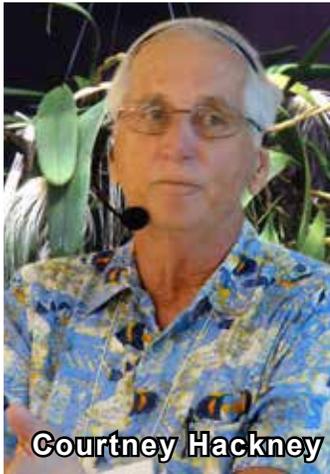


## CLUB NEWS



Courtney Hackney

### November 5 Meeting

by Karen Ford

**Welcome and Thanks.** President Tom Sullivan opened the meeting at 7:04 pm with 72 attendees. Linda Stewart announced our guests and 7 new members: Richard Walter, Judy Hodosi, Jennifer Muller, Dianne Abell, Brian Esterak, and Inez Ammann and returning member Mary Radcliffe-Gicca. Tom thanked Dianne, Dottie, Joey, Charlie, and Susan for

bringing refreshments and helping setup the refreshment area. Tom pointed out the new room layout for the meeting, with the Silent Auction plants to his right, refreshments now available in the kitchen, and the Sales and Sign-up Table to his left. Finally, he noted that the parking lot is very dark now that winter has arrived, and anyone needing assistance to the parking lot should ask at the Welcome Table, and don't forget the flashlight app on your smart phone!

**Club Business.** Sign Up for 2020 Calendars (\$15 each or 2 for \$25) - Get your orders in this week, either by email or the link on the website.

2020 SAOS Officers and Directors were nominated and unanimously approved by members: Tom Sullivan, President; Janis Croft, Communications VP; Diane Batchelder, VP for Events; Linda Stewart, Membership VP; Sue Bottom, Programs and Education VP; Bill Gourley, Treasurer; Bob Schimmel, Cathy Mayo, and Debra Brandt, Directors at Large.

Catasetum Competition Grow – Sue reminded members that Catasetums growth will slow and leaves will begin to yellow during the next month, so stop watering when this happens. Typically catasetums should receive no fertilizer after Thanksgiving or water after Christmas.

Christmas Party - The annual Christmas Party will be held next month during the regular meeting time, December 3 at 6:30 pm, at the Memorial Lutheran Church. The



club will provide two main entrees, roast pork and lasagna, and members are asked to sign-up to bring side dishes and desserts. Dinner will be followed by a live auction. Library – Bea Orendorff brought books on Florida Orchid Growing and orchid diseases to augment our evening's program.

**Show Table.** Courtney Hackney described the merits of the approximately 30 beautiful orchids contributed by members. To see them all, check out the end of the newsletter or the SAOS website! Amongst those Courtney described was a *Bulbophyllum grandiflorum*, grown by John Van Brocklin. This *Bulbophyllum* is a member of the most diverse group of orchids, whose flowers come in many sizes and shapes, but who all have an articulated lip that curves backwards. He commented on a *Stanhopea grandiflora*, grown by Sue Bottom, that flowers from the bottom of the plant. Because of its unusual flowering position, it should not be grown in a pot, and Courtney noted that many novices don't realize their plant is flowering because the flowers end up squished in the bottom of a pot! He next noted a *Paravanda* that he bought as a seedling. He noted the gorgeous *cattleya* Pot. Susan Forsythe that, like many orchids favored by Hawaiian cultivators, grows very quickly and produces bright-colored flowers. An *Epi. ciliare*, grown by Jane and Art Russel, was spectacular and is very fragrant at night. Art noted that this plant has been grown continuously and passed down among friends for 75 years. Bob and Yvonne Schimmel contributed a *Walnita Char* 'Big Red' that will have monster-sized flowers when it matures. Mary Ann Bell contributed a *Monn Millenium Magic* 'Witchcraft' that has flowers so dense in pigment that they appeared almost black in color. Steve Hawkins showed a *C. Portia coerulea* 'Sir Jeremiah Coleman' that was a clone from a hybrid produced in the 1920s. Linda Stewart's *Pleurothallis allenii* was attached to tree fern bark, and was very petite. Courtney noted that this species does not like too much water! Courtney described Sue Bottom's *Bc. Little Stars* and Linda Stewart's *Bc. Green Bird* as *nodosa* hybrids, that are floriferous and very easy to grow. Courtney ended the



Continued on page 3

# CLUB NEWS



## Upcoming Orchid Events

### November

- 9 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave.
- 9-10 Fort Pierce Orchid Society Show  
Fort Pierce Shrine Club
- 12 JOS Meeting, 7 pm  
Cymbidiums, Harry McElroy  
Annual Business Meeting
- 16-17 Deerfield Beach Orchid Society Show  
Safe Schools Institute, Boca Raton

### December

- 1 JOS Christmas Auction, 5:30 pm  
Orange Park Country Club  
2525 Country Club Blvd, Orange Park
- 3 SAOS Christmas Auction, 6:30 pm  
Memorial Lutheran Church  
3375 US 1 South, St. Aug 32086
- 14 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave.

### January 2020

- 4-5 Sarasota Orchid Society Show  
Sarasota Municipal Auditorium
- 7 SAOS Meeting, 6:30 pm  
Phillip Hamilton, Bredren Orchids  
Oncidium Intergenerics
- 10-12 Fort Lauderdale Orchid Society Show  
War Memorial Auditorium
- 11 Florida North-Central AOS Judging, 1 pm  
Clermont Judging Ctr, 849 West Ave.
- 11-12 Florida West Coast Orchid Society Show  
Pinellas Park Performing Arts Center
- 14 JOS Meeting, Topic TBA, 7 pm  
Speaker TBA
- 17-19 Tamiami International Orchid Festival  
Dade County Fair Expo Center

### February

- 1 SAOS at Ace Hardware, 9 am til noon  
3050 US 1 S in St. Augustine  
Repotting and Plant Clinic
- 1-2 Venice Area Orchid Society Show  
Venice Community Center
- 4 SAOS Meeting, 6:30 pm  
Rare and Unusual Orchids  
Arthur Katz, Orchid Hobbyist
- 7-9? Greater Orlando Orchid Society Show  
Orlando Garden Club
- 7-9? South Carolina Orchid Society Show  
Riverbanks Zoo & Botanical Garden  
West Columbia, SC
- 8-9 Boca Raton Orchid Society Show  
Safe Schools Institute

### St. Augustine Orchid Society Organization

President	Tom Sullivan <a href="mailto:tomjs91@gmail.com">tomjs91@gmail.com</a>
Vice President Communications	Janis Croft <a href="mailto:croftie1984@gmail.com">croftie1984@gmail.com</a>
Vice President Events	Dianne Batchelder <a href="mailto:ladydi9907@aol.com">ladydi9907@aol.com</a>
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Treasurer	Bill Gourley <a href="mailto:wgourley@bellsouth.net">wgourley@bellsouth.net</a>
Directors at Large	Susan Smith, 2017 <a href="mailto:2manysmiths@comcast.net">2manysmiths@comcast.net</a> Doug Smith, 2019 <a href="mailto:doug4998@yahoo.com">doug4998@yahoo.com</a> Bob Schimmel, 2019 <a href="mailto:schimmelr55@bellsouth.net">schimmelr55@bellsouth.net</a>
Exhibit Committee Chair	Janis Croft <a href="mailto:croftie1984@gmail.com">croftie1984@gmail.com</a>
Librarian	Bea Orendorff <a href="mailto:orendorff3@gmail.com">orendorff3@gmail.com</a>
Newsletter Editors Webmasters	Sue and Terry Bottom <a href="mailto:sbottom15@gmail.com">sbottom15@gmail.com</a> <a href="mailto:bottom406@gmail.com">bottom406@gmail.com</a>



# CLUB NEWS

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## Continued from page 1

show with Steve Hawkin's *Oncidium Sherry Baby*, which he described as the most cloned orchid of all time (over 500,000 clones!) with a very sweet fragrance.

**SAOS Program.** Leslie Brickell introduced our speaker, SAOS member Courtney Hackney, who is an Emeritus Professor of Biology at the University of North Florida. Courtney's presentation was titled "Orchid Triage: What Do You Do When Your Favorite Orchid is Sick?" He noted that triage is a procedure that quickly examines and treats a diseased orchid, with the intention of stabilizing the condition so the plant can survive and recover.

Courtney began his presentation by showing photos of orchids in various stages of decline; he then asked the audience whether they thought the orchids warranted triage. He showed a *Bulbophyllum medusae* that had been crushed by trees after a hurricane and left to sit in water for several days. Its roots had started to rot, but otherwise all it needed was an opportunity to dry out! He next showed a big *Phalaenopsis* that was rotting because it needed to be repotted, and it recovered following repotting. Another orchid was just root-bound and had gotten too wet; it also recovered after repotting. A cattleya from Hawaii showed some discoloration of leaves, due to its having been shipped on a jet where the temperature got too cold. It also didn't require triage, and it recovered over time in more favorable growing conditions. Another plant had a mite infestation and required a miticide. A cattleya whose flowers were being nibbled-on by slugs easily recovered. None of the above-mentioned plants required "triage". They recovered with routine care.

Next Courtney showed an orchid with a rhizome infection that resulted in an unhealthy-looking yellowing. The infection was either bacterial or fungal, and Courtney noted that the plant could be saved due to the presence of a live "eye", but that it would require a lot of time and effort to be successful. He stated that sometimes orchids suffer if they are producing new growth too quickly and their cell walls aren't receiving adequate minerals. If their walls aren't sufficiently "hardened", they can be susceptible to bacterial and/or fungal infection. Courtney noted that crown rot on *Phalaenopsis* orchids is common and can often be cured by copious application of hydrogen peroxide followed by cinnamon as long as the roots are still healthy.

Courtney emphasized that some plants aren't worth the effort and should just be discarded and replaced. Orchids that were either expensive to purchase or difficult or impossible to replace would be worth extraordinary measures to triage and save. Courtney noted, though, that if you keep needing to triage, you may be dealing with a culture problem. Often rotting roots are due to the growing conditions not allowing adequate air movement, which can also be caused by over-crowding. He stated that if

you can take an in-focus photo of an orchid bloom in your greenhouse, there is very likely not enough air movement. Moving air prevents fungal/bacterial spores from settling on damp leaves. If you do end up with lots of spores, it may be worthwhile to spray the floor of your greenhouse with a copper-based fungicide, like Kocide. Other common culture problems include over-watering, using too dense a growing medium, and having nutrients out of balance. Nutrient imbalance is usually caused by applying too much nitrogen fertilizer, which can stimulate rapid growth without the proper balance of other necessary nutrients to yield healthy cells.

Issues that can be identified by triage and that require immediate attention include the following: bacterial rots, which can grow overnight; massive insect, mite, or snail infestations; and leaf wilting on the entire plant. Note: fungal rots are typically much slower growing than bacterial rots.

To effectively triage these problems, remove the orchid from its pot and assess its condition. Determine if the roots are dead, or if there is an infestation with scale, ants, snails, etc. Sometimes multiple treatments are required. The following triage steps often work:

- 1) use sterilized cutting tools to remove diseased tissue (and re-sterilize often as multiple cuts may be required to remove multiple dead organs and even all of the roots).
- 2) dust the entire root ball with cinnamon, Banrot, or Captan;
- 3) apply anti-pathogen agents (hydrogen peroxide and cinnamon for bacteria; Bayer's imidacloprid for fungus; or a product called Distance that prevents scale from maturing and is nontoxic to mammals);
- 4) if the rhizome is infected with fungus, remove the infected tissue and soak the remaining tissue in fungicide (1/2 strength systemic fungicide) for 5-10 minutes;
- 5) place the orchid on clean newspaper and allow it to dry for 1-2 weeks;
- 6) spray the rhizome once with a root-stimulating agent (Dip 'n Grow at a 1:10 dilution with water works great on vandas and cattleyas);
- 7) place the plant in a clean pot with no growth medium and don't water for at least one week;
- 8) give the plant plenty of time to heal, and
- 9) check the plant weekly and don't add media for a while.

Mealy bugs and scale can infest both the roots and the rhizome although it is usually found on the rhizome. If you find pests on your sick orchids, you may be able to use a garden hose with a nozzle set to a fine jet of spray, and physically knock off the scale.

**Meeting Conclusion.** Sue Bottom announced the Member's Choice Award as Courtney Hackney's *Potinara Susan Forsythe 'Orange Red'*. The evening concluded with the raffle table. Thanks to all who assisted with cleanup after the meeting!



# CLUB NEWS

## 2020 Calendars

Terry prepares a SAOS calendar each year featuring the Member's Choice orchids from the Show Table. Calendars are \$15 each or 2 for \$25 if paid by cash or check, or \$16 each or 2 for \$26 if paid with PayPal. We'll deliver calendars at the SAOS Christmas party. [Email us](#) or make your PayPal order by November 8<sup>th</sup> if you want a 2020 calendar.



## Virus Test Strips

The Taiwanese company Rega Biotechnology offers virus test strips at less than half the cost of Agdia strips. They are sold in kits containing 50 strips. Assuming we get 10 to 12 orders, the price will be about \$150 per kit, or about \$3.00 per test strip. Interested groups can split a kit of 50 strips between themselves. [Email us](#) your order by November 8<sup>th</sup> if you are interested. You can also order through PayPal (\$154 per kit delivered to the meeting, or \$162 per kit if shipped to you). If individuals wish to order smaller quantities, we offer ten strips for \$35. For PayPal orders, the price is \$37 for delivery to the meeting or \$45 if shipped to you.

## Catasetinae Competition Grow

Cut back on watering and fertilizing this month, and stop fertilizing after Thanksgiving. Watch for signs of dormancy, which will begin as the yellowing of the lower leaves. Some seedlings may continue to grow through the winter while others may enter dormancy. You will have to take your clues from your plant to see how to adjust your watering schedule going forward.

### American Orchid Society Corner

#### [Webinars](#)

November 7, 8:30-9:30 pm, Everyone Invited  
Greenhouse Chat Orchid, Q&A - Ron McHatton  
Nov. 12, 8:30-9:30 pm, AOS Members Only  
How to Buy and Grow Bulbophyllums - Wilson

#### [Orchids Magazine this month:](#)

Orchid Isn't Blooming - Barbara Schmidt  
Project Rooting - Clare & Johan Hermans  
Growing with LED Lights- A'na Sa'tara  
*Tipularia discolor* - Soraya Cates Parr

#### [Photos of Latest AOS Awards](#)



## Beginners Culture Classes

We have been enjoying the culture class for beginners, held at 6:15 pm before the meeting. We are putting together our list of topics to cover in 2020. We are planning on sessions discussing how to stake your orchids and how to make your own wire products. What other topics would you be interested in discussing next year? Send your suggestions to [info@staugorchidsociety.org](mailto:info@staugorchidsociety.org).



## December 3 Monthly Meeting Christmas Orchid Auction

We are looking forward to our Christmas party and auction where we get to kick back, have fun and spread holiday cheer with our orchid friends. Hope to see you there!

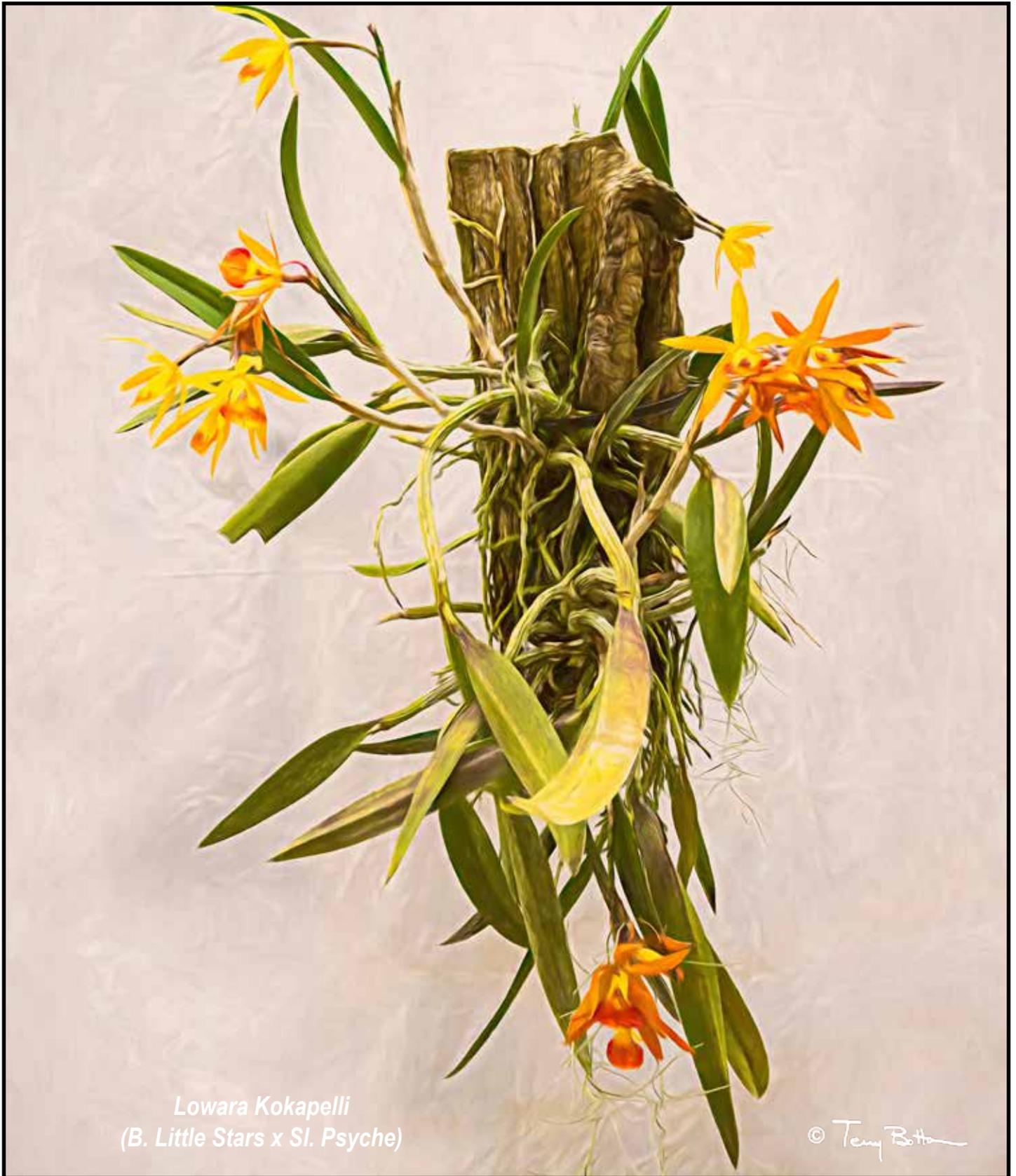
- Our annual Christmas orchid auction is scheduled for our normal first Tuesday meeting night, December 3 at the Memorial Lutheran Church. Drive around to the back of the church and park, close to the doors to the dining hall.
- We will start our social hour at 6:30 pm. This will give us a chance to exchange holiday cheer before we hit the vittles.
- Bring your beverage of choice. The club will provide the low octane sodas, water, iced tea and coffee, but if you enjoy a cuppa with your meal, feel free!
- One thing that has not changed is all the good food. Dianne is planning roast pork and lasagne as the main dishes, courtesy of Susan Smith and Mary Ann Bell.
- Bring a dish to round out the meal. Salads, potato and pasta side dishes, vegetable side dishes and desserts have been big favorites in years gone by.
- We will finish the evening with an orchid auction where you can bid on a nice variety of orchids. We will send out a list of plants to be auctioned to whet your appetite.

**When:** Tuesday, December 3, 6:30 til 9 pm

**Where:** Memorial Lutheran Church  
3375 US 1 South, St. Aug 32086



# INSPIRATION



# CULTIVATION



## Orchid Questions & Answers

by Sue Bottom, sbottom15@gmail.com

**Q1.** My vanda orchid has started to show broken leaf tips at all of its leaves. Is this normal? I am wondering whether it is disease or too much fertilizers.



**A1.** Many of the strap leaf vandas have this sawtooth pattern at the leaf tip. It is perfectly normal, nothing to worry about.

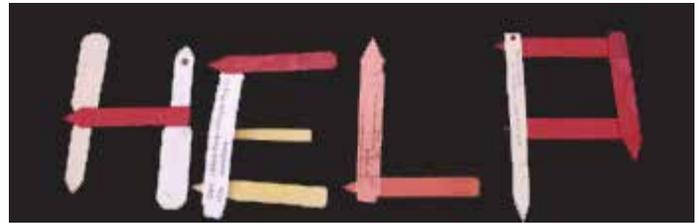
**Q2.** It appeared along with one of my hanging plants and now it seems to be spreading rapidly. When I try to remove it, it breaks off very easily and usually doesn't allow me to remove the roots.



**A2.** That is Artillery fern (*Pilea microphylla*) although it is not really in the fern family. It seems every time you touch it, seeds are explosively spread throughout the growing area creating a real problem. You can try to carefully remove the weed, root and all, although repotting the orchid may be

required to remove all the parts. You can also try painting or spraying a herbicide. More information is available on the [environmental problems page](#).

**Q3.** I just got a Jewel orchid from Ace and I was wondering if you could tell me little about it.



**A3.** Jewel orchids are very low light plants, growing even shadier than phalaenopsis. They grow indoors easily, try an eastern window. Water when the sphagnum approaches dryness, be

careful not to keep it too wet. The sphagnum at the surface will feel much drier than the sphagnum deeper in the pot. You can insert a pencil into the moss a few inches down and if it comes out moist, wait to water.

**Q4.** My *Sarcoglottis sceptrodes* was looking healthy when I brought it home, but as time went on it started to decline. I've watered it once and kept it in medium light. The crown is turning brown and the leaves are paling. Is the problem lack of humidity or light?

**A4.** I think you are right to be concerned. That tag looks like it came from EFG Orchids in DeLand, and he usually pots his jewels/painted leaf orchids in sphagnum, although yours looks like it is potted in topsoil or maybe ProMix.

They do go through a short dormancy after they bloom and lose some leaves and you should keep them a little drier then. They are shade lovers, so an east or north window is best. More light is probably not the answer. Lack of humidity could be a problem, but if you have only watered it once, I wonder if it is simply too dry. I water mine much more frequently than that and have it potted in sphagnum moss so it stays moist. Mine has grown well over the summer with lots of new leaves to replace the ones that have died off.

I think you better knock it out of the pot and take a look at the roots, sometimes that's the only way to verify a root growth problem. Sabrina sent over a picture of the compromised root system and the plant repotted into sphagnum moss.



# CULTIVATION



## Fall Orchid Culture

by Dr. Courtney Hackney  
[hackneau@comcast.net](mailto:hackneau@comcast.net)

Fall is a time when some kinds of orchids need very different care from what they required in the summer. In some cases, these differences are very great, while in others, the cultural changes required are more subtle.

Standard Phalaenopsis, those with large flowers and no fragrance, require a cool down period of 7-10 days to initiate flowering. How cold should they get? Most experienced hobbyists let temperatures get into the low 60s or even upper 50s, which generally works well. This process is even more effective if day length is getting shorter and plants are allowed to get a little drier than usual. It is also a good idea to only let phals get cooler when there is some assurance that day temperatures will warm up at least 10-15 deg F. Many commercial growers accomplish spike initiation simply by providing this day to night temperature differential and do not worry about how cool the night temperature gets. Many indoor growers of phals find that their plants do not initiate spikes until much later in the year because they do not let their home get as cool or experience this temperature range. Putting phals in an unheated porch can get them to spike.

Once the first spikes appear, it is important to maintain a night temperature of at least 65 deg F to limit disease. This becomes more critical when those gloomy days appear in winter. It is also important to increase fertilizer, especially nitrogen to growing spikes and buds. Conventional wisdom used to dictate a fertilizer low in nitrogen and high in phosphorus until buds began to form and then switch to high nitrogen fertilizer to get the most and largest blooms. Recent studies point to just using nitrogen-rich fertilizers throughout the process. While commercial or exhibition growers practice this, the hobbyist is better advised to use their normal fertilizer regimen if their phals are growing well.

Catasetums and related genera are in the process of becoming dormant. Withhold water and fertilizer as their leaves begin to yellow. A light misting is OK, but let the plant and medium become much drier than when the plant is actively growing. Any orchid that loses its leaves needs to be treated similarly. Many semi-terrestrial orchids, e.g., *Eulophia* species, need similar treatment. Too much water at this time of year will cause the plant to lose its roots to rot and the entire plant could follow. The ideal situation is to



set orchids with this requirement in a different growing area where water can be carefully controlled until growth begins in late winter or early spring.

Many members of the *Cattleya* Alliance will also benefit from drying more thoroughly. Bifoliate cattleyas and cattleya species are generally grown drier in winter, although there is much variation among them. Some species are reputed to be hard to grow, e.g., *C warscewiczii* and *C dowiana*, and they need to be kept very dry from about October through February or they will not produce good flowers and might even die. Modern hybrids have had the tendency to “die if they do not dry” “bred out”, but they still grow better if they are kept drier in winter. The exceptions to the rule are those small stature mini-catts that have a good dose of *Sophranitis coccinea*. They usually are generally identified by their bright red, yellow or orange flowers. These need a constant temperature, above 60 F, regular water supply, and may not experience any dormancy.

Cymbidiums require cool weather to initiate flower spikes too, but they require far cooler temperatures and lots of light. Place them outside as temperature drop and keep them there until there is the forecast for a hard freeze or hard frost. They will tolerate light frosts.

Vandas are the last group that needs to be singled out. They like it hot and bright all year long, although they are perfectly capable of surviving nights in the mid 50s on occasion. They may, however, drop flowers or buds if the cold is prolonged. The exceptions are those members that have blue flowers. The parent contributing blue color to flowers comes from higher elevations and so, tolerates or even prefers cool nights.

*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 November 2006.*



# CULTIVATION

## The V Word

A Troubling Problem for Orchid Growers  
by Ken Slump, reprinted with permission



*Blossom Necrotic Streak on Cattleya*

There is probably no other word that elicits more confusion and fear among experienced orchid growers than virus. There seems to be no lack of experts when it comes to dispensing the truth about orchid viruses and I, like most, have heard a considerable amount of information (often conflicting) on the subject. Here is some of it. I offer these statements not as fact or fiction, just as hearsay:

- A virus-infected orchid plant that drips on another at watering time, either from a hanging basket or open shelf, can transmit virus to the plant below it.
- An infected plant can transmit virus to another orchid plant if their leaves are in contact.
- Slipper orchids are not affected by orchid viruses.
- A cattleya-type orchid that fails to produce vigorous new growth when repotted at the proper time is likely virused.
- Plant viruses do not survive long outside of their hosts and can only be transmitted to another plant through cuts or wounds.
- A mericlone produced from a virused plant may be free of the virus.
- Every plant of certain all-time favorite orchid clones carries virus.
- Orchids with viruses usually have color breaks in their flowers or recognizable patterns on their leaves.
- Virus infection in an orchid plant can be verified only by testing.
- There is no cure for a plant with a virus.
- Many, if not most, orchids carry virus and it takes a stressful event for it to negatively affect the plant.

Those first two statements are enough to strike fear into the heart of nearly any orchid grower. My first concern about

virus in orchids resulted from hearing the first statement at a time when I was growing my collection on open wire shelves - a commonly suggested and illustrated technique in some of the orchid books of decades past. It caused me to put trays with plastic grids under the plants to catch excess water, but of course, it did not prevent every drop from reaching a plant below.

Few orchid hobbyists enjoy such an extravagance of space that none of their plants touch. Nevertheless, it makes sense for the prevention of any insect or disease problem to give your plants all the room around them that you possibly can. Any plants in your collection that are known or suspected to have any serious problem ought to be isolated from the healthy ones.

I am not sure if I believe that touching plants or those that drip water on another will infect, but there is no doubt that cuts or wounds allow virus to enter a plant. For that reason, pots, pot clips and stakes should not be reused. Pruning tools and knives should not be shared among plants either, unless they are sterilized between cuts. You will hear recommendations among growers for sterilization techniques that employ chemicals or flame. For me, they have proven both inconvenient and hard on tools.

I prefer to use single-edged razor blades when making any cuts on my orchid plants. That is true whether I am dividing a plant or removing old growths at repotting time, or whether I am simply removing a spent flower stem or faded leaf from a plant. This is an important habit to develop as one must keep in mind that a fingernail pinching off spent flower stems can spread virus as easily as can the blade of a knife or pruning shears.



*Angular Leaf Markings that tested positive for ORSV*

Of course, extreme care must be used with the single-edged razor blades. Wear leather gloves for some protection if you are uncomfortable handling them. To save money, buy packages of 100 or more at hardware or home supply stores. With economy in mind. I have been known

**Continued on page 9**



# CULTIVATION

Continued from page 8



**Color Break in Cattleya**

to use a single blade for trimming leaves or flower stems from two different plants, being careful to make the first cuts from one end of the blade, then turning it carefully in my hand before addressing the second plant with the opposite end of the blade. Perhaps even more important than using such blades safely is the need to dispose of them in a safe manner as well.

There is little doubt that orchid viruses manifest themselves with symptoms that are visible on the flowers or foliage of some of their hosts. Yet I am pretty confident in suggesting that not every orchid plant that harbors a virus is symptomatic. It is generally accepted that testing is the only reliable way to confirm if virus is present in a plant. Only the foolhardy would proclaim any particular plant infected without incorporating an adverb such as “likely” or “probably” into their statement.

However, if orchid viruses’ only manifestations were cosmetic, we might not be so concerned about them. Indeed, some plant viruses produce desirable results. The mosaic variegations in the foliage of flowering maple (*Abutilon* hybrids) is viral in origin. Camellia fanciers introduce virus to some of their plants to produce variegations in the flowers. But the viruses associated with orchids frequently result in reduced plant vigor and flowering, a situation that nobody wants.

Which brings me to my personal situation, a comparatively small orchid collection that has been modified considerably in recent years. At the time I moved my orchids from Colorado to Florida, I had amassed nearly 500 plants, not a huge number, but plenty for the comparatively small sunroom in the high-rise building where I lived. About 150 plants came to Florida with me five years ago. Here, they are grown outdoors under shade.

The difference between the rather controlled cool to intermediate environment of my Colorado sunroom to the great outdoors of South Florida is major. Even with careful

selection of which plants to move I have had surprises. Orchids that thrive in South Florida, really thrive here, and it is foolish to bother with those that do not. There is little you can do when you leave most of the environmental controls to Mother Nature.

As my reduced collection has adjusted to life in Florida, some plants have made the transition better than others. I have seen some of them gradually decline while others flourish as never before. I have discovered spots and symptoms on plants and foliage with which I am unfamiliar. Many of these I am still trying to decipher. In some cases, I suspected that virus was the problem.

This was particularly true for some of my older plants and a few of those I had acquired from the established collections of friends and at plant raffles. Unfortunately, it seems to be that many older orchid collections are rife with virus. While I seldom saw the color break symptom appear on flowers, suspicious spots and patterns on foliage have occasionally appeared.

Another problem with an outdoor collection is that insects are difficult, if not impossible, to control. I think it is safe to say that viruses may be transmitted between plants by insects with piercing mouth parts, such as the thrip and leafhopper and perhaps even by such critters as aphid, scale and mealybug.

Certainly any plant under stress, whether it be from climatic issues, insect infestation or viral infection is likely to decline in vigor and fail to flower well or properly. As some of my plants languished or declined in their new home. I disposed of them, whether I suspected virus or not. I decided against testing every plant for virus, as it seemed that the expense and time were not worth it. I have orchids growing on tree trunks, stumps and driftwood in the landscape that are not necessarily practical to test or dispose of, so the possibility of infection to one of my potted plants from them may be only one thrip away.

After a few years I have amassed a small collection of orchids that thrive in this climate. These days, I am cultivating fewer but larger specimens. Among them I have a few old favorites and award winners that have suspicious foliage patterns that I suspect may indicate virus, even though those plants continue to grow vigorously and flower well. I am under no delusions about the archival or conservation value of my comparatively tiny collection so I wonder if it matters. At worst, they would increase the possibility of infection to my other plants. But perhaps it is time for me to have them tested and potentially be forced to make those hard decisions. It is a reality that sooner or later every orchid grower is likely to face.

*This article appeared in the American Orchid Society Orchids magazine in July 2009 (Vol.78:7, pp.396-397).*



# CULTIVATION

## Silicon Supplements

by Sue Bottom, [sbottom15@gmail.com](mailto:sbottom15@gmail.com)

Silicon supplements, what? Huh? You do not see silicon listed on fertilizer labels. It is not generally considered an essential plant nutrient because plants can grow in the absence of this element. Silicon is known to have a beneficial effect on plants by strengthening cell walls and making them thicker, stronger and more resistant to abiotic stresses like drought and cool temperatures, as well as biotic stressors like pests and disease. Silicon is the second most common element in the earth's crust and found in minute quantities in surface water, ground water and soils. Even small quantities are adequate for garden plants, where it is taken up through roots as uncharged silicic acid,  $\text{Si}(\text{OH})_4$ , and ultimately irreversibly precipitated within the plant as amorphous silica ( $\text{SiO}_2\text{-nH}_2\text{O}$ ).

There are many studies demonstrating the role of silicon in enhancing the growth of flowering ornamentals including orchids. Anecdotal reports from Mark Rose (Breckinridge Orchids), who used potassium silicates in his fertilization program, attribute thicker leaves and stronger flower stems to silicate additions. Courtney often talks about Mark's well-grown plants with harder-than-cardboard leaves, and strong stems that did not require staking; a definite plus. The benefit of harder cell walls to prevent pathogen invasion is "icing on the cake".

There are several potassium silicate products on the market. Dyna-Gro "Pro-TeKt" has been on the market for many years and many orchid growers have experimented with using the 7.8% silica (as  $\text{SiO}_2$ ) product. There are many potassium silicate products available at hydroponic outlets, like the Hydrodynamics International "Europonic Silicate" that has the highest silica content at 11%. There are also some products that were formulated for use on turf and golf courses, and contain humic acids to improve uptake through the roots and leaves, such as Growth Products "Green Speed Si" and Chemical Dynamics "Dyna-Flo K-Si" that both contain 7% Silica.

Deciding how much silicon would benefit orchid growth required some digging. Studies for many flowering ornamentals seem to have been conducted at application rates from 25 to 100 ppm Si, with best results reported in the 25 to 50 ppm Si range. For comparative purposes, there is typically 14 to 20 ppm Si in the soil water matrix (per Marschner). Water in our surficial aquifer averages 15 ppm Si (range of 3 to 32 ppm), and the Florida aquifer averages 10 ppm Si (range of 7 to 15 ppm). You have to wonder how much silicon epiphytic orchids receive from rainwater in their natural habitat growing on trees, where the only source of silicon would be the dust settling on tree leaves and trunks and the silicon exuded from tree leaves and



*Silica deposited in the cell tissues provides mechanical strength, so flower stems require less staking .*

decaying bark that originated in the soils below. Orchids are efficient nutrient scavengers and accumulators of nutrients. Too much silicon and orchid leaves can actually become brittle. Dyna-Gro suggests a range of Pro-TeKt application rates from 13 to 64 ppm silicon. A reasonable estimate of 8 to 10 ppm silicon was selected as appropriate for orchids.

If you have well water or a municipal water supply derived from the Florida aquifer, you likely have sufficient silicon present in your water. If you are using a pure water, like rainwater or reverse osmosis water, or a very low soluble salt well water, you might want to consider routine silicon supplements, at low levels to provide a steady source of silicon in developing tissue.

Silicon supplements are a little tricky to use due to their chemical nature. They are made by dissolving silica ( $\text{SiO}_2$ , or sand) in lye to form potassium silicate. This solution is very alkaline with a pH in the 11 to 12 range; it is so alkaline that some people use it as a "pH Up". Concentrated

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# CULTIVATION

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solutions of potassium silicates and fertilizers should not be mixed together because the silicates will polymerize to form a gel, or a colloidal silicate solution.

As a general rule, do not mix the silicate solution with any other chemical. If you use a Dosatron or siphonex for applying fertilizer, alternate fertilizer and potassium silicate applications. Do not mix more than you are going to use that day. The potassium silicate product is denser than water and it will tend to settle to the bottom, so keep the solution agitated, such as with an aquarium aerator in the concentrate bucket. If you apply fertilizers with a watering can or sprayer, you can add the potassium silicate directly to your final nutrient solution.

Poor water quality is the enemy of the orchid grower. Up to a point, you can compensate for poor water quality by adjusting your watering habits and selection of potting mixes, containers and fertilizers. Water with a low soluble salts content is essential for the best orchid culture. With rainwater or other sources of pure water, you will have to supply everything your orchids need to grow. This will likely include a fertilizer that contains calcium and magnesium along with the other macro and micro nutrients. You may find your plants are more resistant to disease and pests as well as environmental stresses if you add silicon supplements to your nutrition program.



*Potassium silicates will form a goopy gel when mixed with concentrated fertilizer solutions.*

<b>Dyna-Gro Pro-TeKt Recommended Application Rates</b>		
Maintenance	Mix ¼ to ½ tsp. per gallon of water with every watering.	16 to 32 ppm Silicon
Hydroponics	Mix ½ to 1 tsp. per gallon of water for recirculating systems.	32 to 64 ppm Silicon
Siphon Mixer	(1:15 ratio) Mix ½ - 2 fl.oz. per gallon of water for a concentrate feed solution.	13 to 51 ppm Silicon (at the hose end)
Irrigation Injector	(1:100 ratio) Mix 8-10 fl. oz. per gallon of water to make an injectable concentrate. Apply Pro-TeKt separately when using a single head injector.	31 to 38 ppm Silicon (at the hose end)
Foliar Spray	Mix ½ tsp. per gallon of water - spray directly on leaves. Note: Spot test plants first for sensitivity to sprays.	32 ppm Silicon



# ORCHID ADVENTURES



## Orchtoberfest at EFG Orchids!

We always enjoy the Orchtoberfest at EFG Orchids in October. George Jr. has such an incredible variety of tropicals that he grows, you can always find something new and interesting. He brought in lots of vandas, oncidiums and phalaenopsis for the event, in addition to the cattleyas, paphiopedilums, phaius and other orchids that he grows. Lots of SAOS members were carrying lots of blooming plants to their cars.

George Senior would have preferred to be grilling brats, but was serving up beer and wine instead. We remember the early days when the family spent many hours making sauerbraten, rouladen, german potato salad and cucumber salad. Yum!



# SHOW TABLE



**Grower John Van Brocklin**  
*Dracula cordobae*



**Grower Courtney Hackney**  
*V. Rasri x Pps. Boediardjo*



**Grower Glo MacDonald**  
*V. Happy Smile x V. Kultana*



**Grower Art & Jane Russell**  
*Epi. ciliare*



**Grower Leslie Brickell**  
*Pot. Golden Dancer 'NN'*



**Grower Sue Bottom**  
*Stanhopea grandiflora*



**Grower Tom & Dottie Sullivan**  
*C. deckeri var. coerulea*



# SHOW TABLE



**Grower Leslie Brickell**  
*Liparis condyolbulbon*



**Grower Courtney Hackney**  
*Pot. Sharon Forsythe 'Orange Red'*



**Grower Linda Stewart**  
*Bc. Green Bird*



**Grower Sue Bottom**  
*B. Little Stars*



**Grower Mary Ann Bell**  
*Monn. Millennium Magic 'Witchcraft' FCC/AOS*



**Grower Steve Hawkins**  
*C. Portia coerulea 'Sir Jeremiah Coleman'*

Link to all Pictures. <https://flic.kr/s/aHsmJcWhnN>

