to it was the Stanhopea

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Club News

Upcoming Orchid Events

August

3-5 Seventh Annual Cattleya Symposium
Sponsored by Odom's Orchids
Indian River Research & Education Ctr
Fort Pierce
5 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
8 JOS Meeting, Mounting Orchids, 7 pm
Glenn Gross, Gross Orchids

September

2 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
5 SAOS Meeting, 7 pm
Growing Orchid Basics
George Hausermann, EFG Orchids
9-10 FL West Coast Orchid Society Show
Pinellas Park Performing Arts Center
12 JOS Meeting, Orchid Habitats, 7 pm
Thanh Nguyen, Springwater Orchids
16-17 Ridge Orchid Society Show
Lake Mirror Center, Lakeland
17 Keiki Club for Orchid Beginners, 1 pm
Get the 'chids Ready for Winter
Bob and Yvonne Schimmel's Home
702 Wilkes Court, St. Aug 32086
29-30 Breezy Hill Orchid Festival
Graniteville, SC

October

3 SAOS Meeting, 7 pm
Japanese Orchids
Dr. Kristen Uthus, New World Orchids
7 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
10 JOS Meeting, Roundtable, 7 pm
JOS Member Discussion
20-22 Orchtoberbest at EFG Orchids
4265 Marsh Road, Deland 32724
21-22 Gainesville Orchid Society Show
Kanapaha Botanical Garden
27-29 Delray Beach Orchid Society Show
Old School Square Gymnasium
27-29 East Everglades Orchid Society Show
RF Orchids, Homestead

November

5 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
7 SAOS Meeting, 7 pm
Epidendrums, Encyclias & Prostheceas

St. Augustine Orchid Society Organization

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King Kong with its huge flowers which only last three days but has multiple blooming inflorescences. Check out the photos of our show table examples at the end of the newsletter and on the SAOS website.

SAOS Program. George Hausermann had to cancel his trip up this month due to lightning striking his greenhouses so Courtney Hackney agreed to speak on "Understanding Orchid Hybridizing." He started by explaining that hybridizers exploit the natural variations found in nature to create new forms. They do this by cross-pollinating and Courtney did a demonstration. All watched closely as he put pollen from C. Sue Bottom on a toothpick and placed it in the stigmatic surface of the C. Terry Bottom, to hopefully produce a seed pod. If pollination occurs, the seeds will be sent off to a lab to be "flasked" and hopefully grow new plants. That's the how to of hybridizing but Courtney feels it is to your benefit to understand some of basic terminology so when you buy a plant you can understand its parentage and why it looks like it does.

He started with defining some terms.

Species: A naturally occurring orchid first described by a taxonomist and published in a scientific journal.

Varieties: Describes the slight differences that occur in most species; requires description to be published in a scientific journal.

Forms (forma): Description of new color forms or mutations that are different than most in the species.

Additional terms helpful to know:

Hybrid orchid is a combination of two species, or two hybrids, or a species and a hybrid.

Primary Hybrid is a combination between two species.

Complex Hybrid is a cross between two hybrids or a hybrid and a species.

Selfing is a cross of the same plant (is both the mother and the father) often used as a way to concentrate rare recessive genes though there may be a loss in plant vigor from the inbreeding.

Sib cross is a cross between a brother and a sister, but the term is not correct if more distantly related orchids are crossed. It is a way to get some recessive genes expressed with less risk of inbreeding.

Back cross is a cross of an offspring back to one of its parents, used to concentrate some recessive traits while still increasing genetic variation.

Hybrid Species are the result of line breeding, which occurs when a member of the same species is selfed, sib crossed or out crossed over several generations to produce ever better forms and colors of the species.

Next Courtney went on to explain how chromosomes work in hybridizing. Orchids are constructed from information stored in a series of "cookbooks" where each volume of cookbooks is analogous to the chromosomes with each volume containing thousands of recipes (the genes on the chromosomes). A cattleya orchid has 20 chromosomes each from its two parents (a pollen parent and a pod parent) for a total of 40 chromosomes (or cookbooks). Sometimes traits are dominant and these tend to be expressed in the offspring while recessive traits often are masked unless they are expressed in both sets of chromosomes.

Mistakes in the chromosome replication process are referred to as mutations, although it is relatively unusual for the mutation to be expressed because both parents would have to have the same faulty gene occur at the same location on the chromosome (unless it were a dominant rather than recessive mutation).

Sometimes a desirable trait like bright color is linked to an undesirable trait like poor flower stem and both these characteristics are expressed in the progeny because they are found in the same "cookbook". These are called "linked genes." Hybridizers often learn by trial and error which traits can be passed on or deemphasized in the offspring to achieve their hybridizing goals.

Ploidy refers to the number of chromosomes or "cookbooks" a plant has. When you see 4n after a plant name, it means the plant is a tetraploid with twice the number of chromosomes or cookbooks than the more typical diploid or 2n forms. A tetraploid parent will impart more inheritable traits so using a 4n parent is a way for the hydbridizer to emphasize that parent's influence over the progeny.

In the days of the cut flower trade, breeders worked to achieve two goals, bloom season and internode distance. They wanted plants that flowered before the important Christmas, Easter, etc. holidays and plants that had the most flowers per square inch of pot size for their corsages. Any one making a hybrid should have a clear vision of what he is trying to achieve in order to make improvements in the inheritable traits like flower color, stem strength, plant vigor, etc. When you buy an unbloomed orchid, try to make some educated guess of that type of flower you might expect, or ask the hybridizer what he was trying to achieve with the cross.

Meeting Conclusion: Art Russell announced the Member's Choice Award as a four way tie between Pot. Frank Gilmore 'Mendenhall' (Courtney Hackney), Stanhopea King Kong (Sue Bottom), Gram. scriptum fma. citrinum (Bob & Yvonne Schimmel) and C. Fair Phyllis (Sue Bottom). Thanks to all the helpful hands that stayed to reset the tables and chairs and clean up the room.

Thanks to Watson Realty and Jeanette Smith for the use of their meeting space at 3505 US 1 South

July 22 Library Program
Ten Tricks for Growing & Blooming Orchids

We had originally planned to give a repotting program at the library, but decided to talk about growing and blooming orchids and invited those interested in repotting to the Ace clinic on August 5. We had almost 2 dozen people interested in learning about orchids. Sue, Terry and Linda brought different varieties of orchids to demonstrate some of the more common types as well as some of the more unusual orchids. Sue gave a program highlighting the ten tricks to get your orchids to grow and bloom for you. Linda and Dianne welcomed guests, talking about the benefits of membership in the orchid society and offered growing supplies. And we welcomed two new members at the library, Lisa and Cob Barrett!

Keiki Club – Summer Vacation

The Keiki Club is on summer vacation. Keep watering and fertilizing your plants and be on the lookout for pests and diseases. SAOS members are available at the monthly Ace repotting clinics if you have any questions or problems. We'll see you in September!

American Orchid Society Corner

Webinars this Month:
August 8, 8:30 to 9:30 pm, Everyone Invited
Greenhouse Chat, Orchid Q&A. Ron McHatton

August 17, 8:30 to 9:30 pm, AOS Members Only
Orchids Inheritance & Genetics, Rob Griesbach

Photos of Latest AOS Awards

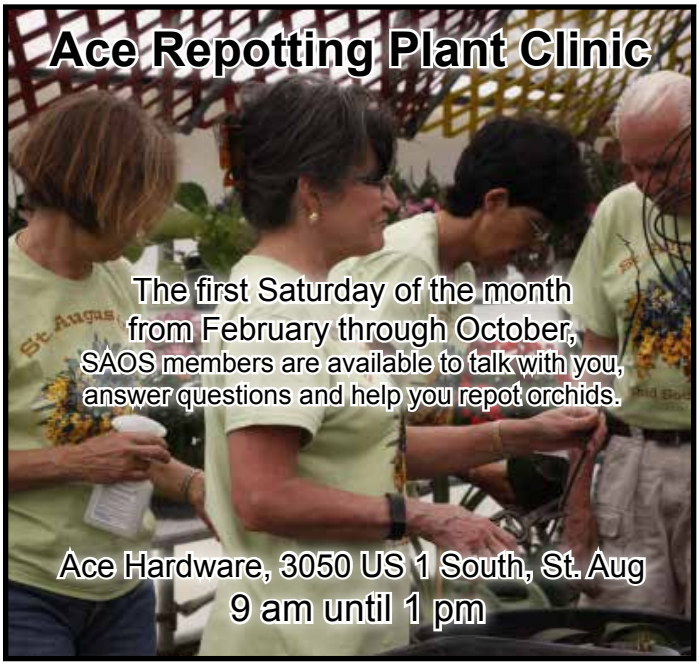
August Orchids Magazine: request free issue!
August: Month of the Totality by Tom Mirenda
Laelia milleri by Keith Davis
Growing Sarcochilus
For the Novice – Orchid Triage by Sue Bottom

September 5 Monthly SAOS Meeting
Orchid Growing Basics

George Hausermann of EFG Orchids in DeLand is our featured September speaker. George will talk about the basics of orchid growing, how to make sure your plants are getting enough of the right kind of water and light as well as buoyant air movement around the leaves and roots. George will address some common cultural mistakes and how to avoid them.

George is a fourth generation orchid grower with an impressive 65 years of family history in the orchid industry. EFG. Orchids has 20,000 sq. ft. of greenhouse space filled with orchids, tropical plants and landscape material. They have built a reputation for having clean, reasonably priced, well grown and established plants along with great customer service. Many of us have enjoyed the Orchtoberfest, a celebration of orchids, food and fun held every year in October.

This is a great opportunity to talk orchids with a down to earth grower. Bring your flowering orchids to exhibit on the Show Table. Do not be shy, first time exhibitors get 3 free raffle tickets. George will be bringing plants for sales table. We will have our normal raffle at the end of the meeting. Friends and guests are always welcome!



Inspiration

Lc. Allen Condo 'Hackneau' HCC/AOS

Orchid Questions & Answers

by Sue Bottom,
sbottom15@hotmail.com

Q1. What are these spots on my Monn. Millennium Magic 'Witchcraft'?

A1. Those are the wounds left on your tender young catasetinae leaves from thrips, who fly around seeking out the tenderest juiciest orchid tissue they can find. They feast on green root tips, young leaves and flower buds ruining them before they have a chance to mature. They are very difficult to treat because they are mobile, moving from plant to plant, and hard to see, although their damage is very obvious once you recognize it. The bulls eye in the center of the leaf spot is the give away that it's thrips. One relatively affordable pesticide with systemic action against thrips is Avid. If thrips are prevalent in your area, you might consider a weekly preventative spraying program. Check out the website for tips on how to declare war on these marauders.

Q2. I brought a couple of new cattleyas home, and when I looked at them the next day they didn't look good, brown or black rot?

A2. The leaf is sunburned and the damage is pretty extensive. It also looks wet so secondary infections are possible. You may want to remove that damaged leaf to prevent disease from entering the healthy part of the plant.

Q3. This is a nice healthy plant. Should I just set it in a clay pot and hang it at a 45 degree angle?

A3. You can drop it into a clay pot as long as the moss is still in good shape. If the moss is starting to degrade, you will have to repot and that will be a bit tricky because you've got roots growing beneath the leaves and deep in the pot, but the stem is rootless along much of its length. Maybe a better choice would be to just water blast and pick away the moss until you have removed most of it, cut away any of the woody stem below fat healthy roots, drop it into a new pot and backfill around the roots.

Q4. I put 1 tablespoon of Purely Organic in a tea bag. The bag sits on the mix and I water through the bag. After 2-3 weeks, there is a blue green powder, mostly on the underside of the bag (the side in contact with the mix). Any thoughts on what it is and if I need to do something about it?

A4. It is probably some sort of bacterial or fungal growth, should not be a problem. I think one of the ways Purely Organic works is to stimulate the microflora around the roots.

Air Movement

Courtney's Orchid Growing Tips

The general mantra among orchid growers is that there is no such thing as too much air movement. Unfortunately, most hobbyists and commercial growers suffer from not enough air movement somewhere in their growing area. In "Nature", most orchids growing on trees have continuous air movement around them. More importantly, the air is not recycled air, but is fresh air without loads of disease spores.

Good air quality and movement serves several purposes in a greenhouse or growing area. First it provides a continuous supply of carbon dioxide, from which plants make more tissues. At night plants require oxygen supplied by the same moving air. Airflow also pulls water vapor from small openings on the bottoms of leaves, which cools the leaf surface. This is especially important when the air temperature is high and the leaf is receiving direct light. The warmer the leaf's internal temperature, the faster it can photosynthesize up to some limit. Above that limit and chlorophyll stops working. Plants compensate for heating by cooling themselves via evaporation. The degree to which they can do this depends on the habitat in which they originated.

The degree of cooling at the leaf surface depends on the relative humidity of the air and the rate at which air moves across the leaf. The higher the relative humidity, the less the cooling effect. In the dog days of summer here in the South, high humidity is normal, requiring as much air movement as possible. In the daytime, if you can keep a match burning in the greenhouse, there is not enough air movement. Orchid leaves will burn if the orchid cannot cool itself adequately. This happens under a variety of different scenarios, not all of which require high light. Besides air movement, the plant must have water delivered to each leaf. Without water to evaporate, orchid leaves may burn, even under lower temperature and light conditions. In the wild, orchids have extensive root systems, thickened leaves, and even pigments on leaves to limit internal temperature. They also have only as many leaves as the plant can maintain under the ambient water and temperatures at that location.

In cultivation, a very different situation occurs. The mass of roots changes dramatically after repotting, while the volume of leaves stays the same. Increased nitrogen levels lead to increased growth of leaves, which also require more water, especially under high light and heat conditions. Hence, the recommendation to lower light and heat levels after repotting.

Indoor growers can still burn orchids for the same reasons, but there is an additional problem. Humans prefer lower humidity than occurs outside, meaning that orchids inside have a greater ability to cool themselves via evaporation indoors. However, increase airflow on orchids grown inside and the low humidity may increase the evaporation so much at the leaf surface, that there is not enough water getting to the leaf, resulting in leaf burn. This is commonly found on Phalaenopsis grown on the windowsill.

Greenhouse growers often have the same problem in late winter and early spring when the sun's intensity increases, but humidity is very low. Increased air movement under these conditions can increase water loss to such an extent that flowers wilt, buds drop and roots wither. Thus, air movement must be reduced, but only during the day when air is entering the greenhouse from outside. At night, high humidity in the greenhouse combined with cool nights causes water to condense on cool leaves; the perfect recipe for bacterial rots such as Pseudomonas on leaves and Botrytis on flowers. When nights are cool, air movement should be sufficient such that flowers move noticeably to prevent bacteria from establishing on wet surfaces. Windowsill growers often have the same problem because they often mist their orchids to compensate for heating or air conditioning. While this is generally a great idea, it should never result in leaves or flowers being wet at night.

Thus, the answer to questions about air movement is to adjust based on the problem you are attempting to solve and to remember that the amount of air movement needed changes with the season.

At this time of year most homeowners prepare for hurricanes. Dedicated orchid hobbyists also prepare for the associated power outages, heavy rains, and secondary damage from rots that show up on orchids days or weeks after a hurricane passes. One preventative measure is to spray plants with a general fungicide bactericide, such as Kocide, occasionally during Hurricane Season (but not on dendrobiums that are sensitive to copper). This prevents exotic bacteria and fungi that always accompany hurricanes from invading your orchids when the power is off and there are no fans to cool or keep spores at bay.

Note: Dr. Courtney Hackney wrote a monthly column of his orchid growing tips for about 20 years; we are reprinting some you might have missed, this one from August 2005.

Cymbidium Potting Mix

Harry McElroy, cymbidiuman@msn.com

This is my current cymbidium potting mix incorporating cypress bark mulch and Purely Organic fertilizer. Anytime Purely Organic (PO) Fertilizer is used and it is mixed wet, you are asking for real trouble. Warm wet PO not only smells bad, it smells horrible. It is so bad that you will probably want to dig a hole somewhere and bury your mistake.

Base Mix

1 gal Perlite wet (damp not soggy)
½ gal Purely Organic Fertilizer
Mix the first two ingredients thoroughly and put the mix in a warm dry place to completely dry. After drying, stir the mix until it is granular. The PO cakes and coats the perlite, very little residue remains on the bottom of the pan.

Dry Mix Finish Ingredients

1 gal Coconut Coir. I use a brand called Complete COCO that contains Cal/Mag and gypsum
½ gal Pro Mix
1 cup Crushed Sea Shell (optional but important if the Coir does not have Cal/Mag)
½ cup Dolomite Lime (optional but important if the Coir does not have Cal/Mag)
Mix all ingredients listed until now thoroughly
Warning: Do not add water to this mix. It should be dry.

Final Mix

The final mix is the Base mix mixed with the Dry Mix plus organic matter in the form of cypress mulch, which works for me, or Orchiata if you prefer. Mix the Base Mix with the Dry Mix and add dry cypress bark mulch until you get the right consistency, about a 3:1 ratio of cypress mulch to base plus dry mix.

Put enough dry unmixed mulch in the bottom of the pot to cover drain holes and pack well. Pot the plants dry using the Base MIx/Dry Mix/cypress bark mulch. Pack well then water the potted plant thoroughly. Pack the wet mix around the plant as much as you can and add additional mix as needed and wet again. Add dry PO mixed with snail bait as a top dressing after watering. Use 1 tsp/gal pot, less for smaller pots more for larger. Work in the snail bait/PO into the top layer of the pot with the plant tag.

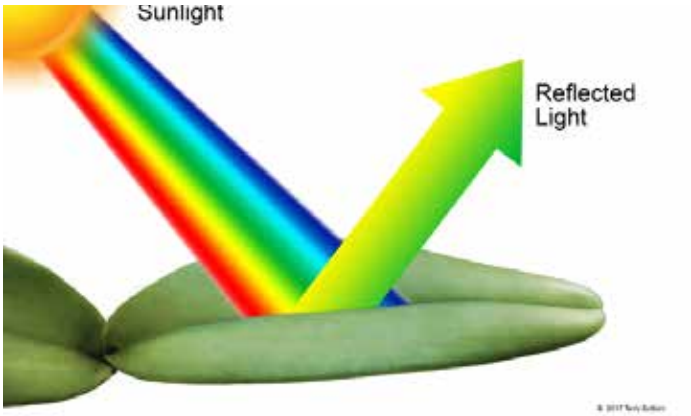
Note: You will find that the particle size of cypress bark mulch is not consistent. Blended mulch may be OK for Cattleyas and Phalaenopsis, but not Cymbidiums and Lady Slippers. Pure cypress bark mulch (not blended} works best for Cymbidiums. There will be some variation between bags of mulch even from the same supplier. For some potting you want chunks, for others you want mostly fiber. Most cypress mulch bags are clear and it is easy to see the average size of the particles.

Leaf Reddening

by Sue Bottom, sbottom15@gmail.com

Is there anyone that does not enjoy a ride through the mountains in the fall to see trees changing color? The spectacular color show is caused by varying concentrations of leaf pigments, including chlorophylls (green), carotenoids (yellows and oranges), and anthocyanins (reds, blues and purples). Scientists used to believe that the fall coloration occurred as result of chlorophylls breaking down, unmasking the yellow and orange colors from the carotenoids and the red to purple colors from anthocyanins. They now know that anthocyanins are strong anti-oxidants synthesized in the fall to protect the leaves from excessive radiation while the tree is reabsorbing minerals in the dying foliage.

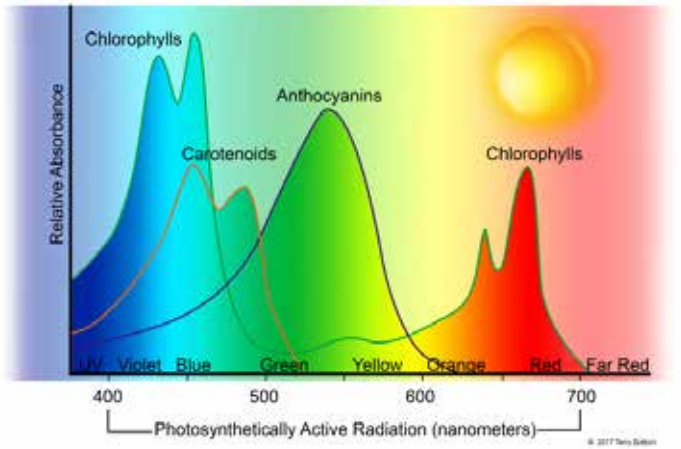
Leaf Pigments. *Chlorophylls* are the primary pigments of photosynthesis in leaves, and found in the chloroplasts. Chlorophyll absorbs red and blue wavelengths of light. Leaves with high relative proportions of chlorophyll appear green because light reflected from the leaf is enriched in the green wavelength and deficient in red and blue. Chlorophyll molecules require a lot of magnesium and nitrogen. Chlorophyll is normally broken down towards the end of the leaf's life span, and much of the nitrogen, magnesium and other mineral nutrients within the chloroplast are transferred into parts of the plant that is retained through winter.



Most leaves reflect light in the yellowish green to green wavelengths so they appear green to oureyes.

Carotenoids absorb light in wavelengths that chlorophyll is inefficient at absorbing, the blue-green and blue wavelengths. This pigment assists chlorophyll in the process of photosynthesis. Once light energy is absorbed, carotenoids pass the energy on to neighboring chlorophyll molecules. Another function of carotenoids is to dissipate excess energy as heat when too much light strikes a leaf, protecting the leaf from photo-damage.

Anthocyanins absorb blue, blue-green and green wavelengths of light, so leaves with a high relative concentration of anthocyanins appear red or red-purple to our eyes. Leaves that are purple still contain chlorophyll for photosynthesis; the chlorophyll is just masked by the high concentration of anthocyanins. Anthocyanins are not involved in photosynthesis, instead they provide protection from solar radiation.



Photosynthetic pigments include chlorophylls and carotenoids. The anthocyanins protect leaves from excess radiation, but do not participate in photosynthesis.

Purple Leaves. Many orchids have reddish purplish pigmentation, a pre-adaptation to high light that is triggered by some environmental variable. This coloration is often seen in healthy plants and is no cause for concern. If the leaves start to appear to be too purple or the purple freckles start coalescing, it may be receiving too much light.

New growths and young leaves often exhibit purple freckling. The antioxidant anthocyanins act as a sunscreen protecting tender new leaves from excessive solar radiation.

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Bright Light Growers. When grown in bright light, anthocyanins are formed in the pseudobulbs and leaves to protect them from the damaging effects of the sun, a natural sunscreen. Sometimes when the undersides of leaves unaccustomed to sun are exposed, they will turn purple. Undoubtedly there is some level of stress causing

Phalaenopsis schilleriana usually has beautiful foliage. If grown in lower light markings on leaves almost disappear

This Epidendrum magnoliae is purple on the right side of the mount from receiving more sun than the green side, though both sides are loaded with bloom spikes.

the plant to form anthocyanins, but we usually accept that in exchange for the plant maximizing its photosynthetic output so it can store more energy and bloom more prolifically. At some point the anthocyanins can be a warning that light levels are excessive. If the purple freckles agglomerate into large purple areas or the plant starts looking too purple, it may be best to dial down the light a bit.

Phalaenopsis often have purple leaf undersides and those with Phal. pulcherimma in their heritage often have purplish leaves because of their naturally high anthocyanin content.

Low Light Growers. Plants that grow naturally in the understory of a forest encounter very different conditions from those growing in bright sunlight. Tree canopies filter out much of the sunlight so shade growers have had to adapt different strategies to maximize energy capture. Some produce leaf colors and textures that are very different from orchids growing in the canopy and exposed to bright light. Leaves are often thinner and less waxy. Some are highly pigmented and others have purple undersides, thought to increase photosynthesis by back-scattering light.

Leaf Reddening. Red coloration can also be produced in leaves that are overheating because of damage to the vascular system that transports water and nutrients to leaves. Nutrient deficiency, mechanical damage, cold temperatures, insect attack and any disease that interrupts

Jewel orchids like this Sarcoglottis sceptrodes and the various Habenarias surrounding it have very pleasing foliage, adapted to growing in low light.

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the ability of your orchid to maintain an appropriate internal temperature in leaves can induce leaves to develop red or orange coloration.

Red coloration on leaves is a signal to you that your orchid is stressed requiring action on your part. Do the leaves have a bleached appearance from too much light? Typically, loss of roots in an orchid receiving good light results in reddish-orange leaves. Root loss usually occurs from overwatering and/or a degraded soggy mix, but severely underwatered orchids may also lose their roots. Extreme high temperatures are another cause that may go unnoticed unless there is a max-min thermometer nearby.

This unhealthy leaf coloration is a result of mechanical damage causing the leaf to partially separate from the pseudobulb.

The discolored leaves made me take a close look at them, only to find lots of small dark spots on both upper and lower leaf surfaces from Cercospora or Pseudocercospora fungi.

Senescence. To every thing there is a season. If your unblemished older leaves slowly start to dry and yellow, without necrotic streaks, splotches or sunken areas, that leaf may be approaching the end of its life. Consider allowing it to drop off unassisted by you, which allows the plant to reabsorb the mineral nutrients from the dying leaf. Nitrogen, phosphorus, potassium and magnesium can be translocated from older growths and used to build new tissue. Prematurely removing a leaf will cause any remaining nutrients to be lost from the plant.

Removal will also introduce a wound on your plant that is an easy entry point for pathogens. Better to allow the leaf to separate naturally along the abscission zone at the base of the leaf, where it forms a corky layer that acts as a barrier against pathogen invasion. Many growers like to dust wounds with cinnamon to protect them from fungal invaders. Scientific studies have shown that concentrated cinnamon oils have fungicidal properties. Cinnamon powder primarily acts as a dessicant, dehydrating cells to create a necrotic barrier similar to the natural plant defense mechanism, the hypersensitive response.

Think of reddening leaves as an early warning system. Your plant is signaling that it is under stress, not that it is in imminent danger of collapse. Purple or red leaves tell you that your plant is receiving a little too much sun, but it has not received so much solar radiation that the leaf is bleached or sunburned, i.e., damaged beyond repair. A reddened leaf requires your attention, but it not life threatening. It is not necrotic as it could be from a fatal rot or yellowed so that it can longer perform photosynthesis. All you know from leaf reddening is that your plant is stressed, and then it is your job to figure out why and how to ameliorate the problem.

This poor phalaenopsis is still stressed out from the outbreak of Fusarium I had several years ago.Hopefully this is the last one to be tossed.

This Phal. pulcherimma enjoys more light than most Phalaenopsis, but is preadapted to high light.

Bifoliates in the Greenhouse

If you do not have cattleyas in bloom this time of year, perhaps you should try some of the bifoliates with their clusters of colorful flowers. You are filled with anticipation as the flower buds form and enlarge and slowly, oh so slowly, open to show their fabulous colors. Of course, the plants can be immense, some 4 to 5 ft tall. So if you do not have room for the bifoliates, try the nodosa hybrids for summer blooms. These colorful star shaped and often spotted flowers are also reliable summer bloomers. Summer in the greenhouse, it is a beautiful thing!

SHOW TABLE

Grower Annalee McPhilomy
Epi. Cochleatum

Grower Sue Bottom
Epi. magnoliae

Grower Linda Stewart
Phal. bellina fma. coerulea

Grower Ephraim Badga
Gram. scriptum fma. citrinum

Grower Sue Bottom
Blc. Hawaiian Passion 'Carmela' HCC/AOS

Grower Sue Bottom
Lc. Maui Plum 'Volcano Queen' AM/AOS

Grower Linda Stewart
Cochlezella Tsiku Chuchango

Show Table

Grower Courtney Hackney
Pot. Frank Gilmore 'Mendenhall' AM/AOS

Grower Sue Bottom
Stanhopea King Kong

Grower Yvonne & Bob Schimmel
Gram. scriptum fma. citrinum

Grower Sue Bottom
C. Fair Phyllis

Grower Courtney Hackney
Blc. Serengeti Sands 'Velveteen'

Grower Courtney Hackney
Bl. Richard Mueller 'Orchidheights' HCC/AOS