St. Augustine Orchid Society NEWSLETTER
February 2016
Volume 11 Issue #02

Club News

February 2 SAOS Meeting

by Janis Croft,
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Welcome and Thanks. President Bob Schimmel opened the meeting at 7:10 pm with approximately 60 attendees. He started by informing everyone that Dick Roth, a charter member, passed away over the weekend. Members then rose to share their memories of times with Dick and a moment of silence was held.

Bob then welcomed our seven guests and one new member, Susan Smith. He also thanked Sandy Taylor for the refreshments. Bob reminded all to enjoy the coffee and treats while dropping a dollar in the jar.

Our Sunshine Coordinator, Linda Stewart recognized our February birthday people with free raffle tickets. Bob encouraged all to vote for their favorite orchid on the show table.

Club Business. Membership renewals ($15/individual and $25/family) are now due. Deliver your check to Bill Gourley at the next meeting or mail to 807 Kalli Creek Lane, St. Augustine, FL 32080.

There is a new way for our members to support the club. If you are an Amazon shopper**, l**og onto **Smile**.Amazon.com, select SAOS as your favorite charity and start shopping. This is a mirror site to Amazon and they will donate 0.5% of your purchase to the club—remember the Smile part!

The next Keiki Club will cover "Collecting Rainwater for Watering Orchids" on Feb. 21 at the greenhouse of Linda Stewart on 342 Cracker Swamp Dirt Rd. in East Palatka.

The Ace Repotting Clinic will resume on the first Saturday in February.

Potting supplies are now available at the meetings. Email Sue Bottom (sbottom15@hotmail.com) if you need special quantities or different items brought for purchase at the next meeting.

If you want to borrow an orchid book (see our website), email SAOS Librarian Penny Halyburton and she will bring your requested book(s) to the next meeting.

Orchid Events. There are numerous shows this month in Florida. Check out our SAOS website for dates and locations of shows in Venice, Greater Orlando, Boca Raton and Naples.

The Jacksonville Orchid Show, Wonderful World of Orchids, will be held April 2 and 3. Janis Croft, Show Coordinator, solicited help to setup our SAOS exhibit and passed around a sign up sheet for volunteers. She also described the roles of clerks who are volunteers that assist the judges from 8 to 10 am Saturday morning. Several members of the Jacksonville Orchid Society offered to pass along volunteer names to the committee.

Show Table Review. Courtney Hackney stated that this month's table shows the amazing complexity of hybrids. The Dendrobiums have changed from very large plants available 20 years ago to the currently hybridized "table top" varieties. He described the changes to the intergeneric oncidiums pointing to an example brought by Penny Halyburton. He also marveled at the way Phalaenopsis have been developed to produce multifloral inflorescences. He ended by discussing the various plants with miniature flowers and encouraged all to look closely at the small beautiful flowers. For those that don't have room for orchids, Courtney described how these miniatures can be grown inside fish tanks with LED lights taking up very little space. Check out the photos of all our show table examples.

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Club News

Upcoming Orchid Events

February

6 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
6-7 Venice Area Orchid Society Show
Venice Community Center
9 JOS Meeting, Schombo Sex 102, 7 pm
Paul Storm, Meke Aloha Orchids
12-14 Greater Orlando Orchid Society Show
Orlando Garden Club
13-14 Boca Raton Orchid Society Show
Safe Schools Institute
21 Keiki Club for Orchid Beginners, 1 pm
Collecting Rainwater for Watering
Linda Stewart's Home
342 Cracker Swamp Dirt Rd, E Palatka
26-28 Naples Orchid Society Show
Moorings Presbyterian Church

March

2 SAOS Meeting, 7 pm
Orchid Leaves and Roots
Vern Bloch, Orchid Hobbyist & Grower
4-5 Englewood Area Orchid Society Show
Englewood Methodist Church
4-6 Martin County Orchid Society Show
Martin County Fairgrounds
5 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
5-6 Tampa Bay Orchid Society Show
Egypt Shrine Center
8 JOS Meeting, Topic TBA, 7 pm
Speaker TBA
11-13 Fairchild's International Orchid Festival
Fairchild Botanic Garden, Coral Gables
11-12`Gulf Coast Orchid Alliance Show
Naples United Church of Christ
13 Keiki Club for Orchid Beginners, 1 pm
Mounting and Repotting Orchids
Sue and Terry Bottom's Home
6916 Cypress Lake Ct, St Aug 32086
18-20 Port St. Lucie Orchid Society Show
Port St. Lucie Community Center

April

2 SAOS at Ace Hardware, 9 am til 1 pm
3050 US 1 S in St. Augustine
Repotting and Plant Clinic
2-3 Jacksonville Orchid Society Show
The Garden Center of Jacksonville
5 SAOS Meeting, 7 pm
Orchid Auction
12 JOS Meeting, Topic TBA, 7 pm
Speaker TBA
16-17 EPIC Celebration of Spring
Annual Flower and Garden Expo
Ag Center, St. Augustine

St. Augustine Orchid Society Organization

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Vice President Programs	Sue Bottom sbottom15@hotmail.com
Vice President Publicity	Yvonne Schimmel yrs58@bellsouth.net
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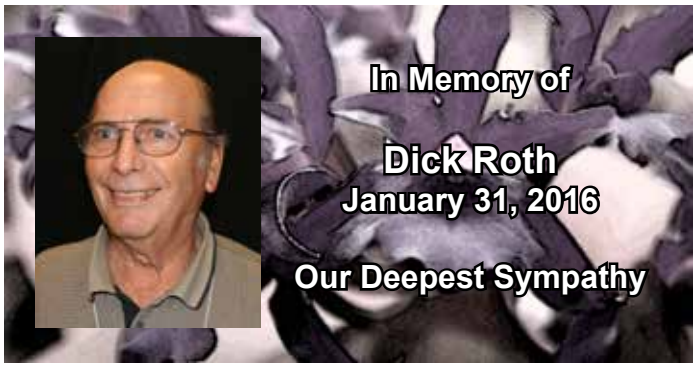
SAOS Program. Our guest speaker was Mac Rivenbark of Mac's Orchids from Ft. Lauderdale who spoke about orchids he loves to grow. He shared many beautiful slides of the Philippine Islands where he visits to see orchids in situ. "In order to learn how to grow orchids well, you have to kill orchids" were his first words of advice. Then he advised all "to be like a Pit Bull and don't let go" of growing orchids that you like. With trial and error, you can figure out how to grow any type of orchid for which you have a passion.

As he took us through his slides of various plants, he showed us how Asia has diverse microclimates. Conditions change dramatically within a few miles and within rapid elevation changes. For example, when buying a plant that grows in full sun, read where the plant was grown in full sun and research what that really means. He showed us a picture of a Philippines valley with a large range of mountains at "full sun." It was obviously cloudy which was due to the air moisture and clouds moving up the mountain range but in that microclimate, these conditions were considered full sun.

Shop at Smile.Amazon.com, Help the SAOS

You can name the St. Augustine Orchid Society as your favorite charity using the AmazonSmile program and Amazon will donate 0.5% of the price of eligible AmazonSmile purchases to the St. Augustine Orchid Society. Here's a link to register SAOS as your favorite charity. Don't forget to log into Smile.Amazon.com (rather than amazon.com) when making purchases so the club is credited.



Photos of one of his favorite Den. anosmum var. Giganteum, were spectacular. From the northern part of the Philippines, anosmums have to get quite large to flower and can have flowers up to 4" to 6" in size. The flowers also last a very long time. Den. smilliae, another favorite, is grown by a friend outdoors where the wind bounces around the canes vigorously. His plant produces a large number of flowers on very sturdy canes much better than his which he grown in the greenhouse. Sometimes, plants love to be in the outdoor conditions for a reason. He continued to share other orchids he loves to grow, e.g. Den. smilliae, Den. spectabile, Epi. cristatum, Den. aggregatum, etc. In ending, he emphasized that patience and testing will lead one to successful growing of orchids you love.

Meeting Conclusion. Harry McElroy announced the Member's Choice Award as Penny Halyburton's Odcdm. Succubus 'Dragon Dreck' HCC/AOS. The raffle table was the final event of the evening with Dianne Batchelder and Mary Colee presiding. Thanks to all of those that volunteered to stay and clean up the room.

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

Club News

January 17 Keiki Club
Preparing Your Plant for Display

About a dozen new and familiar faces convened at the Garage Mahal to hear Linda Stewart's most excellent talk on preparing your plant for a display. You can always tell which plants are Linda's on the Show Table because they are always dressed up in their Sunday Best. Linda emphasized the importance of staking your plants early as the spike is emerging to make sure the flowers are displayed to their best advantage. As the buds develop and open into flowers, they will grow towards the light, so you should always be watchful that the plant's orientation to the sun remains the same. If you should move the plant for watering or some other reason, you can mark the pot with a piece of nail polish to remind you to return the plant to its original place on the shelf. Linda also prefers floral tape or twist ties to the butterfly clips for staking the spike She explained her practice of visiting Hobby Lobby and similar stores at the end of the season to take advantage of the good sales to buy decorative pots and plates for displaying orchids. Dropping an ugly plastic or clay pot into a decorative pot gives an immediate boost to the plant's appeal. Then a little Spanish Moss around the top to hide the roots and pot really has an artsy look. Dried Spanish Moss can be purchased in bags. Live Spanish Moss, which is in the bromeliad family and known as Tillandsia usneoides, can be harvested from your trees for use but if you pick it up off the ground you may have to treat it to kill chiggers. The live moss can also be draped around long dangly roots such as with vandas and you'll see tiny little green flowers on it in the spring. For a little miniature on a mount, hooking it in front of a decorative plate set onto a little picture stand to hold it semi vertical also really dresses up the presentation. Linda washes off algae on the leaves with plain water and a soft cloth. For those with stubborn white lime stains, you may have to use some lemon juice to dissolve the deposit and then rinse off the leaves. Linda also had some show and tell examples of what happens when you move the plant around so the flowers are twisted along the flower spike and what happens when you don't stake a flower early in its development. It was a thoroughly enjoyable presentation and everyone learned nifty tricks on the dos and don'ts of presenting your flowers.

February 21 Keiki Club
Collecting Rainwater for Watering

Our water quality in St. Augustine isn't the greatest, and if you find lots of white lime spotting on your leaves, you may have particularly hard water. Collecting rainwater for use on your salt sensitive plants or for a final rinse after watering is a great way to rectify hard water problems. Linda Stewart will demonstrate her rainwater collection system and the difference it has made to her orchids
Where: Linda Stewart's Home
342 Cracker Swamp Dirt Road, East Palatka 32131
When: February 21, 1 to 3 pm

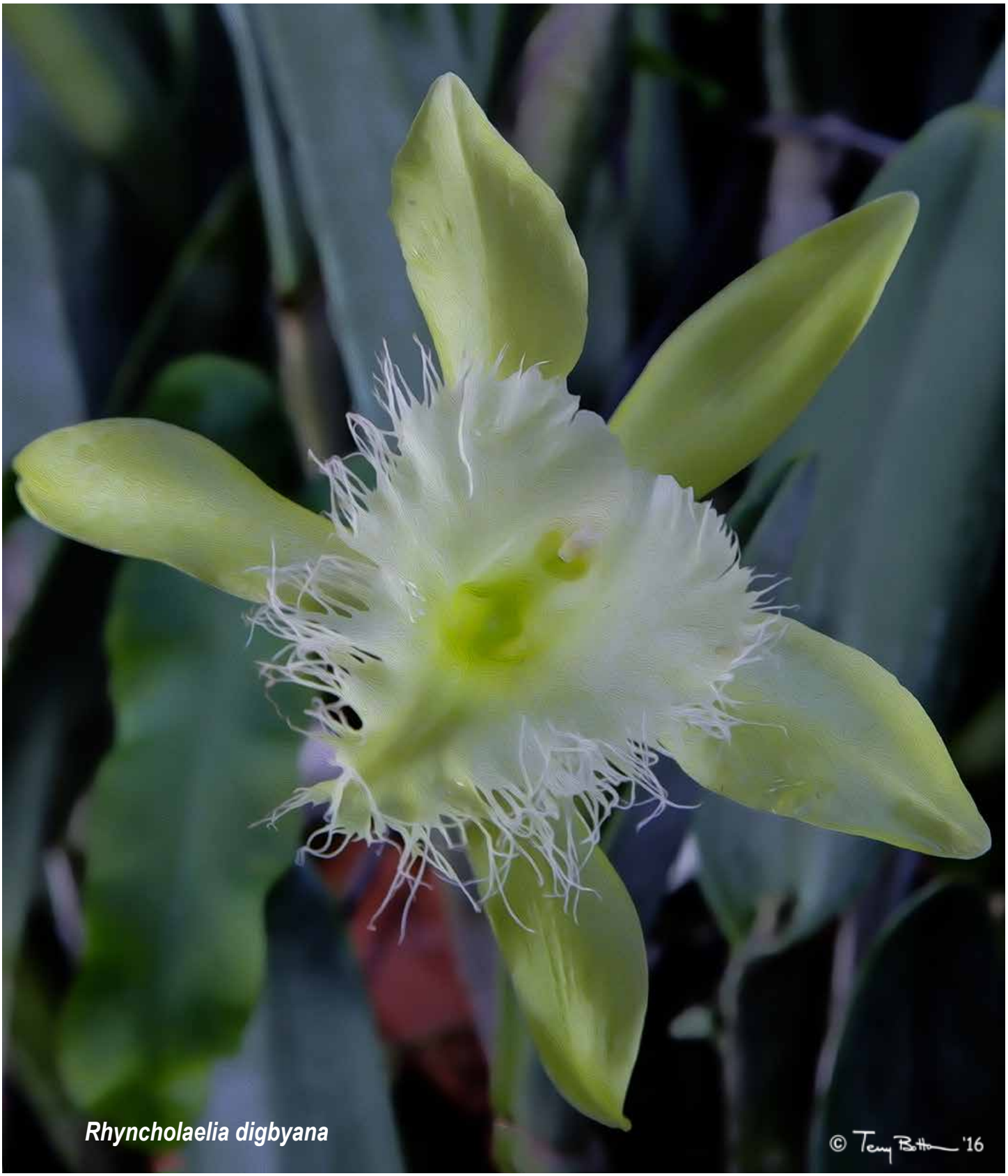
March 1 Monthly SAOS Meeting
Orchid Leaves and Roots

Orchid hobbyist Vern Bloch will talk about how orchid leaves and roots are interdependent on each other, and what happens when that dependency does not work as designed by Mother Nature. Vern Bloch is a retired Navy pilot who first became interested in orchids after leaving the service in 1987. Two years later, Vern, and his wife, Helen, became owners of the Palm Bay Orchid Range and participated in many orchid shows around the state. They sold the nursery in 2004 but continue to do business on a small scale. For the past twenty years, Vern has conducted programs for numerous orchid societies ranging from the Florida Keys to North Carolina. Orchids will be available on the sales and raffle table. Friends and guests are always welcome.

2016 Dues Are Now Due

It's that time again, membership dues for 2016 are now due. We'll be collecting dues through the March meeting, after which we'll update our 2016 SAOS roster and email distribution list. Dues are $15 for an individual and $25 for a family. If you can't come to the meeting, you can mail your membership check to SAOS c/o Bill Gourley, 807 Kalli Creek Lane, St. Augustine, FL 32080. Thanks, and welcome back!

INSPIRATION



Orchid Questions & Answers

by Sue Bottom,
sbottom15@hotmail.com

Q1. I got this plant last month. In looking at the pictures on your great site, I decided this is brown rot. I immediately cut off the infected areas and sprayed with a copper fungicide (which I cannot believe I have). Tomorrow I will spray the green house with this fungicide. Am I on the right track?

A1. No question, bacterial soft rot, and it moves very fast leaving water soaked leaves in its wake. You were right to remove the entire leaf and copper was the best choice of chemicals to treat the sanitized plant. The only problem with copper is that you can't spray anything in bloom cause the flowers will die, also no dendrobiums cause they're sensitive to it and even some thin leaved genera may not like it.

Paphs and phals seem to need more protection from winter rots than other types of orchids. Check your greenhouse to see if there's any evidence of rot in your other plants, but I'm guessing the plant got stressed or too cold or something during the time it was moved from its warm growing greenhouse to yours, although if you have some place in the greenhouse where condensation can drip on your plants or if water stays too long on leaf surfaces, that can lead to rot too.

Q2. I got six catasetums from Sunset Valley Orchids in September. They have not flowered yet and still have green leaves. I am watering them sparingly. Shall I totally stop watering them?

A2. Most people now advise encouraging catasetums to go dormant by withholding water by December, though the earlier orchid advice said just cut back on water to maybe every two weeks until the leaves start to yellow and die. I think you've got some really nice seedlings that may or may not go dormant.

I would follow the old advice and water them twice a month as long as the leaves are green. You probably don't have to worry about repotting them this year cause there is plenty of room left in the pot plus Fred uses high quality sphagnum and packs it very very tight. I usually knock them out of the small 2 inch pot that Fred ships them in and drop them into a small clay pot, sometimes with a peanut or two in the bottom or just an air space and let them grow another year. Next winter you can repot them. They are not going to flower for you this year (unless there is clowesia in the breeding). They look good!

Q3. I have a little coconut orchid I bought a few months ago. I repotted my plant and pruned its roots so that the dead roots wouldn't rot. It's in fir bark, perlite, charcoal, and sphagnum. The house is fairly dry due to forced air heat. It sits on a pedestal in a large east windowsill. I mist the plant a few times every day to increase humidity. It gets watered about once per week. What am I doing wrong?

A3. The roots need to regrow before anything else will happen. I'd add another inch or so of sphagnum to the top of the pot and increase the watering, maybe to twice a week this time of year. That bark is pretty chunky and the mix may not be holding enough moisture. You may think about a cool mist humidifier to increase the humidity rather than misting the plant See if you can find a sunnier spot that will also be warmer during the day, a south window perhaps?

Before we knew it, the individual wrote back to us: Based on what you said, I decided to be a little drastic with this orchid. I have to get proper water for my cool mist humidifier, but in the meantime I moved it to the bathroom for heavy humidity, added warmth, and additional light options. There is also good air flow there. I figured since the roots were probably all dead I'd just repot it again with a greater ratio of sphagnum and smaller fir bark. I mixed the medias with a little cinnamon to help ward off fungus and mold. I also wet the media so it was damp when I repotted the little guy. I gave the orchid more moss on the top like you said. The plant looks better already!

Roots!

Courtney's Orchid Growing Tips

Orchid plants need roots! That statement seems so obvious that many of us forget the pivotal role this part of the plant plays. Much of the other aspects of orchid culture, e.g. light intensity, fertilizer, etc, all depend on the mass of tissues we call roots.

In nature, most epiphytes, i.e. orchids growing attached to trees, have far more living root tissues than leaves, bulbs, and stems. That ratio of roots to leaves and stems tells us that the plant is limited by either water or nutrients, both of which are taken up by roots. The fact that roots quickly penetrate into the growing medium and around and on the pot of our orchids in culture tells us that they too require these water & nutrients for growth.

Over the years, I have visited many commercial and hobby orchid growers and observed all kinds of orchids being grown both poorly and well. The one great surprise is that there is no universal set of cultural techniques used by great growers. One hobbyist claimed that he never or rarely fertilized and grew in very high light. While his orchids' leaves were yellow green, they were clearly blooming and growing well. Another excellent grower fertilized every time he watered, except for flushing without fertilizer once a month. He too, had beautifully grown plants and excellent flowers. The one difference between the orchids in these two greenhouses was the quantity of roots on orchids from these two growers.

Orchids fertilized with every watering had fewer roots than my own plants, while orchids that were never fertilized had at least twice as many. It has always been very easy to move plants into my culture when they had more roots than when they had less.

Most orchid hobbyists purchase orchids for the flowers and may casually look at leaves and bulbs. The roots, however, hold the key to growing this orchid after it finishes flowering. An orchid with few roots relative to the weight of leaves will need to spend much of the energy derived from photosynthesis growing roots unless it has constant moisture and nutrients. Satisfying this requirement can be difficult for most hobbyists, especially if the medium in which you grow is coarse, or you grow in high light or heat. It does not matter if there were never roots on the plant or that they were killed by over watering, the effect is the same and the remedy is to grow more roots.

Once roots are lost it is very difficult for the hobbyist to get adequate nutrients into the orchid plant since roots are the main route into the plant. Some growers claim great success "foliar feeding" orchids. Most scientific studies have not been able to verify nutrient uptake through this method. The waxy leaf tissues prevent water loss and consequently water gain. The only exceptions are the stomata underneath leaves. These open to admit carbon dioxide and release water vapor for cooling.

When roots are lost it is necessary to reduce all factors which tend to remove water from the plant and to encourage new root growth. Withholding water from the plant will encourage new root growth in most hybrids and some species. This must be accompanied by high humidity and lower light to avoid overly desiccating the plant. Vandas and phals, or any member of the vandaceous or angraecoid group can be encouraged to grow their few, thick roots by applying one of the commercial root-inducing hormones, usually dissolved in lanolin and sold as a paste. This works extremely well and is well worth the cost to save a few plants.

For orchids such as cattleyas, oncidiums, dendrobiums and even paphs, fertilizing with a fertilizer made from seaweed will often stimulate both root growth and multiple new growths. These fertilizers contain auxins, plant hormones in tiny quantities that are enough to initiate new growth. I recently added one of the powdered root-inducing hormones (RooTone) to my fertilizer water to try to stimulate new growth and was rewarded by lots of new roots in the next few weeks.

Root growth for some orchid species, though, is almost impossible to initiate except at very specific times in the growth cycle. Some bifoliate cattleya species only put out a very small number of roots and if these are damaged or destroyed, there will be no growth until the following year at the same time. Once roots are lost from these orchids it is necessary to fool the plant into initiating another growth cycle by altering day length and temperature. Do not try this unless you know exactly what conditions are necessary to stimulate root growth.

The sun is getting higher on the horizon and unprotected orchids on the windowsill and near the greenhouse glazing can burn. It is easy to tell if your plants are getting too much sunshine by examining leaf pigments. More red color and natural pigmentation is a sign that it is time to add shading.

Note: Courtney Hackney wrote a monthly column of his orchid growing tips for about 20 years, we're reprinting some you might have missed, this one from February 2006.

Bactericides and Fungicides

by Sue Bottom, sbottom15@hotmail.com

There are many beneficial bacterial and fungal organisms that are present in the orchid environment, many living in the rhizosphere on or around your orchid roots. The metabolic byproducts of these good microorganisms can enhance plant growth. There are also pathogenic organisms that can infect your plant, entering the plant through the stomata, the roots or open wounds and then growing inside the plant, beyond the reach of many chemicals. Before buying and using this or that chemical, it's important to understand what a particular chemical can and cannot do in your quest to protect your orchids from disease.

Choosing Fungicides for Your Growing Conditions. There are many fungicides and bactericides available from nurseries or online sources like pestrong.com or domyownpestcontrol.com. Click on the link for a listing of fungicidal products effective on the diseases affecting orchids (Attachment 1), excluding products costing $200 or more and a list of some of the biofungicides labeled for diseases that plague orchids (Attachment 2). Few are labeled for orchids so I follow the instructions given for ornamentals. Read the label carefully prior to purchase and use, many of the specialty products have labels restricting their use on residential property so these may not be suitable for you. To choose the right fungicide for your application, you have to understand a few technical terms.

Contact vs. Systemic Fungicides. All the commonly available fungicides are contact fungicides. They are adsorbed onto the exterior of plant surfaces and act like a protective shield preventing fungal spores from infecting your plant, so spraying all exposed surfaces is critical to control. Contact fungicides continue to work for some period of time until the fungicide residue washes away or new, unprotected plant parts grow. There are also systemic fungicides, which simply means that the fungicides penetrate into the plant either locally in the general area of contact or move upward through the water conducting xylem or bidirectionally if they move through both the food conducting phloem and upward through the xylem (called amphimobile). Systemic fungicides can be distributed through the plant and protect it from infection from the inside out, so they tend to have longer residual action. Many of the specialty (and expensive) fungicides are systemic.

Specific Target Site vs. Multisite Fungicides. Some fungicides have a very specific target site which simply means they disrupt a single biochemical process within the fungus, say RNA biosynthesis or cell division. Multisite fungicides have multiple modes of action so they affect several different target sites with a single application. There are many classes of single target site fungicides and you should strive to alternate fungicides with different modes of action to prevent developing resistance to the fungicide.

Keep a spray bottle of hydrogen peroxide in your growing area to immediately respond to bacterial infections.

Selecting Fungicides for Your Conditions. The commonly available fungicides from your local nursery are affordable and effective against some diseases, including bacterial diseases, leaf spotting and flower blighting fungi though generally not the water molds or bulb, root and stem fungal rots. You may consider supplementing your arsenal with one or two of the specialty (read expensive) fungicides to treat specific problems, like Subdue for Black Rot, Terrachlor for Rhizoctonia, Phyton for bacteria and Cleary's 3336 for leaf spotting fungi.

Sprays vs. Drench Applications. You must determine whether the fungicide is best applied as a spray or a drench. In general, bacterial diseases, leaf spotting and flower blighting diseases are best combated through foliar sprays while the root, stem and bulb rots are best combated using drench applications. With drenches, you have the potential to kill the beneficial microorganisms living in the rhizosphere in addition to the pathogenic organisms so you will want to selectively use single target site fungicides rather than those with multiple modes of action. Where a hydrogen peroxide, copper or quaternary ammonium compound

Banrot and Subdue are specialty chemicals used by orchid growers to protect against the water molds that cause black rot and damping off.

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fungicide works well for foliar applications, you might think twice whether you want to pour them through the root zone. These are denoted as drench? in Attachment 1.

Preventative Disease Program. Always remember the fact that most fungicides help protect your plants from infection rather than cure them after they become infected. Very few fungicides can actually eradicate disease. For most fungicides to work, they must be applied prior to the plant becoming infected. This suggests that you should have a preventative program for disease control. If you recognize that certain diseases occur during certain times of the year, you can structure a prophylactic fungicide program. As an example, Table 2 contains an idealized spray schedule based on my experience.

Copper based fungicides have long been used as bactericides and fungicides although they shouldn't be used on dendrobiums or other sensitive genera

Underbench Treatments. I try to disinfect the benches and underbenches monthly to kill any pathogenic organisms that may be present. I typically use bleach and quaternary ammonium compounds and have added copper to the rotation at Courtney Hackney's suggestion with the added benefit that slugs and snails don't like copper. This is in addition to a rigorous program of removing any fallen leaves or flowers from the growing area as these fuel the growth of pathogens.

After Repotting. After repotting the phals and paphs, they are sprayed with a copper fungicide to help prevent bacterial infection. All plants are drenched with Banrot after repotting to help protect against the water molds. Banrot is an oldie goldie dual action fungicide that is on the affordable side of the specialty fungicides. Since I started drenching with Banrot after repotting, the mortality rate of repotted orchids has plummeted.

Summer Black Rot. Even with Banrot, I lose a few cattleyas each year to Black Rot, so I invested in the more powerful (and expensive) chemical Subdue. Ideally a monthly drench should be applied starting in April or so through the hot humid summer months to prevent the dreaded Black Rot. Also, avoid repotting cattleyas in July and August and do not allow plants to stay too wet during these months to avoid the conditions favoring Black Rot

Summer Rainy Weather. Extended rainy periods mean lots of humidity, lots of leaf wetness and not too much sun, all of which encourage the growth of leaf spotting fungi. Monthly precautionary sprays with copper (not on dendrobiums or other sensitive genera), quaternary ammonium compounds or Cleary's 3336/Thiomyl will help protect your plants.

Botrytis During Winter. The last few years I have had lots of Botrytis in the greenhouse and this year I am going to prevent it. The traditional advice to avoid botrytis is to decrease humidity, increase air movement and keep temperatures above 65F or so. Given the price of propane, the greenhouse heaters are set to come on at 53F so this year I'll be spraying Daconil weekly during the cold spells, report to follow.

Once you understand the diseases caused by pathogenic bacteria and fungi, you will want to have an arsenal of weapons to prevent or battle infection. But never forget that chemicals are your last line of defense, the most important thing you can do is maximize your orchid culture so your plants are healthy and growing vigorously. Maintain buoyant air movement in your growing area to help prevent spores from settling on the leaves. Disinfect growing areas regularly. Be scrupulous about sanitation, never allow spent vegetation or flowers to accumulate under your benches where they will be a breeding ground for infectious diseases. If you find yourself in the unfortunate position of finding disease in your growing area, be brutal in cutting away diseased tissue even if it means discarding an unhealthy plant. Then anticipate periods when your plants will be subjected to increased disease pressure and think about giving them a protective coat of armor ahead of time.

Daconil is an old style fungicide that is effective in protecting against fungal bulb, root and stem rots as well as leaf and flower blighting fungi

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Table 1 – Bactericides and Fungicides for Various Orchid Diseases		
Disease	Symptoms and Response	Fungicides/Bactericides
Bacterial Diseases Brown Rot and Soft Rot caused by *Erwinia* species, now called *Pectobacterium*	Rapidly expanding water soaked spots on leaves, reduce humidity and leaf wetness, remove infected tissue with sterile tool	*Multisite Contact Fungicides:* Copper products (Kocide, CuPro, Liquid Copper, Phyton, harmful to dendrobiums) Hydrogen Peroxide products (Peroxide, ZeroTol) Quaternary ammonium products (Physan, Consan, SA-20, Pool Algaecide, Kleen Grow)
Bacterial Brown Spot caused by *Pseuodomonas* species now called *Acidovorax*	Small, round, water-soaked lesions, reduce humidity and leaf wetness, remove infected tissue with sterile tool	
Water Molds Black Rot caused by *Pythium* and *Phytophthora* species	Rapidly expanding black lesions from the basal portion of pseudobulbs, reduce wetness, remove infected tissue with sterile tool	*Products from FRAC Group:* 4 (Subdue) 11 (Empress, Heritage) 14 (Terrazole, Truban Combo 7 & 11 (Pageant) Combo 1 & 14 (Banrot)
Fungal Bulb, Root & Stem Rots Fusarium Wilt caused by *Fusarium* species	Leaves and pseudobulbs gray and wilt, vascular system has red band, disinfect cutting tools, remove infected tissue with sterile tool	*Multisite Contact Fungicides:* Daconil *Products from FRAC Groups:* 1 (Cleary's 3336, Thiomyl) 2 (Chipco 26019) Combo 7 & 11 (Pageant) Combo 1 & 14 (Banrot)
Root Rot caused by *Rhizoctonia solani*	Root disease beginning on older growths with roots rotting and base of pseudobulb browning, repot promptly when mix degrades, remove infected tissue with sterile tool and repot	*Multisite Contact Fungicides:* Daconil *Products from FRAC Groups:* 1 (Cleary's 3336, Thiomyl) 2 (Chipco 26019) 11 (Empress, Heritage) 14 (Terrachlor) Combo 7 & 11 (Pageant) Combo 1 & 14 (Banrot)
Southern Blight/Collar Rot caused by *Sclerotium rolfsii*	Rapid collapse and rotting of the roots, pseudobulbs and lower parts of the leaves, most active in warm, moist weather, remove infected tissue with sterile tool.	P*roducts from FRAC Groups:* 11 (Heritage) 14 (Terrachlor) Combo 7 & 11 (Pageant)
Leaf Spotting Fungi Anthracnose caused by *Colletotrichum* and *Glomerella* species	Leaf tips turn brown beginning at the apex and proceeding toward the base, lower leaf wetness and increase light, remove infected tissue with sterile tool.	*Multisite Contact Fungicides:* Copper products (Kocide, CuPro, Liquid Copper, Phyton), copper is harmful to dendrobiums Hydrogen Peroxide products (Peroxide,ZeroTol) ***Continued***

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Table 1 – Bactericides and Fungicides for Various Orchid Diseases		
Disease	Symptoms and Response	Fungicides/Bactericides
Cercospora species	Blotchy purplish discoloration in irregular patterns, improve air movement and reduce leaf wetness, remove severely infected tissue with sterile tool	Quaternary ammonium products (Physan, Consan, SA-20, Pool Algaecide, Kleen Grow) Captan, Daconil, Dithane, Protect *Products from FRAC Groups:* 1 (Cleary's 3336, Thiomyl) 11 (Heritage) Combo 7 & 11 (Pageant)
Phyllostictina/Guignardia species	Small sunken spots/dark diamond shaped lesions with sandpaper texture sporing structures, remove severely infected tissue with sterile tool	
Flower Blighting Gray Mold caused by *Botrytis cinerea*	Small spots on flowers, spots may cover the entire flower with a gray fungal growth, improve air movement, lower humidity, remove all infected flowers	*Multisite Contact Fungicides:* Captan, Daconil, Dithane, Protect *Products from FRAC Groups:* 2 (Chipco 26019) 11 (Heritage) Combo 7 & 11 (Pageant)
Review and follow label instructions before selecting any chemical or making any application.		

Table 2 – Idealized Preventative Fungicide Application Schedule					
	Bacterial Disease	Water Molds	Fungal Bulb, Root & Stem Rots	Anthracnose & Leaf Spotting Fungi	Flower Blighting
Spring		Drench to protect from Back Rot before hot humid weather	Semiannual drench for fungal rot control		Spray weekly for botrytis if nights below 65F
Summer		Drench monthly during hot humid months		Spray monthly during rainy weather	
Fall	Spray with copper before winter		Semiannual drench for fungal rot control	Spray before moving to winter home	Spray weekly for botrytis if nights below 65F
Winter					Spray weekly for botrytis if nights below 65F
Monthly Under Bench Treatments	Spray monthly to disinfect surfaces using bleach, pool algaecide and copper (copper will also help with snails), use in combination with pesticides for cockroaches, pupating thrips, snails, etc				
After Repotting	Spray phals & paphs with copper after repotting	Drench all plants with fungicides effective for water molds as well as fungal root and stem rots after repotting			

Orchid Adventures
Fort Lauderdale Orchid Society Show

Fort Lauderdale is one of those show from days gone by, blooming orchids everywhere in the fantastic orchid exhibits and overflowing sales booths. Mac and Helen Rivenbark won the AOS Show Trophy for their incredible exhibit, full of fabulous orchids. We also got to catch up with lots of other friends that will be talking to us in St. Augustine later this year, including Alan Koch, George Hausermann and Thanh Nguyen. The Tamiami show was the following weekend, and surprise, surprise, surprise, you'll be seeing pics from that show next month. We love the spring show season!

Show Table

Grower Yvonne & Bob Schimmel
Dtps. Mount Lip

Grower Yvonne & Bob Schimmel
Dtps. Brother Pico Rose

Grower Harry & Celia McElroy
Cym. Mem. Dick Swain

Grower Yvonne & Bob Schimmel
Epi. Polybulbon 'Golden Gate'

Grower Suzanne Susko
Ascda. Kalapana Delight 'Sunrise'

Grower Sue Bottom
Blc. Momilani Rainbow 'Buttercup'

Grower John Van Brocklin
Stelis vulcanica

SHOW TABLE

Grower Suzanne Susko
Phal. bellina

Grower Penny Halyburton
Odcdm. Succubus 'Dragon Dreck' HCC/AOS

Grower Sue Bottom
Den. aberrans x Den. eximium

Grower John Van Brocklin
Dtps. Long Pride Imp

Grower Linda Stewart
C. Astraea 'Ginny' AM/AOS

Grower Harry & Celia McElroy
Cym. Ruby Baker x Cym. (((Sweet x Squirt) x Pharoah) x traceyanum)