



CLUB NEWS



George Hausermann

September 5 SAOS Meeting

by Linda Stewart
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Welcome and Thanks.

President Bob Schimmel opened the meeting at 7:00 pm with approximately 47 attendees. Bob thanked Loretta Griffith and Dottie Sullivan for the brownies, watermelon and chocolate cake, and

Jeanette Smith for organizing the refreshments. He then reminded all to drop a dollar in the blue jar when you enjoy the refreshments. Carolyn Smith introduced our five guests, and Linda Stewart announced new members: Jan Lesnikoski, Janet Bernardini, and renewed member John Laurenson. The September birthdays were recognized with a free raffle ticket. Bob encouraged all to vote for their favorite orchid on the show table, and reminded everyone that first time Show Table exhibitors are entitled to three free raffle tickets.

Club Business. The next Ace Repotting Clinic will be on October 7 from 9am to 1pm. Keiki Club will re-convene on September 17 at the Schimmel's. Topic will be getting your orchids ready for winter.

Shows in Florida this month: Florida West Coast and Ridge OS, Breezy Hill Festival in So. Carolina in September. Please check our website for details.

T-shirts are available at the side table (\$20 for S to XL, and \$25 for XXL), along with potting supplies and Purely Organic Fertilizer. Please e-mail Sue at info@staugorchidsociety.org if you need potting supplies, special quantities or different items, and Sue will bring them to the next meeting for purchase.



Club Librarian, Penny Halyburton was unable to attend this evening, so if you have books or magazines to return, please turn them in to the side table. Please remember to e-mail Penny (librarian@staugorchidsociety.org) with your book

or DVD request and she will bring the item(s) to the next meeting.



Show Table Review: Courtney Hackney commented on the varied summer bloomers displayed on the show table this month, starting with *Epidendrum ciliare*, which is easily grown and blooms beautifully. It is a very widely distributed species with variations in plant size, and has a wonderful fragrance at night. Courtney then moved on *Bc. Waipuna*, a hybrid between *B. nodosa* and *S. cernua*. Sue brought in a beautifully grown specimen, whose flower colors change as they age. Courtney then moved on to another unusual plant, *Schombavola Christian Fun* (*B. nodosa* x *Schom. tibicinis*), that also has *nodosa* as a parent but looks vastly different than the *Waipuna*. There were several summer blooming *phalaenopsis* displayed, most of which are quite fragrant. They tend to have short inflorescences with one to two flowers per stem. *Phal. bellina*, *Phal. Hannover Passion*, along with two samples of *Phal. Samera* (*violacea* x *bellina*), were represented. There was a *Blc. Prada Green Deluxe* whose green flowers reflect the *digbyana* present in the background. Courtney then showed an old Carter and Holmes hybrid, *Pot. Caesar's Head 'Carolina Autumn'* that has *C. bicolor* on both sides of its background. One of the breeding characteristics of this species is strong flower stems so they generally do not need to be staked. Next was *C. bicolor*, the bronze version of the species. Courtney discussed a couple of unusual miniatures, *Dendrobium laevifolium* in full bloom, a diminutive plant covered in flowers, and *Sigmatostalix eliae*, that is very unusual and almost doesn't look like an orchid. It is a miniature plant with a high flower count per stem. Also displayed was a

Continued on page 3



CLUB NEWS



Upcoming Orchid Events

September

- 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
Steve Arthur Orchids, 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 Orctoberbest 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
Vern Bloch, Orchid Hobbyist
- 11-12 Fort Pierce Orchid Society Show
Fort Pierce Shrine Club

- 14 JOS Meeting, Prepping Orchids, 7 pm
Eric Cavin, JOS

December

- 5 SAOS Christmas Auction, 6 pm
We're meeting on our normal Tuesday night but at a different location and starting earlier!
Memorial Lutheran Church
3375 US 1 South, St. Aug 32086
- 10 JOS Christmas Auction, 5:30 pm
Orange Park Country Club
2525 Country Club Blvd, Orange Park

St. Augustine Orchid Society Organization

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CLUB NEWS

Continued from page 1

neofinetia hybrid with Dor. pulcherimma, in which the Doritis over-rides the neofinetia characteristics. Courtney admired Blc. Lemon Drop with its distinctive yellow color and red throat. There was an unnamed Brassia, which was nicely grown with lots of spidery flowers. Courtney commented on Ctsm. Marsh Hollow X Ctsm. Fuchs Delight, with its high flower count and new growth significantly larger than the prior year's growth. It also displays both male and female flowers on the same spike. Trichoglottis brachiata is an unusual vandaceous orchid that is not frequently seen. Courtney moved on to a well-grown Vanda ls x Siyaporn that used to be called an ascocenda. Next was a nice specimen of Aerangis biloba from Madagascar, with its white, night fragrant flowers. There were two more catasetums represented, Ctsm. Elaine Chambers XOXO, with very unusual and beautiful flowers, followed by Ctsm. Kidney Beans, an old cross, also very beautiful. Lastly Courtney talked about an unknown vanda, which was well grown and responding well to the purely organic fertilizer. Make sure to see the pictures of our Show Table orchids displayed at the end of this newsletter, and on our SAOS website.



SAOS Program. George talked about some of the ways that growers induce blooming at different times of year, such as the use of shade cloth to shorten the days to induce flower spikes, as well as air conditioning in some greenhouses to promote year round blooming of phalaenopsis. George then shared some of the history of the Hausermann family business that originated in the Chicago area and focused on cut flowers used in corsages, particularly cattleyas. He shared a video showing their harvesting procedures to pick, select, grade, and finally prepare flowers for shipping. Two of the main varieties used in their cut flower business were C. Irene Finney 'Ingrid' and C. Marjorie Hausermann 'York'. Both were selected for their multiple flower inflorescences as well as their strong stems and flower longevity. Due to the increasing cost of natural gas for heating, the Hausermanns relocated to an area in Florida selected for its high quality water, as exemplified by the number of local

fern growing operations for the florist business. Over the years, in answer to customer demand, EFG Orchids has diversified to include many tropical plants, focusing primarily on those with similar light requirements as orchids.

At the conclusion of the video, George talked briefly about basic orchid culture, and the fact that most orchids should never take longer than 5-7 days to dry out, or there will be problems with the root system, with terrestrial orchids being the exception. Their fuzzy roots need to be kept evenly moist, but never soggy.

George then talked about light levels and how you can measure it simply with your hand. If you see the outline of your fingers, it is a light level good for vandas. If you just see the shape of your hand, then it is a light level suitable for most of your other orchids.

He then talked about the potting mixes that they use at EFG, which is now a mix of sponge rock and bark, with sphagnum moss being used for some other items, particularly small seedlings. EFG has recently gone from Rexius bark to Orchiata for anything that needs to stay in the pot for more than 1 year. He also mentioned that care must be taken if you opt to use sphagnum to avoid over-watering. George feels that any pot over 4" is too big for using moss as the growing medium.

George also talked about water quality, cautioning against using water that has run through a water softener, unless it is a potassium softener, and that you can let water sit overnight to let chlorine and other things settle or dissipate before using it on your plants. George then took questions from the audience, and in closing presented a plug tray full of C. Heathers Gold 'Motherload' for members to take one, pot it up and take home with them. He also extended an invitation to everyone to attend the next annual EFG Orchtobertfest in DeLand, which will be October 20, 21 and 22

Meeting Conclusion: Harry McElroy announced the Members Choice Award as Sue Bottom's entry Epidendrum ciliare. Dianne Batchelder and Susan Smith closed out the meeting with the raffle. Our thanks to those who stayed to move the tables and chairs and clean up the room. We do appreciate it when members go the extra mile to help return the Watson conference room to the way we found it before the meeting.



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



CLUB NEWS

September 17 Keiki Club

Getting Ready for Winter

It may not feel like it, but winter is coming. We will talk about fall preparations and the minimum night time temperatures your plants can tolerate in winter. We will also talk about those orchids that require special winter care, like the deciduous dendrobiums and the catasetinae.

Moderator: Bob Schimmel

Where: Bob and Yvonne Schimmel's Home
[702 Wilkes Court, St. Aug 32086](#)

When: September 17, 1 - 3 pm



American Orchid Society Corner

Webinars this Month:

September 7, 8:30 - 9:30 pm, Everyone Invited
[Exhibit Judging](#) - David Janvrin, AOS Judge

September 14, 8:30 - 9:30 pm, Everyone Invited
[Greenhouse Chat Orchid. Q&A](#) - Ron McHatton

[Photos of Latest AOS Awards](#)

Sept. Orchids Magazine: [request free issue!](#)

Top Ten from the Stanhopea Alliance

Barkeria

Aerangis Name Game

First Ladies and Their Cattleyas: C. Edith Wilson

For the Novice: Applying Fertilizers & Chemicals

October 3 Monthly SAOS Meeting Japanese Orchids – The Small & the Mighty

Dr. Kristen Uthus of [New World Orchids](#) in Manchester, Michigan is our featured October speaker. Kristen will talk about the small and mighty Japanese orchids, what makes Japanese orchids stand out in a crowd and why *Neofinetia falcata* may be the easiest of all orchids to grow. Japanese



orchids are not typical in the orchid world as they are often collected for their leaves rather than their flowers.

Kristen has continued to bring Japanese orchids to the United States. She has expanded her collection back into the New World by offering a number of miniature species from other parts of the world. If you like the miniatures, you are in for a treat in October! Kristen is offering a 10% discount on preorders. Browse her website for the plants you are interested in and send her an email with your list and type St. Aug OS in the subject line.

Bring your flowering orchids to exhibit on the Show Table. Do not be shy, first time exhibitors get 3 free raffle tickets. Kristen 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!

Ace Repotting Plant Clinic

The first Saturday of the month from February through October, SAOS members are available to talk with you, answer questions and help you repot orchids.

Ace Hardware, 3050 US 1 South, St. Aug
9 am until 1 pm



INSPIRATION



Miltonia moreliana

© Terry Botto '17



CULTIVATION



Orchid Questions & Answers

by Sue Bottom,
sbottom15@gmail.com

Q1. I have had this *Dendrobium sulcatum* for 3 years and every new leaf gets spotted like this. The spots are neither sunken nor soft and they appear when the leaves begin to mature and

then they spread and the leaves become papery with a rusty color. I even have cut all the leaves on all pseudobulbs, but then the leaves on the newest growth look like this. What is it and what should I do to treat it?



A1. I thought the dendrobium has a viral disease, but Courtney thinks it is rust, a rarely seen microfungus. In either case, it is not curable. Read it its last rights and replace it with something you'll enjoy more.

Q2. Are these friends or foes?



A2. What great pictures! Did you just apply some organic fertilizer? Centipedes, millipedes, pill bugs and sow bugs mostly eat dead vegetative matter but can damage new tender roots. They are not a big problem, but perhaps you should encourage them to relocate. Pick them off or pour a solution of liquid Sevin through your pots.

Q3. This has been a hot and wet summer. I keep my vandas on a covered screened in porch with several fans, but with these high temperatures I have developed what I believe is a bacterial rot, which I noticed a few hours after a preventative spray with Physan.

I sprayed my entire porch with 10% bleach and have not watered them in 3 days, despite the heat. I have also done several treatments of hydrogen peroxide, and today sprayed liquid copper. Do you think the vandas can be saved? Removing the infected tissue will be difficult because of the location. Is the only way to tell if I have killed it is it doesn't continue to spread, or will it dry out, turn color etc.?



A3. You're making all the right moves. Physan is okay, copper is more effective, and peroxide is great for bacterial problems. Bacterial rot in the leaf axis occurs when water pockets in there, something that is difficult to prevent when the leaves are so close together and it is so humid outside. If you tug on the leaves and they pull away from the stem, that will remove the innoculum. If the discolored area does not enlarge, the infection should not be active. More air movement, turning the plants upside down, lowering humidity, anything you can do to lessen leaf wetness will help, as will precautionary sprays of peroxide in leaf axils.





Tropical Storms Courtney's Orchid Growing Tips

"And the rains came..." but not for 40 days and nights, at least not yet. Orchid growers in Florida experienced many days of torrential rainfall from Tropical Storm Fay, but similar weather events, i.e., many days of rain or gloom can happen anywhere or any time of year. Of course,

orchids growing in Nature also experience extreme events. The difference, however, is that your orchids have been put into pots, grown in material that confines their roots, and locked in a relatively contained atmosphere.

Compare a "free range" orchid to its cified relatives and it is easy to see why the same event could lead to such different results. Days of rain and wind would soak the roots and leaves of a wild orchid, bringing bits of new leaves and twigs where they can rot and release nutrients. The movement of wind and water across the roots and leaves would wash rotten materials away and remove fungal and bacterial spores from the plant.

Orchids in a greenhouse are likely in a closed environment where humidity is high and air movement nil. Most greenhouses vent during the day when exhaust fans rapidly replace the air in a greenhouse. When venting does not occur, the air becomes filled with bacterial and fungal spores that settle on orchid leaves and in pots. No matter how clean and neat your growing area; there are plenty of bacteria and fungi around to infect orchids.

While my immediate thoughts relate to a hurricane, the same basic conditions occur during winter storms or even just during a series of very cloudy days and little sun. Your pampered orchids have roots in pots that just barely have enough air space to allow oxygen to the roots. In a greenhouse full of orchids and other plants, oxygen levels actually decrease too, making roots even more susceptible to death. Plants rarely die from low oxygen levels, but parts of plants, especially roots do die where they are very susceptible to invasions by bacteria and fungi.

Plants, including orchids, use oxygen. It is only when light is striking leaves that photosynthesis leads to the production of more oxygen than the leaf uses. Fungi and bacteria love high humidity and low oxygen levels and so every grower



should expect problems after prolonged periods of damp, humid conditions.

About the only time I recommend the application of a broad spectrum fungicide / bactericide as a preventative is when a major event is going to occur or right after it occurs. Indoor growers need to pay attention too, as the same phenomenon can occur when you water your orchids and your light source stops working for a day or so. There are many products that can be used.

My favorite is Kocide, an old copper-based product. Kocide leaves a light blue sheen on leaves so you know it has been applied. My strategy is to apply as soon as possible after the event at half strength and let the orchids and greenhouse vent and dry thoroughly before watering. Rarely, do I experience a disease problem.

Physan is another, readily available product that many hobbyists use. Some tender leaves can be damaged by the recommended dose for orchids, but the half strength dose rarely causes any problems. It is also a surfactant and helps move water off leaves and stems. Killing disease spores, increasing air movement, and quickly drying your orchids and greenhouse is the best way to prevent problems after a major environmental event.

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 September 2008.



CULTIVATION

Media for Epiphytic Orchids

Jim Brydie, Ku-Ring-Ai Orchid Society

From what I have seen on my travels, very few orchids grow in pots in nature - orchids grow on trees, on rocks, and in the ground. We put orchids in pots purely for our own convenience, which brings us to the need to provide a medium in the pot. It is impossible to reproduce an orchid's natural root environment in a pot or any other way but what we can do, in our artificial growing houses, is to provide a benign root environment with an appropriate balance of air, moisture, and mechanical support. Luckily for us, orchids are very adaptive little devils and most will take to our pot culture without too much fuss.

The balance of air and moisture in the pot seems to be the critical factor. They will all put up with being saturated temporarily when we water them but they need excess water to be shed pretty quickly. As the pot then dries out after watering, the medium needs to provide an airy but moist environment in which the roots can live and thrive. The need for moisture hardly needs explanation but keep in mind that air is an equal necessity. Roots are a living organ of the plant and they have to breathe as they work. In a well functioning medium, fresh air will be drawn into the pot as the medium dries out, and be exchanged evenly throughout the pot. There will be no stale pockets of air.

Different plants require different rates of drying out and it is this that we design into the various mixes we use. Any number of the commonly used potting materials will do the job provided that: you get the air/water balance within bounds acceptable to the plant concerned, you give the plant regular food and water, and the mix provides a reasonable pH in which the roots can live and grow.

The latter point is very important. The recommended pH range for orchids is 6.0 to 6.5 as this optimizes the availability of the nutrient elements in the fertilizer you provide. Orchids will of course tolerate a much wider range of pH than this but some kinds of orchids are touchier than others in this regard. In my experience, the roots of some, like Paphiopedilum and some of the Oncidiinae (e.g., those that used to be called Odontoglossum), decline rapidly as the mix ages and I think this is because it gets too acid.

As I said above, many different combinations will serve adequately if other factors are right, but to improve on 'adequate' I think you need to focus on the root system. Roots are the key to maximizing growth. The bigger and more vigorous the root system, the bigger and more robust will be the rest of the plant. Fine tuning the potting medium is the way to maximize root growth and to do that you need options with your potting materials.

When you take your car to a garage for repairs you expect the mechanic to have a full set of whatever tools

are necessary for the repair. Why then, do we think we can grow orchids to their potential if we only keep two kinds of bark in the potting shed. For any reasonably sized, mixed orchid collection, the range of environmental needs will be far too wide for any medium to suit all. It is my contention that we need more tools in our shed than that.

There are 4 basic potting medium components that I recommend you keep on hand. These are bark, sphagnum moss, perlite (with peat moss or coco-peat), and coconut fibre. Each has different characteristics and its own strengths and weaknesses. There are a range of other materials that are useful, such as styrene foam, pebbles, sand, etc. but I consider these fringe additives as opposed to major components and I am sure you can succeed without them.

The challenge in a mixed collection is that the plants are usually all jammed together. Watering often takes place for all at the same time regardless of the needs of some plants for different moisture requirements and different drying times. Some differences can be accommodated through choice of microclimates in your growing area. e.g., hanging plants higher, placing them in the bright end versus the shady end, or nearer the fan etc., but beyond that, adjusting the potting medium gives us a mechanism that can have a multiplier effect on microclimate differences.

1 Bark - Bark is readily available, relatively cheap, and comes conveniently graded by the size of the bark pieces. One brand calls the bark fine, medium, or coarse, another by approximate particle size in millimetres. There are also more specialised mixes such as Miscellaneous Mix (a combination of sizes and components perfect for natives) and Cymbidium Mix (in its various brands and forms). Some of the bark quality isn't what it was 20 years ago but it is still a very useful medium. I use medium and coarse barks for Laelias, Cattleyas, Vandaceous, and other coarse rooted, dryer growers, and a blended mix of sizes and components for more general miscellaneous orchids.

With bark, the pH in the pot can be a serious factor. It will usually start out around pH 6, which is good for most orchids, but can eventually sink down to as low 3.5 to 4. The pH getting lower and lower is associated with the decay of the bark as it composts in the pot and is often exacerbated by watering too heavily. In overly wet conditions the bark can tend to go off fairly quickly, staying wetter and wetter after each watering, and the orchid may need repotting after as little as 1 or 2 years. However, judicious use of a little garden lime or dolomite, sprinkled over the top of the mix once a year, can extend the life of bark in the pot, and aid in balancing the pH. Just make sure you don't overdo it. A teaspoon of garden lime/dolomite sprinkled onto a 15cm pot is all you need.

Continued on page 9



CULTIVATION

Continued from page 8

When you use bark, make sure you feed the plants regularly and watch the wetness of the pot. If they look too wet they probably are, so either try to water less often or place the plants where they will dry out more quickly.

2 Sphagnum Moss - Sphagnum Moss is an amazing medium. It has terrific remedial properties for sick plants and there is nothing better for striking backbulbs and divisions. It can be obtained as live moss, or in dried compressed blocks, and both work well. The dried product keeps well and the amount you need can be rehydrated as needed. Every grower should have at least a small supply available. Even for healthy plants it is a very good medium in its own right but like all media, it has its drawbacks. It is expensive and it is getting harder and harder to obtain good quality moss. Good moss lasts about 12 months in the pot but less if it gets regular fertilizer. Once the sphagnum moss has "gone off", you need to get the plant out of it quickly because all of its positive qualities are reversed and roots quickly die.

3 – Peat and Perlite ("P&P") - Perlite is an expanded volcanic glass that is completely inert and pH neutral. The perlite most growers use comes from Chillagoe in Queensland and comes graded in particle sizes called "coarse", "super coarse", and "jumbo", where jumbo is the largest (particles up to at about pea size). Perlite on its own doesn't provide any organic interchange buffer for fertilizer and once it starts to dry out, perlite by itself goes from moist to dry very quickly. It is usually used in combination with medium Lithuanian peat moss, to provide the organic ion interchange. The basic formula most people use is 1 part peat to about 5 or 6 parts jumbo perlite. I have experimented with ratios of 12, 16, and then 20:1 but I concluded that it doesn't work properly with less and less peat.

P & P mixes are very stable. The perlite is inert and the peat has already reached a point of almost nil decay over thousands of years in the ground. The combination has a slightly acid pH around 6.0 (perfect for most orchids) and lasts virtually forever. However, you still need to repot relatively regularly because plants outgrow pots and because dead roots eventually accumulate in the pot and need to be cleaned out.

Be Aware – peat and perlite mixes are generally wetter than fresh bark mixes. Some growers have tried it and rejected it because it works differently to other media and growers can have a problem if they use a wide range of media for different orchids and water everything together. Reduce your overall watering for best results. Varying the perlite:peat ratio, choosing the grade of perlite you use, adding styrene foam, and/or mixing perlite grades together, can also give you some control over how quickly the mix

dries. I use P&P mainly for Pleurothallids, Dendrochilums, some Dendrobiums, and a few others.

4 - Coconut Fibre - Although commercial nurseries here and overseas have been using it for quite a few years, coconut fibre is a relatively new medium to most of us. It obviously has great potential. As a medium it is long lasting, slow to bio-degrade, and depending on the brand and the washing process, has a pH of about 6.0 – 6.5. The material comprises two natural materials which form the husk of the coconut. A coarse, stiff, woody, thread like material we call coir, which is the same fibre used to make coir doormats etc, and a peat like material that fills the spaces between the coir fibres. Sort of like an insulator and moisture absorber.

The commercial orchid potting material, is basically the chopped up fibrous husk off coconuts, a byproduct of the copra production plantations in India and Sri Lanka among other places. It comes in dried, compressed blocks of more or less cubed chunks, pre-cut into specific sizes to different grades of fineness. There are various brands available - one used to be available from Bunnings hardware stores but I am not sure that source is still available. The material needs to be soaked and rinsed before you use it. Stories are told that some supplies are contaminated with sea salt from the discarded coconut husks being stored too close to the ocean before they are processed and compressed for horticultural use. I don't know if this is true, but I heed the need to wash and rinse.

To prepare the material for use, I soak a half a dried compressed block in a garbage bin for 3 or 4 days to let it stew, then tip it out into foam boxes fitted with a couple of layers of shadecloth in the bottom. A half a block fills 2 foam boxes after soaking. I then give the boxes a thorough rinse with a hose to wash out any salts released by the soak. Be careful when you rinse it however. All these coconut fibre products include a significant proportion of the fine peaty material and you need to retain a decent proportion of these fines as an integral part of the mix. If you remove too much of the fines by washing or sieving, the mix dries faster than is practical for most orchids and doesn't retain sufficient water. A dry mix can be a useful trick for one or two oddball orchids, but it isn't suitable for most.

As with bark and perlite mediums, you can adjust the moisture content of your coconut fibre potting medium by choosing the coarse or fine grades, reducing the peaty component, or by adding other components like styrene foam. I experimented with various mixes of fine, medium, and coarse coco-fibre, added perlite, and added styrene foam. I was very impressed with results in the first 6 months or so but after that I began to experience rots killing off some plants and others just suddenly stopping their forward progress. I am not sure why, but I think part of

Continued on page 10



CULTIVATION

Continued from page 9

the problem was that the finer, peaty materials may have washed out from between the coir strands and accumulated in the bottom of the pot, creating a bog zone, which would have resulted in root decline.

At present, I have cut back my use of coco-fibre to using it as an additive to some of my specialist mixes to purposely retain a little more moisture – such as for Paphs. However, I know that many nurseries and other growers are still getting excellent results in coco-fibre dominant mixes so the problem may just be the way in which I was using it.

Fringe Materials - As I mentioned earlier, there are dozens of side components that experienced growers use as additives or even as major components. For example: shellgrit, charcoal, fly-ash, pebbles or stones, wine corks, crumbled cork. Over the years, I have tried just about all of them as each wave of “new discovery” swept the orchid grower world. I probably still have half bags of some of the stuff stashed away in the shed somewhere.

Many are useful, and have their place, but none are the new magic potting material that they were once thought to be. However, there is one ‘side material’ I do use in nearly every blend, and that is crumbled styrene foam. I use it in quantities from 10% to 25% in nearly every combination and I am convinced it provides a substantial positive benefit - mainly in improving drainage and air content in the pot.

However, before you rush off to smash up one of those white foam boxes you carry your plants in, or to buy a bag of bean bag balls, let me stress that there are many types of styrene foam. The boxes we all use are very dense, strong foam and unsuitable for this purpose, nor do I like bean bag balls. Their perfect roundness makes them too hard to blend with other components and they seem to have a hardened surface that repels water.

The foam I use is the softer more easily crumbled type that is often used as packing material in glassware, or electrical equipment. However, even this more easily crumbled type of foam can vary a lot. I search out the types made from ‘larger’ rather than ‘finer’ bubbles of styrene, and that can be fairly easily broken up by hand, or shredded on something like a cheese grater etc.

Electrostatic attraction is somewhat of a problem when handling styrene foam, or when smashing up blocks or sheets of styrene, but this can be managed reasonably if you do it directly into a tub of whatever bark or potting mix you are adding it to. The mix needs to be moist and you need to keep mixing the foam into the moist mix as you shred or crumble the styrene. Just take your time.

Note: Jim Brydie is our Aussie pen-pal and the newsletter editor for the [Ku-Ring-Ai Orchid Society](#). This article recently appeared in the Australian Orchid Review.

Cercosporoid Leaf Spotting Fungi An Interim Report

by Sue Bottom, sbottom15@gmail.com



For many years, I have noticed odd leaf spotting on a few of my cattleyas, always a little different on each plant. Sometimes there is chlorotic leaf mottling on the upper leaf surface, and when you turn the leaf over you see blotchy fine spotting. Sometimes the spotting occurs on the upper or lower leaf surfaces, and sometimes both. Sometimes the spotting seems to coalesce into larger leaf spots. The leaf undersides vary from having faint markings to patches of fine spots. Symptoms are always worst on older leaves; young leaves often have no markings at all. Rarely does the problem cause necrotic spotting or the leaf to die. It does not negatively influence plant vigor as the cattleyas grow and bloom well. They do not suffer a decline in health because of whatever is causing this ugly leaf spotting.

None of the orchid pest and disease reference books contain a description of the symptoms that the cattleyas in the greenhouse exhibit. In days gone by, I have sent plant leaf samples to different laboratories to try to identify pathogens, with no success. Then one day, thanks to the reach of the internet, I noticed that Dr. Robert A. Cating had joined the Oregon State University Agricultural Experiment Station working with plant pathology diagnoses. I knew Robert while he was obtaining his doctorate from the University of Florida, having read his excellent articles on orchid diseases. We reconnected and he agreed to help with the diagnosis.

The leaf samples shown in these pictures were sent to him for identification and his initial assessment is *Pseudocercospora odontoglossi*. He had trouble culturing the fungus and is in the process of trying to obtain fungal DNA so he can sequence it. Report to follow!

Continued on page 11



CULTIVATION

Continued from page 10

If you think the orchid taxonomists have been busy categorizing and recategorizing orchids, you should see what the mycologists are doing with fungi. Scientists used to believe there were two kingdoms of living things and fungi belonged in the Plant Kingdom. However, fungi contain no chlorophyll like plants, have chitin cell walls like animals and are so fundamentally different from other living things that they are now grouped into their own Fungi Kingdom that includes yeasts, rusts, smuts, mildews, molds and mushrooms. The body of the fungus is a mycelium made out of a web of tiny filaments called hyphae. The fungi grow from the tips of hyphae and digest organic matter externally before absorbing it into their mycelia. These fungal webs often live unseen in their hosts until their fruiting bodies form.

Some of the fungal species that were once included in the *Cercospora* genera have been recategorized into *Pseudocercospora*. Until the taxonomists are done reorganizing, we will just call them Cercosporoid fungi. Leonard and Seake provide a good overview of leaf symptoms in *Growing Dendrobium Orchids in Hawaii*:

This group of fungi primarily causes leaf spots and irregular blemishes. Depending on the Pseudocercospora species and dendrobium cultivar, leaf spots can be circular to nearly circular, reflecting the growth pattern of the fungal colony. These circular blemishes are yellow, with greater amounts of brown to black flecks forming as the spots enlarge. Premature defoliation occurs, and the yellow, detached leaves have brown spots. Other species of Pseudocercospora cause smaller, irregular blemishes. These are 0.12–0.20 inch (3–5 mm) in diameter and generally occur in large numbers. A general mosaic pattern occurs when large sections of the leaf are diseased. Low disease levels occurring in field-grown dendrobium do not affect yield, but high disease levels will reduce yield. Blemishes on potted plants, if numerous, detract from their appearance and marketability. Defoliation is common in environments with less than optimal amounts of light (homes, offices, garden shops, etc.).

The fungus produces hyphae (fungal threads) within the leaf that feed on the plant. Conidiophores (specialized spore-producing hyphae) are produced on the surface of the leaf within the blemished area. These conidiophores produce conidia (spores) that are blown or splashed onto healthy leaves or other parts of the same leaf. The conidia germinate when moisture is present on the leaf surface and the pathogen penetrates the host epidermis (skin). Growth and lesion development of this fungus is

very slow. Other members of Pseudocercospora require several weeks after penetration before the first symptom of infection is evident.

To reduce disease levels, regularly remove all dead leaves to lower inoculum (spore) levels. If the disease is severe, apply a fungicide (thiophanate methyl is recommended in the Appendix) after removing all infected leaves.



What to do, what to do? Spraying fungicides would help prevent the spread of the disease, but as long as the fungal hyphae are present in the leaf, the spores spreading the disease will continue to form. The only sure way to get rid of the fungus is to sanitize the plant, a nice way of saying cut off all the infected leaves and destroy them. Perhaps some exotic cocktail of fungicides would be able to kill the fungus hiding inside the leaf. Alan Koch of Gold Country Orchids recounts the story of an Ortho Vice President who had an infection of what he called microfungus in his phalaenopsis collection, and he found a toxic cocktail to have a synergistic effect. Spray first with Banrot plus Aliette, then Cleary's plus Subdue, then Banrot plus Subdue, following all label instructions and while wearing protective equipment. These should be 7 days apart in summer and 10 to 14 days apart in winter. Of course, it costs over \$400 to buy all these fancy fungicides.

I am planning a multi-year program to rid my greenhouse of the Cercosporoid fungi. First, periodic sprays of fungicides to protect undamaged leaves and keep the spores from spreading the disease. This will likely include a rotation of fungicides, such as ones having the active ingredients chlorothalonil (Daconil), thiophanate methyl (Banrot, Cleary's 3336, Thiomyl), Azoxystrobin (Heritage) and Pyraclostrobin (Pagaent). Then, as each plant is repotted, any evidence of leaf spotting will be brutally removed and discarded. Only growths that have clean, unmarked leaves will be potted up. I will be looking forward to the day when the plants on my cattleya benches no longer suffer from ugly plant syndrome.



ORCHID ADVENTURES



Orchid Adventures Biltmore Estates Conservatory

In the far reaches of western North Carolina on 8,000 acres, sits the largest dwelling in the United States, the Biltmore House. George Vanderbilt II modeled his 1895 country retreat after a chateaux in France's Loire Valley. While the main house captivates the masses, orchid fanciers will make their way through the rose garden to the 7500 square-foot conservatory that includes an orchid house. As orchids come into bloom they are placed in the Conservatory's display area. One can only imagine life here during the Gilded Age, when servants carried plants from the Conservatory a quarter mile to display them in the mansion's Winter Garden.



SHOW TABLE



Grower Jane & Art Russell
Trichoglottis brachiata



Grower Harry & Celia McElroy
Dorifinetia Piliialoha



Grower Linda Stewart
Phal. Hannover Passion



Grower Bob & Yvonne Schimmel
Ctism. Kidney Beans



Grower Sue Bottom
Aerangis biloba



Grower John Van Brocklin
Den. laevifolium



Grower Jane & Art Russell
Ascda. Is x Ascda. Siyaporn



SHOW TABLE



Grower Linda Stewart
Phal. bellina



Grower Sue Bottom
Epi. ciliare



Grower YCourtney Hackney
Pot. Caesar's Head 'Carolina Autumn'



Grower Bob & Yvonne Schimmel
Blc. Lemon Drop



Grower John Van Brocklin
Sigmatostalix eliae



Grower Sue Bottom
Ctsm. Marsh Hollow x Ctsm. Fuchs Delight

