The Orchid Collection

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Genesee Region Orchid Society, Inc.
https://www.geneseeorchid.org

ZOOM MEETING: Mon., Sept. 14, 2020 - 7:00 p.m.

Linda Wilhelm: Oncidium Types & Their Culture

Oncsa. Gold Medal 'Dion' AM/AOS
Best of Oncidium Alliance, GROS 2013 Spring Show
Grower: Main Street Orchids Photo ©Phil Matt - All Rights Reserved

As we all anticipate the end of Summer and the approach of a Fall season that somehow seems both unsettling in its possibilities and welcome as the seasons change on their predictable and colorful schedule at the unfailing hands of Mother Nature, the GROS will meet the new orchid season with virtual Zoom meetings for the forseeable future.

Our first meeting will feature long time friend Linda Wilhelm, who will present "Oncidium Types and Their Culture." Linda Wilhelm had been a chemist and textile colorist before she and her husband Rolf opened Woodland Orchids in 1989, specializing in hybridizing of the Oncidium Alliance, compact and miniature Cattleyas and Stanhopeas.

Linda purchased her first orchid in 1978, a small Cattleya seedling. She figured that if she didn't kill it, she would go on to bigger and better things. The orchid thrived and so did the passion. Currently President of the NC Piedmont Orchid Society in Charlotte, NC, she has been an active member of the Society for 30 years. Linda first joined the American Orchid Society judging program in 1995. An accredited Judge, she served 5 years as chair of the Carolinas Judging Center and is again the training coordinator for the student and associate judges. Initially, Linda started her service to the AOS as a member of the Technology Taskforce. She went on to serve as a Trustee for 6 years. She travels frequently to judge off-shore shows including lots of trips to Guatemala. She also lectures to orchid societies across the country as well as having spoken at shows in Brazil, Guatemala, Barbados and Haiti.

Although Linda does not currently sell plants, she is planning to provide the GROS membership with an online vendor, where we can purchase plants and receive a special group discount; this will most likely happen sometime *after* our online meeting date. Details will be posted here as they become available. As with our last Zoom meeting, all members will receive the sign-on details via email. Stay safe and we'll see you all online!

IN THIS ISSUE:

GROS Meeting Minutes* Aug. 2, 2020

*Minutes of Email Poll in Lieu of In-Person Meeting - As of August 10, 2020:

Program VP Carol Butcher polled the general members of the GROS via email since we cannot hold an in-person meeting yet due to COVID-19 closures and restrictions. Those polled was based on the 2019-2020 paid membership.

The Board met via Zoom July 20, 2020 and approved obtaining a Zoom license for $150 for the coming year for virtual meetings and programs. At this writing the JCC is still closed, and we do not know when we might be able to have in-person meetings again.

1. Proposed following officers for 2020-2021:

    Fran Murphy, President
    Kim Hober, Vice President
    Susan Ackerman, Treasurer
    Carol Butcher, Program VP
    Margery Greene, Secretary

All 30 responses in favor. Note this is 32 responders including 2 joint responders on family memberships. Motion carried. Officers are duly elected.

2. Member-at-Large: John Kellas was the only name put forward. He is duly re-elected.

3. Amount to set dues during this season of Social Distancing: Keeping dues as is at $20/single, $25 family carried overwhelmingly. Only 3 votes to set at $0.

4. Poll as to whether the member would participate if we had a virtual silent auction: 22 yes votes, which is a quorum.

Carol also asked about member preferences for program topic for two of the speakers she is lining up for Zoom programs. Based on the responses, Carol is scheduling Dave Sorokowski from Paph Paradise to present "Maudiae Paphiopedilums" on October 5, and tentatively scheduling Martin Motes, from Motes Orchids to present "Temperature tolerant and Low Light Vandas" on November 2.

- Margery Greene
GROS Secretary

What I Did on My Summer (Covid-19) "Vacation"

Orchid growers, at least the many I've known, are the ultimate tinkerers in figuring out how to grow their plants. They grow in every kind of media imaginable, under every kind of light, and can become hopelessly enamored of a very specific or esoteric variety of the world's largest plant kingdom. With 28,000 species or so from which to choose, no one will ever run out of "obsessions" with which they can tinker.

If you talk to enough serious orchid growers - and especially to those who make a business out of raising plants - you soon get the impression that most folks are constantly trying to improve their orchid growing culture. From potting media, to watering, to fertilizer, to propagation and beyond, it seems like everyone is always looking for the next step to take in growing better orchids.

As someone who has grown orchids in fir bark, Pro-Mix, coconut bark, semi-hydroponic media, and probably some other things that I don't even remember (like adding chunky vermiculite to a mix, which gets you the priceless question from the agricultural supply salesman behind the counter, "So, what kind of chickens are you raising?"...) at this point. But I digress.

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The Orchid Collection is a publication of the Genesee Region Orchid Society. It is published ten times per year for our members. Annual single membership is $20.00, annual family membership is $25.00

Dues should be sent to the GROS at P.O. Box 20606, Rochester, N.Y. 14602.

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Stay Safe!
We'll See You All When Social Distancing Subsides!

Enjoy Your Orchids!
And Don't Miss our September Zoom Meeting!

(- *from previous page*)
As a dedicated semi-hydro grower for many years now, I think I'm really over the media issue. MSU fertilizer seems to be a good choice, with some other added ingredients in which I half-heartedly believe, more or less. I investigated the water question several years ago, when I researched local county water sources (my particular neighborhood receives water from the Hemlock Lake reservoir) and that was about it, back then.

Water: My Final Frontier

I've always used a simple carbon block filter to remove out the chloramines that come in via the local water supply line to my suburban house. While not even pretending to be any kind of chemist, a bit of online research will reveal that orchids really don't appreciate chloramines (or chlorine, depending on your municipal or suburban water source…) in their water. But lurking in the back of my mind were the two potential ways I knew could improve my orchid watering even more: using rainwater, and installing a reverse osmosis (RO) filter system.

Rainwater

I'm an expert on rainwater: it shows up by itself, without any human intervention, and can been seen on a regular basis cascading off my roof, into downspouts and finally, into the ground. There's no lack of online information about how to make an empty plastic 55 gallon drum into a rainwater-harvesting system. I got a free barrel locally, one that had only been used for food-quality ingredients. I proudly put it next to my garage, since it looked cool! The tinkering factor loomed into view: setting up the barrel so that it collects water off the roof is no big deal. Getting that water into my basement growing area is a feasible thing...but. Here in Upstate New York, we have a little seasonal variation called "Winter". Winter features freezing temperatures. Water fails to flow when it's frozen - and when it's still flowing, it's a bit cold for orchids, unless you're one of those people who puts ice cubes on your plants - but that's a story for another time, and one that I'm not going to tell you now. So, out with the rainwater plans. The cheerful blue barrel sits forlornly in my driveway, attracting spousal disapproval.


The road not taken...

Distilled Water

Distilled water is available at your local supermarket, for about a buck a gallon. It would set me back about $30-$40 per week - forever - to use this stuff. Continually shopping for and then schlepping jugs of water around doesn't strike me as being any kind of fun, and having larger bottles delivered down into my basement is even more expensive. It doesn't seem very practical to have to recycle all of those plastic jugs, either. Finally, I've never met anyone with a reasonably large orchid collection who uses distilled water - there must be a reason.

Reverse Osmosis

All that was left for me to tinker with was that mysterious and seemingly obtuse collection of gadgetry called Reverse Osmosis filtration. I should state at this point that I have zero interest in raising either tropical fish or cannabis. If you admit these facts to most vendors of RO stuff, they more or less lose interest in you. Also, my experience with high school chemistry is not something I'd care to discuss, to this day. Apparently, as I soon found out, both tropical fish and cannabis plants require large, regularly scheduled injections of money in order to be raised properly, using RO water.

It is my personal belief, based on long hours of reading what is sometimes inconclusive material online, that orchids *really* don't like water that is high in total dissolved solids (TDS). Dissolved solids are what I get in my water, courtesy of the Monroe County Water Authority. I don't receive the highest level of TDS in the world (my meter says around 150 ppm, coming in), but not the lowest, either. Rather than attempt to explain TDS to you, being more or less non-fluent in chemistry, I refer you to the Web for a more detailed analysis.

OK, so now I needed to scope out the various RO systems and their components. RO systems consist, more or less, of (1) a filter to remove sediment, (2) a filter to remove chlorine/chloramines, and (3) a RO membrane (filter) to remove the dissolved solids. For orchids, there is no need to "polish" the water (deionization), and no need for anything better than 99% efficiency of the RO membrane itself. Only the RO membranes vary much in quality and capability; the other filters are just off-the-shelf commodities. The absolute cheapest systems I have seen seem to use components such as connectors and filter housings that don't inspire confidence in the level of quality they offer. I crossed those off my list of potential components.

One of the "facts" I had lodged in my brain was that RO filtration systems waste a lot of water: for every gallon of "clean" water produced, they waste anywhere from 2 to 3 gallons of water, which taken at face value, seems like a heck of

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L-R: Sediment filter, carbon block filter, "super" chloramine filter, booster pump.

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a lot of expensive water literally going down the drain. Well, it turned out that this is only "sort of" true, and it only "sort of" matters. If you go over RO system specifications carefully, you will find that the efficiency of the filter membrane depends on the temperature and pressure of the water being presented to it!

The "efficiency" ratings typically assume that the water coming out of your pipes is 77°F, which in this part of the country, will only happen if the local Bakken Oil Express derails and catches fire, or the sun explodes in a supernova, or some other equally-as-likely event.

At 55°F, a more realistic water temperature in these parts, RO membrane efficiency decreases considerably, which "translates" to wasting at least 3 gallons of water to one gallon of clean water produced, and also reduces the daily output of a typical small RO filter system from 100 GPD (gallons per day) to maybe half of that. For those mathematically inclined, 100 GPD = roughly 4+ gallons per hour, and 50 GPD = 2+ gallons per hour. At least for me, that means making enough water to do one bench of orchids would take about 3-4 hours. I didn't see that as being very practical.

I'm an inveterate Asker of Questions. I sent innocent-sounding queries to several online sellers of RO systems. As I've mentioned, these vendors are used to dealing with fish hobbyists or with aspiring dope growers. But one supplier took the time to address my specific orchid-

growing needs directly. It's really pretty simple, I'll have to admit. The addition of a small pump, specifically made for a RO filtering system, raises the *pressure of the water being sent to the membrane* to about 110 psi. The pump is silent in operation, and uses a negligible amount of power. My 100 GPD system makes 3 gallons of water in about 40 minutes. That solved the waste water ***and*** the timing problems, simultaneously. I see about 1 gallon of waste water per gallon of clean water produced, which is pretty good. The higher pressure makes the temperature of the incoming water less of a factor, at least in my observations thus far.

Wasted Water Dilemma?

Spoiler/cheapskate/guilt alert: a typical human shower requires about 17 gallons of water. So, if I use about 24 gallons of water per week on my orchids, I'll be "wasting" about 24 gallons of water per week, or a little more than one extra shower. Water here in Monroe County costs relatively little, a base charge of about .23 per day, plus a residential cost of $3.38 per 1,000 gallons used. So a good RO system will not cost you an arm and a leg to run, and you don't need to

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feel guilty about "wasted" water. (I actually collect a lot of the waste water in 5-gallon plastic jugs; and we use this for watering our garden. Obviously, this is not going to happen during the winter months.

Practical Results

I've been running the RO system since about May of this year. My particular system consists of a standard sediment filter, a carbon block filter, and an additional "super" chloramine filter - all three in-line before the RO membrane itself. The pump drives the water from the 3-filter


Water pressure pre-RO membrane

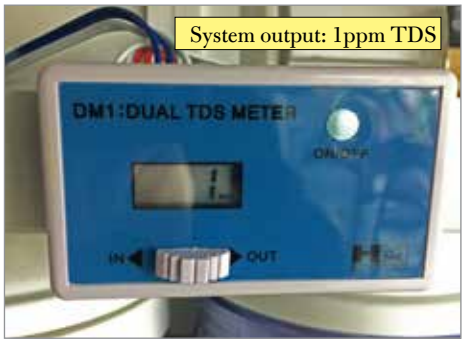
chain's output directly to the membrane. Clean water runs into my 3-gallon output bucket, while the waste water goes out 20 feet or so via flexible 1/4-inch plastic pipe into my basement laundry tub, where it either is fed to a plastic 5-gallon storage jug, or is sent down the drain. I chose a 100 GPD (gallon-per-day) RO unit, as anything less capable takes too long to make clean water.

I "modified" a new open box standard RO system I spotted on eBay, one that had the three filter holders positioned inline *before* the membrane (most systems destined for the fish or cannabis growing markets have 2 filters, then the RO membrane, then another filter for deionization). I and was able to get the entire business hooked up without much trouble, no small thanks to the folks at Aquatic Life Systems in California (the


Storage for RO water & mixed insecticide

system manufacturers). I saved about half the normal expenses, all told, by leveraging my tinkering ability and my "powers of observation" on eBay and on the local Craigslist. (The "open box" system I bought, described "as-is" and sitting forlornly unassembled and unloved for weeks on eBay, required a filter cartridge swap and the replacement of a broken $2.00 fitting that the manufacturer was kind enough to send me, *gratis*, in order to be fully functional for orchid water.)

The clean water output from the RO system reads 1 ppm TDS on my inline



System output: 1ppm TDS

digital meter, reflecting a 99% efficiency on the RO membrane. I add MSU (RO) fertilizer and Pro-Tekt silicon solution to the 3-gallon bucket, which has a submersible pump inside to send the water to my watering wand. It's a very simple system.

What does it all do? Well, this of course is a bit difficult to pin down with any degree of precision. To begin with, all of my "difficult" species phals seem like they've been magically switched "on": plants that had been sitting there "doing nothing" suddenly took off. New leaves on all of my plants seem more vigorous. Seedlings seem to be growing faster. Sick plants recover more quickly.

I'm a great believer in careful observation of orchids: an experienced grower can tell even from a distance if his or her plants look "happy" - a decidedly unscientific assessment. I guess my ultimate observation, after all of this fiddling around, is that after a couple of months of RO water, is that indeed, my orchids look "happier."

Generating the RO water couldn't be simpler, and I can easily store an extra 10 gallons in the growing room, "just in case." All-in-all, I'd consider the experience a pretty decent investment in time and money. The whole process turned out to be a most excellent tinkering holiday, and one way to address the daily mental demands of the COVID-19 pandemic.

--- Phil Matt