CENTRAL OHIO ORCHID SOCIETY





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CentralOhioOrchidSociety.org



PRESIDENT'S MESSAGE | March 2022

The winds of change have certainly been felt during the first couple weeks of March. As much as I love Punxatawny Phil... six fewer weeks of winter would have been appreciated. Nonetheless, what an exciting time spring is with the promise of emerging life, warmer weather, and longer days. We experienced a short-lived reprieve the first weekend full of sun and 70-degree temperatures, yet this second weekend we are back on the weather roller coaster with snow.

There are some exciting things in store over the next few months: repotting sessions, the possibility of being able to order some awesome Central Ohio Orchid Society merchandise, and the redevelopment of a public relations committee so we can get back out there and share our love of orchids with others.

Hopefully, you all are thinking about ways you can contribute and participate in our society. There are so many options, from the PR committee to learning how to set up or take down at shows, to learning how to judge orchids. Let us know how you where your talents are!

I am looking forward to seeing everyone at our upcoming meeting on **March 17**. We will have our first **in-person meeting** at **Franklin Park Conservatory** in about a year. We will continue to have a **Zoom option** for those who are not comfortable meeting in person. Franklin Park Conservatory currently has a **mask requirement regardless of vaccination status**.

Our meeting this month will be on the topic of **"How I Grow My Orchids"** featuring some of our members. This will be great for newer growers and experienced growers alike. Beginner's Corner starts at 6:30pm, and the society meeting begins at 7:00pm.

Don't forget to bring some questions, blooming plants for the **show table**, and plants to **sell** at the meeting!

Amy Stanley President

CENTRAL OHIO ORCHID SOCIETY

learn. grow. share.

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SOCIETY MEMBERS PRESENTATION

HOW I GROW MY ORCHIDS

IN-PERSON + VIRTUAL SOCIETY MEETING

March 17 2022 6:30pm Beginner's Corner 7:00pm Meeting Begins

TOPIC: CENTRAL OHIO ORCHID SOCIETY MARCH 17th 2022 MEETING

LOCATION: FRANKLIN PARK CONSERVATORY AND ZOOM

6:30 pm Beginner's Corner

7:00 pm Meeting Begins

JOIN ZOOM MEETING:

https://us02web.zoom.us/j/87615608075?pwd=MkpVVDhIQW4zemZhMzcxOUNCaFFXQT09

Meeting ID: 876 1560 8075 Passcode: 048419

One tap mobile: +13462487799,,87615608075#,,,,*048419# US (Houston) +16699006833,,87615608075#,,,,*048419# US (San Jose)

 Dial by your location:
 +1 346 248 7799 US (Houston)
 +1 669 900 6833 US (San Jose)

 +1 253 215 8782 US (Tacoma)
 +1 312 626 6799 US (Chicago)

Find your local number: <u>https://us02web.zoom.us/u/kz3QQAmfJ</u>

SPEAKER BIOGRAPHIES

Ken Mettler

Ken Mettler has been growing orchids since 1977, and has participated in the Central Ohio Orchid Society since the mid-1980's. He first observed wild Native Orchids in Ohio in 1981, fueling his obsession for studying orchids in their native habitats. In 1986 he worked on a research project in the Peruvian Amazon Basin, where he was able to observe many orchids growing in the wild. He enjoys traveling, and has observed orchids in the wild in many countries. Ken has extensive experience growing orchids from seed in a flasking lab. An accredited judge with the American Orchid Society, Ken has over 30 years exhibiting orchids and preparing orchid displays.

Tom Hart

Tom is a retired AEP engineering manager who started growing 5 or 6 Kroger orchids in a greenhouse window. About 4 or 5 years ago, he discovered the Central Ohio Orchid Society during one of its home shows and decide the check it out. He now has over 125 orchids and about 70 cactus/succulents. Many believe that an intervention may be warranted; however, Tom continues to attempt to grow his plants in his basement.

Amy Thomas

Amy has been growing orchids for about 13 years, and became a more serious orchid grower in the last 3 years. She fell in love with the Catasetinae group after a presentation by Fred Clark a few Years ago. Amy works for the state of Ohio, and has a 4-year-old daughter who is showing promise for a future orchid addiction. One of her two cats loves to eat orchid leaves. Amy is the current president of the Central Ohio Orchid Society.

FEBRUARY PLANT OF THE MONTH

Opsistylis Mem. Mary Nattrass

Grown by Tennis Maynard



TIPS FOR GROWING

Tennis grows this orchid in high light, intermediate or warm temperature, and allows it to get just dry between waterings. It is grown in a cypress mulch mix in a large basket.

FEBRUARY 2022 VIRTUAL SHOW TABLE

CATTLEYA

GROWN BY

]s†	Sophronits coccinea	Tennis Maynard
lst	Laelia superbiens	Tennis Maynard
2^{nd}	Potinara Rosella's Lovely Sunset	Amy Stanley
2^{nd}	Gerberara Snow Ballet	Anne O'Connell Null
3 rd	Potinara Fairyland	Jan Miller
3 rd	C. lawrenceana x C. aurantiaca	Amy Stanley

GROWN BY

st	Paph. Phyllis Prestia	Jessica Badger
st	Paph. NoID	Edna & David Markley
2^{nd}	Paph. Egret's Charm	Jessica Badger
3 rd	Paph. Deperle (primulinum 'Flutter' x delenatii 'Morning	Sandra & Terry Stohr
	Dink')	

PHRAGMIPEDIUM

1st Phrag. Jason Fischer

2nd Phrag. Belle Hogue

PAPHIOPEDILUM SPECIES

3rd Phrag. Eric Young 'Rocket Fire' x Phrag. Beauport 'Rose Rocket'

VANDACEOUS

lst	Opsistylis	Mem.	Mary	Nattrass	Tennis	

- 2^{nd} Ascocentrum christensonianum x aurantiaca
- 3rd Phal. Sogo Vivien-Happy Mark

DENDROBIUM

- 1st Den. Violet Fizz 'Luna'
- 2nd Den. Tangerinum x Den. discolor
- 3rd Den. Pongton Green

GROWN BY

Sandra & Terry Stohr Troy Timbrook Edna & David Markley

GROWN BY

Tennis Maynard
Nancy Shapiro
Nancy Shapiro

GROWN BY

Tom Hart Tom Hart Tom Hart

CYMBIDIUM

- 1st Cym. Dame Catherine 'Spring Day' HCC/AOS
- 2nd Cym. Mary Green 'Spring Wind'
- 3rd Cym. Snow Court 'White Queen'

OTHER

- 1st Holcoglossum phongii
- 1st Holcostylis MS Sunlight
- 2nd Wilsonara Space Mine 'Red Rendezvous'

PLANT OF THE MONTH

Opsistylis Mem. Mary Nattrass

GROWN BY

Ken Mettler Ken Mettler Ken Mettler

GROWN BY

Tennis Maynard Nancy Shapiro Jennifer Sonnenberg

GROWN BY

Tennis Maynard

CATTLEYA





Sophronits coccinea Grown by Tennis Maynard

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Laelia superbiens Grown by Tennis Maynard

PAPHIOPEDILUM





Paph. Phyllis Prestia Grown by Jessica Badger





Paph. NoID Grown by Edna & Dave Markley

PHRAGMIPEDIUM





Phrag. Jason Fischer Grown by Sandra & Terry Stohr

DENDROBIUM





Den. Violet Fizz 'Luna' Grown by Tom Hart

VANDACEOUS





Opsistylis Mem. Mary Nattrass Grown by Tennis Maynard (POTM)

CYMBIDIUM



OTHER





Holcoglossum phongii Grown by Tennis Maynard

Into the Wild

By Ken Mettler All photo credits: Ken Mettler

So, What is a Species Anyway?

Or,

How Ohio Got Two More Native Orchid Species

"Of late, the futility of attempts to find a universally valid criterion for distinguishing species has come to be fairly generally, if reluctantly, recognized." —Theodosius Dobzhansky



Spiranthes cernua in southeast Ohio

If you want some cheap entertainment, walk into a room with two or more biologists and ask, "What is the definition of a species?" Then just sit back and watch the sparks fly! For any definition that is proposed, there can be found numerous examples (that most people readily accept as species) that don't fit. Often, the conversation will arrive at something like what Supreme Court Justice Potter Stewart said when he declined to define hard-core pornography, "...perhaps I could never succeed in intelligibly doing so. But I know it when I see it...".

How can something seemingly so basic, so simple, be impossible to define? The problem lies with us humans. Humans generally prefer simple, clearly defined, black and white distinctions. We prefer pigeonhole categories. This happens sometimes, but nature is more often complex, fuzzy, and an indeterminate number of shades of grey. Nature does not owe us the pleasure of conforming to our overly simplistic ideas. Nature does what it does. The "natural laws" discovered by humans are *descriptions* of what the natural world does, not *prescriptions* of what it has to do, or ought to do.

So how do we define species, are we right, and does it matter? Most biologists today would define species with some version of the "Biological Species Concept." This defines species as actually or potentially interbreeding individuals (or populations) that are reproductively isolated from other populations where they occur together in nature. But wait! We can crossbreed many types of orchids, and there are naturally occurring hybrids in the wild. Man-made hybrids, whether intentional or accidental, are not occurring "in nature." Lions and tigers can cross breed in captivity (producing the "liger", the largest known cat), but these species have never been known to hybridize where they coexist in the wild.

Among our orchids, occasional natural hybrids do exist, such as *Guarianthe x Guatemalensis*, which is a hybrid of *Guar. skinneri* and *Guar. aurantiaca.* As long as the hybrid is sterile, or less capable of reproducing than either parent species, the two parent species remain separate and distinct. Here's where things start to get fuzzy. Sometimes two species may look distinct in populations where the two do not overlap, but where they occur together, we find a variety of intermediate forms. This is reportedly the case with *Cattleya loddigesii* and *C. walkeriana.* Both *Cattleya dolosa*, and *C. x Heathii* are believed to carry genes from both *C. walkeriana* and *C. loddigesii.*

And in orchids we find some very plausible examples of sympatric speciation. One good example is the pair of species *Cattleya guttata* and *C. tigrina* (syn. *C. leopoldii*). *Cattleya guttata* blooms in the winter. The inflorescence emerges from a dry sheath on a fully matured pseudobulb. *Cattleya tigrina*, on the other hand, blooms in the summer on a maturing pseudobulb with a green sheath.

Imagine, if you will, that there is a series of genes in *C. guttata* that cause the inflorescence bud to lay dormant for several months. Think what would happen if there was a mutation in one of these genes, rendering it non-functional. The timing of the growth of the inflorescence may not pause, but just keep developing on the still maturing pseudobulb. This plant would bloom several months before its parents or any other *C. guttata*. If a suitable pollinator is available, possibly the same pollinator, just at another time of year, this plant could produce offspring carrying the mutation. There it is, a new species can come into existence. This founder population can be affected by several chance events that cause it to vary slightly from the original species, and eventually the two species may become more and more different. (Of course, this could also happen in reverse, and *C. tigrina* could give rise to something like *C. guttata*.)

Then, there are also cases where two species may hybridize, but the hybrid may not breed with either parent species. (Perhaps the fragrance is different enough to attract a different pollinator.) If this hybrid can find a suitable pollinator and self-pollinate to produce a viable population, it may continue to reproduce. If there is little or no crossing with either parent species, it may survive to become a new species, albeit of hybrid origin. Historically, taxonomists have identified species of plant primarily by a description of the visual appearance of the flowers and other parts of the plant. But why should we expect that different species look different to the human eye? Isn't that just a bit arrogant of us?

As I've alluded to earlier, orchids produce fragrances to attract their preferred pollinator(s). If two species look identical, but do not share any pollinator due to fragrance, they are reproductively isolated. We humans have seldom considered fragrance when identifying species, although in a few cases this has been at least noted. For example, the noted fragrance difference between *C. nobilior* and *C. walkeriana*. I know this has been a fairly long trip down the rabbit hole of speciation (trust me, it can get a lot longer), but I wanted to lay out a few concepts first.

But this is an article about the Ladies Tresses, genus *Spiranthes*. *Spiranthes* is a genus of about 50 species, native to the Americas, Eurasia, northern Africa, and Australia. They are commonly known as Ladies Tresses due to the way the blooms tend to spiral around the spike, resembling a curling lock of lady's hair. The flowers of many species are very similar in appearance, making it difficult to know what taxon you're observing. On top of overall similarity, this genus appears to be actively evolving, with some species not fully separated, some species interbreed in the wild, producing hybrid offspring of intermediate appearance. They also are known to readily produce polyploid offspring. (Polyploids have more than two sets of chromosomes.) So, there may be diploid, tetraploid, and triploid individuals, as well as hybrid polyploids (referred to as allopolyploids).

So, if we see a bunch of similar looking *Spiranthes*, how do we tell what is and isn't a species, and which plant or population falls into which species? Fortunately, today researchers have the ability to do genetic testing on tissue samples. If done correctly, these can help disentangle who is related to whom.



Spiranthes cernua in southeast Ohio

Such is the case for the "Spiranthes cernua complex". For many years, all of the fall-blooming Spiranthes in the eastern United States were considered one species, the Nodding Ladies Tresses, Spiranthes cernua. As time went on, several forms were taxonomically separated and named as subspecies or distinct species. In 2017, Matthew Pace and Kenneth Cameron published the results of

their research into the *S. cernua* complex. Their work included the genetics of tissue samples, as well as observations of plants in wild populations and herbarium specimens lead them to conclude that the plants recently known as *S. cernua* are actually three

distinct genetic populations. Fortunately for us, all three of the forms grow in parts of Ohio.

Spiranthes cernua, as formerly known, ranges through most of the eastern United States and southeast Canada. As newly proposed by Pace and Cameron, the true *S. cernua* grows from coastal New England to southeast Pennsylvania, much of southeast Ohio, west to Missouri, Oklahoma, and eastern Texas, through the southeast US, with the exception of peninsular Florida.



Spiranthes arcisepala in northwest Ohio

The plants growing in a band of northern Ohio, generally between Interstate 80 and Lake Erie, are a new species, *Spiranthes arcisepala*. This species also ranges through much of Pennsylvania and New England, and in a narrow strip down the central Appalachian Mountains to North Carolina.



Spiranthes incurva photographed in western Ohio

The plants growing through about three quarters of Ohio, just excluding southeast and south-central Ohio, appear to be another species, *Spiranthes incurva*. This species occupies the northern half of the former *S. cernua* range—roughly north of the Ohio River valley, through interior New England to the Canadian Maritimes, west through the Great Lakes to Minnesota, and south to eastern Nebraska and Kansas. *S. incurva* appears to have originated from an ancient hybrid of *S. cernua* and the Great Plains Ladies Tresses, *Spiranthes magnicamporum*.

So, why should we care? Is this important? Or just a scientific curiosity? Besides the fact that elucidating these species teaches us about the world we live in, and how it came to be as it is today, it also has practical applications.



For one, if there are three separate species, you can't just lump them all together for conservation purposes. Would we be happy if all Cattleyas were lumped together, and conserving just one was considered enough to represent the whole group? A resounding, No! And for those of us who are (more or less) obsessed with observing orchid species in the wild, we have two more to check off the list—not to mention the fun (and/or aggravation) that ensues in trying to determine which one(s) we've seen, and which we still need to see.

Spiranthes magnicamporum, northwest Ohio.



Each species has its place, and teaches us a little more about our world. As Shakespeare wrote, "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

Spiranthes magnicamporum, southern Ohio.

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COOS CALENDAR 2022

January 20 – 2022 Kelly McCracken of High Desert Orchids *Artificial Lighting*

July - 2022 COOS Picnic

February 17 - 2022 Barry Jones of Cincinnati Judging Society Orchid Judging

March 17 – 2022 COOS Members How I Grow My Orchids

April 21 - 2022 Dick Wells Phalaenopsis

May 19 - 2022 Wade Hollenbach *TBA*

June 16 – 2022 Tentative-Justin Pepperney Growing Paphiopedilum August 18 – 2022 TBA TBA

September 15 - 2022 TBA TBA

October 20 – 2022 TBA *TBA*

November 17 – 2022 Awards Banquet

AMERICAN ORCHID SOCIETY CORNER





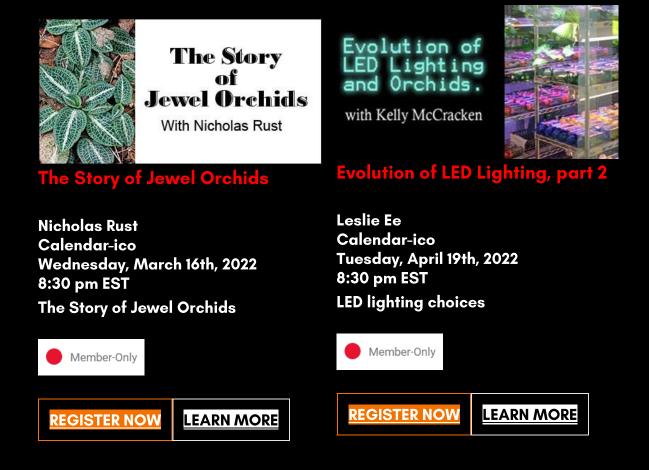


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AOS WEBINARS



Monthly Checklist for March and April

Reprinted from The American Orchid Society Seasonal Orchid Care https://www.aos.org/orchids/seasonal-orchid-care/march-april-checklist.aspx

Cattleya

Although March is, in many parts of the country, still a cold and blustery month, the lengthening days and warmer temperatures allowed by increased light are long-awaited harbingers of the coming change of season. Some of the best standard cattleyas of the year will be in bloom, or will be blooming soon. The last of the winter-flowering hybrids will join the earliest of the spring hybrids in a wonderful display. Be on the alert for senescing sheaths that need removal. If these yellowing sheaths are not removed, the moisture they trap can lead to bud rot. Careful removal of the sheath will allow the buds to develop, although they will need additional support. Changing light conditions can also be a problem in March and April. An exceptionally bright day, especially immediately following a rain, can lead to sunburn of the foliage if shading is not attended to properly. There can still be periods of dull days where spikes can weakened owing to the lower light. Lengthening days will mean increased metabolic rates necessitating increased water and fertilizer. The plants will indicate needs by drying more rapidly, which means more frequent watering and fertilizing.

With the passing of the season for winter bloomers, and the beginning of the season for spring bloom, it is also the time to be on the lookout for plants that will need potting after they bloom. Immediately after blooming has proven to be the best time to repot winter- and spring-flowering cattleyas. In most cases, they will be ready to grow roots, so if potted at this time, they will root right into fresh mix with little or no setback.



Cymbidium Magic Mountain photographed at Longwood Gardens in early April. © G. Allikas

Cymbidium

Plants should be putting on a spectacular show this time of year. Adjust all staking and twist-ties and be on the lookout for aphids, slugs and snails. Give adequate water because flowering strains the plants. As new growths appear later, increase the nitrogen level in the fertilizer. Should a plant loo healthy but not be blooming, try increasing the light during the next growing season. The number-one reason for no flowers is lack of light.

Dendrobium (Australian)

These hard-cane dendrobiums will be at their flowering peak now. It is not unusual to see a specimen of this type in an orchid show boasting 1,000 flowers. The secret with this group -- bred primarily from Dendrobium kingianum and Dendrobium speciosum -- is to provide ample water, fertilizer and light during the growing season.



Lycaste

This genus of superb orchids will be coming to the end of its flowering season. Soon you will see the beginning of new root growth, which is an excellent time to repot into fresh media. As new growth emerges, provide ample fertilizer and water. A sign of good culture is an increase in the size of psuedobulbs with each successive year.

Miltoniopsis Martin Orenstein shows off a beautiful waterfall pattern on its labellum. Photographed at Longwood Gardens in early April. © G. Allikas

Miltoniopsis

This marks the beginning of the flowering season. Amazing displays of color will dazzle the grower over the next few months. Prepare your plants for optimum display by staking spikes (if needed) and cleaning off the older yellow foliage. Do not miss the wonderful fragrance as the flowers unfold.

Paphiopedilum

March is the beginning of the season of heaviest potting for lady's-slipper orchids. However, it is a month where the volume of plants needing attention is still small. It is an excellent month to take the time to work with your paphiopedilums before the pressure of other potting prevents your doing the thorough job you should. Look at each plant: Is it clean of dead and dying foliage? Is it weed free? Does it need potting? Is it in spike? Does it have an insect problem? Cleaning and restaging your paphs is one of the most satisfying tasks of the orchid year. Cleaned and potted paphiopedilums look happy.

The summer-blooming types will be showing the first of their buds in March and April. Be on the lookout for the buds, as well as any insect pests that may have found their way into the crowns of your plants. It is especially difficult to clean mealybugs, in particular, once they have become established in the plant. Better to get to them before they get a good toehold.

Increasing light levels should give emerging spikes the strength they need to grow straight and strong. Do not be too anxious to stake the spikes, because if they are staked too soon, the flowers may develop a "nodding" stance, where the dorsal will not stand upright. If the spikes seem to develop at an angle, let them, and stake after the flower has hardened for best carriage, especially on the hybrids with fairieanum background.

Phalaenopsis

In most of the country, March is the peak blooming month for phalaenopsis. Staking needs to be carefully attended to, so that the flowers will be displayed at their best for orchid shows and judging -- even those intended for your home will look best if properly staked. One of the most decorative aspects of phalaenopsis spikes is the way they gracefully arch. If not staked properly, the spike will lack this grace and will not be as pleasing. Most growers like to have the final support just below the first flower, allowing maximum support, without sacrificing the beauty of the arching spike.

Rapid-growing spikes and open flowers place extra demands on the plant. Careful monitoring of watering and feeding will give the plants the energy they require to give their best floral display. Remember, too, that the lengthening days will also increase the frequency at which plants need water. Beware of the invasion of sucking pests that accompany the flowering season. Flowers and spikes are favorite targets of mealybugs and scales. Be on the look out for their presence, often indicated by the appearance of sooty mold resulting from the exudate of the bugs, and treat before flowers or buds are too advanced. If flowers and buds are too far along, the chemical treatment may damage or abort them.



Masdevallia Highland Monarch 'Free Spirit' AM/AOS photographed at Parkside Orchids. Ottsville, Pennsylvania © G. Allikas

Pleurothallids

Members in this large and increasingly popular group will be looking their best now. If plants are not in flower, the next few months provide an excellent time to divide if needed or repot into fresh mix. Taking care of these tasks now will allow enough time for your plants to become established before the hot weather arrives.

The AOS thanks Ned Nash and James Rose for this essay.