St. Augustine Orchid Society NEWSLETTER
July 2017
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Club News

July 6 SAOS Meeting

by Janis Croft, secy@staugorchidsociety.org

Welcome and Thanks. In Bob Schimmel's absence, Sue Bottom opened the meeting at 7:10 pm with 43 attendees. Sue thanked Doriana Borrero for her pineapple masterpiece, Dottie Sullivan for baking her scrumptious blueberry dessert, Lori Erlacher for her fruit pastries and Jeanette Smith for organizing the refreshments. She then reminded all to drop a dollar in the basket while enjoying the refreshments. Carolyn Smith welcomed five guests along with four new members, renewing member Mary Radcliff-Gicca, Aimee Nichols, Sharon Lanning and Barbara Larimer.

Our Sunshine Coordinator, Linda Stewart delivered free raffle tickets to the three people with birthdays in July. Sue informed all that the Best of Show voting would occur between the Show Table discussion and the program and encouraged all to vote for their favorite orchid.

Club Business. The next Ace Repotting Clinic will be Aug. 5 from 9 am til 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.

Suzanne Susko, subbing for our Club librarian, brought in a book on growing Cymbidiums and had a few returned books and the AOS magazine available for loan. You can email Penny (librarian@staugorchidsociety.org) with your book/DVD request and she will bring the item(s) to the next meeting.

Our AOS Representative, Suzanne Susko noted that the July edition of the AOS Orchids magazine had the best article that she had ever read on cattleya pests and diseases, and of course, it was written by none other than our own Sue Bottom with photos by Terry Bottom. She then encouraged all to subscribe to AOS using the trifold pamphlet at the Welcome Table and reminded each to note the SAOS as your local club in the comments section. This extends our magazine subscription by one month for each new member that signs up.

Show Table Review: Courtney Hackney remarked that he loves the Show Table in the summer because you get to see such a variety of orchids, so different from what you see during the spring show season. He started by pointing out that this is the peak bifoliate cattleya season and that the table had some spectacular ones. The Lc. Siamese Doll 'Kiwi' shows the spots and splashes that hybridizers spend lots of time trying to develop along with well spaced flowers. With bifoliates, you tend to look at the entire inflorescence instead of individual flowers because they are flower clusters grown on substantial and sturdy plants that in some varieties can reach up to 4' tall. Another beautiful example of a full head of flowers was the C. Atalanta 'Hawaii' whose flowers first open greenish in color and then fade to white. Other bifoliate examples were the Otaara Jean's Delight, Lc. Mark Eddleman, Lc. Tai Rose and the Blc. Waianae Leopard 'Ching Hua' HCC/AOS. Courtney

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Club News

Upcoming Orchid Events

July

11 JOS Meeting, Cypress Mulch, 7 pm
- Steve Arthur, Steve Arthur Orchids

22 SAOS Program – Repotting Orchids 2 pm
- SE Branch of St. Johns County Library

August

1 SAOS Meeting, 7 pm
- George Hausermann, EFG Orchids
- Orchid Growing Basics

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
Basics of Orchid Hybridizing
Courtney Hackney, SAOS

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

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

?? 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

St. Augustine Orchid Society Organization

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advised all that when the inflorescence first starts to grow, it should be tied upright until it hardens and can support itself. He then described the background of his Blc. Mem. Crispin Rosales, a beautiful, fragrant deep purple orchid that is an old hybrid and used by many breeders. Courtney next demonstrated parentage by showing his Encyclia tampensis (which was collected many years ago on Sugar Loaf Key) and the Laelia tenebrosa on the table. These two orchids have been crossed, producing the hybrid Epilaelia Sullivan, and Courtney's cultivar 'Coco-Amethyst' was a great example of how traits from the parents are expressed in the offspring.

The Show Table had a nice collection of Phrags and Paphs. Courtney stated that some in the orchid world feel these are not true orchids. They are genetically different from other groups in the orchid family, and can be difficult to get large quantities of viable seed when hybridizing. However, they are still treated as orchids. Many grow on limestone outcrops. Typically he adds lime to his Paphs and uses pure, cool water on the Phrags to imitate their growing conditions on mossy stream outcrops. He recommended the OrchidWiz database because you can check to see where the plants are grown and what the rainfall and temperature conditions are throughout the year. Check out the photos of our show table examples at the end of the newsletter and on the SAOS website.

SOAS Program. Sue Bottom and Courtney Hackney took on the challenge of explaining "What's Wrong with My Orchid." Members had been invited to submit photos of their issues and Sue put the images in a slide show. To begin, the key to healthy orchids is healthy roots. Orchid do not die from overwatering per se, but they will die if there is not enough air around the roots. Repot before the medium breaks down and starts suffocating your roots. Orchids with good nutrition also tend to have fewer rot and insect problems. One needs good air movement, humidity and appropriate light for healthy plants. Courtney never waters for at least a week after he repots. This "dryness" encourages the plant to put out new roots in search of water and nutrients. Sue mentioned a document on the website that is helpful in knowing when to repot cattleyas based on when plants produce new roots.

The next slide showed reddish coloring on leaves. With some plants this just reflects an increase in sunlight and the plant produces the red pigment as a form of sunscreen. If it gets an unhealthy shade of red, it can be a symptom of stress possibly caused by excessive heat or a poor root system that is not delivering enough water to cool the leaves. Look at your roots. If you have Oncidiums with accordion developing leaves, then the plant did not get enough water while the leaves were developing. Again look at your roots or increase your watering. Both Sue and Courtney now add Epsom salts to their watering regime. If you have corky bumps/blisters on your leaves, then odds are your watered late on a rainy day or when the night turned cool and the water could not be shed fast enough through transpiration causing the blister. Unattractive perhaps, but not too harmful to the plant.

Bacteria and fungi are everywhere, particularly after tropical storms and heavy rains. You can use hydrogen peroxide for both. Keep water away from anywhere on the plant that can hold water, where water can pocket. On Cattleyas, carefully cut the sheaths down with a sterile blade. For more serious attacks, use a fungicide and drench your plants.

The next set of slides showed typical damage from pests caused by mites, cockroaches, snails, mealy bugs, centipedes, scale and thrips. Then they moved on to orchid diseases including brown and black rot. The website has photos and suggested treatments for all.

Both Sue and Courtney stressed not to cut unless absolutely necessary. Every time you cut you introduce a wound to the plant that allows bacteria or fungus easy access. When you must cut, e.g. black rot, soak the wound or entire plant depending upon how severe the cutting in a Banrot solution (1 tsp/gal) for 20-30 minutes.

Use best practices for a clean growing area. Sterilize tools, pots, tables and floors on regular basis. Even the pots you use to bring in your plants for the show table should get washed in a 20% Clorox solution. Finally, Sue advised, if you see something happening, move the plant to a location that will force you to deal with it promptly before any damage can increase or spread to other plants.

Meeting Conclusion: Harry announced the Members Choice Award, Courtney's Blc. Mem. Crispin Rosales 'Carmela'. Dianne Batchhelder closed out the meeting with the raffle. 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

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Club News

August 1 Monthly SAOS Meeting
Orchid Growing Basics

George Hausermann of EFG Orchids in DeLand is our featured August 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!

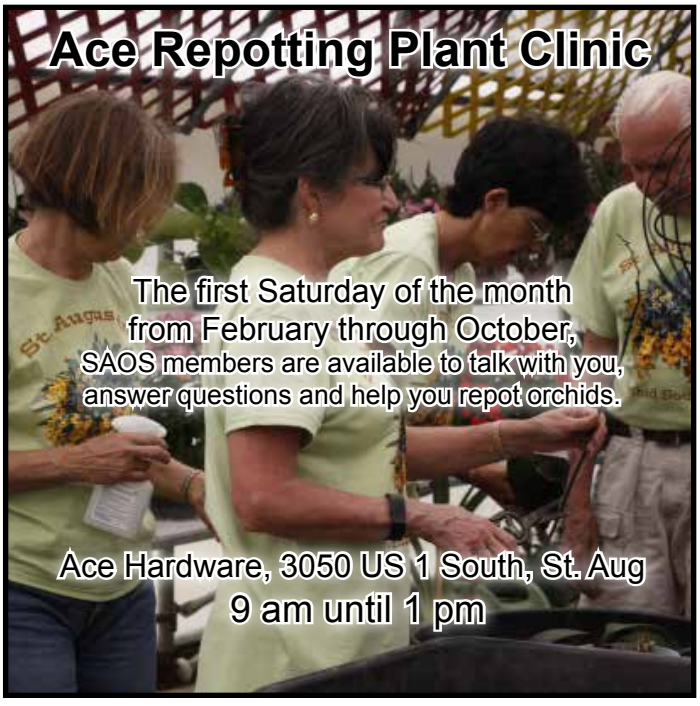
Keiki Club – Summer Vacation

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!

July 22 SE Branch Library Program
Repotting Orchids

Orchid Society members will be giving an orchid repotting program at the SE Branch library on July 22 at 2 pm. We will have an introductory 20 to 30 minute presentation on repotting orchids. Then we will have a hands-on demo on repotting a monopodial orchid like a phalaenopsis and a sympodial orchid like a cattleya, with audience participation.

We will have four work stations set up around the room where orchid club members will be available to answer culture questions, demonstrate the society website with all its cultural information, show the American Orchid Society magazine, and explain the benefits of membership in the St. Augustine Orchid Society. Orchid supplies will be available for sale.



Inspiration

Orchid Questions & Answers

by Sue Bottom,
sbottom15@hotmail.com

Q1. My Epc. Plicaboa has an ongoing problem with spotting on the backside of each leaf tip. I have treated it with Dithane and Thiomyl regularly, but the problem persists. It usually stays on the backside, however some of it shows on the front side of the leaf. The plant is fine otherwise, and blooms regularly, but the leaves are rather unsightly. I was told this may occur as a result of heat stress?

A1. If I had to guess, I'd say bacterial brown spot. Spray with one of the copper compounds, they are great bactericides. Dithane and thiomyl are good fungicides, but won't work on a bacterial infection. You may have to remove the severely damaged leaf tips, but it is usually a pretty slow moving disease in adult cattleyas.

Q2. What should my neighbor do with this orchid?

A2. That looks like a mealybug infestation. If there are that many on the flower stem, they are likely also hiding in leaf crevices and on the roots. Get a spray bottle of isopropyl alcohol and spray the flowers, flower stems, leaves, etc. all the aerial parts of the plant. Check the plant every day for mealybugs because they are very difficult to get rid of. You can drench the pot with one of the pesticides containing imidacloprid. If they are on the roots, you may have to bare root the plant to find all the mealybugs and then repot.

Q3. This is Angraecum Lemforde White Beauty (sesquipidale x magdalene). I've had this plant for about 2 years, it has grown and bloomed a couple of times. It is prone to some leaf spotting fungus at the tip of the leaves because they are like saucers holding water. This year

whatever is happening begins at the edge of the leaf closer to the base, it looks like brown edging. The roots look fine except they have no growing tips and the other angrecoids I have are busy growing roots now. I sprayed my whole collection a week ago with Banrot. About 3 months ago when this first started, I cut off the the edge of 2 leaves, sprayed with peroxide and that seemed to stop the process but it's back. Could it be fusarium wilt?.

A3. Looking at the plant, two possibilities come to mind. The most troublesome would be one of the bulb, stem or root rots like Fusarium or Rhizoctonia. I don't see the wilt, or the graying tissue like you might expect with Fusarium, and if it were Rhizoctonia, you would expect it to be moving up the stem affecting the lower leaves first, not the fourth and the eighth leaf up. So I'm guessing that is not the problem.

The other possibility is that water has been pooling in the leaf axils causing the problem. It looks like there is some rot around the leaf bases and of course the leaves are so close together it would be easy for water to collect, and then opportunistic bacteria or fungi could start growing. If that is what is happening, pour some peroxide into the leaf axils and figure out a way to reduce leaf wetness.

Lucy wrote back "I think you are right on the tightness of the leaves possibly contributing to the fungus at the axils. I realized recently that the angraecums that get direct eastern wind off the pond that the house backs up to are happier campers. Wind so strong sometimes it knocks them over but the leaves dry quickly. I'm going to move the Lemforde and a couple of other cranky ones to a very similar windy position and see how that goes."

The Truth About Light

Courtney's Orchid Growing Tips

Once upon a time I spent a great deal of time trying to understand both the light requirements of the many orchids in my collection and the light levels in my growing space. This is no longer a priority for me because I have discovered how adaptable most orchids can be if given half a chance.

When Mark Rose, formerly of Breckenridge Orchids, allowed me to measure the light levels in his greenhouses, I was surprised to find that he did not worry about light levels. All areas of his greenhouse received the same amount of shading (40%) year round. While most of his orchids were phalaenopsis and paphs, there were also large sections of cattleyas and even a few vandas as well. All of his orchids looked great and flowered well!

What was apparent within the greenhouse was that there were still zones, but they were arranged based on temperature, not light levels. "Cool loving" or at least "high temperature hating" orchids were located close to the cooling pads, while those that thrived in heat were at the other end of the greenhouse away from the cooling pads. The lesson is that the heat in the leaves is far more critical than the light itself. Each little leaf is essentially a little greenhouse that can only be cooled by direct convection (dissipation of heat) or by opening the little stoma under the leaves and allowing water to evaporate, which cools the leaf.

The key to the successful technique for Breckenridge Orchids was not just that there was extensive air movement in the greenhouse or the use of cooling pads, but that Mark allowed his orchids to adapt with the seasons.

Orchids and most plants have a variety of mechanisms through which they change with the seasons. Under lower light levels, chloroplasts are closer to the surface than under higher light levels. In high light, leaves also decrease heat absorption by changing the color of their surface from deep green to yellow green. Most hobbyists notice the difference in the color of orchid leaves when they bring a new orchid home and it is different in color from the rest in a collection. One only has to worry when the new plant is darker than other plants in your collection, which makes it susceptible to burning.

Orchids can acclimate and grow just as well with less light or more light if given time. Commercial growers know that to obtain maximum growth, they need to produce conditions where the growth is maximized and the potential damage from leaf burn on an extra hot day is minimized. There is also a real important phenomenon called photo inhibition, when heat and light levels are so high within the leaf that photosynthesis is inhibited.

Seedlings have less potential for handling heat stress and generally are grown under lower light levels. Their thin leaves are more susceptible to over-heating just as a small greenhouse heats up more quickly than a large greenhouse with more volume.

If light levels are monitored continuously in a greenhouse there will be a peak at mid-day with light and heat levels lower before and after the peak. An orchid may be photo inhibited near mid day, at optimum just before and after that time and not reaching maximum photosynthesis for most of the day. This is where growing under lights has a real advantage. Light can be optimized for the entire day. It is not surprising that many indoor growers are able to grow under lights so well that they receive AOS awards.

Today's lighting systems are far superior to what was available a couple of decades ago, with lights that generate exactly the correct wavelengths of light for plant growth. Some hobbyists add lights to their greenhouse and augment light early in the morning and in the evening to maximize the light delivered to their orchids. A lighting system can also be a useful way of augmenting the afternoon or morning shading in your greenhouse from a nearby tree or house.

Lights on early in the morning and in the evening can maximize the light delivered to greenhouse-growing orchids. A lighting system can also be a useful way of augmenting the afternoon or morning shading in your greenhouse from a nearby tree or house.

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 July 2009.

Home Remedies

Ray Barkalow, First Rays.com
Used with Permission

A lot of folks are big believers in trying to be as "organic" as possible when controlling ailments in their plant collections, or just trying to spruce them up. We strongly recommend AGAINST preventive use of insecticides and fungicides, as there is a fairly strong tendency to breed resistant strains. Instead, we suggest that you take the time to carefully inspect your collection, and treat problems as soon as they arise.

Below are a number of home remedies – concoctions that come highly recommended, but please remember that you're using them at your own risk, and the I can take no responsibility for the outcome.

INSECTICIDES: Your choice of home-made insecticide should be based upon what you're trying to eliminate.

Soft-bodied bugs, e.g. aphids & mealy bugs:

Straight 70% or 90% isopropyl alcohol – touch insects with a soaked cotton swab, or for larger infestations, spray the entire affected plant, being sure to thoroughly wet all surfaces. Repeat every 3 days for about 2 weeks. (I have never experienced any problems with buds, flowers, or any part of the plant when using an alcohol spray.)

Garlic/pepper spray – liquefy 2 bulbs of garlic and 2 hot peppers in a blender 1/2 to 2/3 full of water. Strain to remove the solids and add enough water to the garlic/pepper juice to make 1 gallon of concentrate. Use 1/4 cup of concentrate per gallon of spray. To make garlic tea, simply omit the pepper and add another bulb of garlic. Add two tablespoons of blackstrap molasses for more control.

Insects with hard shells, e.g. scale and thrips:

Mix 1 teaspoon each cooking oil and liquid dishwashing soap or detergent in a quart (liter) of water. Concentrations are not critical – some recommend a tablespoon of oil be used. Shake well, and spray the plant, being sure to thoroughly wet all surfaces. Repeat every 3 days for about 2 weeks. (The soap breaks down the waterproof, waxy coating on the insects' shells, and the oil will smother them.)

General-purpose insect spray:

One cup each Formula 409 or Fantastik household cleaner/degreaser and isopropyl rubbing alcohol and 2 cups water, making a quart of spray. Use the same as the formulas above. (I've not tried this one.)

Mix three tablespoons of Dr. Bronner's Peppermint Pure-Castile Soap and 3/4 cup isopropyl rubbing alcohol in a quart bottle, then add water to fill it up. Supposed to be a good, general purpose insecticide.

Orange Plus, a household cleaner made from byproducts of orange juice production, can be sprayed directly on plants to eliminate insects. (I suspect other concoctions made using citrus oils may also be effective, but have no knowledge or experience concerning them.)

In a 1 quart spray bottle mix 1 tsp Murphy's Oil Soap, 1 tsp Sunspray (or cooking oil), 1 tbs lemon juice, and fill the rest with 1/2 water and 1/2 alcohol.

Ant eliminator:

Melt about 1/4 pound of candle wax, then slowly stir in about 1/4 cup sugar and 4 ounces boric acid powder (available at your local drug store). When thoroughly mixed, pour into a pan, creating a 1/4″ to 1/2″ thick slab. Cut or break into chunks, and distribute around the greenhouse. If you decide to try this indoors, be sure to keep them away from children and animals.

Insect Repellant: Place small, open containers of eucalyptus oil in the growing area. The vapors will discourage critters from approaching. (Yeah, it's going to smell like a Hall's Cough Drop factory, but it's good for opening your sinuses, too – a la Vick's Vapo-Rub.) Eucalyptus oil has also been shown to be an effective fungicide, but I know that a dispersion in water and alcohol, when sprayed directly on the plant, will damage flower buds, so I can't recommend that use.

FUNGICIDES: Those of you who frequent the internet orchid forums know of my "crusade" for the use of cinnamon as a fungicide. I've done a lot of digging, and it turns out that the chemicals in the bark have all sorts of medicinal applications (I've even cured athlete's foot with my alcohol extract!) Choose the consistency that is best for your situation:

Cinnamon Powder: Apply normal, household cinnamon powder directly to the affected part of the plant by dusting heavily. This has proven to be a good way to control slime mold and mushrooms in the mulch in my outdoor flower beds, too!

Cinnamon Poultice: Mix cinnamon powder with sufficient casein-based glue (Elmer's) to make a thick, brown paste. Apply to the wound and let dry. The Elmer's Glue is water soluble, but resists washing-off quite well. This is the preference for mounted plants that get watered or misted frequently. An alternative to the Elmer's Glue, but just as

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Crown rot on Catasetum

waterproof and long-lasting is made by mixing cinnamon powder and cooking oil to form a thick paste. (Thanks to John Kawamoto!)

*Cinnamon Spray: Y*ou can prepare a cinnamon spray using either alcohol or water as your solvent. The alcohol infusion is faster to prepare, and offers some insecticidal properties as well. This is my preferred method, and has been effective at eliminating all sorts of fungus problems, including damping-off of deflasked seedlings.

Put 2 tablespoons of cinnamon powder in a pint of isopropyl rubbing alcohol. Shake well and let stand overnight. Filter the solution to remove the sediment (coffee filters work well), and use the brown liquid as a spray. (While it's not a big problem for most orchid growers, I've heard that this is good for powdery mildew, as well.) or…

Put the cinnamon powder in hot water. Shake well and let stand for several days. Filter and use as above. (Some feel that the alcohol can be too desiccating when used on seedlings.)

Hydrogen Peroxide – If your phals look like they're starting to get crown rot, sometimes simply pouring some straight-from-the-drug store hydrogen peroxide on the wound can stop the process. Crown rot is caused by letting water sit in the folds between leaves, resulting in a bacterial or fungal infection, or even both. Prevention is the key, so water or mist early in the day so the stuff has time to dry by nightfall. If you do get a case of crown rot. pour a liberal amount of hydrogen peroxide in the wound and let it stand for about 5 minutes to kill the infecting agents. Tilt the plant to pour the liquid out of the crown. Let the plant dry completely. Sprinkle with dry cinnamon. Treat the plant normally, being sure to keep the wound dry.

General Purpose Spray: Put one cup of the alcohol cinnamon-extract in a pint bottle, add two tablespoons of liquid dishwashing detergent, and top up with water. Use as a spray. The soap and alcohol are good insecticides, while the cinnamon is a fungicide.

MILDEWCIDE:

Mix approximately 1/3 cup milk into a quart of water, and spray. I have not tested this one, but even if it doesn't work, you end up with shiny leaves!

Mix 3 tablespoons cooking oil, 1 tablespoon liquid dishwashing detergent, and 1 tablespoon baking soda in a gallon of water; spray at three-day intervals for powdery mildew.

SLUG & SNAIL TREATMENTS:

Kill:

Trap: Put a plate or plant saucer full of fresh beer on the floor; snails and slugs will be attracted to it, fall in and drown. (Stale beer, has apparently been shown in university studies, to be a repellant, not attractant!)

Ammonia Spray: Mix one cup household (non-sudsy) ammonia with water, and spray directly on the critters.

Coffee Spray: Don't throw away the left-over coffee! Mix it 50/50 with water (some say use it straight), and spray. I add about 2 ounces per gallon rubbing alcohol to keep mold from growing on the liquid surface when the stuff is stored. Seems to work great on Bush Snails.

Barrier: If you suffer from slugs climbing up onto the benches and attacking your plants, there are several ways of blocking their path, ranging from mechanical to chemical:

Mechanical: Spread a layer of Diatomaceous Earth on the benches, around your plants. The material – the skeletons of microscopic sea creatures (diatoms) – is almost pure silicon dioxide, and has very sharp points and edges that discourage the passage of the creatures. The material sold as a microfiltration medium for aquariums probably won't do much. If you can find horticultural grade material, it is coarser and has much sharper edges that make a great barrier.

Mechanical II: Staple wet/dry sandpaper to the legs of your benches, grit side out.

Mechanical / Electrochemical: Tightly wrap the legs of your bench with a 2″ (5cm) wide strip of copper foil, being sure to apply it tightly enough to avoid gaps. The copper is supposed to create some sort of uncomfortable electrochemical effect when in contact with the "slime" secreted by the critters. I suppose it's like biting on a piece of foil if you have metal fillings in your teeth!

Chemical: Apply a thick layer of the product Tree Tanglefoot around the legs of the bench. Available a most good garden centers, it is sold as a bird repellent for ornamental trees, it contains a castor-bean extract that repels slugs and snails.

Bait:

If you just want to lure the critters away from your plants so you can dispose of them, try putting slices of raw potato near the potted plants on the bench. The slugs and snails can be found on the underside in the morning. (Thanks to Janet Price.)

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Boil approximately 2 cups of water, 2 teaspoons or a packet of yeast, and 2 tablespoons of honey together. The relative proportions aren't important. Mix, and then put it out in shallow trays or pans for the snails. Refresh every week or two. (Thanks to Tania Nowell)

HERBICIDE: Spray full-strength household vinegar on weeds, repeat daily as needed. This is NOT to be used for weeds growing in the pots of your other plants, but is good in driveways, walkways, the greenhouse floor, patios, etc.

LEAF SHINE: If you live in an area where the water has a fair amount of dissolved minerals, or if you mist with a fertilizer solution, the leaves of your plants can become dull in appearance. Folks may warn you that these treatments can clog the pores (stomata) on the leaves, but I've never seen a problem.

Pineapple juice, or any citrus juice (lemon, lime, orange), when rubbed onto the leaves with a soft cloth or paper towel will also remove such deposits so your leaves will be nice and shiny. I suppose the acidity reacts with the mostly alkaline deposits. (Thanks to CJ Maciejeski)

Reka Hikari reports that stale beer may also be used for shining up leaves, although we're both at a loss for how to get stale beer, as it never gets that way around our house!

Mix about a 50% dispersion of whole milk in a quart of water. Using a soft cloth or paper towel, wipe the leaf surfaces with the dispersion.

Similar to the milk above, dilute mayonnaise with water to form a thin paste. Again, apply using a soft cloth or paper towel, being sure that you wipe off as much of the paste as you can.

"DO EVERYTHING" SPRAY:

Fermented Compost Tea – take about one- to two cups of some really well-composted organic matter (the stuff at the bottom of the pile), place it in a cloth bag (an old sock will work), and immerse it in a gallon of water at room temperature. Let it stand overnight or longer until you have a dark liquid. Remove the "tea bag" and let the container sit outdoors for about two weeks. Remove the scum that forms at the surface, filter the liquid and spray. Supposedly, this brew will be loaded with bacteria and other microorganisms that attack pretty much all of the fungi and diseases that harm plants. (It has also been suggested that the unfermented brew from above, once diluted to about 20% in water, is as close to the food source an orchid sees in nature as you can get!)

Scale on cattleya

Hydrogen Peroxide

by Sue Bottom, sbottom15@gmail.com

Most medicine cabinets have a brown bottle filled with hydrogen peroxide, used to help prevent cuts and scrapes from becoming infected. Hydrogen peroxide is water combined with an extra atom of oxygen, having the chemical formula H_2O_2. The compound is unstable, ultimately converting into water and oxygen, although radical intermediates can be produced in the decomposition process. These reactive oxygen compounds are what makes hydrogen peroxide useful as a disinfectant and sterilant in your battle against disease organisms. Keep a fresh bottle handy in your growing area. There are many ways to use it on your orchids.

Foliar Diseases. Hydrogen peroxide is a simple, cheap and amazingly effective anti-bacterial and anti-fungal agent, although it is not registered or labeled for this use. The 3% strength version sold in drug and grocery stores can be used full strength on your plants. Search around for the 8 oz spray bottle of hydrogen peroxide. Keep the spray bottom handy in your growing area. It kills bacteria and fungal spores on the aerial parts of the plant without damaging the orchid. Spray sunburned leaves to prevent secondary infections, spray leaf surfaces after prolonged rainfall to prevent rots, pour into phalaenopsis crowns to stop crown rot from progressing. Use it liberally whenever you see leaf discoloration, water pocketing, sunken spots, etc.

Drenches. Sometimes hydrogen peroxide is recommended as an easy way to increase the oxygen content in the root zone. When hydrogen peroxide is added to distilled water, it converts to water and molecular oxygen, the same

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compound that comprises 21% of the atmosphere, and this form of oxygen is great for the roots. But in the presence of organic matter or metal ions, reactive intermediate oxygen compounds (peroxyl, superoxide, hydroxyl radicals) may be formed and these are indiscriminate oxidizers. They will deactivate anything that is organic, microbes and fungal organisms (good and bad), plant tissue (living and dead) and organic matter (bark, peat or moss in your potting mixes). In fact, medical professionals no longer recommend hydrogen peroxide to sterilize wounds because it also destroys healthy tissue, although its effervescing cleansing actions are effective at debriding and removing necrotic tissue. If you choose to pour hydrogen peroxide through the root zone of your plants, you risk destroying the microorganisms growing in the rhizosphere, whether they are beneficial, benign or pathogenic.

If you know you have a pathogen like *Fusarium oxysporum* or *Rhizoctonia solani* infecting your roots, you may say "Bombs Away" and drench your potting mix with hydrogen peroxide. You are accepting the fact that you might kill all the micoorganisms, and then hope that beneficial organisms will reestablish in the pot. If you have only one or a few orchids, perhaps a better alternative is simply repotting them into a fresh potting mix, discarding the contaminated mix and infected tissue rather than using a hydrogen peroxide drench. If you have a widespread problem, you might choose a fungicide with targeted effectiveness on the pathogen in question rather than a broad-spectrum peroxide drench.

After Repotting. Alan Koch of Gold Country Orchids has shared his technique of drenching pots with hydrogen peroxide after repotting to promote elongation and branching of the roots. There are scientific papers suggesting reactive oxygen species can increase lateral and adventitious root growth in some plant families, and there are reports promoting hydrogen peroxide applications to cuttings to prevent damping off and similar disease problems. If you spray the roots or drench your orchids with hydrogen peroxide after repotting, you are probably not going to damage any rhizosphere populations except for those growing on or in your roots. Perhaps the hydrogen peroxide has the added benefit of sanitizing the wounds you inflicted on the roots during the repotting process, similar to cauterizing a wound. If you use biofungicides or probiotic products to help establish beneficial bacteria and fungi, apply them the day after hydrogen peroxide applications. If you use ProMix blends that contain mycorrhizae or biofungicides, spray the roots prior to repotting rather than drenching the potting mix.

Shelf Life. An unopened bottle of hydrogen peroxide has a shelf life of up to 3 years from the date of manufacture, as noted by the expiration date on the bottle. Once the seal is broken and the peroxide exposed to air, warmth and light, the peroxide decomposes to water and oxygen gas at an accelerated rate. Under ideal storage conditions, you might have about 30 to 45 days of peak effectiveness and perhaps 6 months of useful activity. If you pour some on a cut and it no longer fizzes, it has lost its antiseptic qualities and the brown bottle contains only water. Mark the date you opened the bottle on the label, so you will know when to replace it. If you use the small spray bottles, get into the routine of pouring out unused solution and refilling the bottle on the first of every month.

Different Formulations. Hydrogen peroxide is produced in different strengths for various industrial applications up to 98% for rocket fuel, but highly concentrated solutions are hazardous to handle. BioSafe Systems makes activated peracid products, like SaniDate and ZeroTol, that contain both hydrogen peroxide and acetic acid, producing a highly reactive product called peroxyacetic acid (PAA). This is more effective than hydrogen peroxide alone, but it also more dangerous to handle. These products cost well over $100 for a 2.5 gal (9.5 l) jug and are probably more suitable for use by the commercial grower rather the hobbyist.

Keep hydrogen peroxide in your growing area so it is right there when you need it. Spray it on the aerial parts of your plants the moment you notice any wounds, discolorations, sunken spots, areas where water pockets, anywhere that the plant tissue just does not look right. Use it liberally, the peroxide is not going to improve with age. The high priced fungicides have their place in your arsenal, but you cannot buy them at the Dollar Store. Hydrogen peroxide is cheap, effective and available, what's not to like!

Orchid Adventures
RF Orchids Garden Tour

We took the guided tour of Robert Fuchs and Michael Coronado's private grounds around their home next to RF Orchids in Homestead. This property has been in the family of orchid growers for three generations so you can image the variety of beautiful tropical plants and naturalized orchids, not to mention yard art. The specimen sized oncidiums, cattleyas, dendrobiums, vandas and more are just spectacular, in or out of bloom.The spring fed pool with the overhanging deck was pretty spectacular too. Not a bad place to kick back with a beer after a hard day's work!

SHOW TABLE

Grower Suzanne Susko
Den. bracteosum

Grower Suzanne Susko
Mtssa. Shelob 'Tolkien' AM/AOS

Grower Suzanne Susko
Den. Hibiki 'Tiny Bubbles'

Grower Tom & Dottie Sullivan
Mtssa. Shelob 'Okika'

Grower Linda Stewart
Cochlezella Overbrook

Grower Courtney Hackney
Epl. Sullivan 'Coco-Amethyst'

Grower Sue Bottom
L. tenebrosa

SHOW TABLE

Grower Sue Bottom
C. Atalanta 'Hawaii'

Grower Courtney Hackney
Blc. Mem. Crispin Rosales 'Carmela' AM/AOS

Grower Harry & Celia McElroy
Paph. Magic Lantern

Grower Harry & Celia McElroy
Paph. philippinense x Paph. leucochilum

Grower Tom & Dottie Sullivan
Blc. Waianae Leopard 'Ching-Hua' HCC/AOS

Grower Bill Gourley
Blc. Mark Eddleman