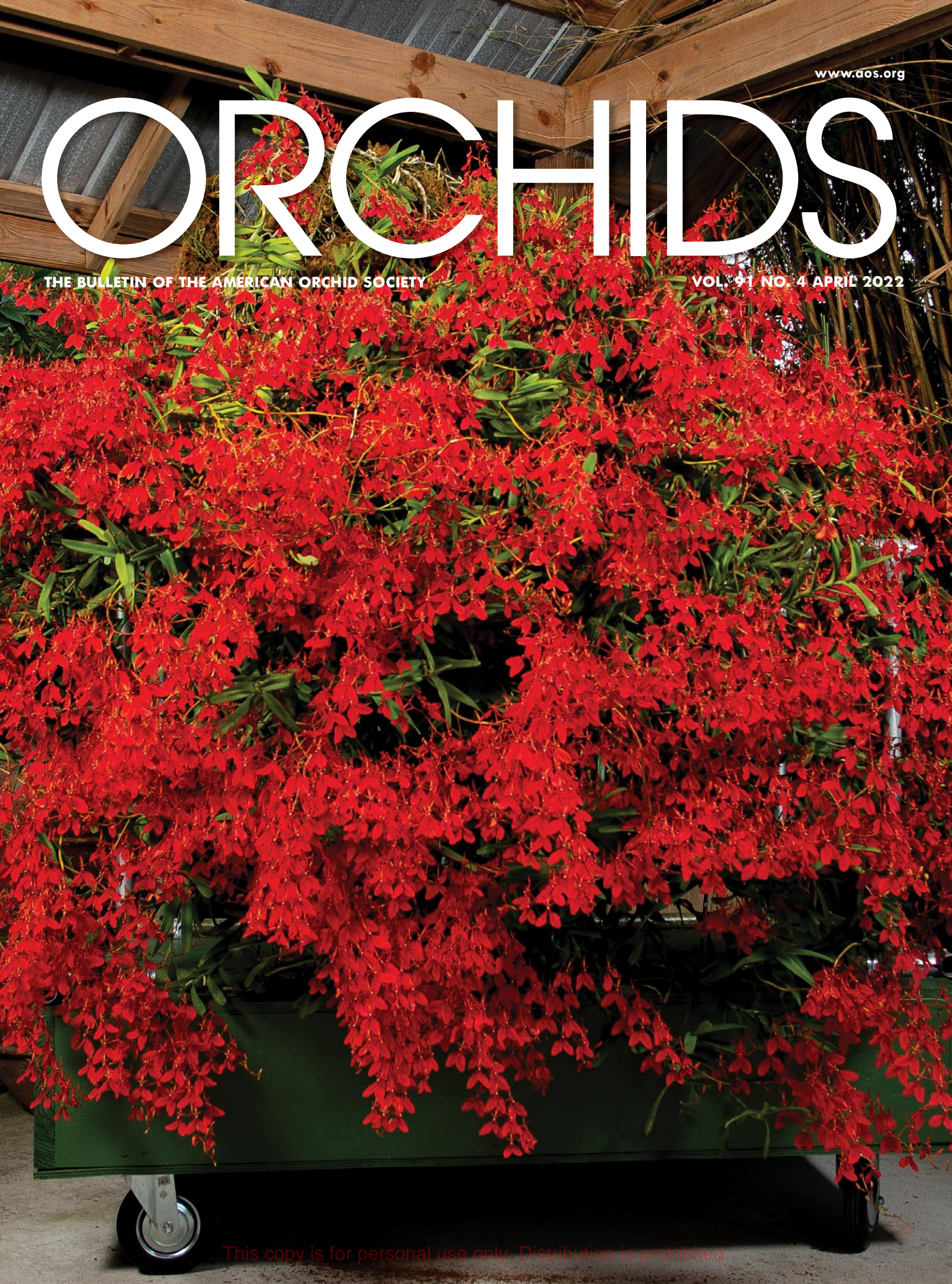


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THE BULLETIN OF THE AMERICAN ORCHID SOCIETY

VOL. 91 NO. 4 APRIL 2022

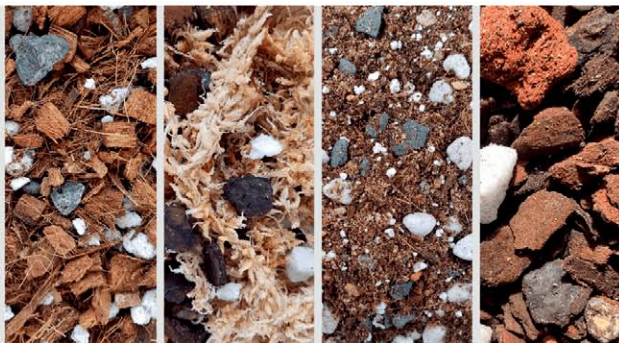


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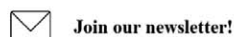
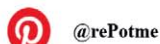
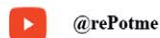
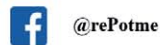
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The Bulletin of the American Orchid Society

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FRONT COVER

Our April issue is devoted to the FCCs given in the prior year and the AOS special annual award. What better to illustrate the issue with than this massive specimen of *Renanthera imschootiana*. When awarded its 91 point First Class Certificate and a 100 point Certificate of Cultural Excellence in April of 2021, *Renanthera imschootiana* 'Crystelle' FCC-CCE/AOS presented approximately 2,225 flowers and 1,000 buds on a magnificently grown specimen 5.3 feet wide by 12.7 feet deep x 6.6 feet tall (163 cm x 325 cm x 211 cm) in an 8-inch clay pot mounted and wired to a Days tiered bench! What more could one want?

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PRONUNCIATION GUIDE

Pronunciation of orchid names can be daunting for the novice and experienced grower alike. Presented below is a simplified pronunciation guide specific to the names found in this issue of *Orchids* magazine. An attempt has been made to represent each syllable using easily recognized sounds or words separated by hyphens and not standard phonetic symbols. Check out the Orchidist's Glossary on our website at <https://www.aos.org/orchids/orchidists-glossary.aspx>.

<i>aclandiae</i> (ak-LAND-ee-eye)	<i>insigne</i> (in-SIG-nee)	<i>pulcherrima</i> (pull-ker-REE-ma)
<i>Aeranthus</i> (air-AN-theez)	<i>insignis</i> (in-SIG-niss)	<i>pynurslanum</i> (pye-nurs-LAY-num)
<i>Aerides</i> (ay-air-EE-deez)	<i>kovachii</i> (koh-VAK-ee-eye)	<i>qingyongii</i> (king-YONG-ee-eye)
<i>Bulbophyllum</i> (bul-boh-FILL-lum)	<i>labukensis</i> (la-boo-KEN-sis)	<i>Renanthera</i> (ren-AN-ther-a)
<i>callosum</i> (kal-OH-sum)	<i>lamellata</i> (lam-el-AY-ta)	<i>Rhyncholaeliocattleya</i> (rink-oh-lay-lee-oh-KAT-lee-a)
<i>canaliculata</i> (kan-a-lik-yew-LAY-ta)	<i>lasianthera</i> (las-ee-AN-ther-a)	<i>Rhynchostylis</i> (rink-oh-STY-liss)
<i>Catasetum</i> (kat-a-SEE-tum)	<i>latifolia</i> (lat-ee-FOLE-ee-a)	<i>romyi</i> (ROM-ee-eye)
<i>Cattleya</i> (KAT-lee-a)	<i>lawrenceae</i> (law-RENS-ee)	<i>rothschildianum</i> (roth-child-ee-AY-num)
<i>Chattaladae</i> (chat-a-LAD-ee)	<i>lawrenceanum</i> (law-rens-AY-num)	<i>rubrum</i> (ROO-brum)
<i>christensoniana</i> (krist-shen-sone-ee-AY-na)	<i>laycockii</i> (lay-KOK-ee-eye)	<i>Satyrium</i> (sa-TEER-ee-on)
<i>claptonense</i> (klap-ton-EN-see)	<i>leopoldii</i> (lee-oh-POLD-ee-eye)	<i>Satyrium</i> (sa-TEER-ee-um)
<i>coerulea</i> (see-ROO-lee-a)	<i>lingua</i> (LING-yew-a)	<i>Satyrium-basilicum</i> (sa-teer-ee-um-bass-ILL-ih-kum)
<i>conopsea</i> (kon-OP-see-a)	<i>longibracteata</i> (lon-gee-brak-tee-AY-a)	<i>schmidtianum</i> (shmid-tee-AY-num)
<i>cooperi</i> (KOO-per-eye or KOO-per-ee)	<i>Lycaste</i> (lye-KAS-tee)	<i>schofieldiana</i> (sko-feeld-ee-AY-num)
<i>cordigera</i> ((kore-DIJ-er-a)	<i>macrobulbon</i> (mak-roh-BUL-bon)	<i>Schomburgkia</i> (shom-BURG-kee-a)
<i>cornu-cervi</i> (kore-noo-SER-vee)	<i>maculata</i> (mak-yew-LAY-ta)	<i>Seidenfadenia</i> (sye-den-fa-DEN-ee-a)
<i>Coryanthes</i> (kore-ee-AN-theez)	<i>magdalenae</i> (mad-da-LEE-nee)	<i>Serapias</i> (ser-AP-ee-as)
<i>Coryhopea</i> (kore-ih-HOPE-a)	<i>major</i> (MAY-jore)	<i>serpentina</i> (ser-pent-ih-LING-yew-a)
<i>cristata</i> (kris-TAY-ta)	<i>Masdevallia</i> (mas-deh-VAHL-ee-a)	<i>sesquipedale</i> (ses-kwih-peh-DAY-lee)
<i>crossianum</i> (kross-ee-AY-num)	<i>measuresianum</i> (meh-zurs-ee-AY-num)	<i>Sigmatopetalum</i> (sig-mat-oh-PET-a-lum)
<i>Cycnoches</i> (SIK-noh-keez)	<i>militaris</i> (mil-lih-TARE-iss)	<i>spectabile</i> (spek-TAB-ih-lee)
<i>Cymbidium</i> (sim-BID-ee-um)	<i>Miltonia</i> (mil-TONE-ee-a)	<i>spicero-venustum</i> (spy-ser-oh-veh-NOOS-tum)
<i>Cynsorchis</i> (sin-oh-SORE-kiss)	<i>minor</i> (MY-nore)	<i>Stimegas</i> (STIM-eh-gas)
<i>Cypripedium</i> (sip-rih-PEED-ee-um)	<i>mirabile</i> (mir-AB-ih-lee)	<i>suavis</i> (SWAH-viss)
<i>Dendrobium</i> (den-DROH-bee-um)	<i>mitrata</i> (mih-TRAY-ta)	<i>sukhakulii</i> (soo-kah-KOO-lee-eye)
<i>denevei</i> (den-EVE-eye or den-EVE-ee)	<i>monorchis</i> (mon-ORE-kiss)	<i>teestaensis</i> (tees-tah-EN-sis)
<i>denisoniana</i> (den-ih-son-ee-AY-na)	<i>morio</i> (MORE-ee-oh)	<i>tessellata</i> (tess-ell-LAY-ta)
<i>dens-canis</i> (denz-KAY-niss)	<i>Myrmecocattleya</i> (mir-meh-koh-KAT-lee-a)	<i>Tetramicra</i> (teh-tra-MYE-kra)
<i>dolosa</i> (doh-LOH-sa)	<i>Myrmecophila</i> (mir-meh-KOFF-ih-la)	<i>thorntonii</i> (Thore-TONE-ee-eye)
<i>Dracula</i> (DRAK-yew-la_)	<i>niveum</i> (NEE-vee-um)	<i>tricolor</i> (TRY-kuhl-ur)
<i>Dracuvallia</i> (drak-yew-VAHL-ee-a)	<i>nodosa</i> (noh-DOSE-a)	<i>trifolium</i> (try-FOLE-ee-um)
<i>echinolabium</i> (eh-kye-noh-LAY-bee-um)	<i>Nottara</i> (NOT-are-a)	<i>Triochis</i> (try-OH-kiss)
<i>Encylia</i> (en-SIK-lee-a)	<i>Odontoda</i> (oh-don-tee-OH-da)	<i>undulata</i> (un-dew-LAY-ta)
<i>Epidendrum</i> (eh-pih-DEN-drum)	<i>Odontoglossum</i> (oh-don-toh-GLOSS-sum)	<i>Vanda</i> (VAN-da)
<i>Epipactis</i> (eh-pih-PAK-tiss)	<i>Oncidium</i> (on-SID-ee-um)	<i>Vandachostylis</i> (van-da-koh-STYE-liss)
<i>Erythronium</i> (err-ith-ROE-nee-um)	<i>Ophrys</i> (OFF-riss)	<i>venusto-insigne</i> (veh-noos-toh-in-SIG-nee)
<i>foemina</i> (FEH-mee-na)	<i>Orchis</i> (ORE-kiss)	<i>venustum</i> (veh-NOOS-tum)
<i>fuchsii</i> (FOOKS-ee-a)	<i>palmata</i> (palm-AY-ta)	<i>Wallichii</i> (wall-LIK-ee-eye)
<i>fucum</i> (FEW-kum)	<i>Paphiopedilum</i> (paff-ee-oh-PED-ih-lum)	<i>wardii</i> (WARD-ee-eye)
<i>gigantea</i> (jye-GAN-tee-a)	<i>Papilionanda</i> (pap-ee-lee-oh-NAN-da)	
<i>gorgona</i> (GORE-goh-na)	<i>Papilionanthe</i> (pap-ee-lee-oh-NAN-thee)	
<i>grandiflora</i> (grand-ih-FLORE-a)	<i>Paraphadenia</i> (pare-a-fa-DEN-ee-a)	
<i>granulosa</i> (gran-yew-LOH-sa)	<i>Paraphalaenopsis</i> (pare-a-fail-en-OP-sis)	
<i>griffithianum</i> (grif-fith-ee-AY-num)	<i>pardinum</i> (par-DEE-num)	
<i>Guarianthe</i> (gwar-ee-AN-thee)	<i>percivaliana</i> (per-sih-vahl-ee-AY-na)	
<i>guttata</i> (gut-TAY-ta)	<i>Perreirara</i> (per-rare-ARE-a)	
<i>Gymnadenia</i> (jim-na-DEN-ee-a)	<i>Phaius</i> (FYE-us or FAY-us)	
<i>Habenaria</i> (hab-ee-NARE-ee-a)	<i>Phalaenopsis</i> (fail-en-OP-sis)	
<i>hangianum</i> (hang-ee-AY-num)	<i>Phragmipedium</i> (frag-mih-PEED-ee-um)	
<i>Herminum</i> (her-MEE-num)	<i>Platystele</i> (plat-ee-STEE-lee)	
<i>hircinum</i> (HIR-see-num)	<i>polystigmaticum</i> (pol-ee-stig-MAT-ih-kum)	
<i>Holcoglossum</i> (hole-koh-GLOSS-sum)	<i>pradhanii</i> (prad-HAN-ee-eye)	
<i>horminium</i> (hore-MIN-ee-um)	<i>praestans</i> (PRAY-stanz)	
<i>illustre</i> (ill-LUS-tree)	<i>pratensis</i> (pray-TEN-sis)	
<i>imschootiana</i> (im-shoo-tee-AY-na)	<i>primulinum</i> (prim-yew-LEE-num)	
<i>insectifera</i> (in-sek-TIF-er-a)		

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PRESIDENT'S MESSAGE

LIGHTS. CAMERA. ACTION!

The Centennial is upon us. The time since planning began has flown by! Any American Orchid Society Members' Meeting is an incredible undertaking. When you add a Centennial Celebration, that increases the work exponentially. Even with all the work, it is so worth it. Imagine having to plan an in-person meeting, but also make it available virtually for those unable to attend. Not everything will be that way, but some parts of the Members' Meeting will. These meetings are very important and the AOS tries to engage as many members as possible, especially now.

The AOS is celebrating our 100-year anniversary. There are very few organizations that can make that claim. The face of the AOS has changed over the course of these years. For one, consider all the technology that has entered the picture; the advances are staggering. We have so much information available online. Research is quick and painless. Regardless, it would have been remarkable to have personally witnessed all the changes in the AOS from then until now.

But this is the now.

Given the metamorphosis that has taken place over the course of time, one thing is constant — our members. Were it not for our members, the AOS would not be the organization it is today. AOS members — and there are almost 11,000 at this time — may be found all around the world and wear many hats. They are the backbone of the American Orchid Society, and are responsible for the success the AOS enjoys today. Thanks to the members' efforts, the AOS is progressing so beautifully. Members get involved in orchid societies, websites, judgments, shows, studies — just about everywhere. The member support the AOS receives is invaluable.

The number of man hours worked to bring this celebration to fruition is monumental. From the moment the meeting begins until the last bell rings, the work continues. Because of this, all who worked have my everlasting gratitude. When all is said and done, the cooperative efforts of the committees, the members, sponsors, donors and everyone else in between will make a significant impact on orchid conservation. I cannot mention often enough that the proceeds of this event will go to orchid conservation. This is something very important to me and to so many in the American Orchid Society.

Second to the Centennial Gala

Celebration, I believe, will be the auction. There is an absolute abundance of auction offerings available. There will be something for everyone's liking. Among the auction items, you will find many plants, jewelry, knick-knacks, artwork... the list is endless. A color booklet of all the auction items will be distributed to all registrants so they may pre-select those auction items that really catch their eye. Having a professional auctioneer at the helm will definitely add to the evening. In addition to the regular auction, there will also be a silent auction. Silent auctions bring out the most competitive nature in all of us and they are so enjoyable! At any auction, when you see something you want you just gotta have it, no matter what!

On a more serious note, I would like to reassure everyone that you need not fear exposure to COVID-19. As of the last count of coronavirus cases, active cases are substantially down. It is comforting to know that so many people have been vaccinated against the disease. The Biltmore Hotel has taken giant steps to ensure guest rooms and common areas are sanitized and the visitors are safe. Surfaces are routinely being wiped down to avoid spread by contaminated surfaces. This includes not only restrooms, but tables and chairs in the lobbies and outdoors also. Meeting rooms will be prepared with social distancing in mind. The hotel has gone as far as to add filters to the air conditioning systems to keep the air clean. They have taken all the recommended steps to consider our safety first and foremost. South Florida has had restrictions lifted for some time now; however, your comfort and safety is most important. By all means, if you are more comfortable wearing a mask, do so.

I am never at a loss for words when it comes to the Centennial, and quite frankly, I could go on and on about the Centennial Gala, as that evening will be beyond amazing. So much has been packed into that evening — it will be a Cinderella affair for sure. However, nothing I say can do it justice. You will just have to come and see it yourself. So, put on your dancing shoes and wear your best party clothes, it is going to be a night to remember! It will literally be the event of the century!

This is my last President's Message to members, as a new president will be named during the Townhall meeting. I will tell you, this has been the journey of a lifetime. I was honored and privileged to serve as your president. These last two years were filled with so many wonderful



Bob Fuchs, AOS President

experiences, and a few bumps, but all in all, it was all good. It is now my turn to pass the baton to the next president, who I am sure will be an exceptional person for the American Orchid Society.

Thank you for the opportunity to serve you.

Let me leave you with these words: "There are hundreds of languages around the world, but a smile speaks them all."

See you at the gala!

— Bob Fuchs, AOS President (email: bob@rforchids.com).

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IX International Conference on Orchid Conservation “Soroa 2022”

NEW DATES

THE SOROA BOTANICAL and Orchid Garden and the University of Artemisa IX International Conference on Orchid Conservation “Soroa –2022,” has been postponed from February 2022 to **NOVEMBER 2022** with exact dates to be determined soon.

This second postponement has become necessary due to damage caused by a recent tropical weather system as well as the COVID–19 pandemic situation in Cuba. Vaccinations are underway in Cuba but February was too soon to safely hold the Conference.

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April: The Month of Reunion

By Thomas Miranda

PLANET EARTH HAS experienced a seismic shift over the last couple of years, a symptom of which is the isolation we feel with restricted travel and the suspension of in-person events. Indeed, even the wearing of face coverings, while a necessity, inhibits human contact and community. I remember, wistfully, the days when I could connect with strangers or waiters or cashiers with a funny remark or even just a smile. Such interactions were fun and something I dearly miss. Our very personalities are suppressed and subjugated by the anonymity we feel in this strange new world and the repercussions of restrictions.



Thomas Miranda

I made a concerted effort this past winter to break through the anonymity and reconnect with family and friends. I am so glad I did. Despite the risks involved in visiting, losing those

precious but clearly fading relationships was something I feared more than getting sick. Reuniting with old friends, especially those with whom I share a passion for orchids, has become more than an obsession; frankly, for me it has become a necessity.

As the orchid world tentatively reopens this month and in future months, it is organizations such as the AOS and our local societies and clubs that provide the touchstone for our shared passion and ideology. I am so pleased that the long-awaited AOS Centennial Celebration is taking place this month and that the resumption of our organizational progress to our three pillars — education, research, and, especially, conservation — can continue to move forward. As great as the virtual world is, and as incredible as a good orchid photograph can be, there is nothing quite so wonderful as experiencing them in person. The same goes for seeing all my orchid friends. Believe me, you are dearly missed.

CELEBRATION Orchids engage our spirits through their beauty of form, color, grace and fragrance, all worthy of festivity and celebration. Plant enthusiasts exist for a variety of reasons, but I believe they are needed more now than ever before, as it is only through the cultivation of plants that we can heal the earth. Festivals are key to



Dendrobium chrysotoxum 'Julie Wert' AM-CCE/AOS exhibited by Cheryl Finke at the Florida North-Central monthly judging in Tampa, Florida April 28, 2021. At that time, the plant carried 1008 flowers and 20 buds on 65 inflorescences beautifully displayed on an immaculate plant 69 inches (176 cm) in diameter. Photographed by Kay Clark.

engaging other humans in the effort. Most individuals, once their eyes are opened to orchids, and plants in general, suddenly realize how important and beautiful they are. That is why it is crucial to keep having such events. The more of them we have, the more people will discover them, and the more healing and nurturing of the earth can prosper.

AND...THEY ARE OFF! The overwhelming majority of orchids (in the northern hemisphere) are beginning their active growth for the year, as days get longer and warmer temperatures prevail. This is evidenced by the profusion of new roots and growths suddenly appearing on most of your plants. These are your cues to step up your cultural activities with additional watering and feeding. This should be done gradually rather than abruptly. The next 2–3 months are crucial for the formation of pseudobulbs on cattleyas, oncidiums, cymbidiums and lycastes; canes and reedstems on your dendrobiums and epidendrums; and new leaves on pseudobulbless plants such as paphiopedilums, phalaenopsis and vandas. Do not miss this opportunity to enrich and grow your plants. What you do this spring and summer will have a

direct result on the number and quality of flowers you will have the rest of the year.

THAT TIME OF YEAR AGAIN Potting season has arrived, and with it, the rest of your life is over, at least temporarily. Many of your orchids have outgrown their pots, have broken down medium or are experiencing weed takeover. Once regular watering and feeding resumes, these issues can assert themselves and hurt your progress toward producing great flowers. Make sure you have adequate supplies, containers and mounts of all sizes, ingredients for potting mixes, and appropriate fertilizers. Specimen-sized plants can be divided with ease and prized divisions shared with your friends. Many a special plant has been preserved by sharing divisions in this way. You never know when some mishap might occur, or a pathogen contracted. It is comforting to know that these unique, beloved plants are also safe in a neighbor's greenhouse. It is a bit like backing up important files on your computer, but way more important.

EARTH AWAKENING This month also kicks off the season of native orchids. No matter where you live, there are likely marvelous orchid species just emerging this month after their winter slumbering.

Do a little local research, don your hiking boots, head toward the mountains or the wetlands and seek them out. There is nothing so good for the soul as to trek with and reunite with friends to see these gems as they emerge with the rest of the spring ephemerals. Some of the most beautiful and meaningful days of my life have been spent in such pursuits. It is indeed what we, and the earth itself, need to heal.

— Tom Mirenda has been working professionally with orchids for over three decades and is the past chair of the AOS Conservation Committee. He is an AOS accredited judge in the Hawaii Center (email: biophilak@gmail.com).

Webinars-Coming Attractions!






When	April 19, 2022 8:30pm EDT Tuesday	April 27, 2022 8:30pm EDT Wednesday	May 04, 2022 8:30pm EDT Wednesday	May 17, 2022 8:30pm EDT Tuesday
Topic	More on Modern LED Lighting Answering Your Questions	Greenhouse Chat (Orchid Q&A) <i>Send in your Questions!</i>	The Birds, the Bees and the Orchids Pollination in the Orchid World	Greenhouse Chat (Orchid Q&A) <i>Send in your Questions!</i>
Presenter	Kelly McCracken Owner High Desert Orchids, Miniature Orchid Specialist	Ron McHatton Chief Education and Science Officer	Doug Martin AOS Accredited Judge, Member-Native Orchid Conference	Ron McHatton Chief Education and Science Officer

REGISTRATION REQUIRED: <http://www.aos.org/orchids/webinars.aspx>

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QUESTIONS AND ANSWERS

ISOLATION



QUESTION

When I bring a new plant into my collection, what is isolation, and how long does it last? Should a new plant be allowed to touch one of my other plants?

ANSWER

Think of isolation as quarantine because that is really what you are trying to do — keep your existing plants from picking up whatever the new plant might have. Ideally, new plants should be kept far enough away from your existing collection to prevent transfer of pests. Certainly, new plants cannot touch other plants and ideally would keep new plants in an entirely different growing area. If you are growing on windowsills, at a minimum in a different window.

I have, over time, come to the conclusion that you should assume any new plant is infested regardless of the source you get it from. You will be way ahead of the game acting as if the plant is infested and treating for potential pests rather than trying to get rid of an infestation once it has become obvious.

How long the isolation period lasts can be a fairly long period, especially when the pest is scale or mealybugs. I purchased a few plants in August 2020, and today all of them are sporting a very healthy scale infestation. Had I been paying close enough attention, I might have spotted it at the three-or-four month mark when the crawlers began to emerge from the potting mix, but I never would have seen

it at the one month mark.

Part of this lack of pest visibility may come from the increased use of insect growth regulators (IGR). IGR's have become really popular because they are much less toxic, and are used to keep pest populations under control only once every six months. This keeps populations of insects down and makes it harder for them to build a visible infestation. Remember it takes time to build an infestation which one can see and the IGR's simply increase this time sometimes by a period of multiple months. The new answer to how long one needs to isolate a new plant is: several months. Also based on my experience over the last six months, if the plants are not touching each other that is enough distance to keep scale from spreading. If the insects fly, that is a different problem.

LEAF LOSS



QUESTION

What causes the leaf yellowing in this miltonia?

ANSWER

Members of the Oncidium Alliance have two or more sheathing bracts that look like leaves at the base of the pseudobulbs and one to three true leaves from the top of the pseudobulb. These bracts protect the newly developing growths from mechanical damage. You can tell bracts from true leaves because the bracts are articulated (red arrow). This is where the bract will separate from the pseudobulb when it is no longer beneficial to the plant. What is turning yellow here is one of the older bracts; however, the main problem with this plant is dehydration. The first casualties of dehydration in orchids are the bracts followed by shriveling of the pseudobulbs and finally the leaves will be dropped.

This plant is not getting enough water

either because the roots have been rotted by overwatering, or the plant is just getting insufficient water. My guess here is under watering is the issue. The fine root systems of orchids dry out very fast in clay pots of coarse medium. For many growers, plastic pots with finer bark mixes provide better performance.

BROWN SHEATHS



QUESTION

This plant has two brown, dried sheaths (red arrows) and one normal green one (green arrow). I feel the start of flower buds in the brown ones. Should I open these or just leave them?

ANSWER

Many cattleyas naturally bloom from dry sheaths, especially those that flower in the spring. These plants produce new growths in the summer and sometimes even in the fall, mature those growths and hold the sheaths until late winter or spring. Over time, the sheaths turn from green to brown. I suspect in this case, the growth with a still-green sheath was matured at a later time than the other two and has not had time to turn brown but it will also produce buds as the flowering season approaches.

As flowering from dry sheaths is a natural phenomenon, the plant will usually push these buds up and out of the sheath on its own and you will not need to open the sheath. If you feel more comfortable, you can open the sheath by cutting off the top above the buds. Just make sure once the sheath is opened not to water in the sheath or the developing buds may rot.

These questions were part of one or more recent monthly webinar Q&As and compiled by Larry Sexton for inclusion here. Each month, a Q&A webinar is held during the first two weeks of the month. To view recorded Greenhouse Chats (Q&A webinars) or register for a future one, see <https://www.aos.org/orchids/webinars.aspx>. Send questions to greenhousechat@aos.org — Ron McHatton, AOS Chief Education and Science Officer.

International Palm Society Biennial in Hawaii

October 9th–15th, 2022

Experience the lush, tropical Hawaiian Islands with the International Palm Society (IPS).

The IPS will host its 32nd Biennial meeting on Oahu and the Big Island with an optional pre-Biennial tour to Maui. We shall tour the most important private and public palm collections and gardens, enjoy knowledgeable and entertaining evening speakers, visit a world-renowned nursery, and reconnect with palm and tropical horticulture enthusiasts from all over the world. It will be a week-long immersion in tropical horticulture at its best!

Registration opens March 1st, 2022 and is limited to the first 150 participants. For more information and the full itinerary, please visit the IPS website, www.palms.org.



Photo by Dean Quer

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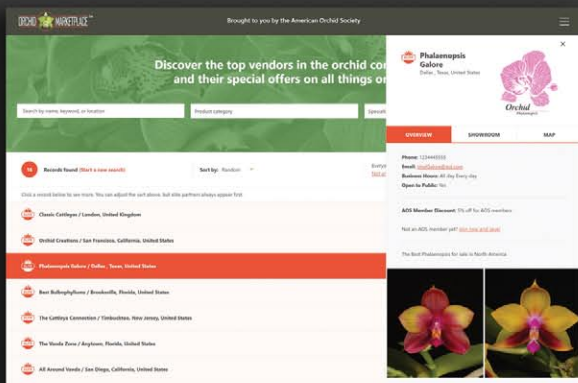



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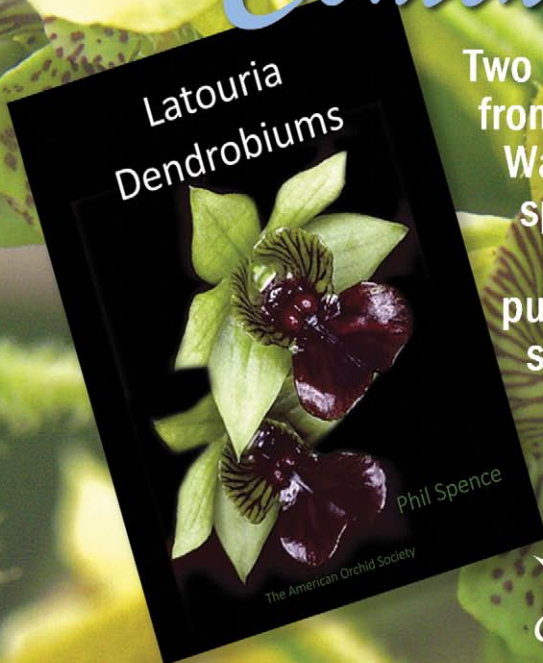
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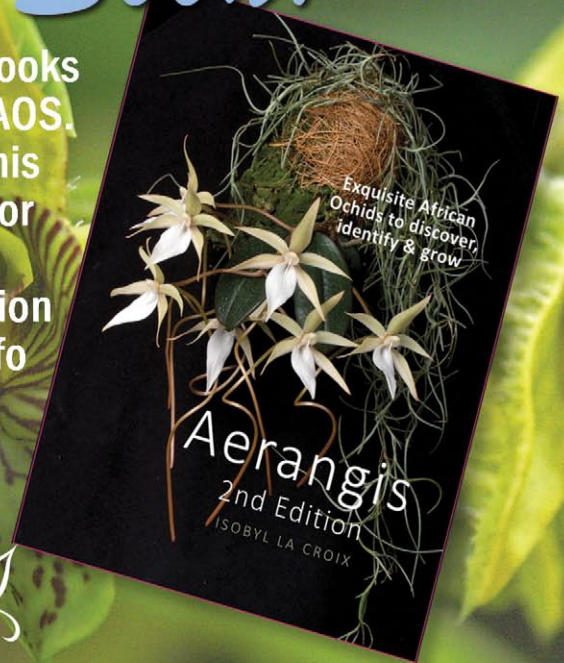
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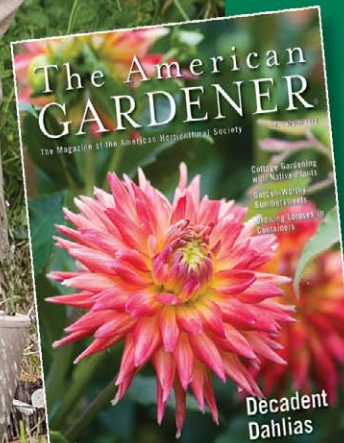
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Blackened Tips on New Cattleya Leaves

Calcium Deficiency After Repotting

Text by Sue Bottom/Photographs by Terry Bottom

SOME OF THE newest growths of several cattleyas in the greenhouse had black leaf tips, suggestive of calcium deficiency. Calcium is an essential nutrient required for optimal growth of your orchids. A brief refresher from an earlier article:

Calcium is absorbed through the roots and moved upward through the xylem via the transpiration process. It increases cell wall thickness and strength among other things as well as a plant's resistance to fungal and bacterial disease. The plant requires calcium the most during periods of active growth, while it is building new tissue. It must be supplied to the plant in proportion to its growth rate. Calcium is mostly immobile in the phloem, so the plant cannot translocate it from older growths to the newer growth, like it can some of the other essential elements....

The most obvious sign of deficiency is rapidly expanding tissue that becomes necrotic, such as a newly forming leaf. (Bottom 2017, p. 107)

It is easy to mistake calcium deficiency for the symptoms of other disease or cultural problems. Black rot is a rapidly moving disease that often starts in the pseudobulbs and moves upward through the plant, killing it within days. Bacterial rots from excess leaf wetness during the rainy season is likewise very rapid and tender young tissue is commonly affected. The black necrotic tissue from calcium deficiency is a slowly advancing problem that takes weeks rather than days to traverse down the leaf. It is unsightly, but does not produce the putrid odor of the water molds or bacterial rots. Anthracnose in thin leaved orchids also starts at the leaf tip and moves down toward the base of the leaf, but you can tell it is a fungal problem by the tiny spores in the necrotic tissue. The necrotic tissue from calcium deficiency slowly continues to blacken. It is unsightly but not fatal to the plant.

Plants in my greenhouse receive plenty of calcium in their diet. Between the Cal Mag fertilizer and calcium nitrate supplements, they feast on about 60 ppm nitrogen, 40 ppm calcium and 20 ppm magnesium each time they are watered during the growing season. So, can they really have a calcium deficiency?



Once you accept the fact that they are exhibiting signs of calcium deficiency despite the fertilizer regimen, it is time to explore whether there is some cultural issue contributing to the problem.

Was it the hot summer temperatures causing the problem? Poole and Sheehan (1973) postulated that the black tips are from a possible calcium deficiency brought about by failure of the roots in pots that are too warm to absorb calcium in the necessary amount. They suggest

- [1] What causes the black tips on newly formed cattleya leaves?
- [2] This plant is growing vigorously, except for the two new growths with the necrotic tissue.
- [3-4] These are healthy plants, except for the black leaf tips on the newest leaves of plants that were repotted earlier in the year and had not reestablished their root systems sufficiently when the new growths formed.

BOTTOM

increasing the frequency of watering to keep the medium cool. This summer, the underbench misting system did a great job keeping temperatures from getting much over 98 F, so temps probably were not the issue.

There were only five or six plants in the whole greenhouse with this problem. The black leaf tips were not restricted to one type of cattleya, like the fast-growing Central American cattleyas now called *Guarianthe*. The problem affected different types of cattleyas with no obvious connection to one another. The aha! moment came after checking the plant tags and discovering that each of the affected plants had been repotted earlier that spring. Another mystery solved!

Despite your best efforts to supply sufficient calcium, your plants can still suffer from deficiency if something interferes with the uptake of this critical element. Calcium is mostly absorbed through roots, so a compromised root system can easily manifest itself in signs of calcium deficiency. Root function can be disrupted for many reasons, most obviously from the repotting process itself, particularly when orchids are repotted when new roots are not actively forming. Older roots are damaged in the repotting process and the plant must send out new roots to stabilize itself.

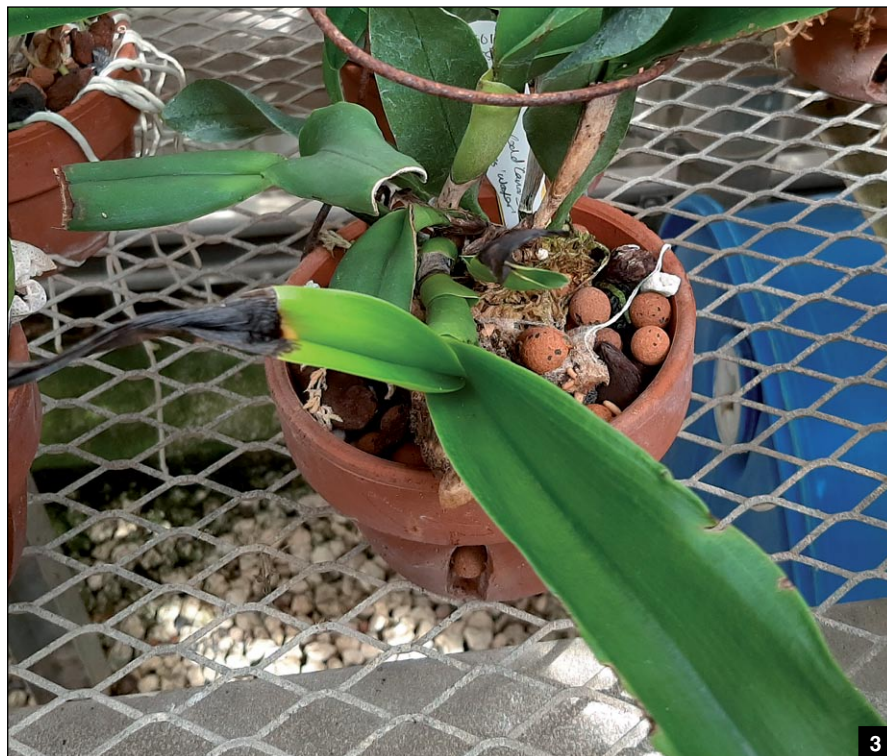
To prevent this from happening again next year, repot orchids when they are just beginning to grow their new roots. Consider spraying root stimulators on the roots and rhizome to encourage root growth, and perhaps add some root stimulator or seaweed to the irrigation water for the next month or so to encourage root growth.

References and Additional Reading

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Poole, H.A. and T.J. Sheehan. 1973. Leaf-tip Die-back of Cattleya — What's the Real Cause? *American Orchid Society Bulletin* 42(3):227–230.

— Sue Bottom started growing orchids in Houston in the mid-1990s after her husband Terry built her first greenhouse. They settled into St. Augustine, Florida, Sue with her orchids and Terry with his camera and are active in the St. Augustine Orchid Society, maintaining the Society's website and publishing its monthly newsletter. Sue is also a member of the AOS Editorial Board (email: sbottom15@gmail.com).



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COLLECTOR'S ITEM

Paraphadenia Juraj Kojs

(*Seidenfadenia mitrata* × *Paraphalaenopsis labukensis*)

By Judith Rapacz-Hasler



THE PARENTS

The genus *Paraphalaenopsis*, endemic to Borneo, consists of just four species:

Paraphalaenopsis denevei (J.J.Sm.)

A.D.Hawkes, 1963.

Paraphalaenopsis labukensis Shim,
A.L.Lamb & C.L.Chan, 1981.

Paraphalaenopsis laycockii
(M.R.Hend.) A.D.Hawkes, 1963.

Paraphalaenopsis serpentilingua
(J.J.Sm.) A.D.Hawkes, 1963.

The natural hybrid, *Paraphalaenopsis* × *thorntonii* (Holttum) A.D.Hawkes, 1967, is now considered to be synonymous with *Paraphalaenopsis serpentilingua*.

They are morphologically similar to *Phalaenopsis* and were, for a long time, considered species of that genus. Their flowers are similar, but the leaves of *Paraphalaenopsis* are cylindrical, whiplike and resemble the leaves of some species of *Holcoglossum*. Flower color is variable, from yellow to dark brown and the sepals and petals are often twisted or undulate.

Paraphalaenopsis labukensis is a pendent-growing, epiphytic species. The terete leaves are fleshy and caniculate (channeled). The cinnamon-scented flowers are produced in the spring or summer on erect-to-pendulous, short inflorescences with ovate-triangular, obtuse floral bracts. The species occurs in Sabah, Borneo and was named after the Labuk Valley. The plant grows on trees in hilly forests on ultramafic rocks (igneous rocks containing high concentrations of magnesium and iron) at about 1,640 to 3,280 feet (500–1,000 m) in elevation.

Seidenfadenia mitrata (Rchb.f.) Garay (1972), also once known as *Aerides mitrata* Rchb. f. in 1864 is the other species making up this interesting hybrid. *Seidenfadenia mitrata* is native to Myanmar and Thailand at elevations of approximately 330 to 2,600 feet (100–800 m) and grows as a monopodial, epiphytic species with a short stem carrying pendant, semi-terete, acuminate leaves. The sweetly scented flowers are produced in the spring on axillary, unbranched inflorescences with triangular-ovate bracts.

THE HYBRID

Paraphadenia Juraj Kojs appears to be intermediate between the two genera: both being terete, pendent species, with rather long, succulent, whiplike foliage. The hybrid appears to have inherited its inflorescence habit and floriferousness from the *Sei. mitrata* parent but shares the stem and leaf habit with *Pps. labukensis*. The short inflorescences of *Pps. labukensis* are elongated; the flowers

are larger and some may see them as not as attractive in either color or form as the *Sei. mitrata* parent.

Paraphadenia Juraj Kojs flowers are cream-white with an overlay of olive brown flushed pink on the sepals and petals leaving a cream picotee on the margins. The lip is cream-white with bright fuchsia and fuchsia spots.

Tom Miranda comments on the evaluation of the AOS awarded *Pdn.* Juraj Kojs 'Crownfox' HCC/AOS:

"Floristically the flowers inherited good features from each parent, *Sei. mitrata* flowers are plentiful and colorful but rather small, while *Pps. labukensis* flowers while lovely and larger, tend toward tawny coloration and twisted segments. This clone of the hybrid has a good quantity of inflorescences, with good flower count of medium-sized, reasonably well-formed flowers with interesting and beautiful coloration, particularly in the lip. A new and welcome hybrid of two species generally overlooked as subjects for hybridization with truly interesting and promising results."

To date this is the only cultivar of the cross to have received an AOS award.

CULTURE

Because of their tendency toward pendulous growth habit, plants are best grown in hanging baskets or mounted. Plants can be cultivated in the outdoor garden from June to September in most of the country, best hanging in a shady spot on a tree. Cultivation on the windowsill is possible in a large glass vase or other structure that accounts for their pendulous habit. However, these plants are difficult to grow in pots because of the large, coarse roots.

Morning sun is beneficial to good flowering and they should be provided intermediate to warm temperatures (55–77 F [15–25 C]). If grown in baskets or mounted on cork or tree fern, the roots must be watered frequently, during the warm periods of the year as much as daily. The plant should dry out by evening. Some growers have been successful growing this and other monopodials in a glass container or vase, allowing the roots to hydrate for 10 minutes every three days. This is accomplished by filling the container or vase half full, waiting 10 minutes and then draining off the water. High humidity is required throughout the year.

When in active growth, plants benefit from regular fertilization using ¼ the recommended concentration. Before fertilizing, it is important to water the



[1] *Paraphadenia* Juraj Kojs; photograph courtesy of J. Blättler. Left inset: *Seidenfadenia mitrata* 'Tropic 1' CCM/AOS; exhibitor: Muses' Tropic 1 Orchids, Inc.. Photograph from the AOS award archive. Right inset: *Paraphalaenopsis labukensis* 'Fajen's Starburst' AM/AOS; exhibitor: Fajen's Orchids; photographer: Wes Newton.

[2] Close-up of *Pdn.* Juraj Kojs.

plant thoroughly to avoid potential fertilizer burn on the dry roots.

Paraphadenia Juraj Kojs featured in this article is cultivated by Stefan Reisch, who is responsible for the Glass and Display Houses Units at the Insel Mainau, an island in Lake Constance, Germany. He has been taking care of a large orchid collection for the past 25 years.

The plant pictured here is mounted on natural wood and had two inflorescences with about 32 reasonably well-formed flowers with beautiful coloration, particularly in the flowers' lips, giving the appearance of a lovely bouquet. Flowering occurred in July and August.

Further reading

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Sittisujjatham, S. 2006. *Wild Orchid of Thailand* 1:1–495. Amarin.

— Judith Rapacz-Hasler is a member of the AOS editorial board, spending half the year on Florida's west coast and the remainder in Europe (email: jorapacz@wisc.edu).

Paphiopedilum venustum by Leslie Ee, ND

PAPHIOPEDILUM VENUSTUM IS one of the most beautiful and striking species in the slipper alliance. Its unique reticulated pouch is one of the most recognizable traits. Early on, it was “scorned for its poor substance, undisciplined carriage, often unflattering blends of color and unseemly, even lurid patterns of spots and veins” (Bechtel 1990). It has come a long way since.

The only FCC given to the species was the cultivar ‘Foxcatcher’ (90 pts) in 1989, which stands out even today for the intensity of its rich colors. It had a white dorsal sepal “veined with intense deep bottle green,” “emerald” green petals with “large distinct Van Dyke” brown spots and a “metallic bronze” pouch with “dark green veins.” The description made the flower sound like an art masterpiece! This cultivar has been used in line breeding of the species and has contributed to many awarded offspring such as ‘Sunset Valley Orchids’ AM (84) and ‘Lakehead’ AM (82) with similar coloration. One of the most spectacular cultivars to come out of this ‘Foxcatcher’ lineage was ‘Nobuyuki Yoshida’ AM (81) with the emerald greens and red–brown colored pouch, awarded in 1999. Prior to the emergence of ‘Foxcatcher’, *venustum* did not attract much attention from breeders.

CRITERIA FOR JUDGING FOR *PAPHIOPEDILUM VENUSTUM* Because most awarded *venustums* have a single flower, it is essential to understand the criteria for judging them. Awarded cultivars share many common traits:

1. Strong distinct colors
2. Strong pouch marbling and venation
3. Relatively wide, flat dorsal sepal
4. Petals mostly horizontal
5. Petal tips wide and less recurved (ideally wider than 0.98 inch [2.5 cm])
6. Size matching the average of awards or larger (3.74 inches [9.5 cm] average)
7. Floriferousness where there is one flower for every three growths minimum (for example, a five-flowered plant should not exceed 15 growths)
8. Texture is usually glossy or waxy with a medium–firm substance.

If any of those criteria are exceeded by the flower analyzed, bonus points may be awarded.



AOS AWARD ARCHIVES



CHARLES M. FITCH

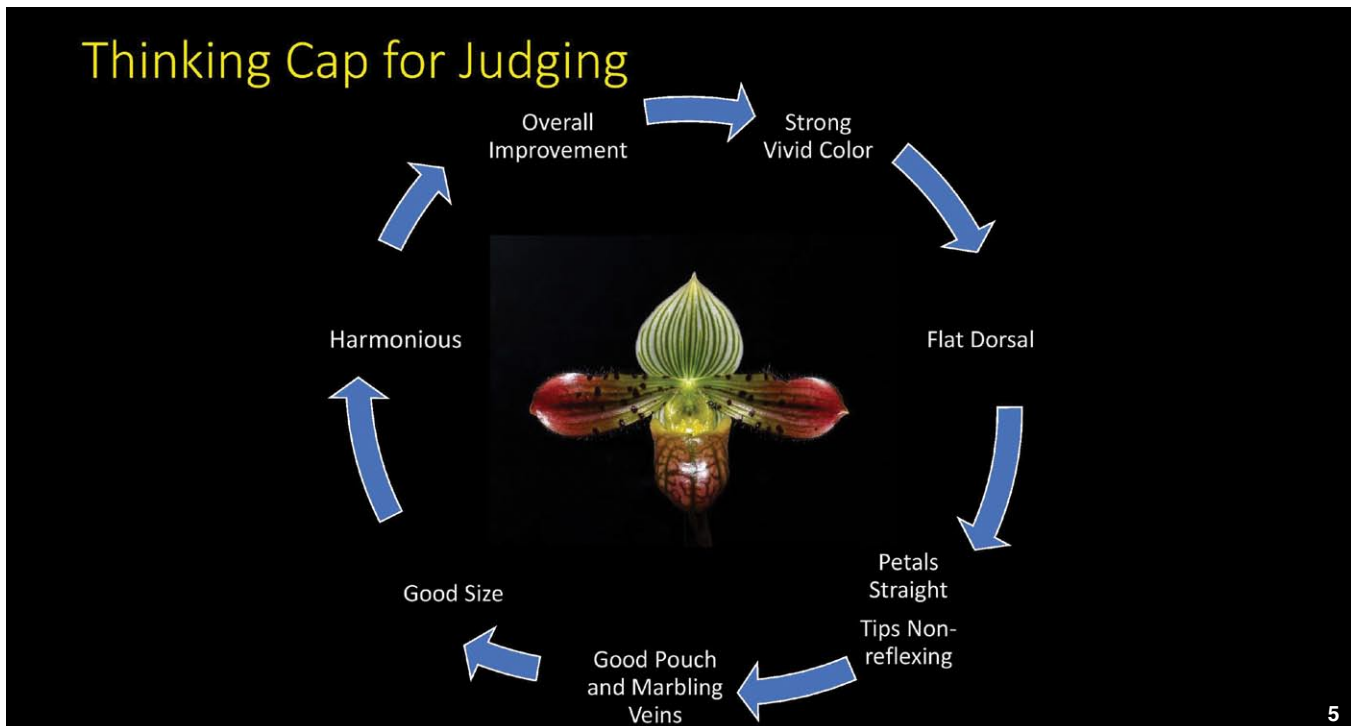


BILL JOHNSON



LOREN BATCHMAN

Thinking Cap for Judging



A THINKING CAP FOR JUDGING PAPHIOPEDILUM VENUSTUM AND ITS HYBRIDS One of the complex decision-making processes during judging is to take all criteria into account. No matter which judging system in the world one follows, this step-by-step thinking cap of the important items to analyze will ensure that one does not miss the essential items during a judging evaluation (see circle), both scientifically and artistically. You can also use this chart to take away or add points systematically from the imagined perfect flower (of the species or hybrid).

The first step is to look at the colors and see if they are strong and vivid, particularly the green and red tones. Gray tones, muddy or subdued colors are discouraged. In albinistic forms, the brighter the whites, the crisper the greens and more vivid the yellows, the better.

Second, check how flat the dorsal sepal is relative to the flower. A little concavity is acceptable. Dorsal sepal carriage in a *Paphiopedilum* can make or break a flower!

Third, check the form of the petals to make sure they are held horizontally and not reflexed or pinched at the ends. A little recurving or reflexing is acceptable at less than 10 degrees along the plane of the petals. Remember that *venustum* petal reflexing is a recessive trait in hybrids.

Fourth, check the pouch for good coloring and distinct green marbling, venation and reticulation. This part of the flower is the one that anchors this species and therefore must stand out. The



brighter the red flush over the pouch face the better. In albinistic forms, the more solid the color the better. There should be no obvious indentations such as pock marks or raised tooth bumps when viewed from the front. Side concavity should be minimal, harmonious and equal bilaterally. Also check that the synsepal is not split at the back, and that it conforms the pouch posterior suitably while keeping the petals forward in balance.

Fifth, make sure the size matches or betters the previous award average for natural spread. Although *venustums* reduce the size of their offspring, as expected, do not let it take away the other special aesthetics and attributes of

- [1] *Paph. venustum* 'Foxcatcher' FCC/AOS, the only FCC ever given to the species. Exhibitor: S. Robert Wertz, Jr.
- [2] *Paph. venustum* 'Nobuyuki Yoshida' AM/AOS; exhibitor: Jason Ong.
- [3] *Paph. venustum* 'Lakehead' AM/AOS; exhibitor: Orchids Limited.
- [4] *Paph. venustum* 'Sunset Valley Orchids' AM/AOS; exhibitor: Fred Clarke.
- [5] Visual representation of the logic flow when considering an award to the species.
- [6] *Paph. venustum* f. *measuresianum* 'Venus Rising' AM/AOS exhibited by Harold Koopowitz — Paph Factory; the most recent award to the albinistic form.



7

LYNN O'SHAUGHNESSY



8

LYNN O'SHAUGHNESSY

the flower. In other words, do not let it be a fatal flaw.

Sixth, look to see if the form and color are harmoniously blended together for a good or superior species or hybrid. Take the plant outside in natural light, if needed, as many indoor lights can mute colors.

Lastly, look to see if there is an improvement over the parents. Were the favorable traits like red petals and green reticulation inherited? Compare the last few awards and see if the current flower can at least match them. Bonus if it is a well-flowered specimen.

By doing this flow chart system, it will give a quantifiable justification and solid ideas of whether the *Paphiopedilum venustum* or its hybrid qualifies for and deserves an award, without missing the essential aspects of the flower. This is much like finding the “je ne sais quoi” in the beauty of the flower.



9

LYNN O'SHAUGHNESSY

[7–9] *Paph. venustum* ‘Alex’s Sweet Song’ AM/AOS, the most recent award to the species (January 15, 2022); exhibitor: Dennis Seffernick.

— Leslie Ee, N.D. (email: drlesliee@hotmail.com).

Reference

Bechtel, P.G. 1990. The FCCs of 1989. *American Orchid Society Bulletin*. 59:2–34.

HOME REMEDIES

— Rather than expensive and potentially dangerous herbicides, spray full-strength vinegar to kill weeds between pavers and on greenhouse floors. (Do not spray on orchids.)

— Aspirin (just $\frac{3}{4}$ of one 325 mg tablet per gallon of water) helps protect plants from fungal and viral pathogens when used as a spray. More is NOT better. Do not exceed this amount.

— Homemade insecticide (mix in a 1 gallon [3.8 L] jug): 1 pint (0.5 L) rubbing alcohol, 1 pint (0.5 L) 409 spray cleaner, and 3 quarts (2.8 L) water. Apply as a spray.

— Isopropyl (rubbing) alcohol can be put into an empty spray bottle and used to treat scale, mealybugs, thrips, aphids, red spider mites and perhaps other pests. It works only while wet and must contact the insect.

— Neosporin has been reportedly used to treat orchid crown rot; remove rotted area of plant before treatment.

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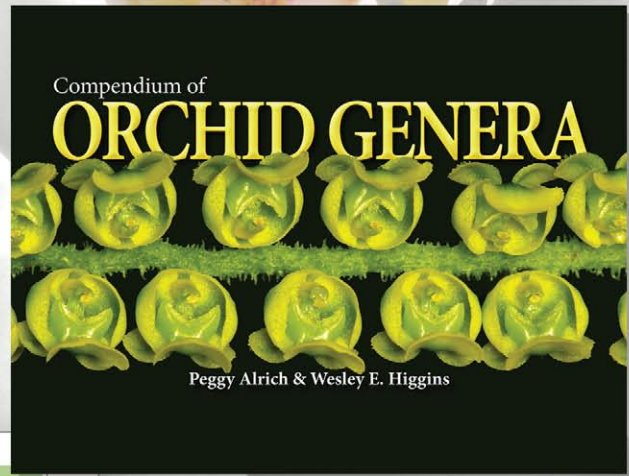
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Valid *Angraecum* Synonyms

Aerobion Kämpfer ex Sprengel
Syn. Veg. Sprengel, ed. 16, 3: 679 & 716 (1826).
Errores: Greek for air and life, referring to the epiphytic habit of the plants.
Lectotype: *Aerobion asperum* (Thouars) Sprengel (*Angraecum asperum* Thouars) (*Angraecum* Cates. *det. det.*, 2003, 10: 1071).

Angraecoides (Cadenot) Schachter, Mynik & Grochocka
Biodivers. Res. Conservation, 20: 9 (2013).
Errores: *Angraecum*, a genus of orchids, and Greek for likeness or form. Refers to a similarity to *Angraecum*.
Type Species: *Angraecoides fragrans* (Frappet) Schachter, Mynik & Grochocka (*Angraecum fragrans* Frappet).

Arachnangraecum (Schlechter) Schachter, Mynik & Grochocka
Biodivers. Res. Conservation, 20: 11 (2013).
Errores: Greek for spider and *Angraecum*, a genus of orchids. Refers to the long, spider-like segments.
Type Species: *Arachnangraecum ramanantsoa* (Thouars) Schachter, Mynik & Grochocka (*Angraecum ramanantsoa* Thouars).

Bonnieria Cadenot
Rev. Gén. Bot., 11: 416, 31: 10-11 (1899).
Errores: In appreciation of Eugène Marie Gaston Bonnier (1853-1922), a French botanist, editor of *Revue Générale de Botanique* and publisher of Cadenot's notes on the orchids of Réunion.
Type Species: *None designated*.

Boryangraecum (Schlechter) Schachter, Mynik & Grochocka
Biodivers. Res. Conservation, 29: 12 (2013).
Errores: Named for Jean Baptiste Bory de Saint-Vincent (1778-1846) a French naturalist and author of *Voyage dans les îles d'Afrique*. *Angraecum*, a genus of orchids.
Type Species: *Boryangraecum panellei* (Schlechter) Schachter, Mynik & Grochocka (*Angraecum panellei* Schlechter).

Cadenotia (Schlechter) Schachter, Mynik & Grochocka
Biodivers. Res. Conservation, 29: 12 (2013).
Errores: Named for Jean Baptiste Bory de Saint-Vincent (1778-1846) a French naturalist and author of *Voyage dans les îles d'Afrique*. *Angraecum*, a genus of orchids.
Type Species: *Cadenotia panellei* (Schlechter) Schachter, Mynik & Grochocka (*Angraecum panellei* Schlechter).

Epilabidoides Vandeke. *Angraecum*
Bot. Beechey, 1: 336 & 19 (1845).
Etymology: From the Latinized form of the Malayan word (*Angrak* or *Angrak*) for the epiphytic orchids that resemble *Aspidistra* and *Isandia* in habit. The name *Angraecum* originated with George Eberhard Rumphius (1628-1702), who coined the word *Angrak*, a name or title given by the Malaysians to parasitical *Epilabid* plants, the meaning of which has not been discovered. From Fagholft Kämpfer (1651-1716) we learn that *Angrak* or *Angrak* is also the name used by the Javanese for these plants.
Generality: *Angraecum eburnaceum* Bory.

Angraecum superbum
Illustrationes Angraecorum (Schlechter) Angraecum L. (1845).

Angraecum humboldtii
Botanische Zeit., 1: 19 (1842).

More than two-hundred twenty-one, very small to very large monopodial epiphytes, a few lithophytes or rare terrestrials have a wide range of distribution in humid, low to mid elevation, coastal to hill scrub, savannas to montane evergreen forests of mainly tropical Africa (Guinea to Somalia, Gabon to Zimbabwe and South Africa), Madagascar, Mauritius to Réunion, although one species is found as far away as the Seychelles and Sri Lanka. These miniature to large, rambling to clump forming, warm to cool growing plants are vegetatively and florally quite diverse. The short to long, sometimes branched stems are leafy throughout with fleshy to leathery, channelled, unequally bilobed, usually dichotomous leaves. The one to several, short to long, solitary to few-flowered inflorescences have long-lasting, small to large flowers in shades of white, ivory or green with sepals and petals free, usually spreading. The flowers are noted for their spots of widely varying lengths from quite long to short. The flowers have a thick, almost leathery texture, an exceptionally long flowering period, and an extraordinarily heavy nocturnal fragrance (usually within the long spurred species) and the lip is larger than the other segments. The shell or boat-shaped, simple or obscurely lobed lip is usually quite concave, its base more or less encloses the column, and it has a central callus. The flowers have a very short, foetal column with deeply divided lobes. Pollinia 2, waxy, each attached to its own narrow or elliptic viscidium. **Culture: Growing conditions and habitat options vary widely from species to species. Generally they do best mounted on a fern slab with good drainage and mist of the species benefit from a resting period of reduced watering. Provide intermediate conditions, bright to diffused light, high humidity and good air movement.**



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*Void where prohibited by law.

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 حنظل العسل

صورة السداب الحنظل العسل

ارمسول وهو نبت تشبه ورقه ورق الفراسيون وفضائه مرته وارققه اصله
 نصف راع ويستدربه زولده شرايق ويميل الى نحو اصله في اخلاها نر مختلفا البر منبه فوجد
 بزود قرونة وفي النوع الاخر يزستطيل اسود وله يستعمل وقل عن هذا اذا تناول الشرايان
 شهوة الجماع واذا عت مع العسل والكلبي القروح التي في العنق والساخ اذا التجه منه ضار بالاحل
 وجذب السلاو كذلك كما اذا صمده فعان لك الفعل فيما البر في وشدة القوة وقد يحاط بارت ومن

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ارمسول

De Materia Medica of Dioscorides

by Wesley Higgins and Peggy Alrich

Ancient Roman Empire and Persian Pharmacolog



WHEN DIOSCORIDES PUBLISHED his five-volume *De Materia Medica* circa A.D. 70, he had no idea that it would become the primary pharmaceutical reference for well over 1,600 years. He described most drugs used in medical practice until modern times. Dioscorides was one of the first writers to emphasize observing plants in their native habitats, and at all stages of growth. *De Materia Medica* also instructs on collecting, using and storing drugs from vegetable, animal and mineral sources. Dioscorides writes “I shall endeavor to use a different arrangement and describe the classes according to the properties of the individual drugs.” The structure was to organize the preparations by the physiological effect of the drug on the body.

Book I, includes aromatic oils, salves, trees and shrubs, and the strongly fragrant liquids, gums and fruits; **Book II** covers animals and parts of animals, drugs made from various creatures and larger denizens, both wild and domestic, and incorporates cereals, and other herbs which have nootropic characteristics, in contrast to the bland poultices made from

barley and the like; **Book III** continues with further roots, juices, and seeds; **Book IV** includes narcotic and poisonous medicinal plants not discussed in the previous books; **Book V** provides details about wines and mineralogy preparations, for example, using mercury, arsenic sulfide, lead acetate, copper oxide and calcium hydrate.

The complete *De Materia Medica* is a huge compaction of well over 600 items fused into about 2,000 recipes or formulas. The earliest copies of Dioscorides’ manuscript were not illustrated. The original Greek manuscript was translated into at least seven other languages including Latin and Arabic. The *De Materia Medica* became a “living text” as translators added illustrations and rearranged the text to be presented in alphabetical order.

Pedanius Dioscorides was born circa A.D. 30 in the town of Anazarbus Cilicia, near Tarsus in Asia Minor (today’s modern Turkey). He was a physician and surgeon traveling with the Roman Empire’s army and would collect samples of the local medicinal herbs wherever he went.

Dioscorides traveled widely throughout the Greek-speaking eastern half of the Roman Empire, and it is likely that he visited Greek communities in Sicily, southern Italy and perhaps even southern Gaul. He started work on *De Materia Medica* around A.D. 50 and turned his passion for plants and other medicinal substances into a monumental reference work. He had access to the library at Alexandria and may have studied at Tarsus. Dioscorides died circa A.D. 90.

The “orchid” illustrations presented here are from a retranslation of the earlier Arabic translation: *Materia Medica*. Arabic.

Translator: Hunayn ibn Ishāq al-‘Ibādī, A.D. 808–873 (Assyrian)

Translator: Mihrān ibn Mansūr ibn Mihrān (fl. 12th cent.)

Calligrapher: Mīrzâ Bâqir (fl. 19th cent.)

Artist: Mīrzâ Bâqir (fl. 19th cent.)

Author: Dioscorides Pedanius, of Anazarbos

Patron: Nāṣir al-Dīn Shāh, Shah of Iran, 1831–1896

سهاقياس كل سيميه اندداس لاجل اكثره منافع اصله وله ورق يشبه ورق الكراث وتصل بل هو اعين
 من ورق الكراث واكثر دهنيه وارتفاع ساقه مقدار شبر ونفوسه تميل الى الفوفيه واصله يشبه الاسبر
 وقوه اصله ان يحلل التزبل اذا ضمده به وبقى القزوح ويمنع من امتساك الساعيه وقد يشفي النواصيح يفتح
 للاصصا التي مد غلط حتمها اذا ضمدت به واذا بس منغ الاكله والفروح العفنه والبشور الحثه التي يكون
 في الفم واذا شرب بالشراب حبس البطن قد ذكر في هذا اللب ما ذكر في خصيتي الكلب



صهوة الساب السحبي الكلب وهو نوع الساب الكلب

ساطور نون وقلبي خصيتي الثعلب اخرون بيمونه ذوالثلاث ايام اولانه لكر الزمان
 يصعد فيه ثلثه اوراق وفيها الحنا الى سل الارض وهي شبه ورق الخماض اوراق الشوسن وبع اصغر
 من ورق الشوسن واصله يشبه اصل اللولماس ويكون كالفجاج بل شدحمه ومن خله ايض كاليضه وفي
 طعمه حلاوة لذيقه وقد قيل عن اصله اذا شرب نفع للكرار الحلقفي اذا شرب مع الشراب ايض اسود ويصح شوق
 الجماع وقد يقال انه يكون نوع اخر من جصى الثعلب يثبت بقرب بحر القلزم وفيه برز يشبه البرز كل بل هو
 اكثر منه وفيه ريق وملاسه واشراقه يذكر انه يهيج شهوة الجماع مثل السقفور وعلى اصله من طاقوشه



3



4

ANTIQUÉ PLATES

Plate 1: Ground orchid SATURION (*Terrestrial orchid* sp.), Two varieties are shown (top); round orchid (*Terrestrial orchid* so.), sâtiryūn (n.p.). Two varieties are shown (top); fol. 166. #3–143. SUGGESTED Names: *Satyrium trifolium* (Fuchs), *Orchis trifolia major* (Bauhin), *Orchis bifolia* (Linnaeus), *Habenaria bifolia* (Brunfels) (other usage) *Satyrium hircinum*, *Orchis hircina*, *Orchis hircinum*, (bottom right); *Salvia pratensis*, (bottom left).

Plate 2: Another variety of orchid (*Terrestrial orchid* sp.), fol. 166. #3–144. SUGGESTED Names: *Satyrium–basilicum mas* (Fuchs, Brunfels), *Orchis palmata angustifolia minor* (Bauhin), *Gymnadenia conopsea* (Brunfels), *Orchis conopsea* (Linnaeus), *Satyrium–basilicum foemina*, *Satyrium–basilicum mas alterum* (Fuchs), *Orchis maculata* (Linnaeus), *Orchis Fuchsii* (in Sprague) — Early Purple Orchid, Dead Man’s Finger. (other usage) *Erythronium dens–canis*.

Plate 3: Ground orchid (*Terrestrial orchid* sp.) ûrkilis (!) (right and left), fol. 165. #3–141. SUGGESTED Names: *Orchis mas latifolia* (Fuchs, Brunfels), *Cynosorchis latifolia* (Bauhin), *Orchis militaris* (Linnaeus), (other usage) *Orchis undulata* — Wavy–leaved Orchid, *Orchis longibracteta* — Sicilian Orchid, *Herminium monorchis*, *Ophrys monorchis* — Musk Orchid.

Plate 4: Levant madder (*Rubia peregrina*) (top); Tongue orchid (*Serapias lingua*), lûnkhiîs (n.p.) (bottom), fol. 172. #3–142. ORCHIS ETROS. SUGGESTED Names: *Triochis–serapias mas* (Fuchs), *Triorchis mas minor* (Brunfels), *Orchis morio* (Linnaeus) — Green Winged Orchid, *Triorchis foemina* (Fuchs), *Orchis fucum* (Bauhin), *Ophrys insectifera* (Linnaeus), *Ophrys apifera* (Sprague), (other usage) *Serapias lingua*, *Serapias cordigera*.

Plate 5: Possibly a terrestrial orchid (*Epipactis latifolia*), labeled “another variety of navelwort,” fol. 209.

Authorities Cited: Leonhart Fuchs (1501–1566) German physician and botanist; Otto Brunfels (1488–1534) German theologian and botanist; Caspar Bauhin (1560–1624) Swiss botanist; Carl Linnaeus (1707–1778), Swedish botanist; and Thomas Archibald Sprague (1877–1958) Scottish botanist.

Reference: Pedanius Dioscorides of Anazarbus, *De materia medica*. Translated by Lily Y. Beck 2005, Olms–Weidmann, Hildesheim, Zurich and New York.



5

Parallel in the Same Space

The 2021 First Class Certificates

BY CAROL KLONOWSKI



THE BEST OF anything seems to stand alone above the rest. With orchids, however, it seems we can see many “bests” representing many types of orchids, when they are awarded the AOS First Class Certificate for flower quality. Each award goes to an individual plant, but here they stand together sharing the space with their peers in our list of FCC awards from 2021.

AOS judges evaluate a flower for form and conformation: fullness, flatness and balance between the flower segments or according to the species involved. Is the color clear, without breaks and any markings distinct? For hybrids, is there an improvement over the parents? The overall habit, floriferousness, size and substance and texture of the flower also contribute to a total score for the flower’s quality. The average of the team’s scores must be 89.5 points or higher on a scale of 100 to receive a First Class Certificate, the AOS’ highest flower quality award.

In the *OrchidPro* database gallery, there are 78 FCCs granted in 2021, nearly double the total from a pandemic-impacted 2020. Most awards were concentrated in areas where AOS judging was allowed, reflecting the unevenness of the pandemic’s impact on orchid activities. Therefore, nearly two-thirds of all FCCs originated from Florida, where venues were opened up for most of 2021. The remaining third came from the rest of the country that managed to meet under their states’ restrictions. Not surprising then, that warmer growing orchids dominate this year’s list.

Brazilian bifoliate cattleyas topped the scoring with three magnificent examples of the spotted, colorful, and fragrant flowers that characterize this part of the genus *Cattleya*: *Cattleya granulosa*, *Cattleya tigrina* and *Cattleya aclandiae*.

Cattleya granulosa ‘Frank Smith’ was the highest point score in 2021 with an impressive 96 points. This species was first described in 1842 growing in warm, humid coastal areas in Brazil as a short, small plant with 5–8 flowers. Fast forward to 2021 and the Central Florida Orchid Society Show on June 5: exhibitor Krull–Smith brought in a robust plant with 14 large, waxy flowers on a single tall sturdy inflorescence. In addition, the full flowers with a natural spread of 5.3 inches (13.5 cm) by 5.2 inches (13.0 cm) were nicely held above the oval leaves. Judges noted the plant exhibited “signs of ploidy,” a term noting a higher number of chromosome sets in the plant’s genetics, and a nod to the plant’s vigor.



NILE DUSCHKE



JULIEN BARBOCH



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Close behind with 95 points is *Cattleya tigrina* ‘Frank Smith’, also exhibited by Krull–Smith in late June. This species is sometimes confused with *Cattleya guttata* and is considered a synonym of *Cattleya leopoldii*. All three species are tall plants with similar long-lasting spotted flowers and bright fuchsia in their lips. This plant was part of an Award of Quality (AQ) that was granted at the same time. ‘Frank Smith’ has bronze flowers with dark mahogany spots that almost disappear into the photographer’s background. An AQ is awarded once to a cross or cultivated species from the same seed capsule exhibited with at least 12 plants, and at least one individual plant must receive a flower quality award. In this case, the FCC for ‘Frank Smith’ was accompanied by two more FCCs in the group, ‘Krull’s Perfection’ and ‘Jordan Winter’, 90 and 92 points respectively.

Cattleya aclandiae ‘Paul II’ received

- [1] *Cattleya granulosa* ‘Frank Smith’ FCC/AOS; exhibitor: Krull–Smith; photograph by Wes Newton.
- [2] *Cattleya aclandiae* ‘Paul II’ FCC/AOS; exhibitor: William Rogerson.
- [3] *Rhyncholaeliocattleya* Mount Dora ‘Frank Smith’; exhibitor: Krull–Smith.
- [4] *Cattleya tigrina* ‘Frank Smith’ FCC/AOS; exhibitor: Krull–Smith.

94 points for seven flat flowers and two buds on five inflorescences. This compact bifoliate with several color forms was exhibited by William Rogerson at the May session of the Chicago Judging Center and upgraded from a previous Award of Merit (AM) of 83 points for two flowers on a single inflorescence in 2007.

Cattleya relative, *Rhyncholaeliocattleya* Mount Dora 'Frank Smith', closed out the year on December 15 with a 95-point award at the Florida North-Central Judging session. It carried two impressive deep-fuchsia flowers submitted on a cut inflorescence by exhibitor Krull-Smith.

Although these cattleyas received the highest scores in 2021, and the Cattleya Alliance had 18 total FCCs, *Vanda* and its relatives garnered the most with a total of 24. With most of the country in the chill of winter, three warm-growing vandas or vanda intergenerics started our award year at the Clermont Garden Club judging in Florida in early January. *Vanda* Kenneth Roberts 'Crystelle', exhibited by Krull-Smith, received 90 points for this hybrid combination of three *Vanda* species: *Vanda suavis*, *Vanda cristata* and *Vanda tricolor*. It had 13 creamy white flowers on two inflorescences with distinct purple markings.

Two papilionandas (*Papilionantha* × *Vanda*) received 90 points each at the same judging: *Papilionanda* Paksorn Fragrance 'Krull's Thailand' and *Papilionanda* Batram 'Crystelle'. Both crosses use *Papilionanda* Mimi Palmer backcrossed to a *Vanda* species. With *Pda.* Paksorn Fragrance, *Vanda insignis* is used, whereas *Pda.* Batram uses *Vanda denisoniana*. Both crosses bring out the dark color and patterns that *Pda.* Mimi Palmer carries with *Vanda tessellata* in its background.

The *Papilionanda* Batram cross also won three other FCCs in 2021 with 'Frank Smith' (92 points in February), 'Krull's Stuart Henderson' (90 points in May) and 'Krull's Hallelujah' (91 points in June). All five plants were exhibited by Krull-Smith.

We also have a first FCC for the genus *Angranthes*, created by crossing *Aeranthes* with *Angraecum*. In this case, the primary hybrid of *Aeranthes grandiflora* and *Angraecum magdalenae* (*Angranthes* Grandalena 'Big Bear's Ivory Star') received 90 points at the Florida West Coast Orchid Society Show. Exhibited by Ryan Kowalczyk, its striking white flower and apple-green spur exemplify a classic image of a Star of Madagascar.

A xanthic form of *Dracula* received 90 points in the Hilo Hawaii judging center



in August. *Dracula gorgona* (Xanthina) 'Pride & Joy' displays two huge flat yellow and white flowers and one bud on three pendulous inflorescences. Exhibited by Ben Oliveros and Orchids Eros.

The genus *Bulbophyllum* has some of the most intriguing flowers in the world. This panglobal genus also has its most FCCs ever with 10 granted in 2021 (six for species, four for hybrids). Highest point scores of 94 each in this group went to two hybrids: *Bulbophyllum* More Than Aghast 'Crystelle' and *Bulbophyllum* Tree Frog 'Crystelle'. The former is a striking example of crossing of *Bulbophyllum agastor*, a heavily spotted, Papuan cool grower, with *Bulbophyllum echinolabium*

- [5] *Papilionanda* Batram 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [6] *Papilionanda* Paksorn Fragrance 'Krull's Thailand'; exhibitor: Krull-Smith.
- [7] *Papilionanda* Batram 'Frank Smith' FCC/AOS; exhibitor: Krull-Smith.
- [8] *Papilionanda* Batram 'Krull's Stuart Henderson' FCC/AOS; exhibitor: Krull-Smith.
- [9] *Papilionanda* Batram 'Krull's Hallelujah' FCC/AOS; exhibitor: Krull-Smith.
- [10] *Angranthes* Grandalena 'Big Bear's Ivory Star' FCC/AOS; exhibitor: Ryan Kowalczyk.



RAMON DE LOS SANTOS

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JEREMY LOSAW

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from Indonesian Borneo. It had one large, satiny flower almost completely suffused deep burgundy.

Bulbophyllum Tree Frog had four beautifully presented yellow flowers with deep burgundy stripes on two inflorescences. It is a cross of *Bulbophyllum* (*macrobulbon* × *bicolor*). The *macrobulbon* parent is notorious for its large, foul-smelling flowers, but increased flower size was one reason the judges upgraded the plant from a prior AM. Both plants were exhibited by Krull-Smith.

Slipper orchids also received 10 FCCs, with a *Phragmipedium* getting one and the rest going to paphiopedilums. *Phragmipedium* Ivan Portilla 'Orchidarium' is a cross of *Phragmipedium kovachii* with *Phragmipedium Grouville* to produce two large rose-pink flowers on a towering 19.7 inch (50 cm) inflorescence. Exhibited by T. Anthony Curtis last March in the Carolinas Judging Center.

Paphiopedilum hangianum, with some of the largest flowers in the genus, was combined with *Paphiopedilum niveum*, with some of the smallest, for primary hybrid *Paphiopedilum* Chou-Yi Yuki 'Big Bear's Ursa Blanca'. It received 92 points for exhibitor Ryan Kowalczyk. On the other end of the spectrum, we see *Paph. hangianum* crossed with one of the largest paphiopedilums, *Paphiopedilum rothschildianum*, for *Paphiopedilum* Alexej 'Crystelle'. Its two large flowers with a natural spread of 8.3 inches (21.0 cm) received 90 points and was exhibited by Krull-Smith.

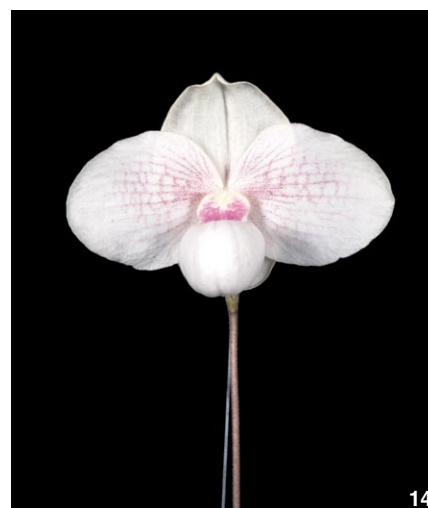
Here we present the most outstanding orchids of 2021. I hope that the coming year will bring in all those blooming orchids that can return to shows and judging centers to join the ranks of FCC winners. In the meantime, enjoy these gems from 2021, all equally wonderful in their own right and in their own space within the orchid world.

—Carol Klonowski (emailcklonowski@aol.com).



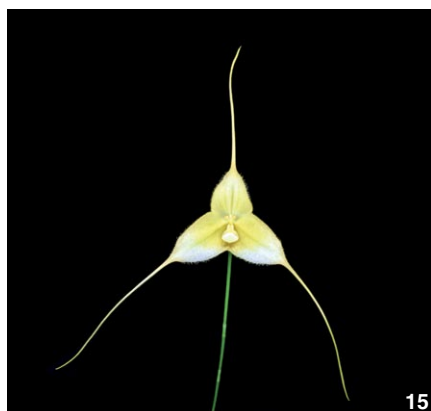
WES NEWTON

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WES NEWTON

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GLEN BARFIELD

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WES NEWTON

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[11] *Bulbophyllum* Tree Frog 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.

[12] *Phragmipedium* Ivan Portilla 'Orchidarium' FCC/AOS; exhibitor: T. Anthony Curtis.

[13] *Bulbophyllum* More Than Aghast 'Crystelle'; exhibitor: Krull-Smith.

[14] *Paphiopedilum* Chou-Yi Yuki 'Big Bear's Ursa Blanca' FCC/AOS; exhibitor: Ryan Kowalczyk.

[15] *Dracula gorgona* (Xanthic Form) 'Pride & Joy' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.

[16] *Paphiopedilum* Alexej 'Crystelle' FCC/AOS; exhibitor: Krull-Smith



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WES NEWTON



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WES NEWTON



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H.A. RUSSELL, III



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WES NEWTON



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WES NEWTON



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KAY CLARK



WES NEWTON



WES NEWTON



WES NEWTON



WES NEWTON



WES NEWTON



WES NEWTON

- [17] *Vanda* Kenneth Roberts 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [18] *Phalaenopsis bellina* 'James Curtis Krull' FCC/AOS; exhibitor: Krull-Smith.
- [19] *Paphiopedilum primulinum* 'Viv's Sunshine' FCC/AOS; exhibitor: James Arnold.
- [20] *Cattleya* Peckaviensis 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [21] *Vanda coerulea* 'Frank Smith' FCC/AOS; exhibitor: Krull-Smith.
- [22] *Papilionanda* Naoki Kawamura 'MV Raven' FCC/AOS; exhibitor: Stuart Henderson.
- [23] *Papilionanda* Motes Wise Women 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [24] *Phalaenopsis* Krull's Yellow Prince 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [25] *Bulbophyllum* Tree Frog 'Frank Smith' FCC/AOS; exhibitor: Krull-Smith.
- [26] *Vanda* Suksamran Spots 'Garrett's Oh Wow' FCC/AOS; exhibitor: Sharon and David Garrett.
- [27] *Perreirara* Rapeepath 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [28] *Phalaenopsis pulcherrima* (Champorensis) 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.



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WES NEWTON



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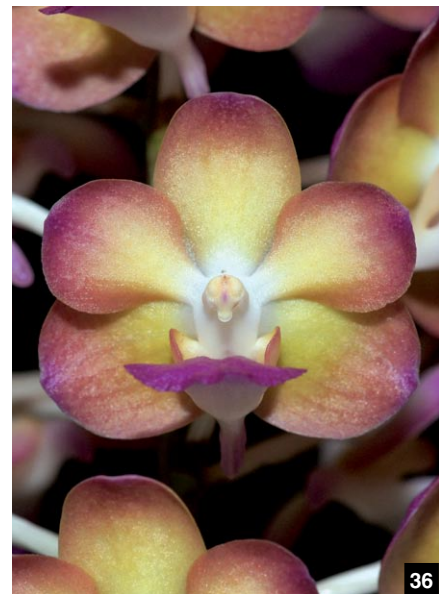
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BRIAN MONK



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WES NEWTON



35
KAY CLARK



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BETH LAMB



WES NEWTON

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WES NEWTON

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KAY CLARK

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- [29] *Phalaenopsis tetraspis* 'Whisper Bredren's Beauty' FCC/AOS; exhibitor: Laura and Wes Newton.
- [30] *Vandachostylis* Christine Joan 'Garrett's Green Light' FCC/AOS; exhibitor: Sharon and David Garrett.
- [31] *Bulbophyllum echinolabium* 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [32] *Bulbophyllum macrobulbon* 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [33] *Paphiopedilum* Frank Smith 'Jordon Winter' FCC/AOS; exhibitor: Krull-Smith.
- [34] *Vanda lamellata* var. *boxallii* 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [35] *Vandachostylis* October Twenty Second 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [36] *Perreiraara* Lovey Dovey 'Winter Haven' FCC/AOS; exhibitor: Keith and Dina Emig – Winter Haven Orchid Nursery.
- [37] *Rhyncholaeliocattleya* Heaven's Gate 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [38] *Rhyncholaeliocattleya* Memoria Brian Jonathan Susskind 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [39] *Paphiopedilum* Petula's Distinction 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [40] *Bulbophyllum romyii* 'Whisper At Last' FCC/AOS; exhibitor: Laura and Wes Newton.
- [41] *Bulbophyllum romyii* 'Julio David' FCC/AOS; exhibitor: Julio David Rios.



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BRIAN MONK



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BRIAN MONK



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WES NEWTON



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TOM KULIGOWSKI



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WES NEWTON

WES NEWTON



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WES NEWTON



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GLEN BARFIELD



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WES NEWTON



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- [42] *Renanthera imschootiana* 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [43] *Dendrobium lasianthera* 'Krull-Smith' FCC/AOS; exhibitor: Krull-Smith.
- [44] *Bulbophyllum* Wade Hollenbach 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [45] *Catasetum schmidtianum* 'Tommy Bednar' FCC/AOS; exhibitor: Olivier Turina.
- [46] *Papilionanda* Siwalatri 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [47] *Cattleya tigrina* 'Krull's Perfection' FCC/AOS; exhibitor: Krull-Smith.
- [48] *Cattleya praestans* (Concolor) 'Savinho' FCC/AOS; exhibitor Ben Oliveros - Orchid Eros.
- [49] *Phalaenopsis* Phoenix Firefight 'Phoenix Ruby' FCC/AOS; exhibitor: Wes Addison.
- [50] *Rhyncholaeliocattleya* Krull's Dragon Fire 'Frank Smith' FCC/AOS; exhibitor: Krull-Smith.
- [51] *Cattleya tigrina* 'Jordon Winter' FCC/AOS; exhibitor: Krull-Smith.



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WES NEWTON



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JEREMY LOSAW



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TOM KULIGOWSKI



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RAMON DE LOS SANTOS



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TOM KULIGOWSKI



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JEREMY LOSAW



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LOIS CINERT

CHARLES WILSON



59

CARMEN JOHNSTON



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GLEN BARFIELD



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CARMEN JOHNSTON



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CARMEN JOHNSTON



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CARMEN JOHNSTON



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GLEN BARFIELD



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- [52] *Bulbophyllum claptonense* (Flavum) 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [53] *Phalaenopsis* Chienlung Happy Queen 'Blue Ridge Finest' FCC/AOS; exhibitor: Mike Mims.
- [54] *Phalaenopsis cornu-cervi* f. *chattaladae* 'Crownfox' FCC/AOS; exhibitor: R.F. Orchids, Inc.
- [55] *Paphiopedilum* Rollie Wilson 'Dana Lynn' FCC/AOS; exhibitor: Tyler M. Albrecht.
- [56] *Phalaenopsis bellina* 'Ponkan' FCC/AOS; exhibitor: Lucy Matos-Lodato.
- [57] *Phalaenopsis bellina* 'Mike Mims' FCC/AOS; exhibitor: Mike Mims.
- [58] *Cattleya* Lacey Michelle Matherne 'Kathleen III' FCC/AOS; exhibitor: William Rogerson.
- [59] *Nottara* Lucy's Sassafras 'Mary Jane' FCC/AOS; exhibitor: Firelli Alonso and Jon Crate.
- [60] *Encyclia* Orchid Jungle 'Tom's Triumph' FCC/AOS; exhibitor: Motes Orchids, Inc.
- [61] *Cattleya tigrina* 'Orchid Eros' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.
- [62] *Catasetum* Richard Fulford 'El Papa' FCC/AOS; Armando Bettancourt.
- [63] *Vanda denisoniana* 'Crystelle' FCC/AOS; exhibitor: Krull-Smith.
- [64] *Aerides lawrenceae* 'Soroa Triumph' FCC/AOS; exhibitor: Soroa Orchids.
- [65] *Paphiopedilum* Johanna Burkhardt 'OrchidFix Abbondanza; exhibitor: The OrchidFix Nursery, Inc.



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GLEN BARFIELD



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GLEN BARFIELD



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GLEN BARFIELD



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GLEN BARFIELD



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WES NEWTON



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CARMEN JOHNSTON



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WES NEWTON

ROSS LEACH



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ROSS LEACH



76

GLEN BARFIELD



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WES NEWTON



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KAY CLARK



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- [66] *Cattleya percivaliana* 'Dave Off' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.
- [67] *Cattleya* × *dolosa* (Alba) 'Mirtha Isabel' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.
- [68] *Cattleya schofieldiana* 'Jolly Green Giant' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.
- [69] *Cattleya percivaliana* 'Valerie Leonard' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.
- [70] *Vanda* Kristina Gossman Ducanes 'Yellow Splash'; exhibitor: Krull–Smith.
- [71] *Catasetum* Richard Fulford 'Caroline Margolis' FCC/AOS; exhibitor: Mark Margolis.
- [72] *Papilionanda* Keiichi Kawamura 'Naoki's Trifecta' FCC/AOS; exhibitor: Naoki Kawamura.
- [73] *Paphiopedilum* Dollgoldi 'Sheri' FCC/AOS; exhibitor: Hillsvie Gardens.
- [74] *Papilionanda* Naoki Kawamura 'Whisper He's the Best' FCC/AOS; exhibitor: Wes and Laura Newton.
- [75] *Bulbophyllum macrobulbon* 'Frank Smith' FCC/AOS; exhibitor: Krull–Smith.
- [76] *Paphiopedilum* Booth's Supersuk 'Laurie Susan Weltz' FCC/AOS; exhibitor: Thornton Conservatory.
- [77] *Cycnoches cooperi* 'Mission Accomplished' FCC/AOS; exhibitor: Ben Oliveros – Orchid Eros.



Vanda christensoniana 'Angie Sue Pitiriciu' FCC-CCE/AOS; exhibitor: Mike and Angie Pitiriciu.

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Amazing Blooms in Difficult Times

2020 AOS Special Annual Awards

BY NILE S. DUSDIEKER

DURING A TYPICAL year, over 60,000 orchids are viewed at American Orchid Society affiliated orchid shows and monthly judging sessions across the United States and abroad. Typically, 2,500 to 3,000 orchids receive an AOS award each year. The year 2020 started out relatively normally with many winter shows and judgments, but by early March the COVID-19 pandemic led many AOS Judging Centers to cancel all judging activity. As a result of cancellations, only 1,011 AOS awards were recorded. From these, the 2020 Special Awards were chosen by review of photographs and nominations submitted by the 27 judging centers

Ann and Phil Jesup Botanical Trophy for the most outstanding species
Rhynchostylis gigantea 'Crownfox Confetti' FCC/AOS, Exhibitor: R.F. Orchids, Photographer: Tom Kuligowski, West Palm Beach Center Monthly Judging, January 25, 2020.

This plant had 103 flowers on three cascading inflorescences. Bob Fuchs said, "This came out of a group of seedlings that was the dark-red form crossed back with the normal species, which is white with maroon spots. Several of the seedlings have produced extremely dark markings and have exceptional form. Despite the COVID-19 pandemic, we were very fortunate here (in south Florida), as the nature of our business is outdoors and the air flows freely through the greenhouses. Our nursery never closed, and folks visited us throughout this whole time."

The Butterworth Prize for the most outstanding orchid culture and the Ernest Hetherington Cymbidium Award for the most outstanding cymbidium species or hybrid

Cymbidium Geno's Gem 'Emerald Fire' CCE-FCC/AOS, Exhibitor: Krull-Smith, Photographer: Kay Clark, Florida North-Central Judging Center, February 22, 2020.



Rhynchostylis gigantea 'Crownfox Confetti' FCC/AOS, winner of the Phil and Ann Jesup Botanical Trophy for the most outstanding species.

What an amazing plant this was with 680 flowers on 30 pendent inflorescences. The golden flowers were nearly perfect, and they also received an FCC of 91 points. Frank Smith commented, "I saw *Cym. Geno's Gem* 'Emerald Fire' when it was a first-bloom seedling at the Santa Barbara International Orchid Show (2007, Best Cymbidium Trophy). I fell in love with the flowers and was eventually able to get a small division a few years later. The plant does extremely well here throughout Florida and around the country. It is by far the most vigorous, warm-growing cymbidium we grow."

The W.W. Wilson Award for the most outstanding example of the Cypripedium Alliance

Phragmipedium Fritz Schomburg 'Pucker Up' AM/AOS, Exhibitor: Orchids Limited, Photographer: Bill Johnson, Orchid Society of Minnesota Show, Chicago Judging Center, January 25, 2020.

Jerry Fischer made this cross in 2010 between tetraploid *Phragmipedium besseae* 'Robs Choice' AM/AOS and his best *Phragmipedium kovachii*. "With any *Phrag.* cross, we have found that the third time the plants flower is when we see the full potential of what the plants can produce" and so it was!

The Masatoshi Miyamoto Award for the most outstanding example of the Cattleya Alliance

Cattleya Lacey Michelle Matherne 'Crystelle' FCC/AOS, Exhibitor: Krull-Smith, Photographer: Wes Newton, Florida North-Central Judging Center, June 13, 2020.

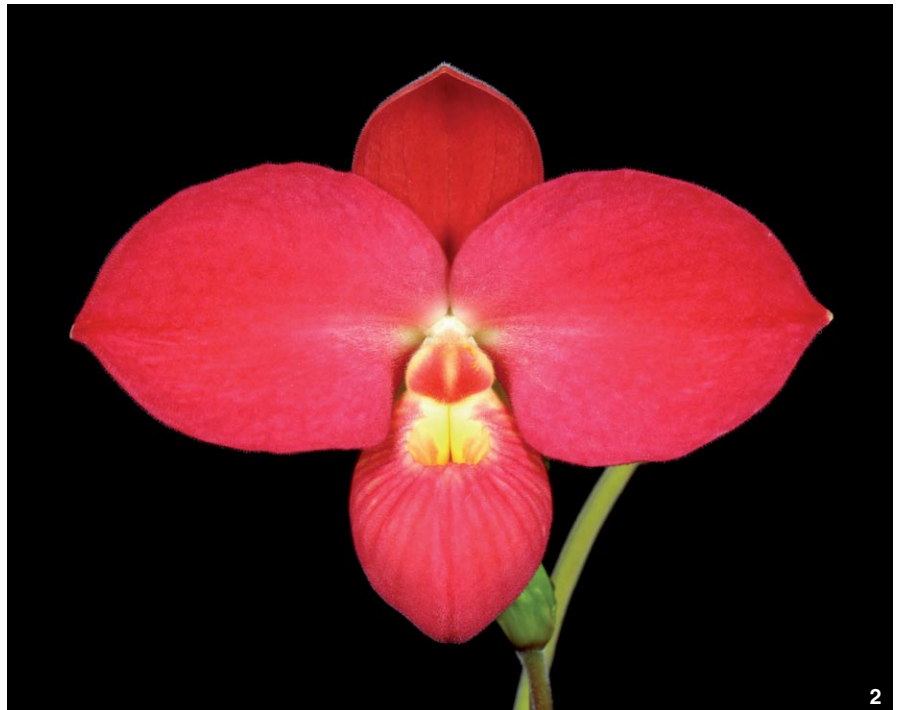
A cluster of eight vibrantly colored flowers on one inflorescence warranted this award. "This *C. Lacey Michelle Matherne* always produces an incredible inflorescence high above the foliage," Frank said. This hybrid received "the best qualities of both parents, *C. aclandiae* 'Krull-Smith' FCC/AOS × *C. tigrina* 'Black Prince'. The flowers are extremely fragrant and hold their color for weeks."



The Herbert Hager Award for the most outstanding Phalaenopsis

Phalaenopsis Pylo's Giga Eagle 'Jim Krull' AM/AOS, Exhibitor: Krull-Smith, Photographer: Wes Newton, Florida North-Central Judging Center, March 14, 2020.

These three beautifully marked flowers and four buds on one inflorescence confirm the importance of the newer novelty breeding trends in *Phalaenopsis*. "This hybrid was bred by Peter Lin. I think the thing that makes this flower stand out from most of its siblings is its extremely unusual color," said Frank Smith.



The Carlyle A. Luer Award for the most outstanding example of the Pleurothallid Alliance

Platystele beatricis 'Diego' CCE/AOS, Exhibitor: Pascal Arrondeau, Photographer: Bryan Ramsay, Asociación Caldense de Orquideología (Manizales, Colombia) sponsored by the Pacific Northwest Judging Center, March 12, 2020.

Pascal has only been growing orchids for five years. He grows this plant in a glass bubble, which he changes as the plant enlarges. "I love miniatures and I took advantage of the pandemic to build myself a new growing space to better organize my collection."



The Roy T. Fukumura Award for the most outstanding example of the genus Vanda, related genera in the subtribe Aeridinae, and intergeneric hybrids

Aerides lawrenceae 'Crownfox Velvet' FCC/AOS, Exhibitor: R.F. Orchids, Photographer: Jeremy Losaw, Carolinas Judging Center, September 19, 2020.

Forty-seven pristine white, blending to intense fuchsia flowers on two arched



inflorescences are recognized here. Bob Fuchs commented, “this *Aer. lawrenceae* came out of a sibling cross we made a few years ago that received an Award of Quality. We are continuing with our breeding program with this group.”

The James and Marie Riopelle Award for the most outstanding example of *Miltonia/Miltoniopsis* species or hybrid
Miltonia Golden Jaguar ‘Julia Katherine’ HCC/AOS, Exhibitor: Eron Borne, Photographer: Wilton Guillory, Shreveport Center Monthly Judging, July 25, 2020.

Eron said, “I picked out this orchid in person from a vendor’s greenhouse about 10 years ago. It caught my eye for its symmetry and great color, but most alluring was the suffusion and veining of the purple on a pristine white lip! I patiently waited for just the right blooming, peaking on a judging weekend, and it finally worked out last year! It was our second month back for judging.” Excellent luck!

The Robert B. Dugger Odontoglossum Award (plants must have parentage that contains a former odontoglossum as defined by the taxonomy in place at the time the award was established in 1996)
Oncidium Drummer Harry ‘Red Explosion’ HCC/AOS, Exhibitor: New Vision Orchids, Photographer: Mei Ling Clemens, Great Lakes Judging Center, January 25, 2020.

This plant had 44 full, flat, brilliant red flowers on two inflorescences. Russ Vernon said, “it came to me as a seedling hybrid made by Bob Burkey. It has *Oncidium* (*Odontioda*) Harry Baldwin as a parent, which is a grex that has produced many fine hybrids. It is a vigorous grower and freely produces branched inflorescences, which makes for an impressive display.” It was judged at the Grand Valley Orchid Society Show, which was held before Covid shutdowns. “The challenge at that time of year is getting orchids safely into and out of the show in cold temperatures.”

The Benjamin Kodama Award for the most outstanding example of the Dendrobium Alliance

Dendrobium lasianthera ‘Krull-Smith’ AM/AOS, Exhibitor: Krull-Smith, Photographer: Wes Newton, Florida North-Central Judging Center, October 10, 2020.

This plant shows the typical form of an “antelope dendrobium” with symmetrically twisted sepals and petals. “This is by far the most beautiful



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- [1] *Cymbidium* Geno’s Gem “Emerald Fire” CCE–FCC/AOS, winner of the Butterworth Prize for most outstanding culture and the Ernest Hetherington Award for the most outstanding cymbidium.
- [2] *Phragmipedium* Fritz Schomburg ‘Pucker Up’ AM/AOS, winner of the W.W.W. Wilson Award for the most outstanding member of the Cyripedioideae.
- [3] *Cattleya* Lacey Michelle Matherne ‘Crystelle’ FCC/AOS, winner of the Masatoshi Miyamoto Award for the most outstanding example of the Cattleya Alliance.
- [4] *Phalaenopsis* Pylø’s Giga Eagle ‘Jim Krull’ AM/AOS, winner of the Herbert Hager Award for the most outstanding Phalaenopsis.
- [5] *Platystele beatricis* ‘Diego’ CCE/AOS, winner of the Carlyle A. Luer Award for the most outstanding example of the Pleurothallid Alliance.
- [6] *Aerides lawrenceae* ‘Crownfox Velvet’ FCC/AOS, winner of the Roy T. Fukumura Award for the most outstanding example of the genus *Vanda*, related genera in the subtribe Aeridinae, and intergeneric hybrids.
- [7] *Miltonia* Golden Jaguar ‘Julia Katherine’ HCC/AOS, winner of the James and Marie Riopelle award for best *Miltonia* or *Miltoniopsis*.

Dendrobium species I have exhibited,” said Frank. “The flowers are extremely large, with an amazing brilliant purple labellum that catches everyone’s attention.” These are very hard to grow in cooler climates, however!

The Fred Hillerman Award for the most outstanding example of the Angraecoid Alliance

Angraecum Crestwood ‘Tomorrow Star’ CCM–FCC/AOS, Exhibitor: Krull–Smith, Photographer: Wes Newton, Venice Area Orchid Society Show, Florida North–Central Judging Center, February 1, 2020.

This is an old hybrid made in 1973 and features 75 percent genetic parentage from *Angraecum sesquipedale*. Darwin made *Angcm. sesquipedale* famous by postulating a pollinator able to suck nectar from the orchid’s long spur. Frank Smith comments, “It is very easy to grow, not only here in Central Florida, but grows very well around the country.”

The Benjamin C. Berliner Award for the most outstanding *Lycaste*, *Sudamerlycaste* or *Anguloa*

Lycaste Green Valley ‘Cin Cin’ AM/CCE/AOS, Exhibitor: Stephen Shifflett, Photographer: Bryan Ramsay, Virginia Orchid Society Show (Richmond, Virginia), National Capital Judging Center, February 21, 2020.

“This *Lycaste* is grown in a greenhouse with phalaenopsis and watered similarly, nearly dry in cool weather and moderately dry when warmer. No water at all when leaves begin yellowing in October until blooms appear in February. We have had this plant in our collection for 20+ years, which is what is required for such spectacular performance (60 flowers on 62 inflorescences arising from 33 leafless pseudobulbs),” said Steve Shifflett of Floradise Orchids, Gordonsville, Virginia.

The Milton Carpenter Intergeneric Oncidiinae Award

Brassidomesa Golden Stars ‘Sonoma Gem’ AM/AOS, Exhibitor: Gold Country Orchids/Alan Koch, Photographer: Ramon de los Santos, California Sierra Nevada Judging Center, June 28, 2020.

“What can I say,” comments Alan, “this is the third time this cross has won this award, twice by me and once by Japheth Ko. This cross is always in flower at the nursery and grows in any of my three different climate–controlled greenhouses. It grows like a weed. I will not call it a weed in that the definition of a weed is any plant that grows where you do not



want it to.” Alan has remained close to his nursery with the onset of the COVID–19 pandemic. “Since I am here, I can take a more integral part in the growing and that means better water and fertilizer practices, therefore better plant growth.”

The Bill Thoms Award for the most outstanding example of the Bulbophyllinae and the Merritt W. Huntington Award for the most outstanding First Class Certificate (FCC)

Bulbophyllum Wes Newton ‘Big Bear’ FCC/AOS, Exhibitor: Ryan Kowalczyk, Photographer: Kay Clark, Florida North–Central Judging Center, August 22, 2020.

Ryan remarks that his greenhouse was destroyed by Hurricane Irma in 2017 and he was growing in a pool cage until his new greenhouse was built. “Culture on the plant has been similar to cattleyas for light, but with more even moisture. At the time of the award, it was growing in a 4–inch (10 cm) pot with sphagnum moss. It is not a large growing plant, as the bulbs are placed tight together; it is quite tidy. The judging that my plant was awarded at was the first judging at the Tampa center after the shutdown.”

The Frank Sr. and Elizabeth Jasen Award the most outstanding example of the Stanhopea Alliance

Coryhopea Red Martian ‘Shogun Hawaii’ AM/AOS, Exhibitor: Shogun Hawaii, Matthias Seelis, Photographer: Glen Barfield, Hawaii Judging Center, July 24, 2020.

Matthias said, “I got the *Coryhopea* from Ecuagenera 11 years ago and fell in love with it the second year it bloomed. As the flowers are short lived, they are hard to get awarded. I grow many *Coryhopea* and *Coryanthes* at my farm here in Hawaii. I am running my orchid farm all by myself with NO workers at all; I am behind on everything!” Red Martian is a beautiful reward for all the hard work.

The Fuchs Family Award for the most outstanding example of the genus *Vanda*, species or hybrid

Vanda Jim Krull ‘Thanksgiving Day’ AM/AOS, Exhibitor: Krull–Smith, Photographer: Wes Newton, Florida North–Central Judging Center, November 14, 2020.

This hybrid was registered in 2020, “Named for Jim Krull, one of the founders at Krull–Smith, and bred by Chom Orchids in Thailand,” said Frank Smith. The grex has received six AOS awards in the short interval to present day despite the shutdowns; a very impressive cross!



The Walter Off Exhibit Award for the most outstanding AOS Show Trophy, Silver Certificate, Gold Certificate or Educational Award exhibit at an AOS sanctioned orchid show

American Orchid Society Show Trophy ‘Happy Valentine’s Day’ ST–SC/AOS, Exhibitor: Maryland Orchid Society, Photographer: Bryan Ramsay, National Capital Orchid Society Show (Washington, DC), February 14, 2020.

John Heinbokel, President of the society, forwarded these comments: “The actual exhibit design only occurs on site as everything comes together. We are blessed to have a core group of exhibit builders with many years of show experience. We needed several elements: good plants and flowers, technical skill in labeling and posing each plant, and a creative flair for arranging them into an integrated display. ‘Happy Valentine’s Day’ was triggered by the date of the show, which was the last (show) at which we have exhibited.”

- [8] *Oncidium* Drummer Harry ‘Red Explosion’ HCC/AOS, winner of the Dugger Award for best former odontoglossum hybrid.
- [9] *Dendrobium lasianthera* ‘Krull–Smith’ AM/AOS, winner of the Kodama Award for best Dendrobium Alliance.
- [10] *Angraecum* Crestwood ‘Tomorrow Star’ CCM–FCC/AOS, winner of the Fred Hillerman Award for the best Angraecoid.
- [11] *Lycaste* Green Valley ‘Cin Cin’ AM/CCE/AOS, winner of the Berliner Award for the best *Lycaste*, *Sudamerlycaste* or *Anguloa*.
- [12] *Brassidomesa* Golden Stars ‘Sonoma Gem’ AM/AOS, winner of the Milton Carpenter Award for the best orchidium intergeneric hybrid.
- [13] *Coryhopea* Red Martian ‘Shogun Hawaii’ AM/AOS, winner of the Frank Sr. and Elizabeth Jasen award for the best Stanhopeiinae.
- [14] *Bulbophyllum* Wes Newton ‘Big Bear’ FCC/AOS, winner of the Bill Thoms award for the best bulbophyllum.
- [15] *Vanda* Jim Krull ‘Thanksgiving Day’ AM/AOS, winner of the Fuchs Family Award for most outstanding *Vanda*.

The Paul and Mary Storm Award for the most outstanding hybrid with at least one valid *Myrmecophila* species or a former *Schomburgkia* in its background
Myrmecocattleya Monte Bello 'Julio David' AM/AOS, Exhibitor: Julio David Rios, Photographer: Marinés Torres, Puerto Rico Judging Center, November 7, 2020.

Julio said, "plant was a division that I received from a member of my orchid society. When he gave me the plant, it was completely yellow because he had used Clorox to spray his plants. After three years the plant recovered completely and gave me the bloom that was awarded" (seven rose-purple flowers on one tall inflorescence). These are in general not small plants to grow!



The Martin Motes Orchid Breeder's Award to the breeder and exhibitor of the best Award of Quality or Award of Distinction

Vanda Nanette Zapata AQ/AOS, Exhibitor: R.F. Orchids, Photographer: Tom Kuligowski, West Palm Beach Judging Center, February 22, 2020.

Bob Fuchs commented, "Hybridizing for me, with my art background, has been like taking a palette of colors, blending them, and producing exciting and new hues. It works a lot easier in painting than it does in hybridizing. The V. Nanette Zapata was an exceptional success story. This is one that we have been working on for several years to include colors such as pinks, raspberry and blues hybridized with yellows."



The Mario and Conni Ferrusi Award for the most outstanding *Masdevallia*, *Dracula* or *Dracuvallia*

Masdevallia O'Brien's Passion 'Only One' FCC/AOS, Exhibitor: Okika Ltd. Glen Barfield, Photographer: Glen Barfield, Hawaii Judging Center, August 8, 2020.

Glen "bought this plant from Hilo Orchid Farm in Hawaii. The owner said he was visiting the Orchid Zone and noticed this flower blooming alone in a 72-cell (seedling) tray. He bought the whole tray thinking that others would be as good or better than the one in bloom. It turned out that the one in bloom was the only one that had a decent flower, hence the name Only One." This plant had "one impressive, eye-catching flower on a solitary 17½-inch (44-cm) inflorescence, recognized for exceptional color and outstanding size," an impressive single-flowered FCC!





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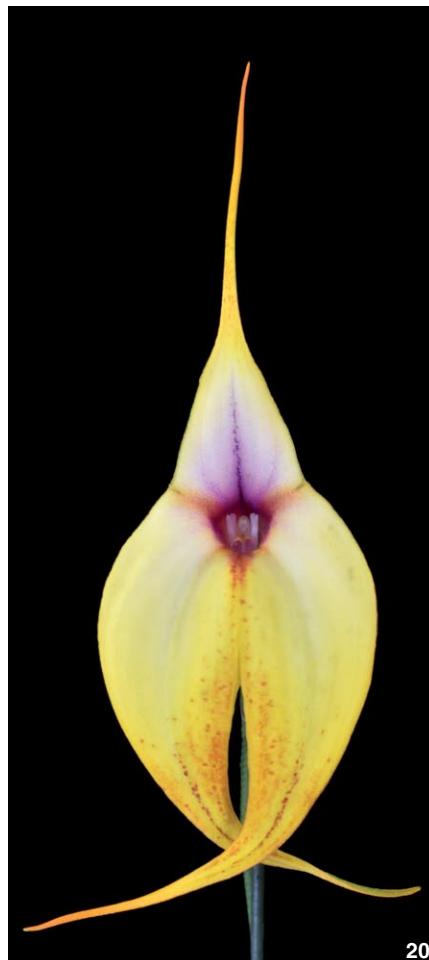
The Renee and Marvin Gerber Award (established in 2019) for the most outstanding hybrid with *Brassavola* as a parent

Brassomicra Doña Estela 'Doña Luz Altagracia' CCE/AOS, Exhibitor: Yaquela Liriano, Photographer: Raul Emilio Asencio Moris, Sociedad Dominicana de Orquideología (Santo Domingo, Dominican Republic) sponsored by Dallas Judging Center, February 19, 2020.

This massive plant with over 250 flowers, each with a natural spread of more than 1½ inches (4 cm) must have been impressive to view! This is an interesting hybrid: one parent, *Tetramicra canaliculata*, is a native terrestrial orchid from the Caribbean Island of Hispaniola. It has wide colorful petals and a rounded lip. The predominate lip of *Brassavola nodosa* dominates the flower shape of this cross.

Next year's Special Awards, from 2021, will still be impacted by the restrictions due to COVID-19 but many of us have learned to safely resume orchid shows and judging sessions. Fortunately, *Amazing Blooms* will always be there to lift our spirits.

— Nile S. Dusdieker (email: niledusdieker@gmail.com).



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- [16] American Orchid Society Show Trophy 'Happy Valentine's Day' ST-SC/AOS, winner of the Walter Off Exhibit Award for the most outstanding AOS Show Trophy, Silver Certificate, Gold Certificate or Educational Award exhibit at an AOS sanctioned orchid show.
- [17] *Myrmecocattleya* Monte Bello 'Julio David' AM/AOS, winner of the Paul and Mary Storm Award for the most outstanding hybrid with at least one valid *Myrmecophila* species or a former *Schomburgkia* in its background.
- [18] *Vanda* Nanette Zapata AQ/AOS, bred from *Vanda* (Barbara Prozillo 'Crownfox' AM/AOS × Adelaide Skoglund 'Bill's Delight'); winner of the Martin Motes Orchid Breeder's Award to the breeder and exhibitor of the best Award of Quality or Award of Distinction.
- [19] *Brassomicra* Doña Estela 'Doña Luz Altagracia' CCE/AOS, winner of the Renée and Marvin Gerber Award (established in 2019) for the most outstanding hybrid with *Brassavola* as a parent.
- [20] *Masdevallia* O'Brien's Passion 'Only One' FCC/AOS, winner of the Mario and Conni Ferrusi Award for the most outstanding *Masdevallia*, *Dracula* or *Dracuvallia*.

Paphiopedilum venustum

Unlocking the Secret of the Marbled Pouch After Two Centuries

Part 1: Species and Natural Hybrids

BY LESLIE EE, ND



NO ONE WHO has ever seen a *Paphiopedilum venustum* will forget its alien-like marbled-green pouch that looks like a brain. The first time I ever saw one, I was captivated. Years later, by chance, I saw a vermilion-red pouch *Paph. venustum* with long, flat red petals (apparently discovered in Nepal), and I was intrigued again. From that point onwards, I became obsessed and went on an odyssey to find such a plant. From rummaging online to traveling abroad, I was relentless in my pursuit of finding that elusive red-pouch *venustum*. Little did I know that this obsession would lead me to embark upon an adventure of discovery I would never have imagined. Like others before me, and many to come, I came under the spell cast by this little flower.

HISTORY *Paphiopedilum venustum*: (Wallich ex Sims) Pfitzer, Jahrb. Wiss. Bot.19:163 (1888)

With dazzling colors of deep reds and burgundy, emerald greens, and its distinctive “brainy” marbled pouch, *Paph. venustum* is one of the most easily recognizable and beautiful species in the genus.

The late Holger Perner (2013) wrote “The venous pouch of near morbid charm is its hallmark” — an apt and timeless description of this tantalizing species.

It was discovered over 200 years ago in 1816 around the Sylhet area (of Bangladesh) by Dr. Nathaniel Wallich, the Dutch superintendent of the Calcutta Botanical Garden at that time. In his letter to his friend Dr. Francis Hamilton, he called it “the third new slipper species from Nepal.” Little did they know, it was in fact the first true *Paphiopedilum* species to be officially discovered!

This distinction of being the first to be described makes it stand out in history (Kew Herbarium: *Wall. Cat.* 7023). The description was written up in 1820 in *Curtis’s Botanical Magazine* (t.2129) by Kew’s John Sims as *Cypripedium venustum* (etymology: *venustum* in Latin means “beautiful and graceful,” although Wallich may have requested this name for the “venations” in the pouch). Sims further described it as “Comely Lady’s Slipper.” It was moved to several genera afterwards; Rafinesque moved it to *Stimegas*, and later Pfitzer moved it to its current position as *Paphiopedilum* in 1888. Interestingly, although *Stimegas* preceded *Paphiopedilum*, the later name remained due to “taxonomic conservation” (Guido Braem, pers. comm.). The species was reclassified under Subgenus



Sigmatopetalum with other *Barbata* species, under Section *Stigmatopetalum* (Frissen and Frissen 2019).

The species was introduced to Europe by the British company Whitley, Braemes and Milne at Fulham in 1819, calling it “the first coriaceous-leaved slipper,” referring to the thick and leathery leaves. The first hybrids to appear were registered from 1873 by Lady Ashburton and currently there are more than 400 progeny. This low number of progeny is surprising considering the fact that other relatives such as *Paphiopedilum callosum* with over 5,000 progeny and *Paphiopedilum lawrenceanum* has over 7,500! There must be some mysterious reason why this species was not utilized as often. Perhaps the answers may rest in its hybrids, which will be discussed in Part 2.

DISTRIBUTION AND HABITAT *Paphiopedilum venustum* is found over a wide range in the southern Himalayas in the northeastern Indian subcontinent covering a radius of 186 miles (300 km): from eastern Nepal across to Bhutan (historically known as the “Dragon Kingdom”) to southeast China in Tibet (south Xizang in the counties of Medog and Dinjie) to northeastern Indian states of Assam (north of Brahmaputra River), Sikkim (Mangan and Dikchu valleys), West Bengal (near Darjeeling), Meghalaya (in the Khasia Hills and Garo Hills) and south to Bangladesh.

This area is one of the wettest areas on earth, with an average rainfall of 433 inches (1,100 cm) per year; rainfall is



[1] *Paph. venustum* ‘Bloomin’ Fool’ CCM/AOS; exhibitor: Jerry Seidel; photographer: Milton Wittmann.

[2] *Paph. venustum* (as *Cypripedium venustum*), *Curtis’s Botanical Magazine* 47: pl. 2129.

[3] Map of the Indian subcontinent, *Encyclopaedia Britannica*, <https://www.britannica.com/place/Meghalaya/images-videos/media/1/373089/128947>.

particularly heavy during the southwest monsoon season from June to October. In fact, Cherrapunji in Meghalaya had 361.1 inches (929.9 cm) of rain in the month of July 1861 and 1,041.7 inches (2,646.1 cm) within that year (a world record)! This wet adaptation partially explains why this species needs lots of water and is resistant to bacterial and fungal rot issues, especially in summer and fall. The temperature range is as high as 90 F (32 C) in summer to almost 40 F (4 C) in winter. Summer is hot and wet. Winter is cooler (average 50 F or 10 C nights) but humidity remains at about 80% because of morning fog and condensation. The plants grow at elevations from 200 to 5,250 feet (60 to 1,600 m), but are most often observed between 980 and 2,600 feet (300–800 m). They are found in humus-rich, dense bamboo thickets, amidst ferns, tree crotches, forest margins, base of cliffs in thick jungle undergrowth, steep loam cliffs, adjacent to coal mines and even on river sands and mounds. They grow in shade as well as bright light (1,200–2,300 footcandles), although leaf marbling and mottle patterns are more intense with shade (but there are fewer flowers). Their roots are embedded in leaf litter and humus. *Paphiopedilum venustum* flowers from December to March (early

to late winter) in the wild, similar to most in cultivation, although they can flower any time of the year as growths mature (summer flowering is not unusual on vigorous plants). They grow best in the warmer part of intermediate conditions with a slight winter seasonal differential of at least a 9 F (5 C) drop.

Healthy populations still exist in many of these habitats because of the species' adaptability in a wide range of habitats, the remoteness of some locations and the action of the local authorities in conservation of nature reserves for the wildlife (like the Asiatic black rhinoceros, the pangolin and Indian tigers) and plant life.

FLOWER DESCRIPTION The inflorescence is 3.9–9.8 inches (12–25 cm) tall, thin, purple, and hairy (pubescent) with one, rarely two, flowers. The bract is ovate–lanceolate, about 0.67–1 inch (1.7–2.5 cm), ciliate, and sparsely pubescent abaxially. The pubescent pedicel and ovary is 1.65–2.09 inches (4.2–5.3 cm) long. The flower size is 3.74 inches (9.5 cm) on average but can range from 2.95 inches (7.5 cm) in wild populations to 4.72 inches (12 cm) in selected cultivars. The obcordate (upside down heart-shaped) dorsal sepal is white, with 12–25 deep-green, vertical stripes, 1–1.2 inches (2.5–3 cm) in height and 0.8–1.4 inches (2–3.5 cm) wide (Braem 2021). The white synsepal concaves the posterior of the pouch, is 0.6 inch (1.5 cm) wide by 1.2 inches (3 cm) long, with up to 10 longitudinal green stripes.

The horizontal sub-oblong–ob-lanceolate or subspatulate and subacute petals are 1.8–2.2 inches (4.5–5.5 cm) long and 0.5–0.8 inch (1.2–2 cm) wide, with hirsute edges and warts. The petals most often curve back on its lateral half as the flower ages (though the good cultivars can remain relatively flat). Petal proximal half is light green with darker-green veins and randomly spotted with brown, purple, maroon or black spots in the proximal two–thirds. There is a brown median line concentrated with more spots that separates the upper, intensely colored section from the lower half. The petal tips and distal outer halves can be a light rose, orange, pink, or even red color, usually in the same hue and intensity as that of the pouch. This red can approach a true red hue, not maroon or lavender. These red-petal cultivars are much more sought after for breeding because of their ability to pass the red spectrum (Koopowitz 1989). The petal apical part is broader (than the median part) and ends



UDAI C. PRADHAN 4

abruptly with a short, white tip.

The pouch is shaped like an inverted helmet, measuring 1.18 inches (3 cm) by 2 inches (5 cm) and juts out at an angle of approximately 45 degrees to the flower plane. The color contrast of the pouch is the marvel of this species. With an ochre–yellow or dark cream base, it is veined and marbled emerald green, tinged with light rose to dark rose–red with the suffusion of color ranging from frontal areas to almost completely around the pouch. In some cultivars, this red can be quite intense, making the green veins appear almost black. This color suffusion on the pouch can vary in intensity based on temperatures, even within the same flowering; cooler night temperatures seem to induce more red anthocyanin deposition in the pouch. There are also cultivars with an orange pouch, though this color is likely formed by the mixing of a light dusty–red overlay with the yellow–cream background. The rim of the pouch is normally brown but can be bright yellow in certain lines. The incurved side lobes of the labellum can glisten with warty caramel drops. The glossy, light–green, concave staminode is crescent–moon shaped, reniform–obcordate, 0.5 inch (1.3 cm) wide and 0.3 inch (0.8 cm) high, with rounded, incurved lateral cusps or tips. The center part is raised with a small, round median tooth at the lower inferior rim. It has dark–green, web–like veining and reticulation centrally and is sparsely pubescent. The staminodal disc is purple–brown on the posterior side (van Delden 1972). Flowers are glossy or waxy with medium substance, lasting 1–2 months.

LEAF DESCRIPTION One of the most beautiful parts of *Paph. venustum* are

the leaves. The 4–6 leaves per growth are shaped oblong–lanceolate to broad ovate; length from 4 to 12 inches (10–30 cm) and width from 1 to 2.5 inches (2.5–6 cm). It can have an overall span of 17.7 inches (45 cm) on larger plants. The leaves have a sharp keel or bend underneath and may undulate and curve downwards with age. The leaf edges are smooth but serrated near the tip or apex. The vividly tessellated leaves are usually a matte silvery green with random dark–green blotch patterns on top (like a snakeskin) and spotted dark purple underneath, but it can also have a light–green base with darker–green mottling. There are also plants that have a lime–green base color with light–green webbing. The surface mottling can be quite variable, from faint to distinct, depending on the type locality and differing populations. The amount of light the leaves receive will also affect the color with shaded plants having darker hues. The growths are also clustered tightly, giving it a neat appearance. These mottled leaves and clustered growth patterns are usually inherited in the hybrids.

In the past, jungle plants were sold according to the leaf tessellations and the density of the purple coverage on the underside with bolder and darker leaves as the preferred stock. It should be noted that the leaves of this species are similar to its closest relatives, *Paphiopedilum wardii*, to which Pradhan (1975) thought the species to have had a collateral evolution separated by physical barriers in the same region) and to *Paphiopedilum sukhakulii* (from Thailand).

FLOWER VARIATION Because *Paph. venustum* occurs over a wide geographic

distribution and various elevations and niches, there is a wide variation of color forms and ecotypes that have been discovered and described by various authors and taxonomists over the last two centuries. They vary from the size of the flowers to the intensity of the colors in petals and pouch, variable spotting (or none) to even the absence of red anthocyanins. Although validly described, all forms including the album form, called f. *measuresianum*, are relegated to synonyms of the type form by the World Checklist of Selected Plant Families (WCSP), the authority for accepted taxonomic names. However, it is always a good habit to keep note of the various color forms for an understanding of lineage and inclusivity for the future, in case DNA studies prove them to be valid forms. For example, the crimson-red-pouched venustums from Tibet may be a subspecies, because of their isolation from the others. They also have a different vegetative morphology with smaller, lime-green leaves with indistinct marbling.

Pradhan (1974) had suggested that plants in the Sikkim and adjacent areas of India cross-pollinate to produce more variation in types, whereas the ones in Meghalaya were self-pollinated by insect vectors for a more uniform population.

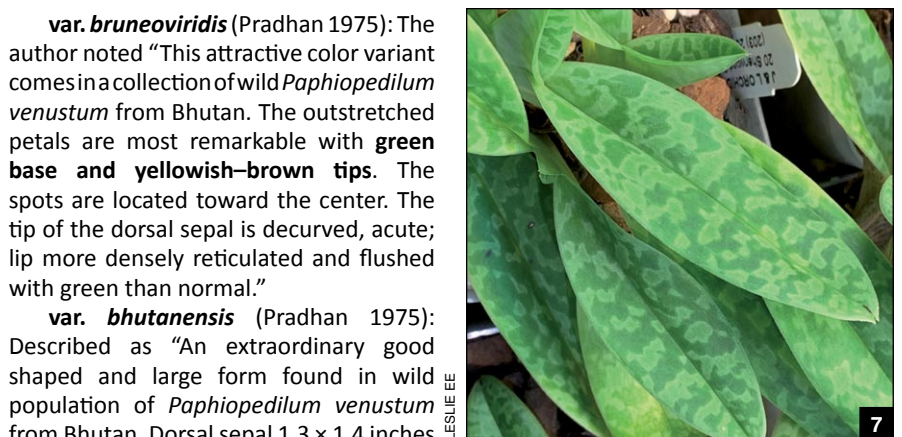
Here is a list of the historical *Paphiopedilum venustum* color forms and varieties that have been described so far (the authors' detailed descriptions are included, as they are relevant keys to the identification and separation when needed):

var. *amabile* as listed in commercial catalogues in the past as a horticultural name without full, official description.

var. *atratum* (Pradhan 1975): Described as "Dorsal sepal 1.3 × 1.1 inches (3.3 × 2.8 cm), ovate, white striped green; ventral sepal 1.4 × 0.6 inch (3.5 × 1.6 cm), **densely spotted with black warty** excrescences, tip pink. Labellum 1.6 × 1 inch (4 × 2.4 cm), yellowish pink, densely reticulated with dark green. Staminode 0.4 × 0.4 inch (1 × 1 cm). Origin: Gelugphu, Bhutan." (Imperial measure added by editor.)

var. *aureum* Listed in *Lindenia* without full description and therefore not officially described or designated, *nomen nudum*.

var. *biflorum* (Pradhan 1974): Described by author as "A typical form with **two flowers** from the same flower stem. Second flower opens after first one, but flower together for a major portion of the flowering duration."



var. *bruneoviridis* (Pradhan 1975): The author noted "This attractive color variant comes in a collection of wild *Paphiopedilum venustum* from Bhutan. The outstretched petals are most remarkable with **green base and yellowish-brown tips**. The spots are located toward the center. The tip of the dorsal sepal is decurved, acute; lip more densely reticulated and flushed with green than normal."

var. *bhutanensis* (Pradhan 1975): Described as "An extraordinary good shaped and large form found in wild population of *Paphiopedilum venustum* from Bhutan. Dorsal sepal 1.3 × 1.4 inches (3.2 × 3.5 cm), trianguloid, margin of green very prominent; ventral sepal 1.1 × 0.9 inch (2.8 × 2.2 cm), broadly ovate, cymbiform; petals 2.1 × 0.7 inch (5.3 × 1.9 cm), oblong-elliptic, obtuse tips, pinkish red towards tip half and with green base, central margin almost black. Spotted evenly towards margin and center. Labellum 1.4 × 1 inch (3.5 × 2.5 cm), deep pink reticulated densely with

[4] *Paph. venustum* from Meghalaya State, northeastern India.

[5] *Paph. venustum*, dark green leaf form.

[6] A very light green leaf form with snake-like patterning.

[7] *Paph. venustum* f. *measuresianum* (albinistic form) plants have light green foliage mottled somewhat darker green but completely lack anthocyanin.

green. Staminode 0.4 × 0.43 inch (1.0 × 1.1 cm), basal lobes five-lobed — the two outer lateral lobes with central acute one. Leaves 7.1 × 2.8 inches (18.0 × 7.0 cm), elliptic, grey mottled with grayish-green, stiff, deep-purple underside". (Imperial measure added by editor.)

var. griffithianum Listed in *Lindenia*, with no adequate description nor designation, therefore *nomen nudum*.

var. illustre Listed as a horticultural variety in commercial catalogues in the past.

f. measuresianum (Amer. Gard. 865:1900): Pradhan (1975) describes it as "an **albino variety** distinguished from the type by absence of purplish color on petals ... an interesting color anomaly." It was recollected in Balat, Meghalaya in 1970 (Pradhan 1975). First exhibited at a Royal Horticultural Society meeting by Measures on November 28, 1893, where an anonymous onlooker wrote "an extraordinary beautiful form with white and green flowers, without any of the brown and red seen in the type." The color of the yellows and green of this form can be light to very intense and will fade to more bright yellow as flower ages (a trait that sometimes is passed to its offspring). Some cultivars have remnants of the reddish or brownish pigmentation on the warts or petal bases. These are not considered pure albinos by definition but they breed like albinos (discussed under color inheritance in Part 2).

var. mirabile Listed in commercial catalogues in past, with no official description.

var. niveum Also listed in commercial catalogues in the past without a scientific link.

f. pardinum (Rchb.f. Gard. Chron., I: 382, 1887): Pradhan (1974) described this variety as "Sepals and petals white, striped with green with large circular chocolate blotches on the petals; lip greenish-yellow tinged with rose." Pradhan (1975) quoted the original publication in his notes made at Kew Herbarium from a specimen sent by F. W. Moore from Glasnevin Botanic Gardens, Dublin in March 1887: "Dorsal sepal 1.3 × 1.2 inches (3.4 × 3.0 cm), white with green veins; ventral sepal 1.2 × 0.7 inch (3.0 × 1.8 cm); petals 2 × 0.6 inch (5.0 × 1.5 cm), **rich yellow with copper colored hue towards apex** with small prominent dark purplish brown warts. The lip is saccate with inflexed triangular apical warts on the side licinae yellowish with green veins. Staminode obtuse angled, triangular, emarginate, trilobed at the anterior, broader, the side



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lobes rounded, the midlobe triangular, minute. Leaves 6.1 × 1.9 inches (15.5 × 4.8 cm)." (Imperial measurements added by editor.) The floral measurements were taken from the herbarium sample. Both Reichenbach (1887) and Veitch (1889) as quoted in Braem et al. (1999) mentioned **the large size of the flowers and the large chocolate blotches or warts** on the petals.

var. pynurslanum (Pradhan 1975): The author describes this variety as "From Pynursla–Dowki area (in East Khasi Hills of the Meghalaya State in India), this variety is quite often met with. It has outstretched petals which vary in color from lighter **greenish purple to deep purplish pink**,

[8–15] Examples of the variability in *Paph. venustum* flowers: [7] 'Christmas High-light', [8] 'First', [9] 'Bloodbath', [10] a particularly glossy form, [11] here the pouch is a muddy brown, [12] an example of the Tibetan type, [13] a particularly striking red form, and [14] an example with a decidedly orange pouch.

spotting tends to be very seldom. Dorsal sepal 1 × 0.8 inch (2.5 × 2.0 cm), ovate, acute; ventral sepal 0.9 × 0.4 (2.3 × 1.0 cm); petals 2.2 × 0.5 inch (5.6 × 1.2 cm), oblanceolate, acute, sparsely spotted on margins. Labellum 1.4 × 0.8 inch (3.6 × 2.1 cm), yellow green, flushed with **deep pinkish red.**" (Imperial measurements added by editor.)

var. *qingyongii* (Z.J. Liu and L.J. Chen 2010): Koopowitz (2018) described the flower as very similar to *venustum* in all but the longer downswept (aberrant looking) petals and the nontessellated leaves. Although accepted as a valid species by WCSP, the marbled pouch looks identical to *venustum*, though more dark brown red (which exist in the recently discovered *venustums* from Nepal). The major difference of this one holotype plant (from typical *venustum*) was that it had twice the number of leaves (8–9) with scarce or no tessellations. More data and population study will need to verify this as only one plant was used in the description and included here as a possible variety for comparison only. The late Holger Perner treated this species as a synonym of *venustum* (Perner 2013).

var. *rubrum* (Pradhan 1975): U. C. Pradhan described this new variety of that time as "Leaves ovate–lanceolate 6.7 × 1.6 inches (17 × 4 cm); scape + ovary 4.3 inches (11 cm); dorsal sepal ovate, acute, 1.1 × 0.8 inch (2.7 × 2.0 cm), white striped with green, ventral sepal 1 × 0.5 inch (2.5 cm × 1.2 cm); petal oblanceolate, **deep wine red**, 1.4 × 0.3 inch (3.5 × 0.8 cm), with few spottings of blackish brown at the margin. Staminode 0.3 × 0.4 inch (0.8 × 1.0 cm), almost evenly rounded with the apex bilobed centrally, the base trilobed, central lobe beaked and decurved while broader, latter sidelobes are obtuse with tips pointed inwards. Labellum 1.4 × 0.7 inch (3.6 × 1.8 cm), **deep wine red** with reticulations of deeper green. This variety is rather scarce and comes from Dowki–Pynursla area in Meghalaya." (Imperial measurements added by editor.)

var. *spectabile* (Warner, *Select Orch. Plants*, Vol. II, t. 24, 1865–1875): Pradhan (1974) described it as "Dorsal sepal white, broadly striped with green; petals greenish white, streaked with deeper green and tipped with rosy red; the lip greenish yellow, tinged with rose. The habitat is mentioned as Sylhet." U. C. Pradhan wrote "Dorsal sepal 1.2 × 0.9 inch (3 × 2.2 cm), white, broadly striped green; ventral sepal 0.9 × 0.4 inch (2.2 × 0.9 cm); petals 1.8 × 0.4 (4.5 cm × 1 cm), **greenish white streaked with deeper green and tipped**



rosy red, lip greenish yellow tinged rose. Leaves c. 7.3 × 2 inches (18.5 × 5 cm)." The flower measurements were taken from a herbarium sample that flowered at Kew in January 1889. (Imperial measurements added by editor.)

var. *teestaensis* (Pradhan 1975): Described as "Leaves 5.5 × 1.6 inches (14 × 4 cm), elliptic ovate, **light grass green mottled with olive green**, underside sparsely spotted with purple, getting denser towards base; scape + ovary (8.25 in [21 cm]), dorsal sepal ovate, acute–acuminate, 1.4 × 1 inch (3.6 × 2.6 cm), white penciled with deep green margins, ventral sepal ovate–lanceolate, acute, 1.2 × 0.6 inch (3 × 1.5 cm); petals oblong–obovate, acute broad and decurved, 2 × 0.7 inch (5 × 1.8 cm), brownish–pink almost throughout and **sparsely spotted**—cilia c. 0.1 inch (3.5 mm), evenly spaced and getting shorter towards the tips; staminode lunate 0.3 × 0.4 inch (0.8 × 1.1 cm), trilobed, central lobe shorter than lateral lobes, which are rounded off." This variety seems to be the most common one encountered in Meghalaya



[16] *Paph. venustum* var. *atratum*

[17] *Paph. venustum* var. *bruneoviridis*

[18] *Paph. venustum* var. *bhutanensis*

[19] *Paph. venustum* (flavum); an as-yet undescribed form.

[20] *Paph. venustum* f. *measuresianum* 'Venus Rising' AM/AOS; exhibitor: Harold Koopowitz – Paph Factory

[21] *Paph. venustum* f. *pardinum* 'Krull–Smith' HCC/AOS; exhibitor: Krull–Smith

[22] *Paph. venustum* var. *pynurslanum*

hills. (Imperial measurements added by editor.)

Although the main differences are highlighted by the bold text, except for the albinistic version, many of these varieties may seem to fall within the normal range or parameters of the species according to many observers. The similar color spectrum combination of parts as well as the size range can both even differ on the same plant under different conditions. For example, the redness of the pouch can increase in intensity when opening under cooler night temperatures. More studies are needed on in situ habitat and floral comparisons under different conditions. In addition, a DNA analysis of the different ecotypes may be warranted to settle this issue.

Many of these varieties have enough differences morphologically as described by some experts that hybridizers and collectors may desire separation even with close floral similarities. In private collections, they are tagged and segregated for study and appreciation, particularly in India, Europe and Japan.

It is important to note here that “variety,” or var., is reserved for a wild population that is different from the type specimen. The term “forma,” or f., are variants within this same wild population, such as unusual color forms, e.g., albinism (Koopowitz, pers. comm.). The previous descriptions may be formas rather than varieties. Many of the varieties listed were not officially described with herbarium samples and may be relegated to a proposed population survey study.

The chromosome count is $2n = 40$, 41 (Tanaka and Aoyama 1974; Karasawa 1979) and 42 (Duncan 1947; Duncan and MacLeod 1950).

CURRENT TAXONOMIC VIEW With the introduction of DNA profiling, many species and genera have undergone changes that have drastically moved them around, much to the chagrin of the orchid world. The *Paph. venustum* varieties listed may undergo such changes if profiled. Currently there are several differing opinions from slipper experts, botanists and taxonomists on these varieties and forms.

Udai Pradhan (pers. comm.) believes the “varieties are distinct and should be kept separated.” Taxonomists Olaf Gruss (pers. comm.), Koopowitz (2018) and Perner (2013) categorized all the varieties as synonyms and only recognize the album form *measuresianum* as valid. Guido Braem (pers. comm.) and the Chinese taxonomists Liu and Chen (2009)



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accept both the album form as well as the *pardinum* form. David Sorokowsky mentioned that var. *bhutanensis* may have contributed to the red *Paph. venustum* today (pers. comm.). Cribb (1998) treats all color forms except the album form as cultivars.

NATURAL HYBRIDS In nature, *Paph. venustum* has been found growing on other orchids especially in the root mass of a *Phaius wallichii* (Pradhan 1974). This fact was seen by G.M. Pradhan in his observation of a private garden where a split capsule of a wild *Paph. venustum* seeded and germinated around the roots and bases of the multiple *Phaius wallichii* planted around the house.

Because of the wide distribution, varying habitats, and altitudes, *Paph. venustum* grows alongside other slipper orchids where it can form hybrid swarms.

Paphiopedilum insigne has a restricted range in India's Meghalaya State that overlaps with *Paph. venustum*. Infrequent hybridization between the two occurs and this natural hybrid was named *Paphiopedilum × venusto-insigne*



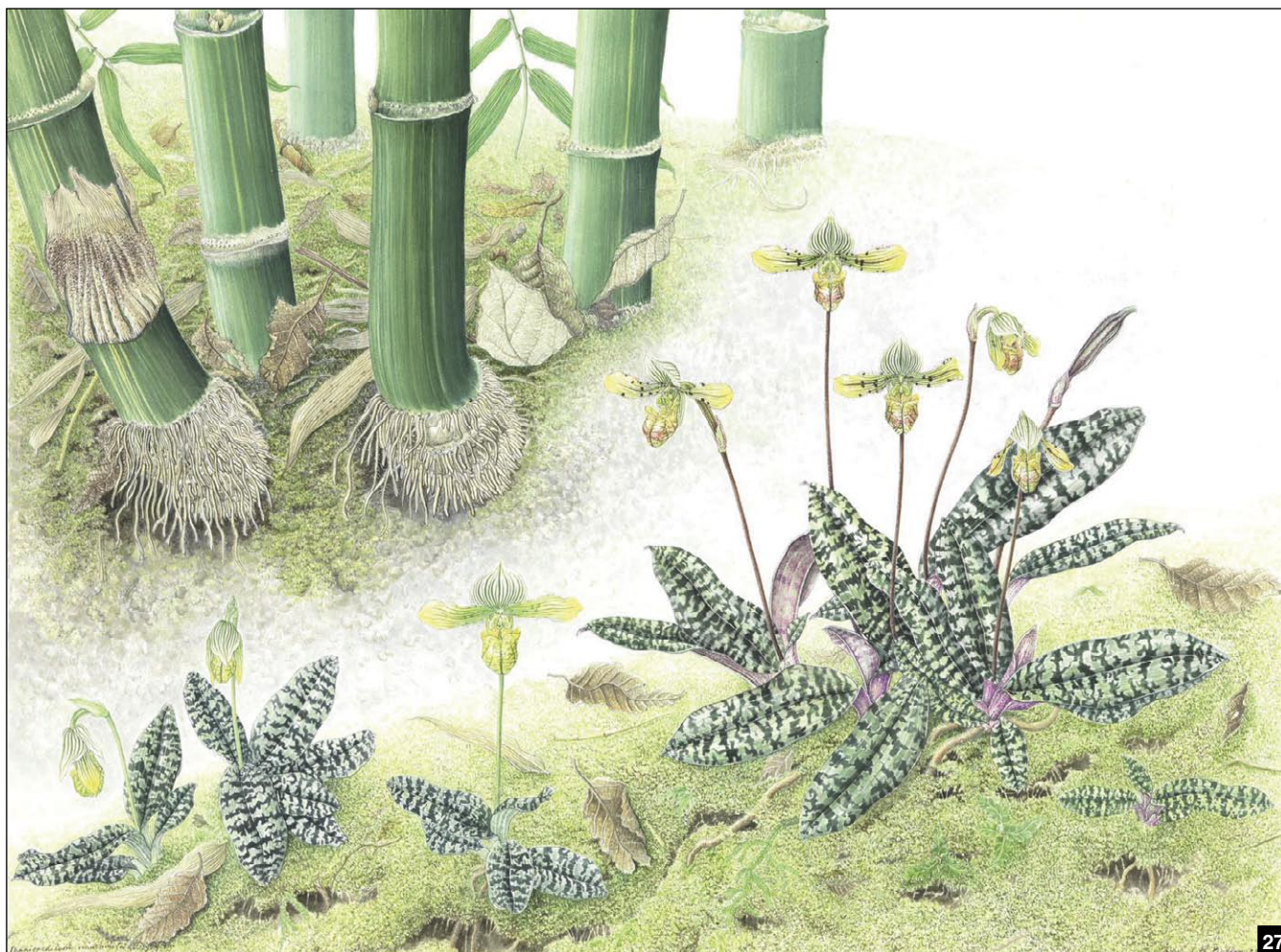
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(Pradhan 1976), whereas the artificial hybrid was registered as *Paphiopedilum Crossianum* (1873). However, in 2021, WCSP updated changes and relegated *Paphiopedilum × crossianum* as the natural hybrid.

Paphiopedilum fairrieianum is found in the Sikkim–Bhutanese border and is sympatric with *Paph. venustum*. The natural hybrid is *Paphiopedilum × pradhanii*. The artificial hybrid is *Paphiopedilum Pandion* (1972).



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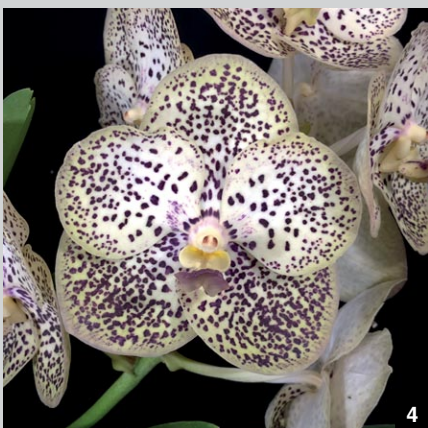
Paphiopedilum spicerianum occurs also in Meghalaya State in the region of Sonai and Barak River valleys alongside *Paph. venustum*. The natural hybrid is *Paphiopedilum* × *spicero-venustum*. The artificial hybrid is *Paphiopedilum Polystigmaticum* (1888). In 2003, WCSP changed and assigned *Paphiopedilum* × *polystigmaticum* as the natural hybrid.

The Lohit Valley in Eastern India may have served as a physical barrier to split *Paph. venustum* from its sister species *Paph. wardii*. That is why no natural hybrid has been found between these two species.

In Part 2, the manmade hybrids and breeding lines will be discussed.

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- Leslie Ee is a naturopathic physician from Borneo and an associate judge in the Toronto Judging Center. As a popular speaker, he has given talks across North America. He grows cattleyas and paphiopedilums primarily (email: drleslieee@hotmail.com)
- [23] Juvenile plants of var. *teestaensis* in habitat.
- [24] *Paph. venustum* var. *qingyongii*
- [25] *Paph. venustum* var. *rubrum*
- [26] *Paph. venustum* var. *teestaensis*
- [27] Watercolor painting by Hemlata Pradhan of *Paph. venustum* f. *measuresianum* and type in habitat.





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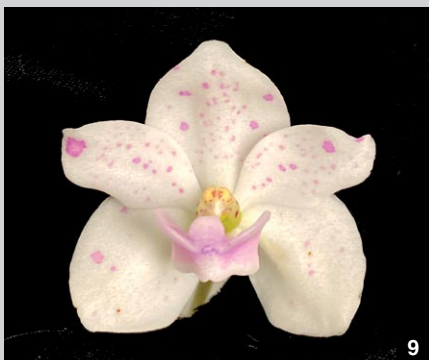
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- [1] *Paphiopedilum* Presidential Allure 'Slipper Zone Dorsal Delight' HCC/AOS (Presidential Moon x Magically Wood) 77 pts. Exhibitor: Lehua Orchids; Photographer: Wes Newton. Florida North-Central Judging
- [2] *Paphiopedilum* Astonishingly Presidential 'Slipper Zone Spot Heaven' AM/AOS (Presidential Moon x Astonishingly Wood) 80 pts. Exhibitor: Lehua Orchids; Photographer: Wes Newton. Florida North-Central Judging
- [3] *Vanda* Hollis Presnell 'Krull-Smith' AM/AOS (Bill Burke x Paki) 83 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [4] *Vanda* Jim Krull 'Crystelle' AM/AOS (Kulwadee Fragrance x Somsri Gold) 82 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [5] *Bulbophyllum* unitubum 'A-doribil Cinnamon' HCC/AOS 78 pts. Exhibitor: Bill Thoms and Doris Dukes; Photographer: Kay Clark. Florida North-Central Judging
- [6] *Paphiopedilum* Fred's Triumph 'Slipper Zone Pink Glowing' AM/AOS (Magically Wood x Magic Fred) 81 pts. Exhibitor: Lehua Orchids; Photographer: Kay Clark. Florida North-Central Judging
- [7] *Paphiopedilum* Macabre Deception 'Slipper Zone Fissure Eight' AM/AOS (Double Deception x Macabre Love) 82 pts. Exhibitor: Lehua Orchids; Photographer: Kay Clark. Florida North-Central Judging
- [8] *Bulbophyllum* Laura Newton 'Whisper Hard Core Conformation' HCC/AOS (agastor x *macrobulbum*) 78 pts. Exhibitor: Laura and Wes Newton; Photographer: Kay Clark. Florida North-Central Judging
- [9] *Dendrobium* White Snow 'Patsy' AM/AOS (Yasuko x Doreen) 82 pts. Exhibitor: Geoffrey S. Connor; Photographer: Charlotte Randolph. Alamo Judging
- [10] *Paphiopedilum* helenae 'Honey' HCC/AOS 77 pts. Exhibitor: Gold Country Orchids/Alan Koch; Photographer: Ramon de los Santos. California Sierra Nevada Judging
- [11] *Papilionanda* Omar Padron 'Galaxy' AM/AOS (*Vanda* Robert's Delight x Mimi Palmer) 83 pts. Exhibitor: R.F. Orchids, Inc.; Photographer: Tom Kuligowski. West Palm Beach Judging
- [12] *Papilionanda* Paksorn Fragrance 'Theodora' AM/AOS (Mimi Palmer x *Vanda insignis*) 84 pts. Exhibitor: Angie and Mike Pitiriciu; Photographer: Tom Kuligowski. West Palm Beach Judging
- [13] *Dendrobium* Tokiko Inaba 'Bobbie' AM/AOS (Bertha Chong x Lisa Ann Takiguchi) 81 pts. Exhibitor: Geoffrey S. Connor; Photographer: Charlotte Randolph. Alamo Judging
- [14] *Vanda* Mike Machonis 'Crownfox' HCC/AOS (*vietnamica* x *denisoniana*) 77 pts. Exhibitor: R.F. Orchids, Inc.; Photographer: Tom Kuligowski. West Palm Beach Judging
- [15] *Phragmipedium* Millbrook 'Malbec' AM/AOS (Nicholle Tower x *besseae*) 82 pts. Exhibitor: Dave Sorokowsky; Photographer: Ramon de los Santos. California Sierra Nevada Judging
- [16] *Phalaenopsis* Corona 'Red Kitsune' AM/AOS (*cornu-cervi* x *amboinensis*) 81 pts. Exhibitor: Ramon de los Santos; Photographer: Ramon de los Santos. California Sierra Nevada Judging
- [17] *Paphiopedilum* Emerald Ring 'Auxerros' AM/AOS (Sorcerer's Stone x Emerald Crown) 80 pts. Exhibitor: Dave Sorokowsky; Photographer: Ramon de los Santos. California Sierra Nevada Judging





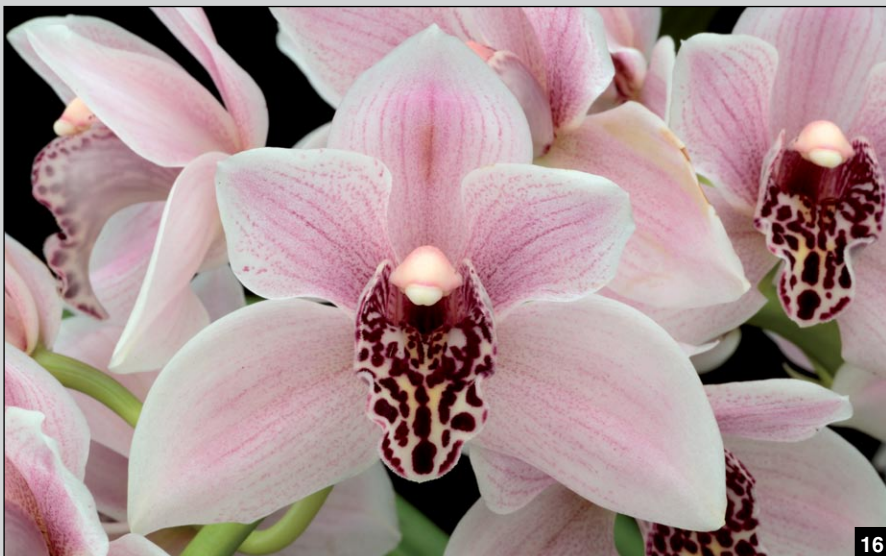
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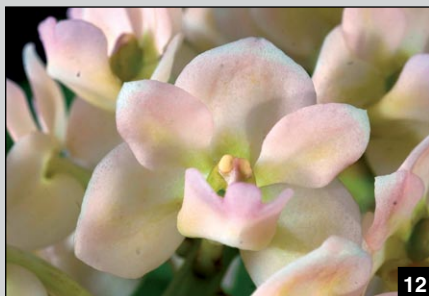
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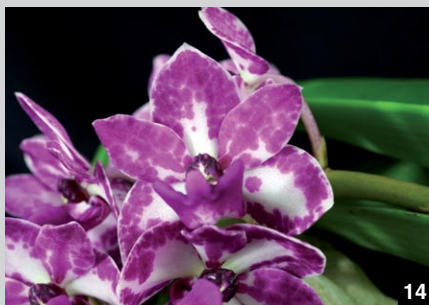
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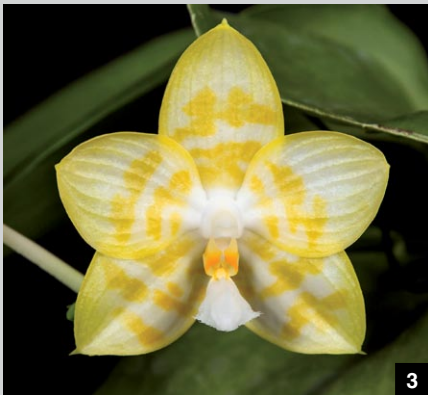


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- [1] *Fredclarkeara* L'amour de vie de Sue 'Liberty Creek, Louisiana' HCC/AOS (*Mormodia* Painted Desert x *Catasetum* Louise Clarke) 78 pts. Exhibitor: Alan Taylor; Photographer: Wilton Guillory. Shreveport Judging
- [2] *Cymbidium* Alice Williams 'Louisiana' AM/AOS (*floribundum* var. *pumilum* x *Shina* Black) 80 pts. Exhibitor: Alan Taylor; Photographer: Wilton Guillory. Shreveport Judging
- [3] *Dendrobium* Chan-Chao 'Kathryn' HCC/AOS (Waianae Profusion x Ly) 78 pts. Exhibitor: David Medus; Photographer: Wilton Guillory. Shreveport Judging
- [4] *Paphiopedilum* Fairre Helen 'Slipper Zone Singing' AM/AOS (*fairrieianum* x *Pacific Shamrock*) 84 pts. Exhibitor: Lehua Orchids; Photographer: Wes Newton. Florida North-Central Judging
- [5] *Brassavola* Little Stars 'Glen #3' CCM/AOS (*nodosa* x *subulifolia*) 84 pts. Exhibitor: David Medus; Photographer: Wilton Guillory. Shreveport Judging
- [6] *Cattleya lueddemanniana* 'Springwater' AM/AOS 83 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [7] *Pomatocalpa angustifolium* 'Springwater' CCM/AOS 82 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [8] *Rhynchostylis gigantea* 'Krull's Mammoth' AM/AOS 82 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [9] *Rhynchostylis gigantea* 'Krull's Lavender and Lace' AM/AOS 86 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [10] *Phragmipedium* QF Leina'ala 'Whisper Super Angel' AM/AOS (*Conchiferum* x *Incan Treasure*) 86 pts. Exhibitor: Laura and Wes Newton; Photographer: Wes Newton. Florida North-Central Judging
- [11] *Paphiopedilum* Odette in Red 'Slipper Zone at Last' HCC/AOS (*Petula's Magic* x *Odette's Vision*) 78 pts. Exhibitor: Lehua Orchids; Photographer: Wes Newton. Florida North-Central Judging
- [12] *Rhynchostylis gigantea* 'Krull's Frosted Peach' AM/AOS 84 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [13] *Paphiopedilum* Petula's Pleasure 'Slipper Zone Red Phenom' AM/AOS (*Macabre Pops* x *Petula's Flame*) 80 pts. Exhibitor: Lehua Orchids; Photographer: Wes Newton. Florida North-Central Judging
- [14] *Rhynchostylis gigantea* 'Krull's Boon Bryson' AM/AOS 81 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [15] *Paphiopedilum* Toni Semple 'Springwater' AM/AOS (*haynaldianum* x *lowii*) 85 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [16] *Cymbidium* Memoria Ellen Margron 'Beauty Spots' HCC/AOS (Brenda x *Devon Odyssey*) 78 pts. Exhibitor: Cynthia Battershall; Photographer: Ramon de los Santos. California-Sierra Nevada Judging





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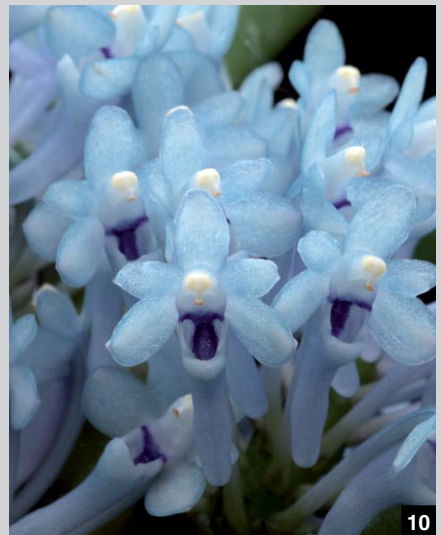
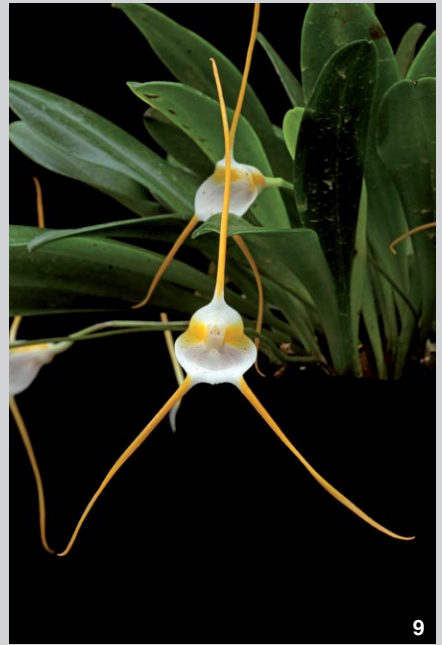
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- [1] *Paphiopedilum spicerianum* 'Springwater' HCC/AOS 77 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [2] *Rhyncholaelia* Aristocrat 'Ponkan' HCC/AOS (*glauca* x *digbyana*) 76 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [3] *Phalaenopsis* Yaphon Love Song 'Frank Smith' AM/AOS (Mituo Golden Tiger x Yaphon Lover) 86 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [4] *Encyclia cordigera* 'Karen Artilles' AM/AOS 82 pts. Exhibitor: Julien Baruch; Photographer: Wes Newton. Florida North-Central Judging
- [5] *Vandachostylis* Sagarik (*Rhynchosstylis coelestis* 'Srinuan Nudchanaj' x *Vanda curvifolia* 'Srinuan Nudchanaj') AQ/AOS. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [6] *Vandachostylis* Sagarik 'Shannon Green' AM/AOS (*Rhynchosstylis coelestis* x *Vanda curvifolia*) 81 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [7] *Vandachostylis* Sagarik 'Jordon Winter' AM/AOS (*Rhynchosstylis coelestis* x *Vanda curvifolia*) 82 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [8] *Paphiopedilum* WingDreams 'Winter Haven' AM/AOS (Saint Swithin x Paul Parks) 87 pts. Exhibitor: Keith and Dina Emig – Winter Haven Orchid Nursery; Photographer: Wes Newton. Florida North-Central Judging
- [9] *Vandachostylis* Sagarik 'Julien Baruch' AM/AOS (*Rhynchosstylis coelestis* x *Vanda curvifolia*) 83 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [10] *Vandachostylis* Sagarik 'Hayden Jensen' HCC/AOS (*Rhynchosstylis coelestis* x *Vanda curvifolia*) 79 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [11] *Gastrochilus retrocallus* 'MV My Cayman Girl' AM/AOS 83 pts. Exhibitor: Stuart Henderson; Photographer: Wes Newton. Florida North-Central Judging
- [12] *Rhynchosstylis gigantea* 'Ann Krull' AM/AOS 87 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [13] *Vanda* Saidah Nafisah 'MV Lily Marie' AM/AOS (Kultana Fragrance x *luzonica*) 82 pts. Exhibitor: Stuart Henderson; Photographer: Kay Clark. Florida North-Central Judging
- [14] *Vanda* Motes Pixie Dust 'MV Sweet Lips' AM/AOS (*vietnamica* x Motes Ruby Pixie) 82 pts. Exhibitor: Stuart Henderson; Photographer: Wes Newton. Florida North-Central Judging
- [15] *Lycaste* Nada 'Big Bear' AM/AOS (Cherish x Shoalhaven) 80 pts. Exhibitor: Ryan Kowalczyk; Photographer: Kay Clark. Florida North-Central Judging
- [16] *Vandachostylis* October Twenty Second 'Stuart Henderson' AM/AOS (*Vanda tessellata* x Pine Rivers) 82 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging



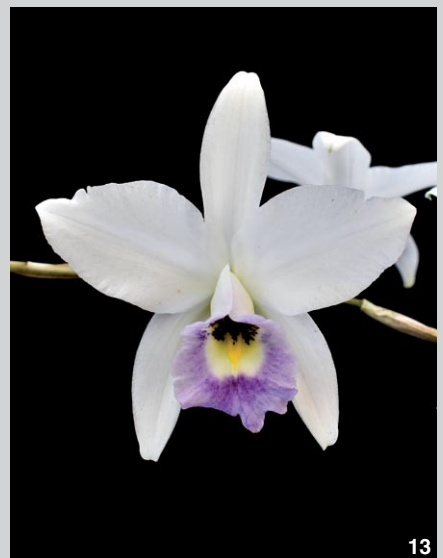
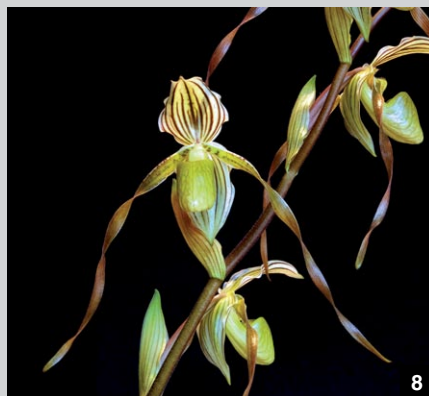


- [1] *Rhyncholaelia* Aristocrat (*glauca* 'Crystelle' AM/AOS x *digbyana* 'Fiddler's Green') AQ/AOS. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [2] *Cattleya lueddemanniana* (Coerulea) 'Frank Smith' AM/AOS 88 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [3] *Vanda lombokensis* 'Krull-Smith' AM/AOS 81 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [4] *Vanda* Redland Chocolate 'Dark Chocolate' HCC/AOS (Kultana Oriental Aroma x Krailerk) 77 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [5] *Phragmipedium* Millbrook 'Marion's Bright Flame' HCC/AOS (Nicholle Tower x *besseae*) 79 pts. Exhibitor: Marion Steele; Photographer: Wes Newton. Florida North-Central Judging
- [6] *Papilionanda* Paksorn Fragrance 'Krull-Smith' AM/AOS (Mimi Palmer x *Vanda insignis*) 85 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [7] *Vanda* Crystelle Smith 'Krull-Smith' AM/AOS (*insignis* x *perplexa*) 83 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [8] *Rhyncholaelia* Aristocrat 'Jim Krull' HCC/AOS (*glauca* x *digbyana*) 79 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [9] *Rhyncholaelia* Aristocrat 'Krull-Smith' AM/AOS (*glauca* x *digbyana*) 81 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [10] *Paphiopedilum tranlienianum* f. *albiviride* 'Fajen's Chartreuse' JC/AOS. Exhibitor: Fajen's Orchids; Photographer: Kay Clark. Florida North-Central Judging
- [11] *Cattleya* Rose Marguglio Szwed 'Big Bear's Marbled Queen' JC/AOS (Melody Fair x Circle of Life). Exhibitor: Ryan Kowalczyk; Photographer: Wes Newton. Florida North-Central Judging
- [12] *Cattleya* Peckaviensis 'Jordon Winter' AM/AOS (*aclandiae* x *schilleriana* (1857)) 87 pts. Exhibitor: Jordon Winter; Photographer: Kay Clark. Florida North-Central Judging
- [13] *Dendrobium tetragonum* 'Leslie' CCE/AOS 90 pts. Exhibitor: Leslie Belew; Photographer: Wes Newton. Florida North-Central Judging
- [14] *Papilionanda* Batram 'Julien Baruch' HCC/AOS (Mimi Palmer x *Vanda denisoniana*) 77 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [15] *Papilionanda* Arjuna 'Krull-Smith' AM/AOS (Mimi Palmer x *Vanda tessellata*) 83 pts. Exhibitor: Krull-Smith; Photographer: Julien Baruch. Florida North-Central Judging
- [16] *Bulbophyllum* Magnifico 'Marion's Magnificent' AM/AOS (Louis Sander x *phalaenopsis*) 80 pts. Exhibitor: Marion Steele; Photographer: Wes Newton. Florida North-Central Judging





- [1] *Dendrobium* Violet Yamaji 'Corinne's Lovely Gem' AM/AOS (Midnight x *specabile*) 86 pts. Exhibitor: Corinne Arnold; Photographer: Wes Newton. Florida North-Central Judging
- [2] *Rhyncholaeliocattleya* Susan Wedegaertner 'Madame President' AM/AOS (Annie Belle x Mary Alice Underwood) 87 pts. Exhibitor: Krull-Smith; Photographer: Frank Smith. Florida North-Central Judging
- [3] *Paphiopedilum gratrixianum* 'Tuscany' HCC/AOS 78 pts. Exhibitor: Dave Sorokowsky; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [4] *Oncidesa* Cocoa Peach 'Cocoa' HCC/AOS (Cocoa x *Oncidium* John Louis Shirah) 78 pts. Exhibitor: Gold Country Orchids; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [5] *Dendrobium sanderae* var. *major* 'Smart Delight' AM/AOS 83 pts. Exhibitor: Donn Smart; Photographer: Wes Newton. Florida North-Central Judging
- [6] *Cattleya* Simplicity (1988) 'Tara' AM/AOS (*longipes* x *loddigesii*) 82 pts. Exhibitor: Gold Country Orchids; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [7] *Zygoneria* Adelaide Meadows 'Gold Country' HCC/AOS (*Zygopetalum* Titanic x Dynamo) 79 pts. Exhibitor: Gold Country Orchids; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [8] *Masdevallia floribunda* 'Martha's Delight' AM/AOS 82 pts. Exhibitor: Donn Smart; Photographer: Wes Newton. Florida North-Central Judging
- [9] *Masdevallia mejiana* 'Loomis Basin' AM/AOS 82 pts. Exhibitor: Tyler Albrect; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [10] *Cleisocentron gokusingii* 'Goodstuff' AM/AOS 82 pts. Exhibitor: Tom Pickford; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [11] *Calanthe* Karolin Anschau 'Bonheur' HCC/AOS (Grouville x *vestita*) 77 pts. Exhibitor: Lynne Murrell; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [12] *Cattleya walkeriana* 'SVO Whopper' CCM/AOS 84 pts. Exhibitor: William Rogerson; Photographer: Lois Cinert. Chicago Judging
- [13] *Paphiopedilum* Graciously Hawaiian 'Slipper Zone Purple Warrior' AM/AOS (Hawaiian Kapuna x *hookerae*) 84 pts. Exhibitor: Lehua Orchids; Photographer: Jurahame Leyva. Hawaii Judging
- [14] *Paphiopedilum* Macabre Pleasure 'Slipper Zone Snook' AM/AOS (Magically Macabre x Luna Pleasure) 80 pts. Exhibitor: Lehua Orchids; Photographer: Jurahame Leyva. Hawaii Judging
- [15] *Paphiopedilum* Crouching Tiger 'Orchid Konnection Too' HCC/AOS (*philippinense* x Bel Royal) 75 pts. Exhibitor: Meir Moses; Photographer: Judy Cook. Dallas Judging
- [16] *Phragmipedium* Peruflores Cirila Alca 'Martha May' AM/AOS (*kovachii* x *dalesandroi*) 83 pts. Exhibitor: Cheryl Jones; Photographer: Ramon de los Santos. California-Sierra Nevada Judging





- [1] *Paphiopedilum* Hampshire Model 'Hampshire' AM/AOS (Bruno x Aylesbury) 81 pts. Exhibitor: Arnold J. Klehm, Grower; Photographer: Anne Kotowski. Chicago Judging
- [2] *Paphiopedilum* Cocoa Green 'Cheryl's Joy' AM/AOS (Hamana Med x Yi-Ying Spring Mist) 80 pts. Exhibitor: Cheryl Erins; Photographer: Anne Kotowski. Chicago Judging
- [3] *Paphiopedilum* Rita Chambers 'Madison 20' AM/AOS (Nulight x Lippewunder) 83 pts. Exhibitor: Arnold J. Klehm, Grower; Photographer: Anne Kotowski. Chicago Judging
- [4] *Paphiopedilum* Yellow Leopard 'Claws Out' AM/AOS (Crown Jewel x Thunder Eagle) 84 pts. Exhibitor: Hilo Orchid Farm; Photographer: Jurahame Leyva. Hawaii Judging
- [5] *Paphiopedilum* Hamana Aroma 'Full House' AM/AOS (Hamana Samson x Taisuco America's Aromas) 85 pts. Exhibitor: Hilo Orchid Farm; Photographer: Jurahame Leyva. Hawaii Judging
- [6] *Laeliocatanthe* Graf's Atardercer 'Eros' AM/AOS (*Cattlianthe* Trick or Treat x *Laelia undulata*) 80 pts. Exhibitor: Ben Oliveros and Orchid Eros; Photographer: Jurahame Leyva. Hawaii Judging
- [7] *Fredclarkeara* Desert Davison 'Osiris' AM/AOS (*Mormodia* Painted Desert x *Catasetum* Melana Davison) 87 pts. Exhibitor: William B. Green; Photographer: Mark Van der Woerd. Rocky Mountain Judging
- [8] *Paphiopedilum* Temptation 'Jane C. Williams' AM/AOS (*kolopakingsii* x *philippinense*) 81 pts. Exhibitor: David Medus; Photographer: Susan Hathorn. Louisiana Judging
- [9] *Clowesetum* Diane Drisch 'Beauregard' HCC/AOS (*Clowesia* Grace Dunn x *Catasetum tigrinum*) 77 pts. Exhibitor: John Schwarze; Photographer: Susan Hathorn. Louisiana Judging
- [10] *Mormodia* Jumbo World 'Kanazawa' HCC/AOS (*Clowesia* Grace Dunn x *Mormodes buccinator*) 77 pts. Exhibitor: William B. Green; Photographer: Mark Van der Woerd. Rocky Mountain Judging
- [11] *Paphiopedilum* Orange Peel 'Old Fashioned' AM/AOS (Lippewunder x Stone Lovely) 80 pts. Exhibitor: Hilo Orchid Farm; Photographer: Jurahame Leyva. Hawaii Judging
- [12] *Paphiopedilum* Mystic Isle 'Debbie' HCC/AOS (*niveum* x *Greyi*) 78 pts. Exhibitor: James Vlasic; Photographer: Anne Kotowski. Chicago Judging
- [13] *Laelia anceps* (hort. f. *veitchiana*) 'Stevie Ray Vaughan' HCC/AOS 79 pts. Exhibitor: Ben Oliveros and Orchid Eros; Photographer: Jurahame Leyva. Hawaii Judging
- [14] *Bulbophyllum digoelense* 'Makuu' CCM/AOS 87 pts. Exhibitor: Kaleialoha Orchid Farm; Photographer: Jurahame Leyva. Hawaii Judging
- [15] *Paphiopedilum* Saint Swithin 'Attention Chief Officer' CCM/AOS (*philippinense* x *rothschildianum*) 86 pts. Exhibitor: Laurie and Sheila Skov; Photographer: Susan Hathorn. Louisiana Judging
- [16] *Cattleya aelandiae* 'Black Sabbath' HCC/AOS 78 pts. Exhibitor: Ben Oliveros and Orchid Eros; Photographer: Jurahame Leyva. Hawaii Judging





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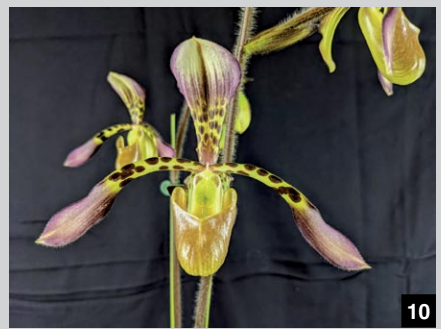
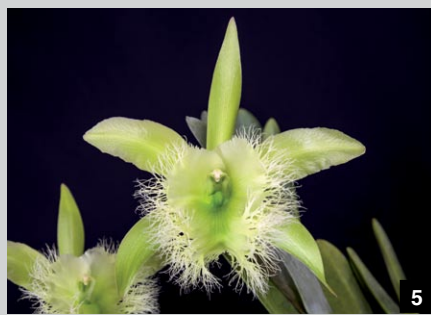


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- [1] *Rhynchostylis gigantea* 'Krull's Emperor' CCM-AM/AOS 87-84 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [2] *Bulbophyllum* Worayuth White Fang 'Whisper Show Me Some Love' HCC/AOS (*lepidum* x *medusae*) 79 pts. Photographer: Wes Newton. Florida North-Central Judging
- [3] *Paphiopedilum fairrieianum* 'Springwater Cutie Pie' AM/AOS 80 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [4] *Paphiopedilum* Hilo Girl 'Scott Ware' HCC/AOS (California Girl x Taisuco America's Plum) 79 pts. Exhibitor: Krull-Smith; Photographer: Wes Newton. Florida North-Central Judging
- [5] *Rhyncholaeliocattleya* Valentine Beauty 'Love You Baby' HCC/AOS (Red Crab x Chia Lin) 76 pts. Photographer: Wes Newton. Florida North-Central Judging
- [6] *Papilionanda* Paksorn Fragrance 'Garrett's Mahogany Valentine' AM/AOS (Mimi Palmer x *Vanda insignis*) 82 pts. Exhibitor: Sharon and David Garrett; Photographer: Wes Newton. Florida North-Central Judging
- [7] *Rhyncholaelia* Aristocrat 'Big Bear's Moon Light' AM/AOS (*glauca* x *digbyana*) 83 pts. Exhibitor: Ryan Kowalczyk; Photographer: Kay Clark. Florida North-Central Judging
- [8] *Rhynchostylis* Kultana 'Michael D. Gibson' AM/AOS (Chorchalood x *gigantea*) 85 pts. Exhibitor: Naoki Kawamura; Photographer: Wes Newton. Florida North-Central Judging
- [9] *Paphiopedilum haynaldianum* 'Springwater Too' HCC/AOS 77 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [10] *Papilionanda* Redland Magic 'Naoki Kawamura' HCC/AOS (Amy Glynn Creekmur x *Vanda Violeta*) 75 pts. Exhibitor: Naoki Kawamura; Photographer: Wes Newton. Florida North-Central Judging
- [11] *Paphiopedilum haynaldianum* 'Springwater' AM/AOS 81 pts. Exhibitor: Springwater Orchids and Thanh Nguyen; Photographer: Wes Newton. Florida North-Central Judging
- [12] *Rhyncattleanthe* Krull's Blood Moon 'Jim Krull' HCC/AOS (*Cattleya* Circle of Life x Jack Crawford) 78 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [13] *Phaiocalanthe* Liberty Creek 'Louisiana' HCC/AOS (Kryptonite x *Calanthe* Grouville) 77 pts. Exhibitor: Alan Taylor; Photographer: Susan Hathorn. Louisiana Judging
- [14] *Angraecum sesquipedale* 'Big Bear's Arctic Chill' HCC/AOS 78 pts. Exhibitor: Ryan Kowalczyk; Photographer: Kay Clark. Florida North-Central Judging
- [15] *Cattleya* Emily Clarkson 'Memoria Emily Clarkson' AM/AOS (*dowiana* x *briegeri*) 80 pts. Exhibitor: Ryan Kowalczyk; Photographer: Kay Clark. Florida North-Central Judging
- [16] *Rhyncattleanthe* Fuchs Orange Nuggett 'Lea' CCM/AOS (Orange Nuggett x *Cattlianthe* Viola Sanjume) 82 pts. Exhibitor: David White; Photographer: Kay Clark. Florida North-Central Judging





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- [1] *Calanthe* Baron Schröder 'Whisper Steel Magnolias' CCM/AOS (*regnieri* x *vestita* var. *gigantea*) 84 pts. Exhibitor: Laura and Wes Newton; Photographer: Kay Clark. Florida North-Central Judging
- [2] *Vanda* Black Diamond 'Crystelle' AM/AOS (Memoria Louis Hatos x Motes Hot Chestnut) 84 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [3] *Vanda lombokensis* 'MV Just Starting' HCC/AOS 75 pts. Exhibitor: Stuart Henderson; Photographer: Kay Clark. Florida North-Central Judging
- [4] *Vanda* Motes Blue Bird 'MV On My Doorstep' AM/AOS (*liouvillei* x *testacea*) 80 pts. Exhibitor: Stuart Henderson; Photographer: Kay Clark. Florida North-Central Judging
- [5] *Rhynchoaelia digbyana* 'Crystelle Smith' AM/AOS 85 pts. Exhibitor: Krull-Smith; Photographer: Kay Clark. Florida North-Central Judging
- [6] *Papilionanda* Eunice Walker 'MV Teeruk' AM/AOS (*Vanda* Motes Tangelo x Motes Toledo Blue) 84 pts. Exhibitor: Stuart Henderson; Photographer: Kay Clark. Florida North-Central Judging
- [7] *Ornithocephalus bicornis* 'Tom Ritter' CCM/AOS 84 pts. Exhibitor: Ritter Tropic One Orchids; Photographer: Beth Lamb. Florida North-Central Judging
- [8] *Rhyncho brassoleya* Choroni 'Gail Addison' HCC/AOS (*Brassocattleya* Sunset Surprise x *Rhynchoaelia digbyana*) 76 pts. Exhibitor: William Oquendo; Photographer: Beth Lamb. Florida North-Central Judging
- [9] *Paphiopedilum* Tommy Egger 'Rye 'n Ginger' AM/AOS (Cruella x Don Egger) 80 pts. Exhibitor: Dave Sorokowsky; Photographer: Ramon de los Santos. California-Sierra Nevada Judging
- [10] *Paphiopedilum haynaldianum* 'MBF' AM/AOS 83 pts. Exhibitor: Marble Branch Farms; Photographer: George Lechner. Atlanta Judging
- [11] *Trichoglottis rosea* var. *breviracema* 'Quest' CCE/AOS 94 pts. Exhibitor: Quest Orchids, Inc; Photographer: Beth Lamb. Florida North-Central Judging
- [12] *Bulbophyllum* Meen Poison Raspberry 'Whisper A-doribil Antidote' AM/AOS (*bicolor* x *frostii*) 83 pts. Exhibitor: Laura and Wes Newton; Photographer: Beth Lamb. Florida North-Central Judging
- [13] *Brassocattleya* Hippodamia 'Marion' AM/AOS (*Brassavola nodosa* x *Cattleya aelandiae*) 84 pts. Exhibitor: Marion Steele; Photographer: Beth Lamb. Florida North-Central Judging
- [14] *Dendrobium* Lucky Charms 'MBF' AM/AOS (Peter Shen x Roy Tokunaga) 80 pts. Exhibitor: Marble Branch Farms; Photographer: George Lechner. Atlanta Judging
- [15] *Pterostylis concinna* 'Dusty's Pea-Wee' CBR/AOS. Exhibitor: Nile S. Dusdieker; Photographer: Nile Dusdieker. Chicago Judging
- [16] *Paphiopedilum villosum* 'Kronos' AM/AOS 81 pts. Exhibitor: Ramon de los Santos; Photographer: Ramon de los Santos. California-Sierra Nevada Judging

APRIL

2–3—Acadian Orchid Society’s “Orchid Garden Party,” Ira Nelson Horticulture Center, 2206 Johnston St, Lafayette, LA; Contact: Bobby Gianelloni, 337–349–8512; bgmachinery@gmail.com

2–3—Genesee Region Orchid Society 46th Annual Orchid Show, Eisenhart Auditorium, Rochester Museum & Science Center, 657 East Avenue, Rochester, NY; Contact: Jeanne Kaeding, 585–442–3202; jekaeding@gmail.com

2–3—Desert Valley Orchid Society Show, Berridge Nursery, 4647 E Camelback Rd, Phoenix, AZ; Contact: Beverly Tall, 480–816–4722; bevtall@gmail.com

2–3—Utah Orchid Society, “Springtime for Orchids,” Red Butte Garden, 300 Wakara Way, Salt Lake City, UT; Contact: Shawn Quealy, 801–831–7359; shquealy@comcast.net

2–3—Cherry City Orchid Society “Return of the Orchids,” Keizer Lions Club, 4100 Cherry Ave NE, Keizer, OR; Contact: Janeil Payne, 503–931–3441; janeilp@hotmail.com

6–9—AOS Centennial Celebration / Spring Members Meeting, Fairchild Tropical Botanic Garden, 10901 Old Cutler Rd, Coral Gables, FL; Contact: Bob Fuchs, 786–218–9081; bob@rforchids.com

8–10—Southeastern Pennsylvania Orchid Society International Orchid Show and Sale, Oaks Expo Center, 100 Station Ave, Oaks, PA; Contact: Bob Sprague, 484–919–2922; bobsatcyndal@aol.com

8–10—Deep South Orchid Society “34th Savannah Orchid Show,” Coastal Botanical Gardens, 2 Canebroke Rd, Savannah, GA; Contact: Jenni Brodie, 812–614–2531; tuckerbrodie@msn.com

9–10—Spokane Orchid Society Show and Sale, Spokane Community College Student Lair, 1810 N Greene St, Spokane, WA; Contact: Jim Pearce, 509–299–5152; joel.mattes21@gmail.com

9–10—Greater Cincinnati Orchid Society Show and Sale, Dan Beard Council Boy Scouts of America, 10078 Reading Rd, Cincinnati, OH; Contact: Joel Mattes, 513–680–2157; jpearce821@gmail.com

9–10—Sacramento Orchid Society’s “Orchid Samba,” Scottish Rite Masonic Temple, 6151 H St, Sacramento, CA; Contact: Johnathon Richardson, 916–218–8992; jmrguy06@yahoo.com

15–17—Apopka International Spring Orchid Festival, Krull-Smith Landscapes Inc, 2800 W Ponkan Rd, Apopka, FL; Contact: Julio Hector, 813–765–9271; j.hector@verizon.net

16–17—Flamingo Gardens Orchid Society

Show, Flamingo Gardens, 3750 S Flamingo Road, Davie, FL; Contact: Antonio Torres, 954–913–1628; ajtorresp@gmail.com

23–24—West Shore Orchid Society Spring Show, Strongsville Recreation Center, 18100 Royalton Rd, Strongsville, OH; Contact: Chester Kieliszek, 330–467–3731; kieliszec@aol.com

23–24—Treasure Valley Orchid Society Show and Sale, Hilton Garden Inn, 7699 W Spectrum, Boise, ID; Contact: Carolyn Watts, 208–841–0264; daintree@earthlink.net

23–24—Vero Beach Orchid Society Annual Show “Orchid Rainbow,” Riverside Park, 3001 Riverside Park Drive, Vero Beach, FL; Contact: Carolyn Greene, 321–506–3909; vbosnewsletter@hotmail.com

23–24—Central Indiana Orchid Society Show, Garfield Park Conservatory, 2505 Conservatory Drive, Indianapolis, IN; Contact: Foster Flint, 317–601–2649; flintlowell@hotmail.com

23–24—Southern Tier Orchid Society’s “Orchids at the Museum,” Roberson Museum, 30 Front St, Binghamton, NY; Contact: Carol Bayles, 607–275–9090; cjb4@cornell.edu

29–1—Platinum Coast Orchid Society Show “A Rainbow of Orchids,” Kiwanis Island Park Gymnasium, 951 Kiwanis Island Park Road, Merritt Island, FL; Contact: Laura Blackmon, 321–745–9046; leblackmon@bledsoe.net

29–30—New Mexico Orchid Guild “A World of Orchids,” Albuquerque Garden Center, 10120 Lomas Blvd NE, Albuquerque, NM; Contact: Keith Mead, 505–379–6786; orchidsinabq@gmail.com

29–30—Blue Ridge Orchid Society “Orchids in the Square,” Center in the Square, 1 Market Street SE, Roanoke, VA; Contact: Lillian Gillespie, 434–610–9183; gillespielgh@rsnet.org

30–1—Kansas Orchid Society’s Spring 2022 Show and Sale (Hosting SWROGA), The Wichita Gardens, 701 Amidon St, Wichita, KS; Contact: Sarah Pratt, 316–655–0572; svcsjp@gmail.com

MAY

7–8—Houston Orchid Society Show and Sale, Memorial City Mall, 303 Memorial City Way, Houston, TX; Contact: Jay Balchan, 713–898–1265; balchan.jay@gmail.com

7–8—Volusia County Orchid Society’s “Orchademy Awards,” Volusia County Fairgrounds, Townsend Arena, 3150 East New York Ave, Deland, FL; Contact: Jennifer Reinoso, 386–822–3178; jenorchid@bellsouth.net

7–8—Les Orchidophiles de Quebec “Orchidofolie 2022,” Le Montmartre, 1669 Chemin Saint-Louis, Quebec, QC; Contact: Marjolaine Plante, 613–233–7335; andrec.couture@sympatico.ca

7—Oklahoma Orchid Society’s “Spring 2022 Show & Sale,” Will Rogers Garden Exhibition Center, 3400 NW 36th Street, Oklahoma City, OK; Contact: Jana Butcher, 405–209–7657; oos_showchair@okorchidsociety.org

8—Peninsula Orchid Society Show & Sale, San Mateo Garden Center, 605 Parkside Way, San Mateo, CA; Contact: Chaunie Langland, 510–494–8850; chaunie.langland@earthlink.net

13–15—Tamiami International Orchid Festival, Fuchs Pavilion Miami Dade Fair/Expo, 10900 Coral Way (SW 24th St), Miami, FL; Contact: Jose Exposito, 305–898–3182; soroa@att.net

20–22—Memphis Orchid Society Show and Sale, Memphis Botanic Garden, 750 Cherry Road, Memphis, TN; Contact: Aleksandr Kumok, 901–849–2551; lkrfan@gmail.com

21–22—Tulsa Orchid Society “Orchids, Jewels of the Jungle,” Tulsa Garden Center, 2435 S Peoria Ave, Tulsa, OK; Contact: Soundra Schacher, 918–299–6466; Schacher1@cox.net

28–29—Greater North Texas Orchid Society Show and Sale, Texas A&M AgriLife, Water & Land Resources Building, 17360 Coit Rd, Dallas, TX; Contact: Karl Varian, 972–423–9412; k.varian@ieee.org

JUNE

3–5—New Orleans Orchid Society’s Show and Sale, Lakeside Mall, 3301 Veterans Memorial Blvd, Metairie, LA; Contact: Marian Prigmore, 504–810–9832; woodenbox@bellsouth.net

JULY

8–10—Baton Rouge Orchid Society Show, LSU Botanic Garden at Burden—Conference Center, 4560 Essen Lane, Baton Rouge, LA; Contact: Jim Morrison, 225–247–1543; jwmorrisoniii@msn.com

23—Central Iowa Orchid Society Speaker’s Day, Johnston Lions Club Community Center, 6401 Merle Hay Road, Johnston, IA; Contact: Carson Whitlow, 515–993–4841; slipperguy@aol.com

AUGUST

6—*Houston Orchid Society Summer Workshop (Outreach Judging), First Christian Church, 1601 Sunset Blvd, Houston, TX; Contact: Randy Johnson, 225–205–8181; randy.johnsonian2000@

gmail.com
28–29—“Ohio Valley Orchid Fest,”
 Emmanuel Lutheran Church, 4865
 Wilmington Pike, Dayton, OH; Contact:
 Eric Sauer, 937–212–0462; eric@rvorchids.
 com

SEPTEMBER

**17–18—Wisconsin Orchid Society’s “Fall
 in Love with Orchids,”** Mitchell Park
 Horticultural Conservatory, 524 S Layton
 Blvd, Milwaukee, WI; Contact: Richard
 Odders and Bil Nelson, 262–632–3008 and
 414–467–6642; odders2445@gmail.com
 and qorchids@att.net

**17–18—Ridge Orchid Society’s Diamond
 Jubilee “60 Years of Orchids,”** WH Stuart
 Center, 1702 US Hwy 17 S, Bartow, FL;
 Contact: Keith Emig, 863–412–4762;
 dkemig@gmail.com

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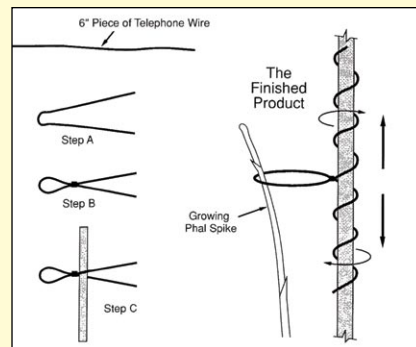
TELEPHONE WIRE LOOPS TO SUPPORT PHALAENOPSIS SPIKES

SUPPORT FOR AN emerging *Phalaenopsis* inflorescence (herein called the spike) can present problems both horticultural and structural. We have tried various methods ranging from the common plastic clip to tying the spike to a galvanized-metal support rod. None of these methods worked to our satisfaction.

Plastic clips seem to degrade after a while and either break or fail to retain enough spring tension to grip the support rod. Tying the spike to a support rod does not allow for growth of the spike, so we are constantly retying.

A technique we developed using light-weight telephone wire (22–24 gauge, plastic insulated) has solved the problem and is just about the ideal way to support a *Phalaenopsis* spike. Attributes like economy, speed of assembly (or construction) and ease of adjustment are the pluses.

Start with a reasonably straight piece of telephone wire about 6 inches (15 cm) long. As shown in Step A, make a hairpin shape with legs of equal length. Now twist a loop (1/2–3/4 inch [1.3–1.9 cm]) in the U-shaped end (Step B). Spread the legs at the open end and place one on either side of the galvanized support rod (Step C). Wrap one leg clockwise around the galvanized support rod, then wrap the other leg counterclockwise around the rod. Wrapping the two legs in opposing directions will cause the resulting coils to grip the support rod firmly while still permitting the loop to slide up or down the rod as needed to support the growing



spike.

Each completed support loop should look like the drawing of the finished product. When a new phalaenopsis spike first needs support, insert a galvanized support rod, with loop attached, in the pot. Slide the loop up and down until an appropriate support level is obtained. Gently force the emerging spike into the loop. Check each staked plant frequently and adjust the level of the loop as often as necessary to keep the spike supported fully. — February 1994

In the late 1990s, Ed Wright and Bill Tippit authored the regular feature, “Great Ideas,” showing readers useful tips for growing orchids. They were always a popular addition to the magazine. Ed and Bill have graciously agreed to allow us to republish “GreatIdeas.”

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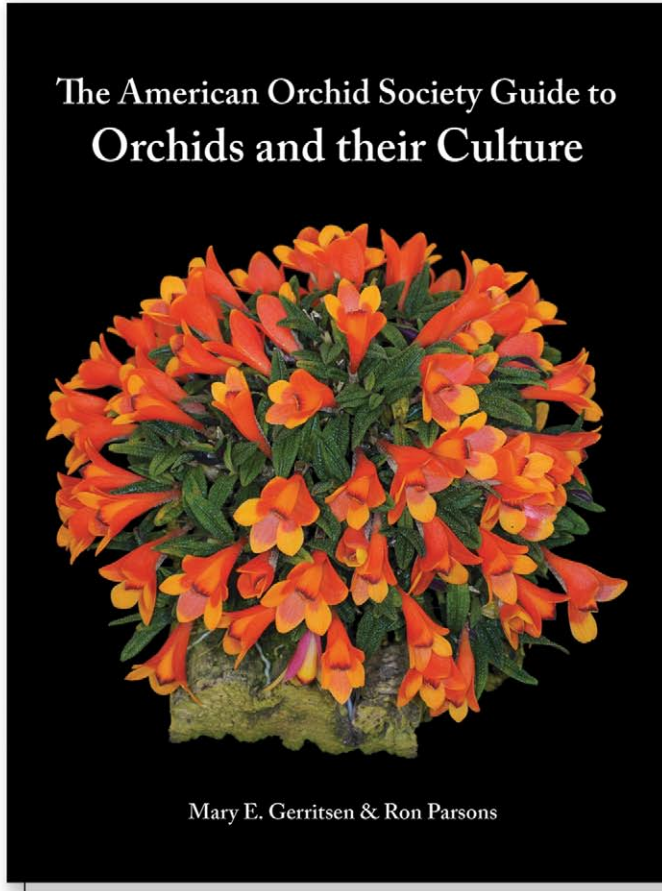
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Submission of articles for *ORCHIDS* magazine

The AOS welcomes the submission of manuscripts for publication in *Orchids* magazine from members and non-members alike. Articles should be about orchids or related topics and cultural articles are always especially welcome. These can run the gamut from major feature-length articles on such topics as growing under lights, windowsills and thorough discussions of a species, genus or habitat to shorter, focused articles on a single species or hybrid to run under the Collector's Item banner. The AOS follows the World Checklist of Selected Plant Families with respect to species nomenclature and the Royal Horticultural Society Orchid Hybrid Register for questions of hybrid nomenclature. The AOS style guide and usage guides can be downloaded from <http://www.aos.org/about-us/article-submissions/style-guide-for-aos-publications.aspx>. Articles as well as inquiries regarding suitability of proposed articles should be sent to jean.ikeson@gmail.com or the editor at rmchatton@aos.org.

**For Advertising Information,
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The American Orchid Society, in congruence with its stated conservation aims and with the full approval of the AOS Trustees, prohibits advertisements for wild-collected orchids and orchid-collecting tours in the pages of *Orchids*. By submitting advertisements for orchid species, vendors are thereby asserting that plants advertised are either artificially propagated (from seed or meristem) or are nursery-grown divisions of legally acquired stock. While *Orchids* endeavors to assure the reliability of its advertising, neither *Orchids* nor the American Orchid Society, Inc., can assume responsibility for any transactions between our advertisers and our readers.

Compendium of Orchid Genera

Alrich, P., W.E. Higgins and J–H Tan. 2019. American Orchid Society, Coral Gables, Florida. Printed in China. ISBN: 978–1–7332417–0–0. Hardbound, landscape format, 576 pages covering 744 orchid genera. Order online at <https://secure.aos.org/categories/55>. Non–member price: \$99.00; member price: \$79.00.

HOW COMPLETE IS your home Orchid Reference Library? If you love Orchids, you will love this wonderful book. It is a delight to the eye and mind. As you travel through its pages you will be entertained and educated with rich text and a treasure trove of both new and historical illustrations. All wonderfully referenced.

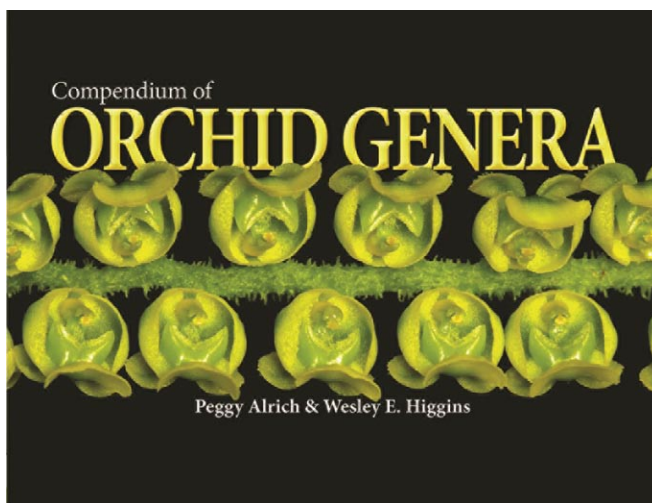
This treasure of orchid information, superbly written and illustrated will certainly enrich your interest in orchids. It is a great hobbyist “coffee table book,” but more than that, a serious reference for hobbyists, scientists and students of orchids at all levels. It will certainly provide many hours of interest and amusement.

This 576–page encyclopedia of orchid genera provides rich detail of every known genus of orchid. It includes wonderful illustrations and photos along with nicely laid out descriptions including nomenclature, cultural significance, geographic regions, and significant type species. There is also a brief overview of current information on cultural practices for orchid growers.

Genera are presented in alphabetic order. Each genus is formatted in a pleasing section of the page layout with artistic inlays of illustrations and photos depicting interesting and important visual aspects and references. It is nicely indexed by several categories including botanists, completely referenced, has a comprehensive glossary, a section on classification and is well indexed.

The authors have an impressive history of scientific orchidology and design that are nicely represented here for all 744 recognized orchid genera. That is quite a huge number considering that they are then divided into over 30,000 species. Orchids are so diverse that they have become an important part of society, agriculture, art, scientific study, cultural importance and historical significance. This is not surprising since they represent one tenth of all species of all flowering plants in the World. *The Compendium of Orchid Genera* is richly illustrated and superbly written and makes a wonderful addition to any orchid library.

— *Paul Alan Wetter, M.D. is an American Orchid Society Senior Judge in the West Palm center. He is Professor Emeritus, University of Miami School of Medicine and a pioneer in minimally invasive surgery with numerous honors for his contributions to the field. Wetter became interested in orchids the late 1960s when he was studying the natural history of South Florida. Miami has been his home since childhood. He has been growing orchids, as a hobby ever since, with a special interest in epiphytic orchids in the subtropical garden.*



ABOUT THE AUTHORS

— Peggy Alrich is an author, a graphics designer, and an orchid enthusiast. She retired from the Orlando Sentinel where she worked many years as a graphic designer. Peggy is the author of *Orchids on Stamps* and the *Encyclopedia of Orchid Stamps and Cancells*, and she is also the primary author of the *Illustrated Dictionary of Orchid Genera* with Wesley Higgins. Her publications have received many good reviews from orchid people, botanical institutions, and universities.

— Wesley E. Higgins, Ph.D., has worked at the Missouri Botanical Gardens, Royal Botanic Gardens Kew, Marie Selby Botanical Garden and Lakes Park Botanic Garden. His dissertation research was completed at the University of Florida: The “Intergeneric and Intrageneric Phylogenetic Relationships of *Encyclia* (Orchidaceae) Based upon Holomorphology.” Higgins is better known for the genera he excluded from *Encyclia* rather than *Encyclia* itself. He is the editor of the *Phalaenopsis Journal*, has published numerous journal articles and is co–author of *The Marie Selby Botanical Gardens Illustrated Dictionary of Orchid Genera*, *The Odontoglossum Story*, and *Compendium of Orchid Genera*. Dr. Higgins works with the Institute for Regional Conservation on Everglades restoration, is a member of the International Scientific Committee of *Lankesteriana*. Higgins, an accredited American Orchid Society judge in the Florida North–Central center, serves on the AOS Editorial Board where he edits the monthly column *Orchids Illustrated*. Additionally, he serves on the Advisory Board for the Lakes Park Enrichment Foundation.

The 2022 Spring Members Meeting will be held in conjunction with the AOS Centennial Celebration.

We are looking forward to welcoming all AOS Members and Friends to our first "in-person" meeting since 2019! Help us celebrate 100 years of Orchids in Coral Gables, Florida this April.

All manner of activities are planned for the Members Meeting - orchid conservation speakers, a live auction, election of new officers and trustees, optional afternoon at the Fairchild Tropical Botanic Garden, and more!

To Commemorate our Centennial, a special Celebration Gala will be held on Saturday, April 9th at the historic Biltmore Hotel.

Your Registration fee includes:

- Goodie bag
- Outreach judging at the Fairchild Thursday afternoon. Transportation provided for interested registrants.
- Complimentary transportation to and from the Fairchild Tropical Botanic Garden (including admission to the Garden) Thursday afternoon, April 7th.
- Preferred seating at the auction
- Access to all lectures



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