



The Orchid Collection

Vol. 43, No. 3 - Nov. 2022

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

Affiliated Society
The American Orchid Society & The Orchid Digest

NEXT MEETING: Monday, Nov. 7, 2022

Doors Open 6:00 p.m. * Meeting begins at 6:30 p.m.

Louis S. Wolk Jewish Community Center, 1200 Edgewood Ave., Rochester, NY



As the summer seems to linger well into our usual Fall season, it's hard to believe that November is actually upon us. We can show off our "typically" nice late-October weather as Alan Koch jets in from the Left Coast to present "Mini Vandaceous Species & Hybrids for the Home Grower."

Alan Koch is the proprietor of Gold Country Orchids in Lincoln, California. His topic is one of Alan's favorite subjects, with lots of variety, colorful flowers, and plants that will flower several times a year. Learn which plants to pick and how to grow them.

Mr. Koch is an internationally known speaker who is recognized as an expert in the Brazilian Cattleya Alliance, and as a trendsetter in miniature Cattleya

breeding. He has published in the *Orchid Digest*, in *Orchids* (the American Orchid Society magazine), as well as in many International publications, including several proceedings of the World Orchid Conference. He is a past member of the AOS Judging Committee, and the Research Committee, as well as an accredited Judge and is Training Coordinator for the California Sierra Nevada Judging Center. He served two terms on the *Orchid Digest* Executive Committee and Board of Directors, and as a Trustee for the AOS.

Gold Country Orchids is situated on 10 acres in Lincoln, California, in the Sacramento Valley. Today they have three modern greenhouses with 16,000 square feet of growing area. The greenhouses have rolling benches, computer controls and three climate zones to house the collection.

Alan will also be bringing a number of orchids to sell at the meeting - plan to arrive early for the best selection! Of course, because our speaker will be selling plants at the meeting, members may not bring in their own plants for sale or trade, per our usual arrangement.

We'll be taking Alan to dinner prior to the meeting; if you'd like to join us (everyone pays for his or her own dinner), please call Carol Butcher at 585-742-3403 to let her know you're interested in going. The Show Table will be back, so take advantage of our unusually warm November weather and bring in your flowering plants for everyone to enjoy.

We'll see you there!

IN THIS ISSUE:

Auction Report ♡2

STOS/CNYOS Shows ♡3-4

Summer Vac. Pt.2 ♡4-7

Auction Report 2022

Our annual fundraising auction was held October 3, 2022 at the JCC. 27 attendants engaged in lively back and forth bidding on 50 various orchid plants. The silent auction included over 35 orchids and one bag of bark. This year we also incorporated an online auction through email in July for one plant, a beautiful, in-bloom Perreiraara LeBeau Blue. The plant was donated by the community member who reached out to us on Facebook. We just couldn't let this in-bloom plant wait for October! The generous bidder acquired this beauty for \$160. In all, GROS's profit from the event was about \$1120.

The highest price for an orchid in the live bidding: the Paphiopedilum Oberhausen's Diamant went for \$45. The lowest price was \$8 for Accra Stellar "Hokusai", which unfortunately had a broken bloom spike. The average selling price for the live auction plants was \$17.84 per plant. The live auction contained numerous donated plants and 20 plants that GROS purchased for \$12.23 each. The average selling price for the silent auction plants was \$12.25 per plant, all of which had been donated.

Many thanks go to members Fran Murphy, Carol Butcher and Austin Miller for purchasing the plants and accepting donated plants, creating the photo reference PowerPoint, and generally coordinating the evening as well as the online/email auction. Thanks to Natalie Auburn for assisting the treasurer with managing the finance duties. Thanks also go out to Fran Murphy who served as our auctioneer. Well done!

Club members donated the majority of the auctioned plants, which accounted for over \$800 of straight profit to the club. Thanks go to Fran Murphy, Carol Butcher, Jeanne Kaeding, Margery Green, Dwaine Levy, Mike DeVito, Mary Cordaro and Sue Ackerman. If you are so inclined, please consider donating something next year, such as a nice orchid or something orchid, house plant, or gardening related.

Lastly, thank you to all who attended, participated in the preparation and set-up, and provided refreshments. It was nice to see so many people engaged in creating a successful and fun night!

GROS Displays at STOS & CNYOS

For some, the act of exhibiting beautiful plants in bloom at an orchid show is one of the special rewards of growing orchids as a hobby. The monthly show table at an orchid meeting is one venue for proudly displaying one's cultural successes, but putting plants out for public viewing and in competition for various awards can be a goal and measure of one's orchid growing success.

The GROS recently participated in the Southern Tier Orchid Society's show in Binghamton, NY on April 23-24 2022. The exhibit was put together and set up by Diane Bernard and Carol Butcher and received a second place ribbon in its class. These members exhibited orchids in the STOS exhibit: Carol Butcher, Fran Murphy, Molly Weimer, Dwaine Levy, Jeanne Kaeding and Dave Weiss. Twenty seven plants were entered, with eight being awarded blue first

place ribbons, eleven were awarded second place red ribbons, and three plants received third place white ribbons. Congratulations to all!

The STOS show was judged by AOS judges. Jeanne Kaeding's plant *Cymbidium* Desert Rain 'Spring Shower' received an HCC/AOS of 77 points. Special congratulations to Jeanne.

October 1-2 2022 found the GROS at another upstate NY Orchid Show and Sale; The Central New York Orchid Society Show held at Beaver Lake Nature Center in Baldwinsville, NY. Eight members (Natalie Auburn, Sue Ackerman, Dwaine Levy, Carol Butcher, Fran Murphy, Molly Weimer, Jeanne Kaeding, and Dave Weiss) contributed roughly 25 plants to this effort, and plenty of ribbons accompanied the plants home.

A beautiful display set up by Chrissy Murrer assisted by Carol Butcher was awarded a third place ribbon. Many thanks to all that made
(to next page)

Cym. Desert Rain 'Spring Shower' HCC/AOS
Grown by Jeanne Kaeding
Photo by Geoffrey Gould



(Displays, from previous page)

the exhibit possible. (Note: We did not get a detailed list of ribbon winners for this show.) Well done and kudos to all! A special thanks to Bob (and Gratia) Pfromm for tear down of both exhibits!

- Carol Butcher

GROS Program Help Wanted Urgently!

The GROS is seeking a volunteer to replace the current Programs Vice President. This is a board member position. Responsibilities include:

Speakers: Procure speakers for meetings, both in-person and Zoom. You will need to interface with the speaker, choose and communicate their topic; help provide lodging (host or hotel) for out of town speakers; plan and facilitate the restaurant meal before the meeting. Set up and facilitate equipment needed at meeting site i.e. projector and PC if needed. Introduce the speaker at meetings. In-person speaker meetings account for 3-4 per year. There may be two additional ZOOM Meetings with speakers for January and February meetings.

Speaker Sharing: The GROS often works with other Orchid Clubs to "speaker share" so communicating with other clubs in upstate NY is greatly encouraged. Sharing quality speakers helps bring down the travel cost of speakers for all the clubs.

Budget: Work within a pre-approved budget. Work with GROS Board on budget and Program content.

Other Programs: Work with the board to support and design other programs that do not include speakers; such as Genera specific workshops, the auction, and Christmas Party.

The need is urgent. We often book speakers up to a year in advance. Mentoring with the current Programs VP for the rest of 2022/2023 year is available and encouraged. Contact any board member at the November or December 2022 meeting if you are interested or email us using the About Us/Contact form on the GROS website.



GROS exhibit at CNYOS Show



GROS exhibit at STOS Show



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.

Phil Matt, Editor, P.O. Box 10406, Rochester 14610
webnews@geneseeorchid.org

What I Did on My Summer Vacation - Part 2

A few years ago, I began a "journey" to up my orchid-growing game. This past summer, I finally completed the trip - which began a few Covid-infested years ago with my conversion to an RO (reverse osmosis) water system for my plants.

This summer, I finished converting all of my high output fluorescent lighting to LEDs. The whole business took a long time, both due to the amount of research I put into it, and because of the high quality "tinkering" opportunities it offered.

My former T5 fluorescent banks consisted of 4-tube fixtures, originally made for greenhouse use, and featuring highly-polished reflectors around each of the four tubes. Each fixture contained four 54 watt T5 6500°K, four-foot tubes. Because all fluorescent tubes require a ballast in order to operate, and that ballast also consumes power, the total current drawn by each of my fixtures was $(54 \times 4 = 208 \text{ watts})$, plus the ballast (27 watts) = 235 watts. (See Fig. 1)

While fluorescent bulbs tend to have a very long life, they also typically put out less light at the ends of the tubes, and when newly installed, will gradually lose brightness during their initial "burn-in" period. Also, the electronic ballasts - which generate a considerable amount of heat when the tubes are lit - are prone to failure after a number of years.

When I installed my brand-new T5 fixtures in 2014, and ran them for about 16 hours per day, I began experiencing ballast failures after about 6 years. It's not very difficult to swap in new ballasts (generally, a job accomplished with a screwdriver and some wire nuts), it can be very time-consuming, as the fixtures have to be taken down and disassembled. I have done this a number of times

over the years. (See Fig. 2 - next page) LEDs (light emitting diodes) are semiconductor devices. Commercial LED tubes that are now widely available come in four distinct types. Type A LED tubes are made to "plug and play," meaning they require an operating fluorescent ballast in order to work. The obvious advantage is that to switch from fluorescent tubes to Type A LED tubes, all one needs to do is unplug the former and plug in the latter. The drawback, of course, is that you're still running a ballast, which will eventually wear out, consuming power all the way.

Type B LED tubes are made to work *without* ballasts - in fact, you'll need to physically unhook or remove the existing ballasts in order to use Type B tubes. The advantage is that you no longer need to power up any ballasts, and you'll save a nominal amount of electricity. The downside? You've got to be reasonably competent with handling the rewiring, which ordinarily means just having wire cutters/pliers and some plastic wire nuts handy. All Type B tubes I have seen come with

attempt to do it yourself! Seek the assistance of someone with the requisite skills!

Type A+B LED tubes will work with *either* an existing fluorescent ballast, or without one. There is some degree of convenience here, as A+B tubes will work anywhere, providing they are wired correctly. I went with Type B tubes, because I wanted to eliminate the need for ballasts, and reap the energy savings that's also involved. As an experienced electronic technician, removing the ballasts and rewiring the fluorescent tube sockets did not present any kind of obstacle for me.

But as you may recall, my old fluorescent fixtures accepted T5 fluorescent tubes - which were the most efficient and highest output commercial tubes I could find in 2014.

In my research for LED tubes, I came upon several issues that had to be resolved. The wide array of four-foot Type B LED tubes that are available are not T5 configuration, but rather T8. (The "T" number is the



Fig. 1 - A bunch of electronic ballasts, headed for recycling

explicit wiring diagrams and instructions. Type C LED tubes require an external *driver* - which is a box of electronics that resembles a small fluorescent ballast in appearance. There is some additional expense in acquiring these driver assemblies, and a bit more wiring skill is required.

IMPORTANT: working with electricity is inherently *dangerous!* If you are not experienced in this kind of work, please do not

number of quarter-inches in the tube diameter, of all things.) There are some T5 LED tubes, but they are relatively expensive and not widely available.

My basic requirements for LED tubes:

- Not too expensive
- Readily available
- Available in specific color temperatures
- High-enough output for growing orchids

(continued on next page)

(from previous page)

It might be a good time to mention that I do not believe in using LED tubes that are specially engineered for any kind of "plant growing" or "orchid growing" - i.e. those that emit PAR in specific wavelengths outside of what is produced by standard tubes.



Fig. 2 - Four 54-watt HO T5 fluorescent fixture power consumption

All good; I purchased LED tubes with color temperatures of 6500°K. *But* - all T8 tubes are just a bit longer than their T5 cousins. They also use different-sized sockets. What to do with my nice commercial greenhouse-rated T5 fixtures? Here is where the tinkering gets intense. I bought a bag of the correct sockets - they were very inexpensive.

A visit to the local metals retail outlet resulted in a supply of aluminum pieces for a comically small amount of money. I needed one specific- sized metric drill bit, as well. Two boxes of ordinary steel pop rivets, and a new hacksaw blade completed my list of materials. As nutty as it sounds (and it does sound pretty nutty, I'll admit) all I needed to do was to saw the main support bar of my existing fixtures in half, add some aluminum reinforcing plates, measure carefully, rivet them back together, replace all the older sockets, and bingo: slightly longer T8 fixtures!

Because the LED tubes don't emit any light from their back sides, I just put my old fixtures' reflectors aside for possible future use.

As my initial tests with LED tubes and lighting levels (see below) told me that just replacing four T5 fluorescent tubes with four LED replacements would not produce enough light, I also added two more sockets to each fixture for a total of six.

I saved all of my original fixtures from the junkyard, had a lot of fun playing with aluminum and rivets, learned possibly a lot



Fig 3

fied fixtures don't need any reflectors, either - the standard commercial LED tubes I am using have fairly limited beam angles, and none of them put out light from their reverse sides - so there is nothing to "reflect." It's all about the *light*, really. It has been a bugaboo of orchid growing since forever, as to how/whether artificial light levels can be measured accurately for growing orchids. In the past, you could easily find references to measuring "lumens".

What are lumens, exactly? My initial response would be "something that you can't easily measure," but in reality, lumens are just *light output*, or a measure of the total amount of visible light (to the human eye) from a lamp or light source.

But orchids are not people! As plants we really want to *grow*, orchids require differing amounts of light, depending on the species, habitat, etc. Among botanists, the standard way of talking about light as far as plants are concerned, is units of Photosynthetically Available Radiation, or PAR. PAR is the waveband in the light spectrum which is used by plants for photosynthesis. And

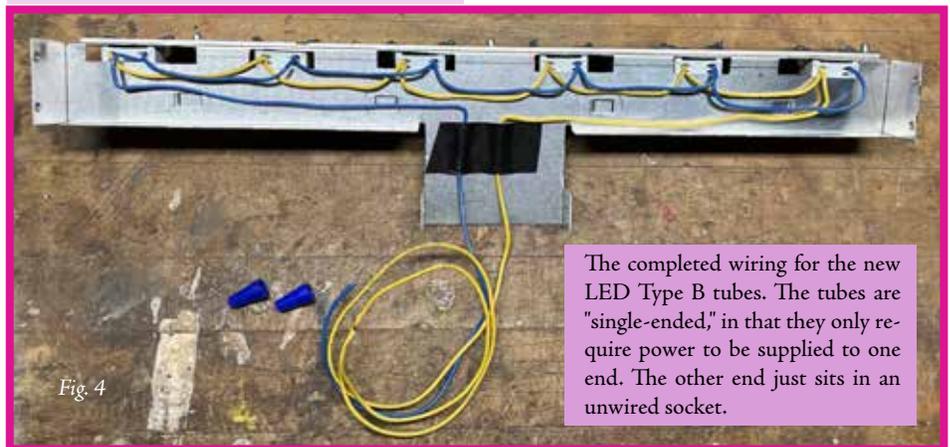


Fig. 4

The completed wiring for the new LED Type B tubes. The tubes are "single-ended," in that they only require power to be supplied to one end. The other end just sits in an unwired socket.

more than necessary about LED lighting - and the resultant new fixtures work perfectly.

The LED tubes I am using are rated at 18 watts apiece, which means that a set of six (6) consumes 105 watts, as measured with a wattmeter - see Figure 3. (Where those extra 3 watts went, I dunno...) The modi-

the *real* way of measuring PAR is with (big surprise here) a PAR meter! What's a PAR meter? The first answer is, "about \$500."

You can actually even rent these things from online sources. The market has been driven by, er, clandestine "tomato" growers who

(continued on next page)

(from previous page)

need to setup their "crop" growing equipment for maximum yield, pretty much. PAR, BTW, is measured in micromoles (μmols). Of course, this situation practically *begs* for a tinkerer-level solution, and I finally found one. I came across an iPhone application called Photone. It is specifically designed to make use of the very sensitive camera optics in the iPhone to enable one to make fairly accurate PAR readings using the phone.

The basic Photone app is really not all that useful in the free edition. In order to be able to read both full spectrum LED light (i.e. using tubes with color temperatures in the nominal range of 2500-6500°K) and fluo-

rescent light in the "daylight" range (5000°-6500°K), I had to buy a couple of inexpensive add-on filter activations - about \$12.00, all told, as one-time unlocking fees. Photone was tested against professional PAR meter hardware, and found to be within 5% accuracy, which I'll admit, I will have to take for granted, based on the company's video presentations.

How much PAR do orchids need? Well, as an orchid grower, you already know that certain species need more light than others. You can't grow Vandas in the amount of light that your Phalaenopsis need to grow and bloom well. A Jewel orchid doesn't need nearly as much light as a Cattleya does in or-

der to thrive. My own personal "benchmark" for growing orchids under lights is the appearance of the plant and its leaves must look "right", and the orchids must successfully grow and bloom vigorously - year after year. For instance, I know that a multiflora phalaenopsis should have multiple flower spikes. Depending on the species involved, I know how a particular orchid should look at a given time of the year. If a plant has leaves that either appear too yellow or too reddish - based on my growing experience - I know that *something* is wrong.

The one lesson I soon learned from installing my LED fixtures is that they disperse very, very little light to the sides - as compared with high output fluorescent tubes in reflectors.

As a result, I had to change the position of some hanging plants to get them closer to the lights. (This would not be possible if the fluorescents were still in place, as those orchids would most certainly *not* like the heat thrown off by high output fluorescent tubes at close range.)

After I was through with these adjustments, I took a number of PAR readings to see exactly what was going on. Here are some of my "derived" light levels, all measured at about 1.5 feet below the fixtures:

- Mottled-leaf Phals: 125 μmols .
- Other Phals: 160 μmols .
- Low-light hanging plants: 90 μmols
- Catts & related: 215/275 μmols
- Hanging Vandas very close to the lights: 275 μmols

(to next page)

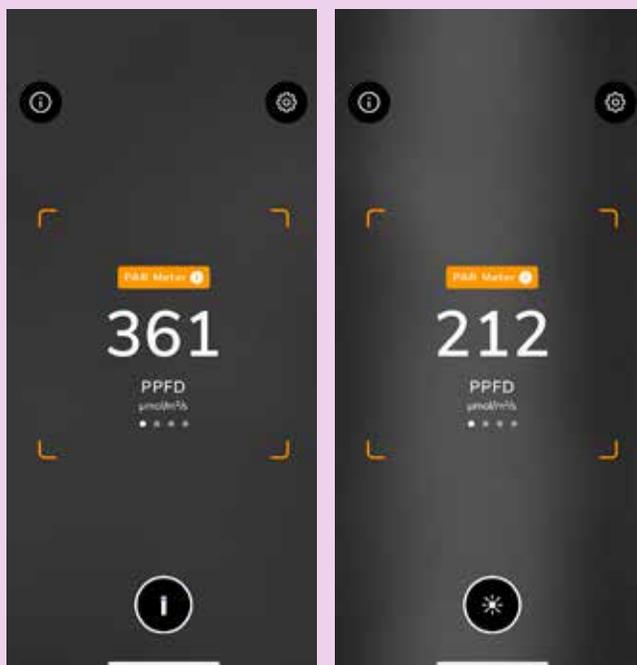


Fig. 5

LEFT: 4-tube T5 54w fluorescent lamp fixture output @ 1 foot above plants on bench.

RIGHT: 6-tube LED 18w LED fixture output @ 1 foot above plants on bench.

Fig. 6 - "Patch" and wiring to AC mains:

- 1.) AC input
- 2.) Wires to sockets
- 3.) Patch to lengthen fixture

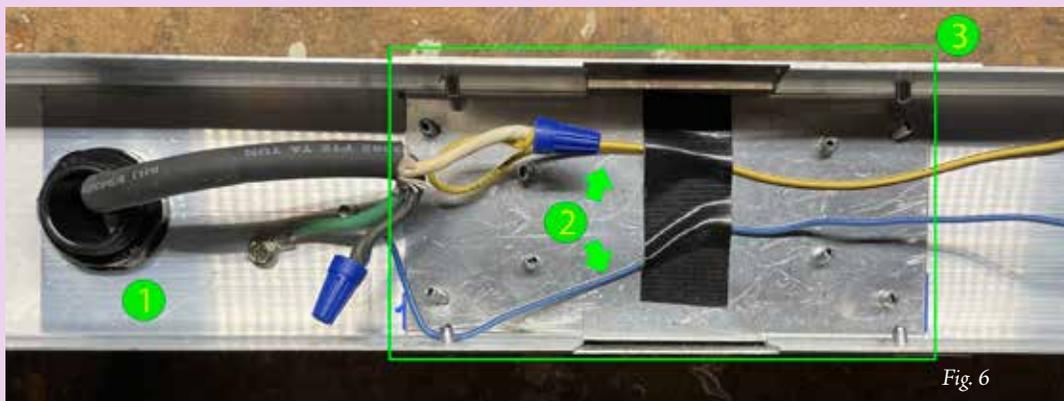


Fig. 6

(from previous page)

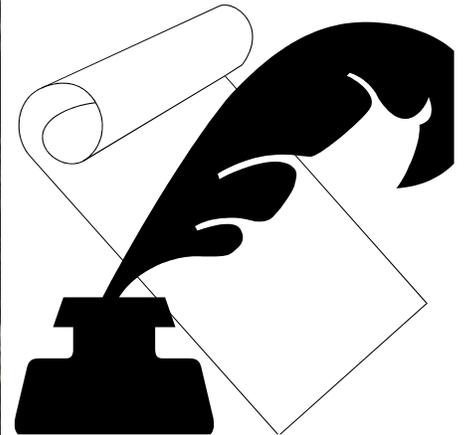
Wavelengths outside of the PAR range have been shown to play a key role in plant health, in hormone signalling (which regulates many aspects of plant growth and develop-

ing up flower spikes according to season. My electricity costs for growing orchids have been reduced by about 50% overall.

-Phil Matt

Authors Wanted!

The GROS Newsletter is always in need of contributions from our members. Got an idea for an article? Have some strange orchid tale that needs telling? Well, this is the place for you!



Author submissions are encouraged at all times. The Editor reserves discretion to make sure the material is relevant. You don't have to be a writer, either: we offer help with getting your article in shape and figuring out the illustrations or photos that need to go with it.

We accept files in any format - including plain old typing or handwriting. You can use the website form to contact me.

- Phil Matt

GROS Newsletter Editor



Fig. 6

Fig. 7 - A six-tube LED fixture in use. Note the hanging plants to the right of the lights. The comparison in PAR is roughly 160 μmol s for the plants on the bench, and 275 μmol s for the mounted orchids.

ment, including the plant's ability to respond to environmental changes, and in formation of beneficial substances such as essential oils & phytochemicals for defense against pests). It is well beyond the scope of this discussion to go into those considerations. There are many technical discussions available online that address these factors.

Because I used different brands, color temperatures and wattages of LED tubes across my five fixture setup, I took PAR readings to make sure that the light levels were where I needed them to be. My own reflections (pardon the pun...) are that the plants seem to have responded positively to their new light sources, and all are growing well and send-

Genesee Region Orchid Society Officers 2022-2023

President	Sue Hill		pres@geneseeorchid.org
Executive VP	Fran Murphy	924-7763	veep@geneseeorchid.org
Program VP	Carol Butcher		prog@geneseeorchid.org
Treasurer	Susan Ackerman		treas@geneseeorchid.org
Secretary	Natalie Auburn		sec@geneseeorchid.org
Member-at-Large	Austin Miller		matlarge@geneseeorchid.org

GROS Committee Chairpersons 2022-2023

AOS Rep./ODC Rep.	Diane Bernard	315-597-6778	aosrep@geneseeorchid.org
Auction	Kim Hober		
Education			<open>
Community Outreach			<open>
Monroe Cty. Liaison	David Hayes	782-0112	monroe2@geneseeorchid.org
Newsletter	Phil Matt	461-5977	webnews@geneseeorchid.org
Nominating			
Property	(Exec. VP)		
Raffle			<open>
Show 2023	Mike Ackerman		
Social			<open>
Sonnenberg Liaison	Fran Murphy	924-7763	
Webmaster	Phil Matt	461-5977	webnews@geneseeorchid.org